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AWARDS

2021

Thank you to all our entrants and congratulations to all our Finalists

AT Awards 2022 open on 1 February 2022

Save the date:
21 October 2022

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As the autumn leaves drift past my window, it seems remarkable that we are in October already. The AT Awards have been presented and next month will be the AGM which rounds off the Institute's year of events. Your Regional and Centre Committees remain active delivering online events for your CPD and social activities and several in person events are now taking place also.

The AT Awards are a fine celebration of our wonderful discipline – once more we have seen the remarkable skillsets of our graduates and the work that is being carried in practice. The event was a hybrid one on 22 October, with an audience of Finalists watching the event in Kennington Studios and ably presented and held together once more by our MC, Matt Allwright. Combined with high production values from Voytek, our production company, we can certainly say that it was a successful event and we look forward to the return of the in person AT Awards next year.

This special edition of the Journal showcases all the Finalists for the AT Awards and you can discover further about their projects and reports. It is also a chance to find out more about our Chartered Architectural Technologist of the Year, the inaugural recipient of the Emerging Talent in the Technology of Architecture Award and recognise the work of Usman Yaqub FCIAT. Usman is a lynchpin of the Wessex Regional Committee and what a great way to celebrate his voluntary contribution.

One of the pinnacle moments of the Awards, was the first presentation of the President's Medal and its recipient Professor Sam Allwinkle. What a crowning glory to recognise Sam's outstanding contribution to the discipline and profession. Find out more about Sam on page 48. I'm sure that Sam is a familiar name to many and I pass on my congratulations to him – well done Sam!

The AT Awards 2022 open in February so please do consider submitting an entry or nominating a fellow member or affiliate – these are the pinnacle Awards for Architectural Technology so please do take advantage and gain recognition for your work.

I have just returned from seeing the new James Bond film. As usual, the villain resided in a huge complex with gadgets galore and stunning architecture. However, when you think of the all the form and its function, the base could not have been achieved without Architectural Technology! I'm sure that Lyutsifer Safin must have engaged a Chartered Architectural Technologist to work on it and ensured that it performed how he wanted.

The winter issue will be along very soon in December and we will be bringing you the usual blend of articles and Institute updates.

Bye just now

Adam Endacott
Editor

CIAT

Certificates of Accreditation and Approval 2021

CIAT is delighted to report on this year's successfully Accredited and Approved programmes.

Accreditation and Approval of academic programmes, as well as Centre of Excellence status, enable the Institute to recognise our important partnerships with educational establishments, and support the development of AT as an academic discipline. All education establishments who offer Approved or Accredited programmes are essential in delivering the fundamental underpinning knowledge which provides a foundation for the AT professionals of the future.

Certificates for Honours degree level Accreditation

Accreditation at Honours degree level is a demonstration of an education establishment's commitment to delivering learning of a high standard by preparing talented individuals to enter the growing Architectural Technology community. The following educational establishments have attained programme Accreditation for the first time:

- Galway-Mayo Institute of Technology
  BSc (Hons) Architectural Technology
- Manipal Academy of Higher *Education*
  Bachelor of Architecture
- Technological University Dublin
  BSc(Hons) Architectural Technology

The following educational establishments have attained programme re-Accreditation:

- Birmingham City University
  BSc (Hons) Architectural Technology
- Cardiff Metropolitan University
  BSc (Hons) Architectural Design and Technology
- Liverpool John Moores University
  BSc (Hons) Architectural Technology
- Nottingham Trent University
  BSc (Hons) Architectural Technology
- VIA University College
  Bachelor of Architectural Technology and Construction Management
- University of Wolverhampton
  BSc (Hons) Architectural Design Technology

Certificate for Masters Accreditation

Accreditation for Masters level degree programmes is a demonstration of an educational establishment's commitment to delivering the highest standards of postgraduate progression and specialism within the profession. The following educational establishments have attained Accreditation for the first time for their Masters level degree programmes:

- Solent University
  MSc Sustainable Building Design
- Zigurat Global Institute of Technology
  Global BIM Management for Infrastructure Projects

Certificates for Approval

Approval demonstrates that programmes have been assessed in terms of content, structure and resources.

The following educational establishments have attained Approval for the first time:

- Cambridge Regional College
  FdSc Architectural Technology
- Galway-Mayo Institute of Technology
  BSc Architectural Technology

In response to the COVID-19 pandemic, the Institute had to re-think its normal Accreditation process for Honours degree level programmes, and substitute a physical Accreditation visit for a virtual visit. We would like to thank all educational establishments for their understanding and cooperation in regard to this.

Commended 2021

STUDENT AWARD FOR EXCELLENCE
IN ARCHITECTURAL TECHNOLOGY | REPORT

Recognising outstanding research achievement in Architectural Technology – a dissertation or research assignment

A Technical Report Study Exploring the Use of Re-Purposed Aggregates and Cement Along with Curing Techniques to Create Concrete to Different Design Strengths For Use in a Theatre

Words by Daniel Green, Coventry University

Concrete is one of the most widely used building materials in the world and is found abundantly within densely populated areas. With this being said, the appetite for a greener, carbon neutral society grows ever stronger, and concrete does not traditionally fit the '2050 net zero emissions' mould. Not only does concrete production contribute immensely to the creation of greenhouse gases, but it also exploits the use of natural finite aggregates. In order to exhibit concrete as a viable material alternative to natural aggregates and cement to reduce the pessimistic aspects of concrete needed to be investigated. Upon extensive research recycled tire aggregate and fly ash were both greener alternatives to test. Recycled tire aggregate can be used for replacement in both coarse and fine aggregate as it can be cut into finer pieces known as crumb rubber. This gave a basis to explore the effects repurposed aggregates and cement in concrete for elements of concrete; coarse aggregate, fine aggregate and cement. Within my experiment I was able to create a hybrid mix containing all three repurposed materials; recycled tire aggregate, crumb rubber and fly ash.

The Report aimed to address the appropriateness of recycled tire aggregate and fly ash as recyclable aggregate and cement alternatives by creating twelve different mixtures of concrete in two batches: one cured by air and the other in water for ninety days. This was conducted by examining compressive strength capabilities, measuring velocity via an ultrasonic pulse and by recording resistance to pressure by rebounded impact.

Compressive strength test
After completing the compressive strength test on each specimen, it was determined that concrete cured within water results in higher compressive strength capabilities. This was found in all mixes apart from mix two and five acting as outliers due to the trend found in the data. Interestingly, mix eight cured by water and air along with mix nine cured in water outperformed the control mix. Although ten and eleven experienced a weaker compressive strength than six and seven it could be suggested the use of fly ash reduced the impact of using additional RTA replacement.

Pulse velocity test
Although a significant trend cannot be observed from the data collected from the pulse velocity test this could suggest that replacement did not reduce the workability and structural performance of the concrete. The test suggests that concrete cured by air results in slightly higher quality concrete with less voids and cracks. This data ensures that the alternatives to natural aggregates and cement and their rates of replacement will not have a detrimental impact to the quality of the concrete produced.

Rebound hammer test
Data from the rebound hammer test demonstrates that concrete cured by air produces a rebound index that outmatches concrete cured in water. Thereby signifying that surface hardness in concrete cured in water results in inferior strength as more kinetic energy is absorbed, yielding a lower rebound value. Test eight, nine and ten produced a higher rebound index than that of the control mix, denoting that fly ash binds with the mixes successfully resulting in greater surface hardness.

Hybrid mix
The data suggested that a hybrid mix with all substitutes in the same mix would be a poor choice for structurally imperative elements. This was explored with mix ten and eleven which saw a sharp decrease in compressive strength when each replacement was used together.

Finer crumb rubber
Mix twelve tested finer crumb rubber replacement. From this data it was found that in most tests, mix twelve performed unfavourably. However, when cured by air its surface hardness was positively noticeable.

Conclusion

The table below demonstrates the different design strengths for use in a theatre.

Structural element	Curing technique	Coarse aggregate replacement rate % (RTA)	Fine aggregate replacement rate % (CR)	Cement replacement rate % (FA)
Foundation	Air	0	0	10
Structural Columns	Water	0	0	15
Precast wall panels	Water	15	15	15
1st floor slabs	Air	5	5	10
Roof slabs	Air	0	0	15
Staircase	Water	15	15	15

Foundation
Mix eight when cured in water would be idealistic for the construction of the foundation as this would result in outstanding compressive strength capabilities. However, mix eight when cured in water performed the most inadequately bar one other mix indicating weak surface hardness. This is critical for the use in a foundation. Practical issues of curing such a large mass of concrete in water on a site would be extremely challenging. For these reasons the foundation will be cured by air. Due to the detrimental effects seen by a hybrid mix on compressive strength only cement will be replaced.

Structural columns
Due to the columns requiring greater compressive strength over surface hardness the columns will be cured in water. To maintain the structural integrity required to support the building only fly ash has been used.

Precast wall panels
Due to the nature of the design the wall panels require only a low strength threshold. For this reason, a hybrid mix of all substitutes will be used to reduce the negative environmental impact of using concrete.

First floor slabs
To maintain surface hardness first floor concrete floor slabs will be cured by air. A hybrid mix has been used as a slight reduction in compressive strength and surface hardness would not be pernicious to the structure and would further reduce the carbon impact of concrete.

Roof slabs
The buildings design includes a 100 seat outside auditorium space with around 50% of the roof including an intrusive green roof. For this reason, compressive strength and tensile strength along with surface hardness are paramount so only fly ash has been replaced.

Staircase
The staircase will only be required to support the live load of the guests using the facility. For this reason, a replacement rate of 15% for each of the substitutes will be used and the mix will be cured in water.

Architectural Technology has been employed within this thesis by first and foremost identifying an environmental concern within a construction project. Secondary data has been inspected to gain further insight and depth into the implications of both the concern itself and potential solutions to create a basis for which my own personal scientific research can take place. The data has both supported and potentially discredited data previously collected while also producing results which have been analysed to create recommendations of percentages of each of the repurposed materials for different elements of a concrete theatre using different curing techniques. Architectural Technology has engendered a theatre design that has diminished some the negative attributes of concrete while still maintaining structural integrity.

His research was well-structured, clear and easy to follow.

Judges' comments
Daniel's report explores the appropriateness of recycled tire aggregate and fly ash as recyclable aggregate and cement alternatives. His research was well-structured, clear and easy to follow.

He has taken on a relevant and new area, managing to undertake a methodological approach to deliver the aim and objectives and the research's intended outcomes. Daniel has made some interesting conclusions and recommendations which will be of significance to anyone within the Architectural Technology discipline. ■

Highly Commended 2021

STUDENT AWARD FOR EXCELLENCE
IN ARCHITECTURAL TECHNOLOGY | REPORT

A Pairs Comparison and Value Analysis of Current 3D Printing Construction Technologies in Coherence with Industry Defined Innovation Value Drivers

Words by Aaron Richardson, University of Strathclyde

This Report aimed to facilitate a study regarding the value of current 3D printing construction technologies. 3D printing is increasingly used within the construction industry as an approach to build quickly, sustainably and at a relatively low cost. Research into this topic is rapidly expanding and a number of studies have established the opportunities, challenges and current approaches towards this novel construction method. This research expands the existing research cluster through the consideration of value, and integration of existing value management approaches within the construction 3D printing research domain. Value, however, in this context is non-linear. Within the construction industry there is often a focus towards achieving value-for-money (VfM), and rightly or wrongly, this is usually the foremost driver of value for industry clients. However, the definition of value is not measured entirely in pound signs.

A number of best-practice approaches have been outlined to approach the subject of value management within the construction industry, generally a systematic approach, and generally involving a number of intervention workshops that aim to facilitate a discussion around value generally, what it means to the project stakeholders, and how this can be achieved in their own terms. Project-oriented, this approach aims to define a number of critical value drivers, which will be carried through the project and assessed in an ongoing manner to ensure that value is interwoven throughout the fabric of a project in real terms, rather than boiled down to a colour-coded percentage of project margin and reported on a monthly basis.

This Report can be broken down into three primary sections. Part I, an overview of 3D printing within the construction market, considering opportunities, challenges, and current practical approaches to solve grand challenges within this domain. This initial stage of information gathering serves as a backbone to subsequent case studies. Case studies were gathered from industry websites and include a number of practical examples of potential use cases and project applications to date. Based on knowledge gaps identified, the research aims and objective methodology are outlined. In summary, the objectives are as follows;

Objective 1, through literature review, evaluate and define current 3D printing technologies operating within the construction industry, assessing barriers and opportunities generally.

Objective 2, through value management appraisal, define which technologies, if any, best satisfy client defined value drivers.

The following methodologies were considered;

Objective 1, will be met by carrying out a review of current literature, alongside company websites, to conduct a full and comprehensive analysis on current 3D printing construction technologies.

Objective 2, will be satisfied through the generation of a body of knowledge, relating directly to the specific criteria established in the previous objective. This knowledge will then be ranked, and subsequently weighted in order to produce a number of key infographics to inform the reader of the most suitable technologies for given criteria. I implemented industry experience in conducting client led value studies in order to ensure accuracy.

1| Cost		*b (total criterium)*	7		
1	2| Time				
3	2	3| Quality			
4	4	4	4| Health & Safety		
1	5	3	4	5| Sustainability	
1	2	3	4	5	6| Usability
1	2	3	4	5	6	7| Intergration

	a (total instances)	*weighting factor a/b +1*
1| Cost	*4*	*1.57143*
2| Time	*3*	*1.42857*
3| Quality	*4*	*1.57143*
4| Health & Safety	*7*	*2*
5| Sustainability	*3*	*1.42857*
6| Usability	*1*	*1.14286*
7| Intergration	*0*	*1*

Part II comprises the main data collection and analysis section of the report. Firstly, value grading criterium are gathered from a selection of reports. The following criteria were discovered as being of high relevance for innovative technologies; cost, time, quality, health and safety, sustainability, usability, integration (e.g. with procurement method) and statutory/regulatory satisfaction. Subsequently, these value criterium are weighted utilising a pairs comparison matrix, which allows for a quick and easily graded comparison of each criterium with the other. This establishes an empirical hierarchy of ability to deliver value. In the final part of this section all subsequent information is collated within a body of knowledge. Essentially, information was gathered against all established criterium, for each construction 3D printing instance described within the case study section. This body of knowledge serves as the source from which the value study will take place, information is pre- categorised, parsed and easily comparable.

Part III is where all components of the report culminate, during this final stage the qualitative body of knowledge data is quantified utilising the weighted criterium outlined previously. Spawning from this, a number of visualisations are created, and construction 3D printers can be compared, contrasted and analysed in regard to the industry defined value criteria. In the final section, I explain to what extent defined objectives have been achieved.

Key points:

After carrying out a lengthy and detailed value appraisal I concluded that the technologies most suited to satisfy discovered industry defined value drivers are 3D Constructor and the COBOD systems. Similar systems performed well – but the Mudbots printer was not able to meet the required grade. It has been concluded that initial cost savings within the 3D construction printing sphere do not necessarily relate to decreased costs over the entire plan of works. A number of key recommendations can be deduced from this study. Namely;

Initial cost savings should not be highly considered within the field of 3D printing, as evidence from the value study dictates that costs may likely be lost during the construction phases of the project through poor satisfaction of other key objectives.

Where H&S is of key consideration to the client, systems that construct off-site perform well under this criterium, where all factors can be easily controlled.

Generally, the systems which have the largest number of practical case studies performed the best over this study, this should be considered by a potential client who may wish to replicate the successes demonstrated.

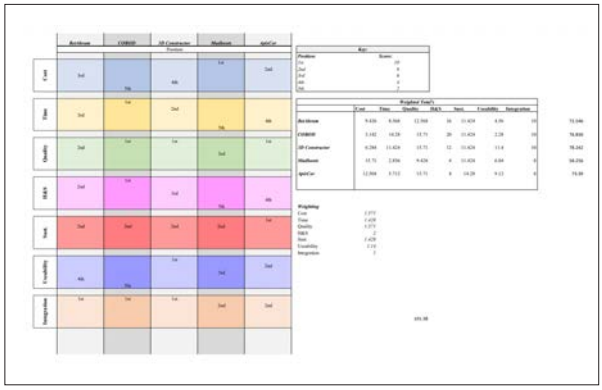
Overall the study explored a novel research domain, and presents good opportunity for further study within this field, or, adaptation of the value management processes used in order to conduct analysis on other emerging technologies.

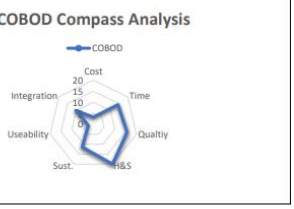
Despite limitation imposed by the pandemic, Aaron has managed to conduct a robust and well-structured research.

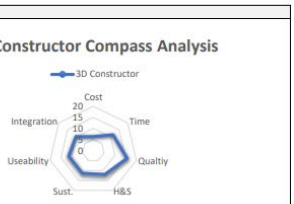
Judges' comments

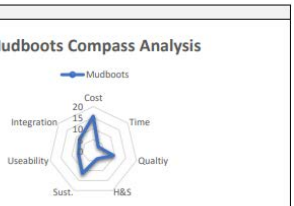
A timely and worthwhile topic from Aaron to research 3D printing construction technologies in the current construction climates and under COVID-19 conditions.

Despite limitation imposed by the pandemic, Aaron has managed to conduct a robust and well-structured research. With a sound and rigorous literature review carried out, this has helped ground the research in the existing body of knowledge in this area. The methodology is proportionate, meets the research design and helps achieve the intended promise of the study. Excellently written and a fascinating report for those in the Architectural Technology discipline. ■



Compass 2: COBOD	
Orientation: Highly oriented towards H&S, Quality and Time Factors. Cost: 3.142 Time: 14.28 Quality: 15.71 H&S: 20 Sust: 11.424 Useability: 2.28 Integration: 10 Total – 76.863	

Compass 3: 3D Constructor	
Orientation: Evenly distributed towards most factors bar cost. Cost: 6.284 Time: 11.424 Quality: 15.71 H&S: 12 Sust: 11.424 Useability: 11.4 Integration: 10 Total – 78.242	

Compass 4: Mudboots	
Orientation: Heavily oriented towards cost. Cost: 15.71 Time: 2.856 Quality: 9.426 H&S: 4 Sust: 11.424 Useability: 6.84 Integration: 8 Total – 58.256	

Winner 2021

STUDENT AWARD FOR EXCELLENCE
IN ARCHITECTURAL TECHNOLOGY | REPORT

Space Layout Design: Developing a Workflow to Enable Communication to Those With Autism Spectrum Disorder, Investigating the Potential Use of Augmented Reality

Words by Josephine McGoldrick, Ulster University

Space layout planning is a critical task in the success of architectural design as it determines the shapes, dimensions and positions of internal building spaces. One of the most critical building types for consideration when space planning is educational, due to the potential impact on learning and teaching styles. In recent times, there has been a move towards flexible teaching spaces, certainly in the further and higher education sector, purposely designed for rapid layout change depending on the teaching method employed. Whilst there is excellent literature available on learning space design and classroom layout planning, it is unclear to what extent the implementation of this guidance by academics is in practice. For instance, in most cases, academic staff will approach a layout using the standard pedagogical approach for a particular session, in terms of desk and seating position, to align with their teaching methods. However, this approach is quite limited for academics due to the unfamiliar environment, time pressures and the general meticulous planning involved to consider every element.

There is an opportunity, to facilitate academics, to develop a novel approach using a workflow to design educational spaces, with it being suggested that space planning requires the enhancement of current methodologies (Ciofli, 2004; Scott, 2009). A new approach would involve end-users, for this case academics and students, as co-creators in the design process for the planning and communication of learning environments. This procedure provides a platform for the end-users, students and academics, to address their specific needs for the learning space. Whilst this approach has many benefits, flexible teaching spaces can challenge a particular student group, those with Autism Spectrum Disorder (ASD).

Young people diagnosed with autism make up approximately 4.2% of the student community in Northern Ireland in 2019/20. ASD is a developmental disorder which can cause anxiety and stress when introduced to new and unfamiliar environments. This indicates that learning spaces with rapid changes will significantly determine how they experience student settings. This group of students crave routine, and there is the potential for continuous layout changes to spaces with which they are familiar, negatively impacting both themselves personally and impacting their learning experience. This must be considered in how education providers examine their pedagogical approaches in learning environments and teaching delivery for these children transitioning into higher education.

Nowadays, teachers must recognise the need to differentiate their instructions to accommodate their students' diverse needs, finding ways to reach out to students of all levels and abilities. Extensive research identifies visual strategies combined with strategic positioning within the classroom – carefully considering location, lighting, noise, and ventilation – is essential in creating a comfortable student environment, which is more obtainable as generic fixed layouts aren't as common for learning environments at present. The impact of the COVID-19 pandemic is vital to recognise as part of a broader analysis of the impact on learning environments. The introduction of long periods of almost exclusive online delivery in higher education, due to the pandemic, has fast-tracked the shift towards adopting combinations of learning techniques, such as the hybrid classroom.

Whilst solving a problem for one student group, there is a concern that this approach could inadvertently increase anxiety levels with ASD students. These changes to 'the normal' can cause considerable setbacks in how they function through everyday life. As such, research into methods to reduce stress and anxiety must be advanced as well as the need for balance between the needs of students and the teaching approach employed.

How can this be achieved? Valencia et al (2019) identified that individuals with ASD have a natural allure to technology, which could help them prepare and become familiar with the changing environment. Research has shown that technologies such as augmented reality (AR) could play an important role in addressing the needs of those with ASD. AR is a technology that allows the addition of layers of digital information onto the existing environment, linking the real and virtual world together. People on the autism spectrum appear to respond well to AR technologies as they respond powerfully to imagery/ graphical content. This is where the link approaches between the Architectural Technology discipline and how the knowledge of an Architectural Technologist can be utilised to provide a way to communicate spaces in advance of teaching sessions. With the advancement in the use of technology within the industry, there is an opportunity to harness and use technology in novel ways that could ultimately be adopted within the space planning process.

This study could be defined as real-world research, taking the form of a case study to generate an in-depth, multi-faceted understanding of the use of technology to design and communicate flexible teaching space layouts to a specific group (ASD students). The previous employed in advance of teaching sessions will help students prepare and become familiar with the changing environment. This report presents a technology-enabled workflow that can effectively plan and communicate teaching spaces for students within the autism spectrum.

For the case study, a medium-sized design studio on the Jordanstown campus of Ulster University was selected as the educational space. Firstly, the space was laser scanned using the Leica BLK2GO handheld imaging device to capture data. The laser scan was then imported to software (Leica Cyclone Register) for registering and geo-referencing data captured from the laser scan converting it into a point cloud format which can be utilised to generate a 3D model. Autodesk Revit can use the information from the point cloud capture to enable generation of a 3D model. This application also allows for bespoke furniture to create an accurate imitation of the real-world studio where the layouts can be modified or customised for the intended purpose. For this study, a manual allocating approach was used to design the teaching space generating simplistic student layouts and demonstrating the potential the workflow presents. The seats were assigned to ensure social distancing measures are maintained, ensuring each student has a 2m wide separation and clearing allocated. Alongside this, positioning was suggested and highlighted within the layout for optimum positioning for those with ASD based on research available. However, ultimately the student and their mentor would determine the best location for the student positioning within the classroom. Thus, the student and mentor involvement in the design process plays a vital role in benefiting their experience. Once the layout has been completed, the model can be used to provide visual outputs for the end-user. A critical analysis of current applications of AR was conducted to obtain the most effective tool for the visual output of the workflow. The evaluation presented Dalux as the most suitable tool with AR capabilities. Dalux allows AR views to be generated and overlayed with real-time data, providing clear visualised graphics that the end-user can utilise.

This method can allow designers and users to analyse and define the necessary links to evaluate solutions for the specified space, determining the room's functionality and whether it is achievable. The resulting outputs obtained showcase the potential in aiding space layout planning. It suggests that the AR views could be exhibited to help those who need assistance in understanding the newly formed layout, that being designers or users. This report highlights that a technology-enabled workflow has the potential to provide elevated assistance in the space planning process and in communicating the design to end-users. Incorporating visual producing methods can assist the designer in reconfiguring and understanding a space. The design tools and AR platform provides a visual aid for students on the autism spectrum, benefiting their needs and stimulating their confidence in transitioning to new teaching methods. AR provides them with an exact visual representation of the room providing a comfortable environment from their perspective, promoting familiarity within the classroom. Looking forward, the integration of pre-recorded AR sessions, catered to the students, could provide them with the opportunity to review the layout and process the changes.

It is acknowledged that this report is a first stage scoping study; further investigation and work is required to refine and develop the suggested concept and workflow presented, creating a more straightforward procedure to create the outputs generated. This study investigated the specific needs for students facing ASD, however there is capacity for investigation in catering students with any Specific Learning Difficulties that could benefit from a visualisation approach. The report demonstrates the ability to improve how we design, undoubtedly in the space planning process. Work in the future could explore the opportunities afforded by more advanced layout applications such as generative design or dynamo, as well as trial supplementary AR and VR products to obtain the optimum output solution and enhance the workflow presented.

Architectural Technologists possess the ability to incorporate this process to assist in space planning. Attributable to their extensive knowledge of various industrial areas, technical skills and the ability to understand emerging technologies providing extensive advantages in future improvement. Thus, the future of space layout planning can revolutionise the way the designer attains their design and how the design is communicated.

Judges' comments

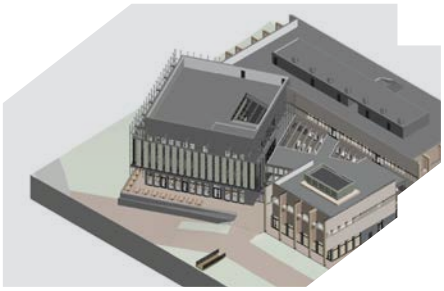
Josephine's report on developing a technological workflow to enable communication to those with Autism Spectrum Disorder is a wonderful piece that demonstrates the potential use of technology to not only help the client, but also specific end users at all stages of the design process; and afterwards as buildings, spaces and functions adapt over time.

The report is superbly written and researched with clear aims and objectives set from the outset. The literature is well introduced and covers the subject area coherently with an appropriate narrative. Using an excellent and clear methodological approach the diagrams used explain the desk-based analysis.

This work is a brilliant example of excellence in Architectural Technology and an exemplar for the Student Award Report category.

Finalists

STUDENT AWARD FOR EXCELLENCE
IN ARCHITECTURAL TECHNOLOGY | REPORT



Early Design Stage Daylighting Optimisation: The Effects on Visual Comfort and Energy Efficiency in Laboratories

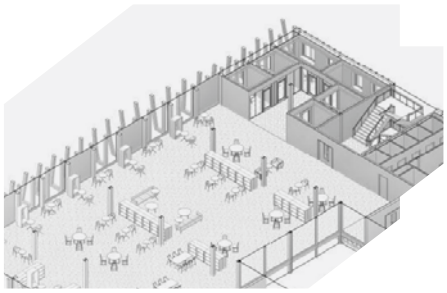
Eleanor Boardman,
Nottingham Trent University

Daylighting is a principle of design that is known for its benefits to enhance visual comfort, whilst reducing the requirement for artificial lighting. However, daylighting strategies developed by rules applied in practice are limited by a designer's knowledge, emphasising the importance of critically analysing the parameters of daylighting strategy components through simulations. Using a mixed methodology, this research aims to parametrically optimise daylighting strategies for visual comfort and energy efficiency within laboratories. Specifically, the parameters for alteration included louvre spacing, light shelf length and sill height.

Investigating Delamination of Glulam Beams Produced with Different Types of Adhesives

Klaudia Krawieczek,
Coventry University

This Report is an investigation into delamination of glulam beams built with different types of adhesives which aims to establish which glue performs best under applied loads. A total of three beams were assembled by gluing five 95mm x 44mm lamellae with one of the following types of adhesives: melamine urea-formaldehyde (MUF) resin, polyurethane (PU) and polyvinyl acetate (PVA). The same was repeated for six glulam blocks using leftover timber from the beams. The conclusion was reached that PVA was stronger than expected and MUF was the strongest in terms of delamination resistance, while PU performed the worst.



The Design of COVID-19 Friendly Spaces – The Impact of Conventional, and Emerging Digital Media on the Perception of Architecture Subject Group Students

Gareth Thomas,
Nottingham Trent University

This Report aims to investigate to what extent conventional and emerging media methods such as simple and complex animation and 2D density mapping can benefit the architectural design of contagious pandemic-friendly spaces, in comparison to more conventional media methods such as 2D and 3D visual observation. To attain this, a mixed-methods methodology was implemented through 3 phases. The findings found that emerging media methods such as complex and simple animation are significantly more influential than conventional media methods such as 2D and 3D visual observation. It was discovered that there appears to be a significant gap in the architectural education system with students having limited knowledge on mitigation strategies with the majority unable to identify COVID-19 complaint scenarios.

STUDENT AWARD FOR EXCELLENCE
IN ARCHITECTURAL TECHNOLOGY | REPORT

Meet the Judges

Chair:
Dr Matthew Brooke-Peat MCIAT, Vice-President Education

Matthew is a Chartered Architectural Technologist, Chartered Builder and Chartered Environmentalist. Since 1994, he has held positions in construction, architectural practice, academia and technical consultancy. During this time, Matthew has designed and managed new-build, refurbishment, restoration, renovation and conversion projects across a wide range of building types. Matthew is Course Director for Architectural Technology at Leeds Beckett University. His specialist area of research and consultancy focuses on the thermal performance of building fabric. In addition, Matthew has participated in several scientific and specialist committees for academic conferences and he has acted as a reviewer for academic journals.

He has been actively involved with the Institute at both local and national level since 2005.

He is a member of the Education Board and the Regional Treasurer for Yorkshire. Matthew has participated in many MCIAT and CEnv Professional Interview Panels, represented CIAT when interacting with the UK Green Building Council, been a member of the Membership Futures Working Group and Climate Change Taskforce.

Dr Poorang Piroozfar MCIAT

Dr Poorang is the Subject Lead for the Built Environment and experienced principal lecturer (associate professor) in Architectural Technology at School of Environment and Technology, University of Brighton, with a demonstrated working history in the higher education industry in three continents. Highly skilled in BIM, sustainable design, sustainable development, architectural design and urban planning. Strong professional with an MArch focused on urban regeneration and mixed-use/multi-function design and Doctor of Philosophy (PhD) focused on mass customisation and personalisation in architecture, with a proven track record of research in design, architecture, the built environment and construction.

Dr Jonathan Scott MCIAT

Dr Jonathan joined Robert Gordon University in 1992, completing an HND in Architectural Technology. He went on to complete a first class honours degree in the same subject, graduating in 1998. Except for a short stint in industry, Jonathan has worked in research and teaching for The Robert Gordon University on a variety of projects, developing his interests in the areas of environmental design, energy monitoring, life cycle analysis, social and occupancy evaluation. In addition, Jonathan is also interested, in a research and educational aspect, in CAD, surveying technologies and historic conservation.

Since 2000 Jonathan has undertaken a PhD (an EPSRC funded studentship), the title of which is “Optimising The Relationship Between Passive Solar Design Of New Housing And The Economics Of Construction and Land Value”, in the field of environmental design, creating a decision making tool for the selection of detached homes. He completed successfully in 2004, and he has since been employed as a Research Fellow at The Robert Gordon University.

Ann Vanner MCIAT

Ann is a Chartered Architectural Technologist, architect, an educator, a practical researcher and academic. She brings an unconventional and unwavering passion for the built environment sector and detailed construction knowledge, as well as project management and problem-solving abilities. Practical creativity is her starting point and approach. This fosters the idea of learning through doing and inspirational pragmatism. She is passionate about the importance of design detailing – believing that for a building to function well, so must its details.

She is a senior lecturer and teaches on the Architectural Technology and architecture programme at undergraduate level and at Masters level on the MSc in Conservation and Adaption at University of Central Lancashire.

In addition to her architecture and research work, she is involved with a not for profit organisation, ACT for Housing, which aims to work with key anchor organisations in Lancashire to develop sustainable housing for local community groups.

Andrew Wilson MCIAT

Andrew is Head of Architecture at Sheffield Hallam University, a CIAT Centre of Excellence. He is both a Chartered Architectural Technologist and a Chartered Architect. He has ten years of experience as a practising architect and has been teaching, managing and leading in higher education for 20 years. He has a broad range of interests and expertise in teaching across the two professional disciplines. These bring together design and technology under an all embracing commitment to environmental sustainability. He remains active in designing and self-building.

Highly Commended 2021

STUDENT AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | PROJECT

Recognising outstanding design achievement in Architectural Technology – a university/college project

The Home Office Project

Words by Harvey Hale ACIAT, Anglia Ruskin University

The 6.79 acre plot is owned by a commercial car group who have recently relocated. The group want to develop the site innovatively in the wake of COVID-19. The brief is to create a mixed-use development that allows professionals and their families to live and work within a resilient community that strives toward self-resilience and healthy living. Adapting the way architecture drives the way our lives are lived.

Key requirements of the brief:

- Integrated living, work and recreational accommodation, promoting healthy lifestyle.
- Resilient, sustainable technology and innovations. Design out flood risk through sustainable flood accommodation strategies. Low energy design.
- Consider construction methodology regarding sustainability and flood risk
- Capitalise on the site's locality to main infrastructure routes and easy access to Cambridge.

Design concept

The overall master planned site is as per the plan below which itemises the different areas of the development in direct correlation to the brief and accommodation schedule. The final strategic development focused on the mix of one, three and four bed dwellings.

The residential concept is designed to suit offsite modular construction with each module containing ground floor semidetached three and four bed dwellings (AD M Cat 2) and two detached one bed apartments over (AD M Cat 1). The residential units are positioned to the South of the site with external terraces over the lake. The commercial aspect is separated to the north which includes, hot desk offices, gym, nursery, restaurant, and roof top farm. With simple pedestrian access between the two.

The dwelling's concept is to undertake a timber first approach, including integrated zero energy sustainable technologies that sync with a passive heating and

cooling strategy. With the key drivers of reducing both material and energy consumption and the reliance of mains services to and from site both during construction and in use.

Technical resolution

The site layout was considered regarding topography and orientation. Analysis of an existing flood risk assessment for the site provided proposed floor levels for the development, which included a 300mm freeboard above the 1:100 year flood level +65% climate change. The proposed flood accommodation strategy utilised recycled steel screw piles and CLT bearers as the foundation solution, with a log pile retention wall to the perimeter creating a ventilated sub floor void. The timber piles retained the engineered made ground built up from excavation across the site as part of the flood accommodating works. The solution is a light touch on the existing site and reduces the amount of imported/exported materials to and from site. It also helps the end of use recycling of the development as the foundation design is easily reversible in comparison to traditional concrete poured foundations. The designed ground levels also suit level access from the site entrance to FFL of the GF dwellings for Part M compliant access and egress to the dwellings, especially in the event of flooding.

The orientation was driven to suit the passive solar heating strategy. The form of the dwelling's provides protection from overheating during the summer using overhangs and canopies but are designed as such to let winter heat gains penetrate deep into the open plan areas to reduce winter heating demand. As per the attached heating, cooling and ventilation strategy, the building has been designed using an integrated hybrid ventilation system. The ducts form the key structural elements to the split monocoque construction. These CHS/ducts utilise air drawn in through inlet pipes that run through the lake and ground to exchange heat with the constant ground and water temperatures. Although a purely passive system was the original design intent, the final hybridised solution includes low energy fans and airflow sensors to ensure the indoor air quality and comfort is maintained in all seasons and weather conditions.

The modular, timber first principle began with a mass CLT structure due to the spans required and precedent research undertaken. This developed into reviewing a structural monocoque solution to reduce the mass of raw material required. The monocoque rib formers were designed using JJI joists with an SmartPLY Ultima OSB4 stressed skin externally and SmartPLY Propassiv airtight engineered OSB internally. Omitting the need for a VCL internally. Different solutions were analysed in relation to insulation type and joist depth to find a balance between thermal performance and structural rigidity. The junctions of the JJI joists were designed to suit off site manufacture, this included a separating junction, splitting the ground floor modules in two. Meaning the units would be of a size suitable for transportation via HGV. The monocoque design allows for continuation of insulation, emission of cold bridges ensuring the project achieves u-values to passive standards.

The junction of the split monocoque at floor and ceiling level was designed using structural CHS's which double up as air in/outlets for the hybrid ventilation system.

The insulation specifications were driven by sustainability and performance. Insulation types include stone wool, sheep's wool, hemp and cork. This is due to the cradle-to-cradle attributes of these insulation types. All of which have been utilised in areas that suit that specific type. For example, using rockwool in the rainscreen façade make up for rigidity, water resistance and fire rating. Using hemp bats in the JJI joist cavity for rigidity and resistance to sagging. Using cork insulation in the JJI joist webs to form constant cavity width between joists and using sheep's wool around the structural CHS joists once installed due to its malleability.

The timber first approach led to utilising transparent timber within the glazing units in replacement of traditional glass units. This technology is truly cutting edge and although a lot more research into its performance and manufacture within industry is required, the technical report surmised and compared the thermal performance of transparent timber and its current researched data compared to current passive house glazing standards, showing a vast improvement.

The project also includes innovation in an integrated zero energy rainwater harvesting system which collects and stores rainwater in hidden gutters allowing discharge under gravity for toilet flushing. These are designed with integrated leaf/grit guards to minimise maintenance requirements and are designed to sit within the rainscreen facade depth to blend seamlessly into the façade. In line reusable filters are accessible internally to reduce impurities in the rainwater to prevent staining/smells within the toilet cisterns and pans.

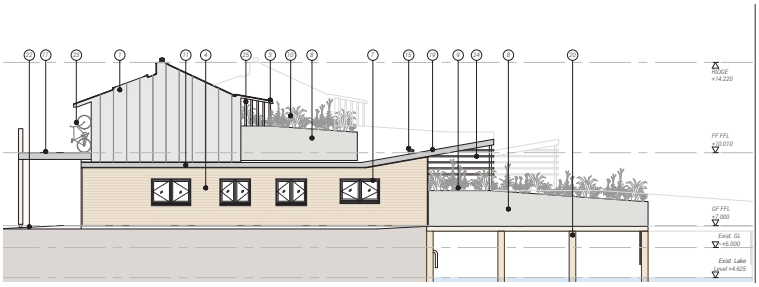
All excess surface water is routed to the lakes onsite. All grey water from the dwelling's is directed through raised reed beds which are also acting as boundary separation between dwelling's, which also discharges treated water to the onsite lakes and water storage, which is used for on-site irrigation during the warmer months. The key design driver to reduce waste from the site and reuse and utilise natural resources that can be collected on site.

The overall design strives for a low carbon, passive, healthy, sustainable and flood accommodating technical solution.

Judges' comments

Harvey has created a very challenging and interesting mixed-use development scheme that allows professionals and their families to live and work within a resilient community. To address a work-life balance using the current economic crisis is a brilliant concept, as well as the overall targets to provide a sustainable and technically resolved project, was successfully achieved and presented superbly.

Harvey covers a lot of items throughout the report and drawing sheets, demonstrating technical excellence. From hand sketch isometrics to fully resolved technical sections and amplification details, it was interesting to explore the layers and overall approach taken using the materials and integration of sustainable systems. One standout detail is the section providing an overall sustainability approach/systems adopted for the project. The work is a real showpiece. ■



Winner 2021

STUDENT AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | PROJECT

Strawberry Hill Healthcare Village

Words by Luke Williams, Nottingham Trent University

Strawberry Hill Healthcare Village proposes the development of a new first-class healthcare village in conjunction with Nottinghamshire County Council, Newark and Sherwood District Council and Sherwood Forest Hospital NHS Foundation Trust.

The site measures approximately 2.502 hectares and sits between several areas previously proposed for development. Numerous new developments have been proposed; however, strict planning guidance in the area has curbed most of these developments.

The project aims to be the first development in the area, which has been directly targeted by Newark and Sherwood district council's redevelopment scheme, which aims to rejuvenate the area. The primary goal of this MSP is to create an architectural focal point with a focus on both sustainable and ecological development.

The project goal is to create a social hub as a focal point of the care village by setting an architectural precedent for the area, with the ambition of kick-starting sustainable developments to rejuvenate the Old Colliery area.

The form and aesthetics have been created to feel almost naturally flowing where possible. The ideology of a structure in biophilic harmony with its surroundings provides the entire basis of the design methodology. The primary design was targeted to create a roof structure that rises from the ground, carried by monolithic pillars into the sky, with the symbolic nature of the land rising from the ground on wooden pillars, only to then fall over, returning earth to earth.

The ideology of Strawberry Hill is the union of compassion and well-being; it is not just a place for treatment; it's also the home to those in need of care.

The design Incorporates a homely environment with a friendly atmosphere and the avoidance of institutional-like character.

With a sympathetic nature and encouraging ecological drive, the site aims to provide inclusion for all species of animal life. With the sites rather barren existing qualities, the ideology of expanding ecological spaces within the built environment provides the needs for all.

Strawberry Hills care home will provide tenants with a lifestyle that they can call home, offering them a choice of different levels of care and support, which changes according to their needs. For those diagnosed with dementia and Alzheimer's, the knowledge of these diseases progression can profoundly affect a person well-being. Giving tenants the peace of mind that their care plan will tailor to their needs as required as the disease progresses.

The materials chosen aim to replicate the context of the site with the use of locally sourced materials. The heavy use of timber is inspired by Scandinavian architecture; this material brings and warm, welcoming feeling to the building, making a significant change from the typical sterile feeling of healthcare developments.

The architectural style of the proposed design could be described as a modern sustainable ecological design, with a neo-futuristic character within certain elements such as the proposed parametrically designed entrance roof. Blending several architectural styles without overpowering each other prove to be a challenge, although one worth taking risks to creating a striking yet naturally flowing structure.

Fully inclusive access is offered through low threshold kerbs and zero threshold entrances. Pickup/drop off layby provided adjacent to the main atrium. Wheelchair assist zones close to the main reception, allowing help for those who require assistance entering and navigating the building.

The ecological importance of the site cannot be overstated. Although the chosen location for this Strawberry Hill is a designated greenfield site, it has been listed for development by Newark and Sherwood District Council. Using this opportunity to retain the areas natural hydrological characteristics and improve upon its biodiversity is a primary goal of this project. Setting an architectural precedent in terms of sustainable design and ecological integration will hopefully encourage further developments to be approached in the same regard.

The areas adjacent to the site are essential breeding grounds for bird populations, specifically Nightjar and Woodlark. More than 1% of the UK breeding population of both species are found within the Sherwood Forest National Character Area. These populations are spread across a number of areas of land defined by Natural England as indicative core areas and by the RSPB as Important bird areas. Other bird species present in the area include the Green Woodpecker, Tree Pipit and Turtle Dove. The site of this project has a general lack of developed trees which act as breeding grounds for the species; the inclusion of bird boxes and specific landscaping will allow nesting on-site, with the hope of expanding their breeding grounds. Retaining the taller natural foliage to the south-east of the site whilst encouraging its growth will provide nesting for these species. Further planting of existing trees and nurturing existing ones will encourage the nesting of the local bird species and further expand their already scarce habitat.

The technical resolution of the structure has focused on two key areas; ease of construction, and sustainability. Mass timber was chosen due to both its sustainable quality and off-site construction. CLT and glulam offer low embodied carbon, complete recyclability, and is sustainably and locally sourced; it aligns with the ethos of this project. A highly detailed structural beam and column system were devised using both perpendicular, tangent, and curved grids. Through the complex connection network, the methodology of providing ideal connections proved to be a difficult task.

To reduce the impact of bonding these systems to floor or wall panels, low formaldehyde bonding to be used. The primary superstructure consists of Metsawood UK glulam beam. This is supported by the secondary CLT structure. Spans, column and beam sizes have been chosen accordingly with the load requirements, as outlined by TRADA and within Eurocode 5. Below and above-ground structures will be heavily developed to provide adequate means to facilitate all potential issues with regards to shear, tensile, and dead-loads.

Of particular interest was the falling/ returning to earth forms and these were exceptionally presented.

OSB/3 Boards on a grid roof of no more than 00x 000mm facilitate the typical <2.8KN/ m2 requirement and allows foot traffic on the roof surface of 200kg per 4m2. CLT supporting walls under beams allow a reduction in Timber mass and cost by using

40x405mm glulam beams on 10mm CLT walls to provide a structural load compensation within a factor of 1.5, increasing 'wet' load capability.

Judges' comments

Strawberry Hill is a new healthcare village which is visually striking. Luke has approached this project with mature, considered and resolved detailing and a lot of work has gone into developing its fantastic design.

The building form, spread and use of the land is impressive and Luke demonstrates the importance to designing a building that fits and respects the ecological and clients' requirements. Of particular interest was the falling/returning to earth forms and these were exceptionally presented. Luke has a further benefit for prevailing wind and an opportunity to harvest this as part of the sustainability design – quality design that is also sustainable is hard to achieve. The overall structural concept is well thought through and coordinates with the architectural design. The level of detail resolution is impressive and superbly presented.

On sustainability, Luke goes into detail on the project targets and key areas he proposes to meet the BREEAM targets. This being one of the main drivers, including the detail resolution, make this project standout as a joint winner for the Student Award for Excellence in Architectural Technology.

Winner 2021

STUDENT AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | PROJECT

Eco-Quarter: Sustainability Hub

Words by Craig John Gregory, Nottingham Trent University

The proposed scheme is located within the East Midlands. Situated along the northern banks of the River Trent, the site is a known as a key strategic location for the city and also is a major appeal for development and rejuvenation to the local area.

The Eco-Quarter proposal is to:

Create, develop and establish; the East Midlands very first Vertical Farming Facility.

As a part of a flagship initiative scheme, that is to be proposed alongside an ongoing sustainable residential development, of Nottingham City's Waterside Scheme of the Trent Basin area.

The Eco-Quarter will also specialise in the use of Aquaponics and Hydroponic farming techniques. Enabling it to be able to produce a higher crop yield and annual harvest, than a conventional linear farm would be able to produce. Considering a more cost effective and environmentally friendly approach.

That is fast becoming a necessity, rather than a luxury for this upcoming century.

The Eco-Quarter's vertical farming facility will become a hub of sustainability and ecological practices. Forming a key cornerstone towards a sustainable residential scheme, as a part of the Waterside Development in Nottingham.

By growing locally produced food onsite, the need for a long-distance distribution chain is removed. The carbon footprint of regional and international haulage companies, that conventionally transport our food products from all over the world, can be drastically reduced or removed entirely from the process.

The Eco-Quarter's facility will be one of the first of its kind in implementing a sustainable source of natural and healthy food stocks, within a well-established inner-city

area of the UK, all within walking distance at all times for its patrons.

The unknown factors of climate change leading to both disrupted crop yields and the loss of arable farming lands due to flooding & urbanisation. Will help to establish this scheme as a necessary component and *Pilot Imitative* for future urban projects as well as keeping in line with the "sustainable ethos" that the Trent Basin aims to achieve.

The Eco-Quarter also has the potential of becoming a newly established Gateway to the waterside regeneration area overall. Due to its direct access along the river frontage and previous proposals from developers. The site is well suited for developing and regeneration schemes for reintegrating a residential community, alongside improving the natural ecosystem of the River Trent.

The proposal will have several modulated growing pods, as a part of a compartmentalised system. That will be interchangeable and allow differing configurations of room layouts and purposes. All of this will be within a fixed outer shell framework. Allowing the overall structure to be future proofed for easier conversion into either residential dwellings or small hubs for starter companies, which are able to rent out the office space within.

Some of the key design aspects that the Eco-Quarter was hoping to achieve were included in my final design, as key components of Architectural technology being used to create this scheme.

Knowing the need and concern for climate change initiatives, the Eco-Quarter adopted Passive-Haus principles to achieve above the recommended UK *u-Value ratings*, with usage of thermally efficient and inter-connecting thermal barriers, alongside the creation of an airtight structure. Would aid in maintaining the internal temperature and moisture control (especially within the growing rooms) with minimal need for mechanical systems to be installed.

Large glass facades, allowing natural light to enter the internal areas of the scheme; would aid both reducing the need for artificial lighting (a large financial expenditure for vertical farming) and due to the *Passive-Haus* design of the WICTEC windows used in the design. Would ensure that a certain amount of solar radiation could be allowed for maintaining a constant room temperature within.

The Eco-Quarter, located on a known brownfield site of Nottingham City. Had existing amenities and infrastructure present, creating additional issues concerning their safe and ethical removal from site. This was then further considered on how best to re-implement them into a newly conceived Sustainable drainage system and Bio-Corridor regeneration scheme. To deter the "natural filtration" of both sediments and pollutants from the existing road network, into a newly created Bio-Sphere; that was to be a key design element of the Eco-Quarter itself.

Using sustainable and recyclable materials, such as Glulam/CLT sourced from "*G-Frame Products*", existing masonry/concrete on site was to be crushed and reused as aggregate within both the waterfront's proposed cycle path and permeable paving systems. Thus allowing an improved circulation and access to the Riverside, in an initiative to "open up" public access to the surrounding area.

Glass-Roc insulation blocks; was selected for both its thermal and fire resistance properties, as its material composition of compressed recycled glass particles (which when considering App. Doc. part B are deemed to be a "Class 0" fire resistance) was a key consideration for maintaining compartmentalization for fire protection methods within the external envelope's construction.

Iso-Hemp insulation material; was extensively used for the external envelope. As it held good thermal properties and allowed a natural "filtration" of internal air/moisture to be absorbed (Focusing on the "growing rooms") which would reduce the requirements for an internal mechanical HVAC system to be installed.

A bio-diversity action plan was implemented throughout the RIBA design stages, allowing the natural colonisation of native species to improve bio-diversity on site. The creation of this bio-corridor, would create improved habitats for the indigenous wildlife that had previously been pushed out by human occupation. The further installation of honey bee colonies on the rooftop areas, would allow a more natural process of improving the local ecology. In addition to creating a source of revenue; in the sale of "non-processed" and fresh honey products to local residents.

A "*Sustainable Riverside community*" of the Trent Basin Scheme was to be the key driving element for this proposal. A symbiotic relationship between both the residents and the concept of sustainable agricultural food sources, was to be implemented and enforced at all stages of the design process.

The creation of green open/ break out spaces, with an improved riverside frontage. Would allow the nearby residents a place to visit, congregate and relax in their leisure time.

BREEAM rating and acknowledgement of the credits calculation system is testament to Craig's understanding of sustainable and green building design.

Judges' comments

Craig's communal hub for the Trent Basin Residential Scheme is an excellently considered, highly technical, ecological and inclusive design – it is practical, yet exciting!

The design and material specification are superb, including accessibility considerations scoped within the context plans as well as a fire strategy. A high level of sustainability opportunities detailed and expertly presented. BREEAM rating and acknowledgement of the credits calculation system is testament to Craig's understanding of sustainable and green building design. The different spaces, overall development usage and level of thought considering the clients requirements is excellent. There is a clear understanding of the optimised design from the proposed ME and circulation GIA percentage targets.

There is great care and attention in the gorgeous detailing, the fabric-first approach and the ecological choices made in relation to the structure, the fabric and the services in this design. Craig is a technically driven individual who has demonstrated excellence in Architectural Technology and a very worthy joint winner.

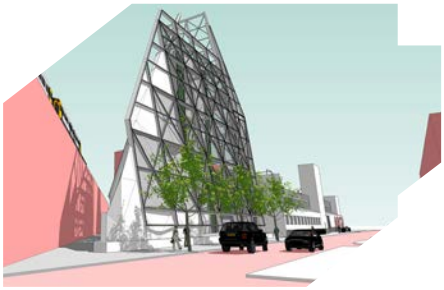
Finalists

STUDENT AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | PROJECT

The Centre of Agricultural Innovation

Eleanor Boardman,
Nottingham Trent University

The Centre of Agricultural Innovation is proposed to form a combined Exhibition, Education and Research facility within the Norwich Research Park (NRP), introducing a community element to break down the barriers between science and the public. For this project, the NRP presented a brief to create a gateway building to establish the park's new entrance and presence, and to facilitate a new specialism into the field of vertical farming. The safety, security, access and servicing demands of the two sectors (research facilities and education and exhibition facilities) presented contradictory requirements. To successfully combine these uses in a collaborative environment, a strategy to physically separate the research facilities from the exhibition and education facilities, whilst maintaining a visual crossover, was implemented in the early design stages.



Arch Climbing Wall Development

Thomas McGinnity ACIAT,
University of Westminster

The Arch Climbing Wall is located in Bermondsey, next to a railway line. The new building utilises the railway with its height allowing passengers to see it from their point of view on the train. The retrofit of the existing building, as well as the construction of the new building, aims to highlight the connection between nature and climbing. To express this connection, climbing walls were constructed and set out to represent mountain ranges and valleys. They formed paths through the existing buildings and, due to the additional height attained through use of the basement, they are able to tower over the climbers.

Proposed High-Rise Tower Sustainability Re-Design at Anglia Square, Norwich

Kori Moore ACIAT,
Anglia Ruskin University

The brief was to design a 25 storey high rise building which will set the design precedent for the rest of the site on its next planning application. The structural proposal will use a structural glulam frame and all entrances to the building have compliant level thresholds with a sill that does not raise up by more than 10mm. There is to also be a step free route constructed and maintained within the site at all times for easy access of wheelchairs. All columns in high risk, or primary, communal fire escape routes are to be clad in one layer of calcium silicate board to reduce fire risks.

STUDENT AWARD FOR EXCELLENCE
IN ARCHITECTURAL TECHNOLOGY
| PROJECT

Meet the Judges

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He has been actively involved with the Institute at both local and national level since 2005.

He is a member of the Education Board and the Regional Treasurer for Yorkshire. Matthew has participated in many MCIAT and CEnv Professional Interview Panels, represented CIAT when interacting with the UK Green Building Council, been a member of the Membership Futures Working Group and Climate Change Taskforce.

Christopher Day MCIAT

Christopher is a Chartered Architectural Technologist with over 16 years of professional experience spanning complex design refurbishments in Central London, UK and most recently leading a one-billion dollar mega build project in the DIFC, Dubai, UAE, designed by Foster and Partners.

For Christopher, each project is a puzzle that requires time to process and logical thinking to be completed successfully. This focused commitment and competence towards each project has given him scrupulous ability to simultaneously manage design development, technical coordination, risk mitigation, BIM delivery and programme tracking.

Reputable for leaving no stone unturned when leading successful design and construction packages, he is also a firm advocate for embedding lessons learned into company standards and aims to raise the industry standards overall. Christopher's future-thinking has seen him provide invaluable mentorship to developing Architectural professionals, where they themselves have climbed the ranks under his guidance and work ethic.

Irene Hayden MCIAT

Irene Hayden graduated in architecture from Queens University Belfast in 1994 and worked in industry in the UK and Ireland, before joining Galway-Mayo Institute of Technology as a lecturer in Architectural Technology in 2005. Irene was the recipient of the Presidential Teaching Excellence Award in 2020. The Galway-Mayo Institute of Technology programme board for the BSc (Hons) in Architectural Technology, which Irene is part of, won the Excellence in Education and Training Award at the Building and Architect of the Year Awards 2021 in the Republic of Ireland. Irene is a Chartered Architectural Technologist and a Chartered Engineer. Irene completed a first-class honours degree in Civil Engineering in 1999, an MSc in Renewable Energy and Energy Management in 2011, a Post Graduate Diploma in 2018, and is currently completing her PhD studies with Lancaster University in the broad area of building regulation education. Irene is a Republic of Ireland Centre Committee member.

Karyn Williams FCIAT

Karyn studied architecture at the University of Sheffield before becoming a Chartered Architectural Technologist in 2014 after fourteen years in practice. As Head of Social Value at Stride Treglown, Karyn is passionate about the benefits projects can bring to communities. She advocates the creation of positive learning environments within the workplace that support people's growth and wellbeing which enables professionals to thrive. In her role as a Chartered Architectural Technologist she also leads the technical delivery of education, residential and healthcare projects within Wales. Alongside her passion for delivering high quality project work she is committed to promote the role of AT and as an active member of the Wales Region, in her role as Regional Education Officer, extends support to AT students during their studies and continues to support postgraduates in the workplace towards attaining Chartered Membership.

Usman Yaqub FCIAT

Usman is a Chartered Architectural Technologist and Fellow of the Institute. Since 2007, he has worked in professional practice going on to establish Studio Yaqub in 2014, which is an award-winning CIAT Chartered Practice. Usman has worked in all sectors and specialises in working on challenging sites whether they be residential or commercial. In addition, Usman is an Associate Lecturer at the University of the West of England (UWE) having originally studied there and now involved with a range of architectural programmes particularly Architectural Technology. He has also been actively involved in the Institute at a local level since 2018 and is currently Regional Chair and CPD Officer for the Wessex Region.

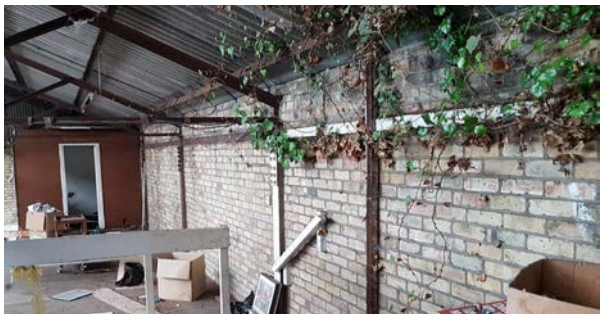
Commended 2021

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | SMALL TO MEDIUM

Vinery Mews

Words by PiP Architecture

The brief for the project was to convert a dilapidated warehouse building of a single leaf brick construction with an asbestos roof to an open plan office that maximised natural light and office floor area and took advantage of interesting existing features in the building.



The building was surrounded predominantly by garden-land not under the ownership of the client and therefore, the entrance at the front of the building took advantage of the only area that could get natural light and outlook with a new glazed wall that extended the full height of the entrance atria. Internally to maximise floor area a mezzanine floor was inserted which was supported on bespoke steel columns with the floor itself being clad in ply boarding.

The thoughtful design maximises interaction in the open plan office environment and creates a healthy environment to work in

The industrial nature of the converted building complements its existing setting as a back land industrial building.

When working with an existing building there are always compromises. However, we have been able to provide a fully inclusive building with a carcass than has provisions to be 100% adaptable by the client to suit the needs of their team and clients.

PiP tried to reuse as much of the existing building as possible to reduce embodied energy, the thermal envelope

was also upgraded to provide a comfortable working environment.

Raw materials are exposed throughout with exposed brick and steelwork and polished concrete floor. Existing features from the warehouse were also retained such as the old sliding doors.

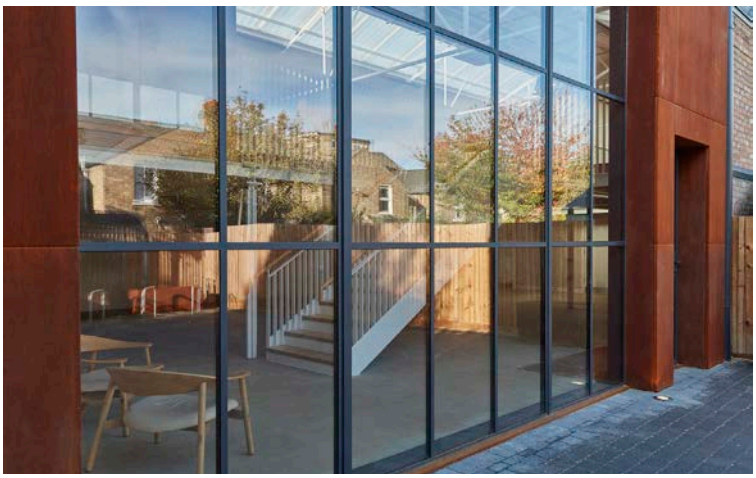
At the core of this project, upcycling and recycling were key driving forces to ensure this disused derelict building was brought back in to the 21st Century and to accommodate the high-level of commercial office environment people deserve post-COVID pandemic.

The client had a lot of input in the design and had images of how he envisaged the office that PIP brought to life. The contractor has worked closely with the client before and was brought on board for their expertise on conversion projects. This close relationship is what was key to bring good quality workmanship to the project, and the contractors experienced craftsmen helped produce an exemplar office building.

The building is high performing, maximising natural heat retention and cooling through mechanical ventilation. The layout is open plan allowing flexibility in operations, modern, light and a thoroughly enjoyable environment to return to the office in.

Judges' comments

A converted dilapidated warehouse building into an open plan office with a terrific layout making maximum use of the natural light. A clever solution with use and exploitation of existing building features; making this project visually strong and an inviting design with excellent reuse of an existing building. An innovative use of materials, by the Chartered Architectural Technologist, with excellent simple and clear detailing of building elements, integrating nicely with its surroundings. ■



A clever solution with use and exploitation of existing building features; making this project visually strong and an inviting design with excellent reuse of an existing building.

Highly Commended 2021

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | SMALL TO MEDIUM

Errisbeg House Veterinary Hospital

urbandesigns

Words by Urban Designs Ltd

The development comprises of 850 square metres of state-of-the-art veterinary facilities, including high-specification operating theatres, diagnostic imaging facilities, consultation spaces, kennel and cattery care spaces, and a light and airy reception.

The building is designed as a respectful response to the site context and part utilises the existing 19th Century building, Errisbeg House, whilst offering a single storey extension in a rural-contemporary style, designed to house the hospital's new clinical facilities. The design capitalises on the site's natural lighting and views out towards the adjacent Trent & Mersey Canal.

The design contains eye-catching architectural features such as the large glulam structures which protrude past the building's front elevation and inform the large sweeping curved roof profile. The beautiful western-red cedar cladding emphasises the rural feel of the site, and epitomises the design concept of enabling the building to age naturally along with the rest of the site. Rain chains in place of downpipes to the principal elevation help to connect the building with its natural environment.

The client needed new premises to accommodate their expanding operation, and due to their complex requirements it was concluded that a purpose-designed building was the best solution. The new building is in the form of an extension to the existing Victorian Errisbeg House.

The design process resulted in a simple form for the extension that complements the existing Victorian building. The building form and type of construction were carefully evaluated, considering the functional requirements of the building, its sensitive location adjacent to a conservation area, and its relationship with the attractive Victorian house.

In order to achieve the desired appearance and form, and work within a tight deadline, a framed solution was chosen. This allowed for speed of construction, and achieved a watertight envelope to allow internal fit-out of the building to commence as soon as possible. The framed solution included both steel lattice trusses and glulam beams on a steel frame. Kalzip was chosen to provide a cost-effective solution to provide a curved roof form

with the advantages of speed of construction over more traditional roofing materials, and ease of installation of photovoltaic panels.

Whilst the glulam and steel frame was componentised and manufactured off site, the building envelope was formed using traditional masonry construction, which would later be clad in timber. Forming the external walls from concrete block allowed the envelope to be formed quickly, and provided a robust durable substrate for the cladding which could be installed once the building was watertight.

Functionality of the building was of prime importance and was considered and reviewed throughout the project.

Vets, nurses and reception staff were consulted from the outset of the design process, and their ideas were relayed back to inform the design.

The layout of spaces within the building was of great importance. The integration between public and clinical areas, the location of consultation rooms, the layout of reception and waiting areas, storage rooms, X-Ray and MRI rooms, and administration areas were all pored over to ensure that the building would operate in the most efficient way.

The treatment room was positioned centrally within the heart of the building as a hub for activities that revolve around it. Careful consideration was given to the work stations within the treatment area, allowing sufficient space around the adjustable height trolleys that would be located within it. Bespoke service pillars were designed adjacent to each work station, which included examination lamps, computer monitors, drawers for surgical instruments, oxygen and gas outlets, power points and general storage.

Whilst a number of building forms and material choices were considered at the outset of the project, the final choices took inspiration from the site's location within the heart of the National Forest, and its sensitive location adjacent to the Conservation Area of the Trent & Mersey Canal.

Restrictive planning policies discouraged the construction of a new stand-alone building, however extension of the existing building was supported. The Victorian architecture of the existing building had good aesthetic qualities, and replicating this could have resulted in a poor pastiche.

The extension was designed with a striking modern design with a mix of materials that would contrast with the red brick Victorian architecture of the existing. The use of a responsibly sourced Western Red Cedar cladding was specified, that will mellow over time to blend in with its surroundings. The large area of glazing to the reception area allows light to flood in and reduce the use of artificial light. In contrast to the ornamentation of the Victorian architecture, it was the structure of the extension which provided its aesthetic. Exposed Glulam props and curved beams formed striking features. Large roof overhangs were used over the large glazed areas which provided shelter and shading. A hidden gutter was formed on the front section of the roof overhang, and rain chains were used as an alternative to downpipes, which would have been cumbersome and unattractive.

The south-east orientation of the roof allowed for installation of photovoltaics, which given the high power usage of the building, contribute to reducing its carbon footprint.

Charging points were provided for electric vehicles in order to promote the use of low and zero emission vehicles.

Sustainable drainage was achieved by means of soakaways, which were possibly due to the high percolation rate of the sandy gravel subsoil.

Performance and durability were key considerations in the design of the building from the outset. Its functionality has been proven by the fact that it has operated smoothly since its opening in July 2019, remaining in operation throughout the COVID-19 pandemic.

The materials chosen for both internal and external use were considered for their durability. Western Red Cedar is one of the most naturally durable cladding species, with a lifespan of 60 years plus. Altro Whiterock internal cladding was provided throughout the building as a hard-wearing hygienic finish. This proved to be an excellent choice that withstands walls being scratched by animals and scuffed by trolleys.

The extensive client staff involvement has benefitted the design along with a fine use of 3D modelling and technology to realise it.

The use of timber, with its potential to rot, was avoided in areas that would require regular cleaning. These areas had masonry substrate with durable surface materials to provide long term durability.

As a building housing high-voltage and radiation-producing equipment such as CT scanners, X-Ray imaging and the future installation of an MRI scanner, future performance and durability were of paramount importance. In this respect, and as poor performance of the building could have had dire consequences, specialist consultants were employed to assist in the design for these areas of the building to ensure the specification for materials would provide a safe environment for employees.

Project Value: £1.9M
Type of project: Extension to existing building to provide veterinary hospital.
Who commissioned project: Client commissioned the project
Name of client: West Midlands Referrals Ltd
Contractor: A&S Enterprises
Quantity Surveyor / Project Manager: Armsons
Structural Engineer: Millward Consulting Engineers
M&E Consultant: CJR Midlands

Judges' comments
New premises to accommodate the expanding operation of this veterinary hospital resulted in this purpose designed building. Throughout, there was a careful considered approach, particularly to the workstations within the treatment areas. The extensive client staff involvement has benefitted the design along with a fine use of 3D modelling and technology to realise it.

The visual structural connection is a fine example of Architectural Technology in practice utilising local materials with robust functional internal surfacing and a sound technical response to a tricky host property and site. A proficient use of the glulam and steel frame off-site manufacturing with traditional masonry construction methods for the building envelope. ■

Winner 2021

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | SMALL TO MEDIUM

King Street, Kings Lynn

Words by Studio 11 Architecture

STUDIO11 architecture

Our clients purchased a plot in the centre of Kings Lynn, overlooking the River Great Ouse with hopes of building their forever home, where they could easily walk into town, cycle along the nearby cycle path and be close to family, and enjoy their retirement.

Our original brief was to make a home safe in terms of the current flood risk, adaptable to future life changes, resource efficient (energy, water etc) and generally sustainable. This brief developed further as the design process evolved to incorporate the constraints of the site, site contamination issues and the constrained construction access.

The dwelling which fronts the River Great Ouse, is nestled between a converted warehouse and a car park with existing boundary wall to the north. The constrained nature of the site meant the need to engage with party wall surveyors and existing residents on all four boundaries of the site, including the river wall and river beyond which is owned by the crown.

We designed a scheme built 300mm above the river wall which is in excess of the current 1:100 year + climate change storm event, and surrounded by a deck system that can be easily dismantled to allow access for the Environment Agency to maintain the river wall.

Access to the site is via a 2m wide alley or via the river, making delivery of materials, plant and storage on site a challenge.

Some consideration was given to the idea of delivering materials by barge with separate loading and unloading areas further down river, but it was decided this method would be too dependent upon the tide and would obstruct the progress of the construction team. As this method would also require off site loading and unloading facilities at a cost, it was deemed that this would be unviable. It was determined the best option would be to access the site via the alley, meaning materials chosen had to be deliverable to site in small loads, stored on site in small quantities and constructed by hand or plant small enough to fit through the alley.

The construction method was chosen to directly deal with the site access, the raised ground floor level and the position of the building in relation to the site boundaries.

Our clients appointed a main contractor at the start of the design development to allow the design team to work closely with the contractor to develop solutions to the project brief. To that end, we agreed with the contractor to carry out several site investigation works one of which was a full geo-technical investigation which revealed contamination within the site in the form of elevated levels of arsenic, lead and benzopyrene as well as tidal deposits and made ground to a depth of 2.5m below the current ground level. This had significant implications on the foundation solution and the remediation solution for the site. Both a raft and piled solutions were explored but due to loadings it was felt by the structural engineer that the foundations should be piled. Due to the close proximity of adjacent structures, a bored CFA pile solution was chosen and the main contractor sourced a company that could undertake this work using a mini piling rig that could fit through the alley to King Street. As added protection to the adjacent structures, vibration monitoring was implemented during the foundation works. The structural engineer then developed with us a poured in-situ reinforced concrete ground beam solution which minimised excavation on site, reducing work within contaminated land and minimising disruption of land that is of archaeological interest.

Working with the Local Authority Environmental Team and our geotechnical consultant, we developed a remediation strategy with the principle of retaining all soil on site and introducing a “no dig” layer over the top with raised planting beds above. This was approved by the Local Authority and meant that no contaminated soil was removed from site, reducing the environmental impact

The materials arising from the demolition of the dilapidated building on the site were set aside and reused in the construction of walls both to the adjacent car park and as a new boundary wall to 15 King Street.

A steel frame was chosen for its flood resistant properties as well as the ability to design a bespoke frame with small lengths of steel that could be transported through the alley. The advantage of the steel frame was that once the frame was erected, all other components could be delivered to site in small batches and erected on site using working platforms created by the steel frame.

Sustainably sourced timber was chosen for the infill panel construction method for its ease and speed of on-site construction.

Performance of the elements used in construction were given consideration to ensure they were cost effective and energy efficient. The breathable timber frame construction allowed us to be more environmentally friendly with our choice of insulation rather than insulation that produces harmful gasses during its production.

The roof and walls were also of a similar construction which assisted construction operatives on site. The steel structure allowed us to use a more environmentally friendly insulation; to prevent cold bridging around the steel frame the building was enveloped in a compressed wood fibre breathable insulation with blown fibre cellulose insulation within the timber panels.

The final home emits 3.2 tonnes of caron dioxide per year when compared with a similar sized house emitting on average 6 tonnes. That is a carbon saving of 47%.

To the western side of the building, a balcony was incorporated with overhanging roof which aided in the reduction on overheating to the building where large glazed areas made good use of the views. Very little glazing to the northern and southern side of the building was used sparingly and generally only to improve light levels. Glazing to the eastern side of the building was limited due to potential overlooking.

Our client was keen to utilise a sustainable urban drainage system to deal with storm water, however, the constrained nature of the site meant that we were unable to utilise soakaways. We therefore explored the option of discharging the storm water to the adjacent river via an attenuation tank located below the main house, this tank has the dual function of collecting rain water to be used to water the gardens and wash vehicles as well as hold water on site in storm events ready to be discharged to the adjacent river when the storm event has dissipated.

The house itself needed to be adaptable to their changing needs as they grow older however, they did not want to compromise on design – they wanted a modern home. We achieved this by designing a bespoke steel frame meaning no structural work needs to take place in order to change the internal layout of the walls, reducing the costs of adaptations in the future. All of the external walls and sloping ceilings were designed with service voids to reduce penetrations through the vapour control layer and also allow for ease of adaptation of mechanical and electrical services.

The Chartered Architectural Technologist has successfully created modern living with a twist, with excellent eco-credentials, over and above expectations for a build of this size.

Judges’ comments

Built on a plot in the centre of Kings Lynn, overlooking the River Great Ouse, this fantastic solid design, whilst simple, has addressed and tackled issues on a brownfield site. The Chartered Architectural Technologist has successfully created modern living with a twist, with excellent eco-credentials, over and above expectations for a build of this size.

The building has been designed to sit skilfully, and integrate, within the historic context and whilst traditional in its form, exploits the opportunity of modern materials. The site had several constraints and challenges which were taken into careful consideration and profoundly executed. The selection of structural design, materials, size, delivery to site and construction has been expertly reviewed and incorporated within the design, also allowing flexibility for its layout to accommodate any future needs.

This is a superb demonstration of how Architectural Technology has supported the design, making it an outstanding winner for the Award for Excellence in Architectural Technology, small to medium projects category.

Finalists

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | SMALL TO MEDIUM

Monkswell Avenue

Chetham Architecture Design

Traditional materials and construction techniques were used, which are readily available and familiar to local contractors, and match the existing building. The open plan layout is both functional and adaptable. Level access is provided to the patio at the rear, and high levels of glazing create a light and spacious interior, which reduces dependency on artificial light. The renovation of existing buildings is far more sustainable than demolition – the innovation lies in creating a modern sustainable home from what would otherwise have been considered a derelict building. A “fabric first” approach creates a thermally efficient envelope, including triple glazing and an insulating cork-based render. Underfloor heating provides an energy efficient heating system, supplemented with two wood-burning stoves.

Smart Apartments - 14-16 Cogan Terrace

Mark Wright MCIAT,
Shared Vision Limited

The selection of Durisol, that was assembled by carpenters without a scaffold, and Lewis deck, that gives excellent sound proofing but can also be used as a working platform, allowed the tightly constrained site to be organised in an uncluttered way. The continuous monitoring and control of the building, coupled with a well performing envelope, give an in-use performance better than Passivhaus standard. Current building regulations provide for much better accessibility than previously existed in the terraced houses. The positive wellness design of quiet, fresh air, natural light and outside space caters for a broad range of tenants with specialist needs, such as allergies, mental health conditions and learning difficulties.

Woodhouse Health Centre

Ikonografik Design

Fairly traditional methods of construction were used to match the existing building. The external shell of the building was constructed quickly and easily, consisting of concrete trench fill foundations and conventional brick and block cavity walls, along with a timber framed roof structure covered with concrete roof tiles on top. Internally, metal framed plasterboard partitions were specified as the light weight could easily be carried by the existing floors. Bespoke timber furniture was designed and fabricated to suit all internal rooms and spaces. The majority of this fit out furniture was manufactured off site to enable a quick and easy site installation. Part of the brief was to repurpose part of the existing building to address functionality and inclusivity for all users. Objectives included increasing the number of clinical consulting rooms and improving the patient and visitor experience.

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | SMALL TO MEDIUM

Meet the Judges

Chair:
Mark Kennett PPCIAT FCIAT CEnv CIAT-Accredited Conservationist

Mark is a partner in a private practice based in Harrogate, North Yorkshire, Wilson Kennett Partnership, and has a wide knowledge and experience in the discipline of Architectural Technology, specialising in such areas as conservation and sustainability. Mark is qualified as a Chartered Environmentalist and as a CIAT—Accredited Conservationist.

As a Member of the Chartered Institute of Architectural Technologists since 1980, Mark has been actively involved with numerous Committees and Taskforces relating to membership, education and technical issues. Mark has also been a consultant on several books related to the industry and has spoken at numerous seminars across the UK.

Dr Gihan Badi FCIAT

The founder of GB Atelier, CIAT Chartered Practice for architectural services, with more than 20 years of experience in the built environment sector and academia in both the United Kingdom and the Middle East. As sole practitioner, Gihan has gained experience on various residential and commercial led developments in both the UK and the Republic of Ireland.

Gihan is a Fellow Member of CIAT and a Chartered Architectural Technologist, also she is a Fellow Member of Higher Education Academy with Doctor of Philosophy degree in Planning, Housing and Human Geography.

In addition, Gihan is an Assessor for CIAT and has been a member of the Yorkshire Regional Committee for many years, and she is actively involved with her professional institute at local and national levels. Gihan was previously the Regional CPD officer (2014-17) and the Regional Committee Chair (2017-19). In 2017, Gihan was a Finalist as Best Architectural Technologist in the European Women in Construction and Engineering.

Steven Hedley MCIAT

Steven is an experienced Managing Director of his own practice with a history of working in the architecture and planning industries. He is skilled in CDM, ecological design, feasibility studies and specialising in the technology of architecture. A strong business development professional and is now in his second term as Vice-President Technical.

Sophia Kee MCIAT

Sophia is an enthusiastic and communicative individual with a proven track record in global design studios working on projects from concept through to completion. She is an innovative and creative consultant with experience in large/complex projects, including sustainability strategies, rating systems, green innovation and project management. Project sector experience includes mixed-use, aviation, residential, master-planning and commercial buildings. Sophia has worked in the UK, Hong Kong, Singapore and United Arab Emirates.

As well as project experience, Sophia holds an MSc in Energy and Sustainable Building Design and is an LEED accredited professional, and holds Estidama and BREEAM certifications.

Justin Kelly FCIAT

Justin is a partner at BPTW, an award winning CIAT Chartered Practice which is design-led with over 125 Architectural Technologists and architects with studios in London and the Midlands.

He acts as the lead Architectural Technologist at BPTW and has been an examiner at the Architects Registration Board, Secretary at the RIBA South East London Society of Architects (SELSA) Branch and is currently a Professional Interview Assessor for CIAT.

Having previously lived and worked in Rotterdam, Justin has gained experience on various residential led developments in both Rotterdam and Amsterdam. He completed a Diploma in Sustainable Urban Design from the International Institute for the Urban Environment in Delft, the Netherlands.

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During our long relationship with CIAT and its members, nothing we have witnessed has been as significant as the impact of tragic events at Grenfell Tower, on both the construction and insurance industries and this continues to cast a long shadow over Construction Industry professionals.

As a reaction to the issues highlighted by the Grenfell Disaster and the Hackett Report, the majority of insurers have used the opportunity to impose immediate and dramatic alterations to the cover available, which have included:

- Withdrawing from the market completely;
- Offering cover at much-reduced limits, or imposing Aggregate limits of indemnity;

- Substantially increasing premiums with no justification;
- Implementing onerous and unnecessary terms, exclusions or restrictions.

From an insurance perspective, the situation is bleak and, unfortunately, it does not appear that things will improve in the short term.

In light of the current insurance market conditions, ensuring you deal with a specialist insurance broker such as CIAT Insurance Services is paramount in getting the right advice and guidance.

A little light in the dark - CIAT Insurance Services, in conjunction with CIAT and Insurers, have taken steps to try and limit the impact that the shifts in the market will have on Members. Unfortunately, while we've been able to provide some shelter from the turbulent market conditions, no one can completely escape the impact of recent events.

Since our last AT article, members already insured on the scheme facility will have seen the introduction of a Cladding and Fire Safety Exclusion to their policy from renewal.

The standard approach now being taken by the CIAT scheme insurers has been to restrict this exclusion to buildings above 11m, leaving full cover in respect of buildings below 11m. Whilst this may be adjusted in certain cases where a greater exposure to cladding and fire safety issues exist, we feel this is a more balanced approach than that taken by many other insurers in the current market who continue to exclude cover regardless of height or any other features.

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CIAT INSURANCE SERVICES

Commended 2021

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | MEDIUM TO MEGA

Madingley Road

Words by PiP Architecture

The concept of this development was derived from the world-famous architect Le Corbusier who developed a modernist residential design principle called 'Unité d'habitation'. It is this concept which has formed the basis of our proposal which provides a corridor running through the centre of the long axis of every second floor of the building, with each apartment lying on two levels, and stretching from one side of the building to the other, with a balcony.

The layout allows for generously proportioned spaces with dual aspect units over two floors. The central corridor reduces the level of circulation space required and confines this to the centre of the building so the external openings are to the benefit of the occupants.

Many of the properties date to the 1930s and are in the international style of modernist architecture. Cambridge in the early 20th century was particularly progressive in its ideas and politics. This is reflected in its architecture, as the city experimented with modern movement architecture to a greater extent than many other British cities. The properties along Conduit Head Road provide a good example of a group of such houses, conforming to the ideal of natural balance with the establishment of a 'quasi-wildernesses to the west. Willow House (originally Thurso House) was designed by George Checkley for King's College Don, Hamilton McCrombie. It was built in 1932 as a companion to Checkley's own house, White House, which had been built on the neighbouring plot previously. The design was particularly innovative for its time and was featured in many contemporary architectural journals. Both consisting of two storeys, the structures are constructed in reinforced concrete with flat roofs and white-painted rendered walls. Salix House, Grade II listed, this impressive and distinctive detached house is an exceptional example of 'Modernist Movement' architecture. Salix was built between the two Checkley properties in 1934. It was designed by H. C. Hughes for Dr. Oliphant. It was extended in 1936. Built in white-painted rendered brick, the house is of one and two storeys with flat roofs. In 1972, the Council granted permission for a block of flats, replacing the 'White House' of 1930 (Cambridge's first Modern Movement building). The White House's survival is thanks to Nicholas Hellawell, the City Council's then Conservation Officer, who persuaded the developers to retain the house and build in the garden;

however the new building cuts White House off from Conduit Head Road and from any meaningful relationship with its contemporary neighbours.

Our preferred concept was to draw inspiration from the modernist architectural styles found along Conduit Road and a few massing and facade studies were explored at an early stage. It was felt that a horizontal rationale would alleviate the impact of the development along Madingley Road, integrating itself within the suburban and semi-rural character. Although contemporary in design, the scale, height, and massing are aimed to reflect the domestic nature of the listed buildings along Conduit Head Road. A flat roof is proposed together with duplex apartments to allow the scale of the building to be reduced at the front whilst ensuring the maximum level of amenity space for residents to enjoy at the rear. Each floor level benefits from a small terrace/balcony area which is screened to prevent overlooking between properties and adjoining neighbours.

Our design emphasises care and attention to the finish of the building fabric. In achieving harmony with the local vernacular, PiP applied particular vigilance to precision and craftsmanship in the construction of the traditional and modern trades required by the nature of the build, and the careful reclamation of materials. Local builders, who were appointed for their intimate knowledge of the area, worked hand in hand with specialist subcontractors who are experienced in their field of trade.

The quality of the materials reflects the overall excellence of the design and build. The purpose made, composite windows, constructed to high thermal standards and precision tolerances, and the pre-patinated zinc roofing used to avoid weathering, typify this quality. Sustainability is a core principle of the design, which features: Pavatherm insulation exceeding compliance standards and enhanced construction details to improve the thermal efficiency of the building envelopes; sedum roofs to provide biodiversity and water attenuation; permeable hard-standing to improve water management.

The site lies in a very sustainable location, being close to local amenities, services, and public transport infrastructure with major bus routes location on Madingley Road. The site is also within easy walking and cycling distance to the city centre and sought to provide adequate off-street parking provision to discourage on-street parking.

A site-wide communal air source heat pump with mechanical heat recovery ventilation was finally adopted based on the below:

- Total Sqm = 1656.01 sqm
- 2017 TER x TFA = 38734.07 kg CO2
- 2020 TER x TFA = 36110.35 kg CO2 (2623.72 kg CO2 Savings= 6.77% vs 2017 TER)
- 2020 DER x TFA = 22252.99 kg CO2 (13857.36 kg CO2 Savings= 38.38% vs 2020 TER)
- Proposed Technology: Heat Pumps (Via LZC technology only)
- Proposed (inc Fabric First Savings) = 6.77%
- Plus LZC Tech = +38.38% (Via Tech Only impact)
- Total site Carbon Savings (TER vs DER inc PV) = 42.55% Reduction
- Site Wide Zero Carbon Future option = + 48.95 kWp PV Panels

Our design emphasises care and attention to the finish of the building fabric. In achieving harmony with the local vernacular, PiP applied particular vigilance to precision and craftsmanship in the construction of the traditional and modern trades required by the nature of the build, and the careful reclamation of materials. Local builders, who were appointed for their intimate knowledge of the area, worked hand in hand with specialist subcontractors who are experienced in their field of trade.

These striking purpose built apartments, with a modernist residential design concept, are attractive and a very modern approach to UK apartment living.

Judges' comments

These striking purpose built apartments, with a modernist residential design concept, are attractive and a very modern approach to UK apartment living. With the use of an air source heat pump with mechanical heat recovery ventilation technology, the Chartered Architectural Technologist has incorporated a great approach to carbon responsibility. Carefully considered selection of materials with clean detailing and design lines ensures a quality finish of both indoor and outdoor spaces. ■

Highly Commended 2021

AWARD FOR EXCELLENCE IN ARCHITECTURAL TECHNOLOGY | MEDIUM TO MEGA

Sir Bobby Robson School

Words by Concertus Design & Property Consultants

Concertus DESIGN & PROPERTY CONSULTANTS

The brief was for a 60-place purpose-built school for primary and secondary students with SEMH (social, emotional, and mental health needs). There was an urgent requirement for further and enhanced SEND provision in the community. We played a significant role in helping the school obtain funding to make their dream a reality. Sir Bobby Robson School is the first of its kind in Suffolk and includes fifteen classrooms, a multi-purpose hall, kitchen, dining space, soft play and sensory areas.

As a design and build project, close collaboration between the contractor, client, end user, and the design team was essential from the outset. By adopting a collaborative approach to project delivery and establishing a clear communication strategy for exchange of information we established a good teamworking ethos, which contributed to the positive outcomes of the project.

We liaised with a SEN Specialist (and the end user) 3-4 months before planning was submitted to create detailed plans to accommodate the school's particular needs. A pitched roof (with a ten year guarantee covering) was selected to deter roof climbers and strengthen the security of the site. Our team looked at a range of different wall finishes and decided to choose brick due to its robust nature and to meet the tight budget. We changed the internal doors from double to single to minimise possible travel and improve safety. These doors are laminate faced and have a solid core for added strength incase pupils run into them. The Architect carefully considered the orientation of the classrooms and positioned them so they did not stimulate the children. A suspended ceiling was installed as it would be easier to repair if damaged. The hybrid units were fitted above the ceiling grid to avoid any possible distraction to the pupils. Our team also liaised with an Acoustician to make sure the acoustics were suitable for the children and to ensure sound would not be a disturbance. Walls were clad with durable plasterboard to prevent damage and also to enable fire and acoustic requirements to be met. Our Mechanical and Electrical Engineers adopted a collaborative approach with manufacturers and sub-contractors to guarantee noise levels, temperature control, draught levels, and CO2 levels all met the requirements.

Sir Bobby Robson School is located on a constrained site with a range of different users bordering the site, including a sexual health clinic, Inspire Suffolk (a charity), CAM Rider (a motorcycle training centre), a driver eduction centre, and PRU. The school needed a boundary fence

with the neighbouring PRU which was durable and would provide privacy but prevent climbing. We researched several options and discussed these with a SEN Specialist. A decision was made to construct a weld mesh fence with polycarbonate infill – this option meets the school's needs.

Our proactive approach allowed for a seamless transition to deliver this specialist school which has surpassed expectations through creative design solutions. We came up with an efficient solution of using offsite construction for the timber frame. This resulted in an accelerated programme to enable the school to open on time. All FF&E (furniture, fixtures, and equipment) were also manufactured off site to reduce the overall time on site. The timber SIPs construction and ground bearing slab also offered a cost-effective solution.

BIM (Building Information Modeling) was not a direct client requirement on the project. However, by following the BIM protocol we were able to successfully co-ordinate the design to mitigate known co-ordination issues, and work in a collaborative approach which benefited the delivery of the project. By using the full functionality of our 3D modelling software, we were able to model the proposed architectural, structural, and building services designs to enable successful design co-ordination. Through our regular design team and co-ordination meetings, a federated model within Solibri was produced. This allowed us to run a rule-based co-ordination of the design to eliminate common and uncommon co-ordination issues. By eliminating these issues, we reduced queries on site and the number of design changes required.

Thermal modelling was carried out to inform the design. Using a dynamic simulation modelling software, we created a thermal model to ensure the energy strategy was not just complying with the current and local regulations, but exceeding them. The thermal modelling helped is to identify any overheating issues and reduce the heating costs. It also helped to significantly lower the school's carbon footprint.

Radiant panels were installed, instead of radiators, keeping the infiltration value very low, providing a good U-value, and greatly reducing our energy consumption. Our Engineers focused on an enhanced natural ventilation strategy – using natural ventilation units for ventilation and heating further lowered the daily energy consumption. We co-ordinated a bespoke supply and return air grille to ensure a good air distribution in the classrooms. A centralised BMS with efficient and intelligent operational control provided an excellent environment for the pupils. Bicycle shelters can be found on the site and encourage green travel.

The design was created in parallel with the procurement stages. We met with Unity Schools Partnership during the first stage tender to clarify the finish of the building. Having been informed that the hall also needed to be used for sports, we added a second layer of glazing and robust walls for this purpose. Acoustic panels in the hall also needed to be robust for when the hall is used for sports activities. The hall is open for use by the wider community, placing the school as a community hub.

The previously unused, confined brownfield site has now been transformed. As a result of the site being left vacant, crime rates grew and became a big issue for the local community. This project has helped to regenerate the derelict site and has had a positive impact on the local community. All construction labourers lived within a 20-30 mile radius of the site, meaning the project generated employment opportunities within the local area and improved the local economy. The building achieved a 42/50 Considerate Constructor Score.

We used principles from the CL:AIRE protocol to reuse the materials on site and manage the land contamination of the brownfield site. The ground bearing slab minimised wastage material and all site waste was separated and recycled wherever possible. This prevented unnecessary production of new materials and meant no additional carbon was generated through the removal and disposal of material, or the delivery of replacement material.

Sir Bobby Robson School allows pupils to develop independence and self-confidence. The calming environment, layout of the building, and security features make the school a safe and happy place to learn. We worked collaboratively to ensure the budget and school's particular requirements were met.

The outstanding use of BIM and thermal modelling technology approach led to a highly sustainable design and its integration has had a positive impact for this project.

Client: Suffolk County Council – Children and Young People (CYP)
Project Value: £6m
Contractor: R G Carter

Judges' comments

Sir Bobby Robson School is a purpose-built school and as such is a fantastic local facility with innovation, functionality and inclusivity considered early in the project and throughout all the design decisions.

A robust approach to the design and delivery with carefully selected materials made this a functional school building, whilst working within a tight budget and constraints. The outstanding use of BIM and thermal modelling technology approach led to a highly sustainable design and its integration has had a positive impact for this project. A fine example of Architectural Technology in action. ■

Winner
2021

AWARD FOR EXCELLENCE IN
ARCHITECTURAL TECHNOLOGY
| MEDIUM TO MEGA

Rosalind Franklin Institute

Words by IBI Group

IBI

Located on the world-leading Harwell Science and Innovation Campus, the Rosalind Franklin Institute (the Franklin) is a new national institute dedicated to transforming life science through interdisciplinary research and technology development.

The Franklin brings together UK strengths in physical science, engineering, and life sciences to form a centre of excellence in technology development and innovation. Conceived as an innovative 'spoke and hub', the 5,300m^2 four-storey building is designed to foster unique collaborations and knowledge exchange between academic research groups. One entire floor fosters social interaction, as well as providing quiet space for research writing-up. Three floors house state-of-the-art imaging equipment, next-generation chemistry laboratories and four isolated electromagnetically stable electron microscope suites. Space was designed flexibly to support a mix of uses including offices, open-plan workspace, collaborative and social space, 'plug and play' laboratories, and biosafe CL2 laboratories.

Centred within a landscaped campus plaza, the Franklin's cladding features inspirational motifs drawn from Rosalind Franklin's famous 'photo 51' - an X-ray diffraction image of the double helix structure of DNA - emphasizing her key contribution in discovering the molecular structure of deoxyribonucleic acid. The 1962 Nobel Prize was awarded to the research team leads of Crick, Watson, and Wilkins. An outstanding female research chemist, Franklin died of ovarian cancer, aged only 37.

A short design programme with delivery across RIBA work stages 1-4 was completed within a six-month period, and an equally constrained construction programme took place over just 50 weeks, with a two-week contingency period. BIM Level 2 compliant throughout, the design team's stakeholder engagement activities included 2D plans, 3D images and final review with 3D models at construction. IBI Group supplied virtual reality models for use in planning-related public consultation and engagement sessions.

The Franklin's envelope was standardised to allow for off-site manufacturing, limited to three window arrangements, dimension external set up, and a roof-

level modular plantroom. Traditional concrete frame construction methods were required to avoid vibration effects on highly calibrated scientific equipment. The Franklin aims to provide flexible workspace options for academic tenants which need to flex and respond to different requirements over time. IBI Group future-proofed this space for future conversion requirements by standardising a grid of 6.6m x 6.6m, enabling conversion either to office or laboratory space, and ensured 4.2m floor to floor with a 3m ceiling height.

In addition to the need for collaborative flexible workspace, the Franklin's brief focused upon robust design and build requirements for housing highly specialist and sensitive research equipment. Design mitigations included ground floor location, whilst specific layouts and housings accommodated differing requirements to avoid risks posed by water damage or vibration, including an isolated slab with stainless steel rebars contained within concrete.

Large open plan laboratories include circulation routes deliberately passing through research and write-up areas, fostering a connected research community. With the ground floor focused upon specialist electron microscopy (EM) and mass spectroscopy suites, the social and orientating hub for the building is located on the first floor at the base of one of the two atriums. The atria allow a compact deep plan building arrangement to be well lit, stimulating the space, providing views within the building across light filled spaces that change throughout the day, and a place to congregate. The atria provide internal reference points as well as welcome visual relief from the intensity of laboratory-based research.

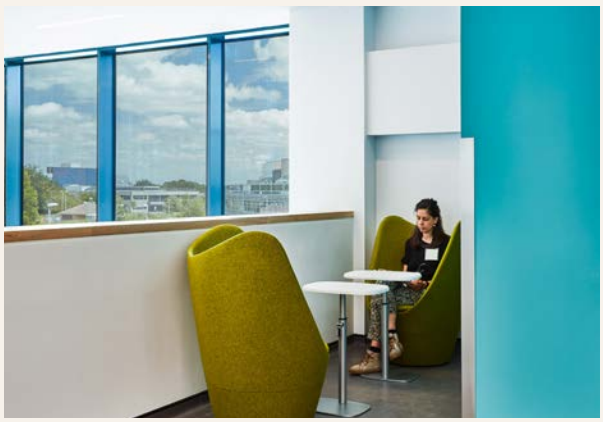
The building is organised vertically. A double-storey windowless space on the ground floor houses large, heavy research equipment sensitive to vibration, allowing structural isolation and a clear operational spherical zone (free of building services, structure and people) around the point of imaging of 3.3m, 3.125m above floor level.

External cladding featuring motifs drawn from the famous 'photo 51' give a strong visual identity for the

building within Harwell Campus. The linear nature of the external facades references the spaces inside, with a gradation in colour from darker more colourful and vibrant lower areas of the building to the lighter, more monotone upper area of the building. The lighter colour of the upper portion of the facades deliberately conforms to the Campus' design which uses a limited colour palette particularly towards the top of the buildings, assisting in distant views.

Our passive 'fabric first' approach includes a high performing building fabric, alongside fenestration design achieving adequate daylight provision while limiting unwanted solar gains in the summer. Active design includes heat recovery on all ventilation systems, provision of a full building energy management system with energy metering to control and monitor all major energy consuming plant and systems, and provision of a lighting control system with daylight linking and occupancy sensing to limit unnecessary usage.

Architecturally, we maximised the efficiency and value of the entire building footprint, allowing for future connection to Phase 2 development. Vertical risers are grouped around the central lightwell, optimising the available floorplate, and ensuring future flexibility.



Natural ventilation counterbalances mechanical ventilation services. The Franklin meets Part L CO2 emissions targets with the use of these passive and active design measures alone. This standard has been further exceeded by the addition of a rooftop PV array.

Mitigating risk of water damage was critical, given the Franklin's significant capital investment in scientific research equipment. Architectural design responses focused water services to limited areas of the building. The Franklin's first floor also acts as a buffer separating operational areas containing sensitive equipment and wet laboratories.

With a high prevalence of chemical research processes, large numbers of fume cupboards were located on the upper floors. These were situated higher into the structure in order to reduce the distance and size of air ducts, risers and roof top plant. Ceiling voids above laboratories space within which air ducts are distributed have been kept to a minimum dimension, in order to accommodate the full range of building services.

Two atria bring passive natural light into the deep plan of the building and perimeter space featuring full height external window and internal glazed screens. Maximum efficiency was sought in terms of trade-off between circulation and usable space. To avoid glare and solar gain, cellular office and meeting rooms are arranged on the perimeter with open plan workspace in the building's centre.

There was a great attention to detail which allowed high levels of energy reduction to be achieved and a passive approach which achieved daylight provision and reduce solar gains.

The expression of the building envelope around the housing of the EM suite is an honest treatment of the windowless, double-storey height zone of the building. Remaining ground floor elevational treatment particularly to the east elevation opposite Diamond Light consists of extensive glass curtain walling over the lower two storeys. The east elevation appearance of the Franklin is open and welcoming.

Client: Science & Technology Facilities Council-UK Research & Innovation
Principal Designer: Richard Golledge, Andrew Fursdon & Wendy Yeung, IBI Group
Principal Contractor: Mace
Design Team Partners: Hoare Lea, Price and Myers
Start Date: October 2017
Practical Completion: January 2021
Construction Value: £39 million

Judges' comments

The Rosalind Franklin Institute provides flexible workspace options for academic tenants which flex and respond to different requirements over time. The fantastic fabric first approach will ensure longevity in the buildings use. Its excellent use of 3D modelling demonstrated during the design and delivery stages, and within a very tight programme, provides an expertly thought-out design addressing specific functional requirements.

There was a great attention to detail which allowed high levels of energy reduction to be achieved and a passive approach which achieved daylight provision and reduce solar gains. Working to a very constrained brief, with mitigation measures for water and vibration damage, they used offsite manufacturing with a traditional concrete frame.

All aspects of this project demonstrated technical excellence and as such is an outstanding winner of the Award for Excellence in Architectural Technology in the medium to mega category.

Gold Award 2021

GOLD AWARD | CELEBRATING AN OUTSTANDING MEMBER

Usman Yaqub FCIAT

The Gold Award recognises and celebrates the dedication and commitment of Chartered Architectural Technologists who have demonstrated a significant contribution or outstanding service to the Institute.

There is a maximum of ten Awards presented annually to Chartered Architectural Technologists who have changed, developed or advanced the Institute, by solid, demonstrable and outstanding achievement.
The 86th recipient of the Gold Award is Usman Yaqub FCIAT for significant contribution to the Wessex Region and Institute with his implementation of a newly reinvigorated CPD series which has significantly impacted engagement within the Wessex Region and on both a national and global scale.

During Usman's tenure as Vice-Chair, for the Wessex Regional Committee, he demonstrated a true passion and enthusiasm for the role and his engagement with the Committee. This commitment was exemplary and exceeded the expectations of Usman's remit – he shone out like a beacon during his tenure. Usman used his initiative and skills to successfully move physical events to an online platform for delivery and set the benchmark for online CPDs across the Regions and Centres.

Usman has been instrumental to the success of the Wessex Regional Committee and represents the organisation with professionalism. Through juggling home life, practice ownership, with additional professional responsibilities, Usman has never faltered in his dedication to the Committee and losing sight of the Regional Committee's overall goal. We believe Usman deserves the recognition of the Gold Award as his work has been impactful, inspiring and has served hundreds of Architectural Technology professionals through implementation of a new online CPD series. His commitment is particularly noteworthy working outside the Committee meetings to ensure that the Region operates and skilfully manages this with his drive and creative ideas.

The online CPD series 'CPD-in 43' is an initiative that provides a 43-minute CPD session during a lunchtime break with 30 minutes of presentation followed by 13 minutes of question and answers. This simple yet effective rule of '43mins of learning, 17mins for lunch' has now developed into a formula for success which is being utilised by other Regions. Usman has worked tirelessly to coordinate guests and speakers to deliver a multitude of different insights on a monthly basis; from roofing materials, construction recruiters to even software suppliers. The diverse range of CPDs speaks to our growing audiences and reflects the varied career paths of our students, members and affiliates and also fellow professionals, re-enforcing collaboration which is important.

Usman is a guest lecturer at the University of the West of England, Bristol. His involvement in the Design Studio programme allows the students to interact with a local Chartered Architectural Technologist in addition to assisting with their learning. Usman's interaction with the university strengthens the Wessex Regional Committee's relationship with the students and we have seen an enhanced and increased engagement with the students; qualified by CPD attendee statistics.

The impact of the CPDs has been vast reaching to members and affiliates across the globe, The initial CPDs were presented via the Zoom platform, with the attendee numbers steadily growing from 60-80 to the current average of 250. The consistency of the format, marketing/advertising and range of topics along with the dedicated pre-planning has allowed the Region to schedule events up to 12 months in advance. This has allowed us to offer our members and affiliates a calendar full of options and events to look forward to, whilst maintaining their engagement and strengthening the brand of CIAT with clear and obvious CPD opportunities. The platform has now moved to Microsoft Teams giving a 10k limit of attendees and allowing scheduling of coordinated events for all members and affiliates provided by all Regions and Centres. This has widened the CPD provision for all members and affiliates dramatically with Regions and Centres working more collaboratively.

Usman presents and hosts the CPDs provided by the Wessex Region taking questions from the public and presenting them to the CPD providers. Other initiatives have developed from the CPD series such as, 'In discussions with' and 'Ask me anything' with forthcoming sessions entitled 'CIAT at C-level' where a practice director is interviewed and questioned on the impact of CIAT on their careers and development; all with the grand aim to promote the institution.

Winner
2021

EMERGING TALENT IN THE
TECHNOLOGY OF ARCHITECTURE

Matthew Willemsen MCIAT

Words by Carl Mills FCIAT, Chartered Architectural Technologist

This is a new annual Award for excellence in the technology of architecture for those in the early stages of their career in Architectural Technology.

It has been launched to recognise Associate members and Chartered Architectural Technologists with a professional career path of ten years or less.

It is my pleasure to nominate Matthew for this new award. Within my capacity of being Matthew's university Course Director, actively supporting his Chartership application, and Chair of the West Midlands Region for much of his activities with CIAT, I find myself in a perfect position to witness the growth and contribution Matthew has made to Architectural Technology and the strides he is making in promoting the reputation of the profession as an emerging talent.

Matthew demonstrates all that is good with being a younger Chartered Architectural Technologist, he has been involved with aspirATion and the West Midlands Region providing positive leadership, enthusiasm and professionalism. His volunteer work with all universities within the Region is of immense benefit to both undergraduates and the lecturers involved and his work with community engagement has showcased why we should be proud to have an emerging talent as Matthew who is undoubtedly an extraordinary talent.

Matt's efforts as a Chartered Architectural Technologist are hallmarked with an assiduous and conscientious nature. His proactive determination leads to an infectious enthusiasm towards the task at hand and his dislike for accusations furthers an open and welcoming cooperation to achievement as a team whether leading or not. His self-disciplined high standards drive a desire to always improve and share in the experiences he has been through for the improvement to others.

He has a special passion for engaging and inspiring others, demonstrated in the volunteering efforts he has been involved with, separate to and within the architectural discipline. From talking at universities, managing youth groups, arranging professional events, leading rugby teams, organising competitions and managing social media outreach, his appetite to help others and his efforts so far in his short career are exemplary. Commonly considered by those he works with as a dependable and safe pair of hands, Matt has a precise and trustworthy approach to his work, averse to committing to risky deadlines or results. This builds respect not only between his colleagues and himself but also between his clients as they appreciate and highly value his method of working.

Partnering, supporting and leading others is an aspect that Matt is extremely passionate about; believing that a Chartered Architectural Technologist's fundamental role is to communicate (through drawings, in person or writing, in experiential as well as practical matters).

Matt frequently contributes to the inner workings of his practice, organising events and volunteering as part of the studio's competitions. He was a part of the team that submitted to the Coventry City of Culture's Show Window project and is due to lead the effort in competing within its successor, the Spotlight Artist competition. Matt prides himself on being responsively adaptive within a professional team; engaging with clients and design team members to foster a culture that focuses on achieving a common goal rather than emphasising fault. His proactive and positive demeanour buoys a team's effort to fully capitalise on the wealth of knowledge that each member brings, encouraging an environment which is professional and yet friendly. This amicable attitude has naturally resulted in a position of mentorship within areas of particular interest – continuing his part-time university employment as a software tutor to teach within practice. Sitting on the West Midlands Regional Committee as both Vice-Chair and Secretary at different points demonstrates that Matt is an active collaborator, working for the good of others out of evenings and weekends. Successfully supporting the main Committee with an appetite to contribute further led to him attending multiple AGMs as an observer and Voting Delegate, taking extremely seriously the democratic responsibility afforded to him.

Matt is responsible for a wide variety of work within practice. He has worked as part of a team on large-scale developments for major housebuilders, SEN schools and purpose-built specialist care homes for children with emotional and behavioural disorders or trauma. Within these examples he has acted as Architectural Technologist, concept designer, information manager and contract administrator among other roles. He has been responsible for the multi-million pound Rugby Central shopping refurbishment, multiple renovations, conversions and new entrance works to national and local schools, as well as leading the company's design for the overhaul of Triumph Motorcycles' national showroom network. These schemes have given Matt a holistic understanding of architectural design and implementation, guiding schemes from brief preparation through to construction and handover; agreeing architectural fees, balancing client budgets, managing contracts, securing planning approvals, signing off Building Control aspects and delivering inspiring spaces and places to many happy clients. Matt previously held the position of aspirATion chair for the West Midlands

shortly after original inception. He was accountable for its growth in its early years to an enthusiastic and numerous committee that established a strong bond between the newer members of the profession and the Regional Committee; talking at conferences, managing competitions and presenting prizes, organising opportunities for other speakers and educators, running social events and coordinating a wider impact to achieve better opportunities for architectural technologists in the West Midlands. This role has seen Matt voluntarily talk at Coventry, Birmingham City and Wolverhampton universities about practice and CIAT, culminating in teaching Construction Technology at BCU and being a member of the re-Accreditation team of Northampton's Architectural Technology degree programme.

Matt displays an aptitude for developing a comprehensive and integrated approach to architecture; having an understanding in many of the complicated facets of the modern-day construction industry while remaining passionate about passing this knowledge on to others. His responsibilities within CIAT enable him to act as a networking recruiter, bringing numerous fresh faces into the practice, proving the level of trust afforded to him by his seniors and his dedication towards the self-improvement of others. This is the case professionally where more than ten individuals have been recruited directly or indirectly through his work and educationally, being responsible for organising student work experience within practice. Impacting and defining the company in multiple ways, Matt is an internal BIM reference, offering advice to directors on tender returns, competitions and execution plans, steering the firm's response to new challenges. He has also had opportunity to professionally represent the company at annual competitions in collaboration with various universities and in local media and group presentations: his academic scheme 'Revitalising Coventry Market' was a main feature article in the Coventry Telegraph and also presented to the Coventry Society and RIBA Future Architects as a pioneering example of post-modernist architectural reinterpretation amidst a part of the city due for regeneration.

Matt demonstrates a balanced professionalism that forges relationships through architecture. He has created his own smaller CIAT Chartered Practice to compliment the experience of his much larger IDP projects, displaying an entrepreneurial talent needed to take full responsibility for the holistic mission statement, brand image, social media presence, professional insurance, accounts, advertising, and complete architectural work-flow. This smaller-scale pursuit relies on word of mouth recommendations only made possible through the delivery of expert creative solutions. He demonstrates an accessible, fully professional architectural service with the same passion for a multi-million pound scheme as one monetarily valued less than ten times that amount – understanding the great privilege to be asked to impact an individual or a family's life to such a degree as to shape their home. Across both categories of work, he exhibits a continual professional enthusiasm in engaging daily with clients, design team members, local authorities, contractors and subcontractors, stakeholders and funders.

Winner 2021

CHARTERED ARCHITECTURAL TECHNOLOGIST OF THE YEAR AWARD

Tom Gray MCIAT

Words by Dr Poorang Piroozfar FCIAT, Chartered Architectural Technologist

The Award is for an individual's contribution in achieving excellence as a Chartered Architectural Technologist in the profession and discipline of all areas of Architectural Technology.

Tom Gray is a talented Architectural Technology professional with a profound conviction and an utter dedication to the discipline of Architectural Technology. I have known Tom for over seven years, as both his tutor at university and as an enthusiastic fellow Chartered Architectural Technologist. He is always up for the challenge and ready to dedicate himself for promotion of the profession, with no hesitation to give back to his programme at university. He supports students and guide those in tertiary education who are considering studying Architectural Technology. This Award is a recognition of his continuous efforts and strengthens his position as a young ambassador and contributes to refuelling his passion for promotion of the discipline of Architectural Technology, beyond what they currently are.

Tom has a gifted, unique capability to stir from far-from-perfect conditions towards something positive, to learn from it and even more importantly to turn it into something with a higher and wider positive impact. As a perfect example, once he was signed off with stress and anxiety, he took some time off to look deep back into what had happened and to reflect. This served as a main driver for him to become a mental health first aider and to join the Architects' Benevolent Society, where he is currently applying to become an ABS Ambassador. Learning from his experience and willingness to give back, he referred to this experience of in his Professional Interview which led to him being recommended to join the EDI Taskforce who strive, among many other initiatives, to provide help and support for members and affiliates with regards to their mental health and well-being.

As a Chartered Architectural Technologist, Tom is involved in all aspects of work across a number of different sectors. He works predominantly on high-end residential and listed building projects across the South East of England and London, as well as projects where the use of modern methods of construction has been the core of the design and construction. His other works experience spans over the educational sector, light commercial and new development projects.

His role in running and managing one of the largest projects at Robert Shreeve Associates Ltd has been essential which made the successful delivery of the project possible. The project involved some technical and technological challenges which were not picked up during the pre-bid surveying stages. It required unique tailored and highly specialised solutions to some of the site problems which could have otherwise compromised the integrity of the project. The unique technological solutions that the technology team developed under the guidance and leadership of Tom, brought the restoration of the educational building up to the standards to meet the requirements of a vibrant, multi-disciplinary, agile and modern school in the 21st Century. It ensured the indoor environment conditions provided were at their best to accommodate for the needs, wants and requirements of the pupils and their teachers and also meet the building physical performance and legislative requirements; while technical/technological and aesthetics aspects of the building were upgraded to meet, if not to exceed, those of a newly designed and built project. The innovative use of materials, creative development of detailing as well as indoor spatial rearrangements were carefully considered to make this project an absolute success, which was not possible without Tom's substantial contribution from conception all the way to completion and hand over stages of the project.

Tom has a gifted, unique capability to stir from far-from-perfect conditions towards something positive, to learn from it and even more importantly to turn it into something with a higher and wider positive impact.

Tom's experience at Robert Shreeve Associates spans over a variety of project types from specialist listed projects all the way through to modern methods of construction projects. Tom's diverse, agile and dynamic method of adopting and/or adapting to any given context, no matter how challenging it might be, has enabled him to act well within the framework of the traditional role of a Chartered Architectural Technologist. Tom's adaptive working culture, high skills and deep-rooted commitment to the discipline of Architectural Technology enables him to shift quickly and effectively and take on leading roles in conceptualisation and realisation of the projects. His contribution to practice management

seems to be an invaluable asset for the practice. Tom's organisation, people and personal/self-management skills are complemented by his outside network which he has managed to develop over the years. Through such a network of professionals, not only in the built environment sector, he has been able to facilitate and operationalise some of the demanding tasks and meet advanced aspiration during the pandemic period which would have not been possible otherwise. It has been through such network connections that he has been able to help contractors supply materials to keep projects progressing on time and on budget, or help clients find suitable alternative accommodations for the scheduled start date of the project on-site, to name but a few.

He has managed to expand on his personal aspirations and to tie them well with his professional career development goals. Tom commits his personal time in the evenings and over the weekends to learn skills or provide services that he believes will not only help him grow and succeed even further, but also help the community and different members of the professional bodies he has signed up to, both at individual and collective levels. Some of these voluntary activities include:

- Vice-President of Battle BNI Business Networking Chapter.
- Area Director for Toastmasters International.
- CULTURE SHIFT Career Guidance School.
- Secondary school career fairs (promoting Architectural Technology).
- NHS Bexhill Partnership COVID Vaccination Programme, administering 38,000 vaccines.
- Guest lecturing at University of Brighton and Solent University.
- Serving as a crits panel member for second and third year Architectural Technology projects.

As an award-winning public speaker, he also uses his hard-earned skills to coach the young future professionals in Architectural Technology to help them develop their skills and build up their trust in themselves to be better positioned to face and embrace the real-life settings of the professional practice upon graduation.

On a more personal note, Tom's hobbies include watches and pens; the personal interests I share with him in addition to our professional pursuits and our passion for architecture, technology and above all, the technology of architecture.

It is indeed for all his personal dimensions, professional passions and social qualities, that not only do I not have any hesitation but also take an absolute pleasure to nominate him as a promising, sustaining, and lasting Chartered Architectural Technologist of the Year; both as a young talented Chartered Architectural Technologist and probably, even more importantly, as a human-being in its widest connotation possible with a deep passion for people, (built/natural) environment, architecture and technology.

Finalists

CHARTERED ARCHITECTURAL
TECHNOLOGIST OF THE YEAR AWARD

Daniel Crann FCIAT

Daniel Crann joined Corstorphine & Wright aged 16, rapidly progressing to become one of the youngest ever Associate Directors. Now aged 34, Dan manages a 30-people strong technical delivery team.

Dan is a Chartered Architectural Technologist and a Fellow. His combination of skills, experience and passion, as well as his commercial acumen, continually impress both within the practice and clients. He has taken the lead on major developments, in particular heading up large schemes in his specialist area of high-rise residential, most recently working on: Aston Place (22 stories), Lunar Rise (25 stories), Holloway Head (16 stories) and The Square at Broad Street (35 stories).

He explores and uses fresh, new ideas and encourages others to do the same. He is one of the most talented individuals and his drive, enthusiasm and vigour is difficult to match. Dan is an outstanding person of immense character and has a genuine interest in helping others with their own personal development. Not only is he a talented Chartered Architectural Technologist, but a generous human being.

As an advocate campaigner for sustainable architecture, he champions sustainable design, seeking out new products and techniques that will benefit the project long term in our global fight against climate change. Dan is not an eco-rebel, far from it, more so he has an intelligent awareness of what needs to be done to advance our capabilities for a stronger, future-ready construction eco-system.

Dan recently took the lead on delivering a large scale residential project at Aston Place in Birmingham. This is a project of merit, with Dan successfully driving the design team and contractor in the delivering one of the first high-rise single stair apartment schemes in this project. This is one of the first hybrid precast concrete sandwich frame/façade constructions in the Midlands – this is a pretty impressive achievement for both the practice and client.

As well as forging his own strong career, Dan is keen to inspire the next generation, setting up and taking guardianship of the internal CIAT mentor programme within Corstorphine & Wright assisting employees from graduate level through to 40+ years' experience to gaining their Chartered Membership. The foundations and requirements set out in the mentor programme have ensured each candidate has been fully prepared for the written, compiling evidence and interview parts of the application process. Testament to his commitment, he has assisted ten people within the last five years with successful chartered applications.

His role within the practice allows him to assist potential candidates even further, the mentor programme highlights areas that candidates may be lacking sufficient experience in, to progress with their application. This allows Dan to position that particular candidate within a team that is dealing with potential projects/tasks that may give that candidate the relevant experience to assist with achieving their Chartership.

It is evident Dan is an outstanding member of the overall Corstorphine & Wright team, he explores and uses fresh and new ideas within his role and encourages others to do the same. ■

CHARTERED ARCHITECTURAL
TECHNOLOGIST OF THE YEAR AWARD

Meet the Judges

Chair:
Gary Mees PPCIAT MCIAT

Gary has 48 years working in the industry and has been running his own practice for 19 years, a Past President of CIAT and now holds the position of the Construction Industry Council's Health and Safety Champion along with this, Chairing Keeping Pace With Change Working Group which is a Construction Industry Advisory Committee (CONIAC) initiative.

His contributions externally have included a presentation at the Association for Project Safety 2013 Convention, in Belfast, on the potential implications of the CDM Regulations on designers and as part of a Panel for The Build Show held in October 2015. He has been a judge on the APS Student Award Scheme and an External Examiner for Robert Gordon University.

Paula Bleanch MCIAT

Paula studied Architecture and Construction Project Management and her main field of expertise is in design management. Much of her work in industry concerned the design and build of large PFI (private finance initiative) projects, including award winning schools, offices, hospitals and library buildings. In 2008 Paula left industry to join the teaching team at Northumbria University where she was final year tutor. She is now based in Denmark.

She has previously undertaken mentoring training as part of a scheme set up by the National Association of Women in Construction and has particular experience working as a female in the built environment sector.

Bharat Gohil MCIAT

Bharat is both a Chartered Architectural Technologist and Chartered Construction Manager. With over ten years in design and construction, Bharat specialises in offsite superstructure design and manufacture for construction. His solid technical background has assisted his development in the built environment, leading him to consulting designers and engineers in best practice for offsite design.

Bharat has leveraged his industry experience and technical knowledge to focus on digital construction. As part of his role as a Technical Specialist at Autodesk, he is driving change with sustainability whilst ensuring construction projects meet and exceed industry standards and expectations.

Alex Naraian PPCIAT MCIAT

Alex is Head of Architecture at Strutt & Parker, who are a part of BNP Paribas Real Estate. He possesses a broad knowledge of traditional and classical architecture. His career has seen him deliver many projects for new build, refurbishment, conservation, retail, institutional, educational, leisure and commercial buildings.

He studied at Southampton Institute of Higher Education and started his career in the late 1980s and was privileged to be awarded an Honorary Fellowship of Solent University in 2016. He has sat on various Accreditation Panels for universities offering Honours Degree programmes in Architectural Technology. As a public figure he has been a judge for the Building Innovation Awards, the WICE Awards, Association of Project Safety Awards and the LABC Awards. He speaks publicly on a variety of industry related subjects at universities, exhibitions and events, in the UK, the middle East, Europe and Asia. As an author, his articles continue to be published in various industry publications.

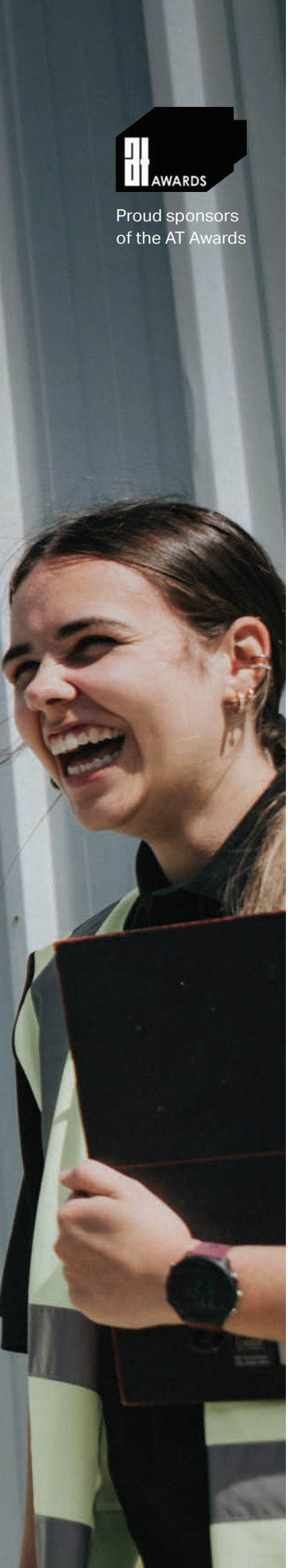
Chris Yorke MCIAT

Chris is a Chartered Architectural Technologist and Chartered Building Engineer who runs a small practise (currently five staff) in Worksop, Nottinghamshire. Having started out as a trainee quantity surveyor, Chris made the move into architectural practice in 1988, initially working on large scale housing rehabilitation projects and later widening his experience to schools, sports pavilions, children's care facilities and heritage projects. Working up through the ranks, he ran countless successful projects from inception to completion and was a team leader (Principal AT) before leaving in 2006 to start his own practise. He has also worked as a client-side advisor and facilitator on larger housing regeneration projects involving affordable housing and mixed development, which included working alongside senior representatives of the Commission for Architecture and the Built Environment.

Xtratherm®

Recognising tomorrow's leaders

Xtratherm is proud to be associated with the Chartered Institute of Architectural Technologists in promoting excellence in the construction industry.



Proud sponsors
of the AT Awards

Over the past 20 years, we have worked directly with CIAT to understand and support Architectural Technologists throughout their Regions and Centres.

Our engagement at grassroots level with CIAT AspirATion Groups is aimed at encouraging young talent and the promotion of sustainable design practices and environmentally sound material choices. We know that younger members and in particular, the AspirATion Group, will be the driving force for change within our industry. More than ever, architectural technologists are the lynchpin between materials manufacturers and sites in correctly accounting for operational energy and embodied carbon.

The Climate Emergency necessitates an accelerated drive for reducing our own impact and the impact of the projects we work on. In 2019, we formalised our response to this crisis with a more substantial, target driven sustainability strategy – encompassing our business, customers, communities, and families. We focus on two simple questions:

1. Are we leaving the world in a better state than we found it for our children?
2. If not, what are we doing about it?

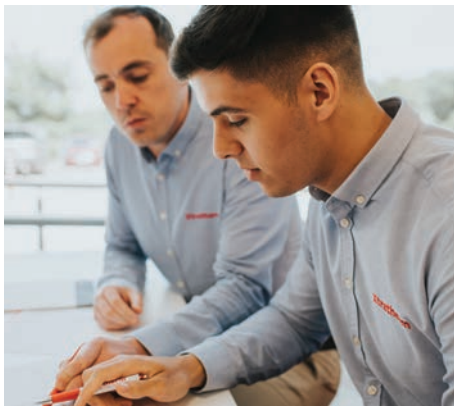
It's inherent upon us to make better decisions now for the benefit of future generations. The built environment sector must do its part to meet energy targets and ensure that new and retrofit buildings deliver net zero whole life carbon in advance of incoming regulation.

Xtratherm is fully committed to these goals and will work with Architectural Technologists to improve our built environment as a matter of urgency.

For us, that means deeper engagement with those designing now and in the future. Our regional Specification and Technical Teams work on the ground to develop learning and understanding of the key issues around ensuring sustainability on projects. This is backed by our commitment to continuous learning both in person and through our Learning Centres, CPD delivery and online learning system.

Our aim is to encourage the learning necessary to make our buildings more sustainable. Sometimes this is the development of learning content to expand understanding of industry issues. Often this means providing support and guidance to young technologists as they expand and develop their skillset and knowledge base.

For more information on how we can support you in delivering more sustainable outcomes, please call us on **0 371 222 1055.**



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PRESIDENT'S MEDAL | EXTRAORDINARY DISTINCTION AND/OR EXCEPTIONAL CONTRIBUTION TO ARCHITECTURAL TECHNOLOGY

Professor Sam Allwinkle PPBIAT FCIAT

The President's Medal recognises and celebrates an extraordinary distinction or exceptional contribution to Architectural Technology and the profession.

It is awarded once in any one Presidential term (a maximum of one every two years) and at the discretion of the President.

The Award is for an individual's contribution having made a tangible difference to the profession and discipline and demonstrates how the recipient has or have given an exceptional contribution to Architectural Technology and the profession. It excludes work undertaken on behalf of the Institute.

The recipient is a Chartered Architectural Technologist and selected by the President.

The inaugural recipient of the President's Medal is Professor Sam Allwinkle PPBIAT FCIAT.

With every generation of Architectural Technologists, there are those who particularly stand out, lead by example, inspire and notably drive the Institute's strategy and objectives forward with measurable results; adding value to the profession and discipline of Architectural Technology and CIAT, as its professional body. Since I joined the Institute in 2001, I have witnessed first-hand what Sam Allwinkle has done for the profession and discipline, and I am also very aware of his significant contribution prior to me joining. The longevity of Sam's commitment, drive, enthusiasm and motivation of others is truly remarkable; he has been a role model for me and many of my colleagues.

There is no finer example, in my mind, of someone who has enriched, progressed and advanced the discipline as much as Sam; he is simply 'Mr Architectural Technology'. There are many examples which could be cited demonstrating Sam's achievements for Architectural Technology, the discipline and profession, both past and present, and activities he is involved in to ensure the profession is at the forefront, take on the real challenges and provide solutions within the sector. This includes representing Architectural Technology and CIAT in preparation for the new building safety regime. His knowledge and experience are proving to be invaluable for both CIAT and other stakeholders with whom we work.

Known for his professionalism, wise counsel and generosity, Sam has been responsible for laying the foundations for many practising Architectural Technology professionals, having trailblazed the development of

undergraduate and postgraduate degree programmes in the discipline and establishing CIAT Centre of Excellence status. Sam was instrumental in the development of the QAA Subject Benchmark Statement for Architectural Technology; an external document which demonstrates the uniqueness and distinctiveness of the discipline, and is used by the Institute as a basis for its Accreditation and Chartered Membership standards; giving credibility to our activity. His determined attitude and selfless dedication ensure that Architectural Technology continues to be respected and recognised throughout the built environment sector and beyond, and its value is fully understood. His skill and depth to express his particular vision in his own unique way, have contributed to so many initiatives, policies and projects.

To this day, Sam continues to impart his knowledge and skills to new generations of students, who will become the next future leaders within the AT sector, as a lecturer at Edinburgh Napier University, where he is Professor Emeritus. He was the first Professor in Architectural Technology in 1992 and has loyally dedicated his career and countless hours of voluntary commitment to the betterment of society which can be measured against his numerous achievements.

I am honoured to be the first to present the President's Medal and to its inaugural recipient – Sam, for his extensive contributions to the development of Architectural Technology, as a discipline as well as a profession, both in the UK and internationally.

Congratulations Sam and thank you for all your work, dedication and discerning devotion to our wonderful discipline and profession, Architectural Technology. This citation only just scratches the surface of your exceptional career, contribution and achievements. ■

Congratulations Sam and thank you for all your work, dedication and discerning devotion to our wonderful discipline and profession, Architectural Technology.

Brexit | Update

Words by Kevin Crawford MCIAT, President Elect and Steven Hedley MCIAT, Vice-President Technical

December 2020 and Brexit seems a distant memory. However, one year later and things have really changed in the built environment sector. Where are we exactly with standards, products and regulatory alignment and what should specifiers be considering?

Products and Regulatory Alignment

Products – Use of CE markings

Under European directives all construction products placed on the European market are required to be CE marked. However, the UK is no longer a member of the CE conformity marking scheme and therefore, is not able to use the CE mark for the sale of goods within the UK. The guidance for the new UK Conformity Assessed (UKCA) mark was published on the 1 September 2020, with set target dates by which all construction products placed on the UK market (excluding Northern Ireland) intended to be covered by the UKCA mark, being 31 December 2021.

Following consultations and issues raised by industry being further complicated by the impact of COVID, the Government announced earlier this year that to allow businesses time to adjust to the new requirements it would extend the deadline for conformity to the UKCA mark from the originally extended date of 1 January 2022 to 1 January 2023. This means that, in most cases, you will still be able to use the CE marking until 1 January 2023.

Businesses have been able to use the UKCA mark since the original 1 January 2021 in England Scotland and Wales to demonstrate their conformity with product standards. Northern Ireland will continue to recognise the CE marking for goods on the Northern Ireland market, but will need to use the UKNI marking if they use a UK conformity Assessment Body to test products.

It should also be noted that the CE marking is only valid in Great Britain for areas where GB and EU rules remain the same. If the EU changes its rules and a product is CE marked on the basis of those new rules, the CE marking cannot be used to sell in Great Britain, even before 31 December 2022.

Regulatory Alignments – movement of goods and materials.

Demand remains high for materials and products within both domestic and commercial markets with lead times improving in certain product areas, others remain in short supply. Timber battens, structural steelwork, chipboard and PVC products are causing issues on site with concrete blocks and roof tiles, bricks and bagged cement leaving contractors pondering over 30 week lead-in times.

One of the current issues within the UK supply chain is related to a weakened domestic haulage capacity and a shortage of HGV drivers. Although materials may be in stock, manufacturers are unable to distribute fast enough to meet demand. This will likely cause extended lead in times continuing into 2022.

Prices of many products have risen significantly over the last twelve months due to factors such as costs of raw materials, labour and transport. With the forthcoming hike in energy prices, manufacturers will be put under further duress in terms of their sales prices.

What do we do?

Although the deadline for UKCA marking has been extended to 1 January 2023, specifiers need to be mindful of the products they are specifying (and their component parts) and whether they will conform to the new regime.

Many projects that have been designed and specified under current CE markings will be under further pressure in terms of conformity with Construction Product Regulations plus costs and availability. Early engagement with contractors is essential to establish specification, costs, and availability.

As specifiers, we will need to be more flexible with our selection of materials and products that meet the standards whilst not being detrimental to the performance of our buildings.

Members are advised to be conscious of the potential increase being reflected in clients' budgets, and also to allow for sufficient build time, to reduce the need to appeal for Extensions of Time, particularly where penalty clauses may be present in contracts for late completion.

CIAT continues its involvement in CLC Brexit groups and will keep you posted on further developments.

Designated and Harmonised Standards

These are terms that are going to become more relevant in the future as many businesses currently use European harmonised standards to provide presumption of conformity with relevant EU law. As the UK retained many of the requirements of EU law at the end of the transition period, the essential legal requirements that businesses must meet in the UK did not change. Therefore, all harmonised standards that gave presumption of conformity with EU law became designated standards in the UK on 1 January 2021. Designated standards can be used to provide a rebuttable (i.e. could be countered by evidence) presumption of conformity to GB law in the same way that harmonised standards are used to demonstrate compliance with EU law.

Harmonised standards remain the relevant standards for placing goods on the Northern Ireland market, where EU rules continue to apply. However, the UK Government is still seeking to find a new balance in the Northern Ireland Protocol to place it on a more sustainable footing that would impact on how products are regulated in Northern Ireland.

A designated standard is a standard, developed by consensus, which is recognised by government in part or in full by publishing its reference on GOV.UK in a

formal notice of publication. Depending on the product, a designated standard can be a standard adopted by any of the four following recognised standardisation bodies, or by international standardising bodies (including the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and International Telecommunication Union (ITU).

- British Standards Institution (BSI)
- European Committee for Standardisation (CEN)
- European Committee for Electrotechnical Standardisation (CENELEC)
- European Telecommunications Standards Institute (ETSI)

N.B.: Designated standards do not replace the mandatory essential legal requirements but offer a technical solution to fulfil them. The manufacturer retains full responsibility for ensuring the product complies with the relevant essential requirements. The content of the standard is the responsibility of the recognised standardisation bodies, with BSI as the UK's National Standards Body representing the interests of UK stakeholders. From 1 January 2021, when deciding if a standard is appropriate for designation, the government will check how far it covers the various essential requirements set out in the relevant legislation.

The UK Government will ensure that the standards applicable in the UK best suit the UK's needs, including designated standards businesses can use to provide presumption of conformity with GB law. It will update the list of designated standards as and when necessary to retain and enhance the high levels of consumer safety. It may decide not to designate or to designate with restriction. Any such restrictions will be published on GOV.UK, and businesses should check this regularly. ■

Honorary Officer elections 2022: your opportunity to influence your profession and discipline

Words by Francesca Berriman MBE, Chief Executive

The election process and how you could become influential within your Institute, shape its future and that of your profession.

For the effective operation for any professional body, it is essential that it elects positions from amongst its membership to allow it to function within its Charter. These positions are open to Chartered Architectural Technologists who are invited to give their enthusiasm, experience, strategic leadership, skills and time in a voluntary capacity to the work of the Institute set within the Strategic and Corporate Plans, as approved by Council. Contributing in such a capacity is two-way and Chartered Architectural Technologists who have been involved have benefited and learnt from their experiences.

Within the Institute's governance, there are a number of core roles collectively known as the Honorary Officer positions. These are the President, Honorary Secretary, Honorary Treasurer, Vice-President Education, Vice-President Practice and Vice-President Technical. These are all undertaken by Chartered Architectural Technologists in a voluntary capacity other than expenses which are paid for by the Institute.

For 2022, there are three positions for election which are now open for nominations:

President Elect/President

President Elect is a twelve-month role prior to succeeding as President. The President Elect position provides the elected Chartered Architectural Technologist the opportunity to gain an insight into the activity and role of President, working with the incumbent President, fellow Honorary Officers and the Executive Board. The Chartered Architectural Technologist becomes President Elect from the close of business at the AGM in the year they are elected.

President

The President is the principal external face and figurehead for the discipline, the profession, members and affiliates and the Institute. The Institute operates as a team and the position leads the team working with Council, the Executive and the Chief Executive implementing the Strategic and Corporate Strategy.

One of the key activities for the President is external engagement, with members and affiliates, fellow professionals and organisations at local, national and international level as necessary, both in person and remotely.

- Serving for a period of two-years, the President will, amongst other functions:
- Chair the AGM (x2) and Council meetings (x4);
- Chair Executive Board (4 per year);
- attend as a guest and representative of the Institute at various industry events;
- meet with Presidents, senior officials, industry bodies and Government Ministers (from different nations) and personnel;
- visit and/or network with the Regions and Centres ; and
- present on the Institute's key strategies and the Strategic Plan.

Chartered Architectural Technologists who undertake this position must possess strong analytical skills and the ability to make informed decisions and considered judgments. The ability to interpret and understand information along with excellent communication and presentation skills.

Honorary Treasurer

The Honorary Treasurer's principal role is as Chair of the Finance Committee. The Finance Committee, works with the Chief Executive and the Finance Department, to oversee the financial matters relating to Institute business such as the budget, the setting of subscription fees and reviewing and approving the independently audited accounts. The Committee make recommendations regarding finances and financial policies to the Executive Board.

The Honorary Treasurer working with the Finance Department liaises with the Regional and Centre Committees and aspirATion Groups in relation to their budgets, returns, reporting mechanisms and policies.

The Honorary Treasurer presents to members and affiliates at the AGM and reports via the *Annual Review*. Chartered Architectural Technologists who undertake this position must possess strong analytical skills and the ability to make informed decisions and considered judgments. A good understanding of financial processes and ability to disseminate financial statements.

The Honorary Treasurer, with the Finance Department and Chief Executive, ensures the Institute achieves its strategic aims with financial support set within the approved budget and in particular Aim 5, 'remaining an effective and financially viable Institute'.

Vice-President Technical

The Vice-President Technical works closely with the Vice-President Practice, Practice & Technical Director and Practice Department and its relevant Taskforces in overseeing the technical issues relevant to the Institute, which ensure the maintenance and improvement of technical standards within Architectural Technology and

the built environment sector. The role also embraces current industry issues, impacting the nations in which CIAT has a presence.

The Vice-President Technical works to develop Institute position papers on issues affecting the profession and the built environment sector. They lead on consultations which affect practising Architectural Technology professionals and represent the Institute externally, as necessary. The Vice-President Technical reports to Council and Executive Board on the work relating to technical issues from the groups and their output and that of the Practice Department, within the Strategic and Corporate Plan.

In carrying out these activities it is essential that the Vice-President Technical:

- represents the members and affiliates externally relating to technical issues, lobbies for change or improvement and lobbies and promotes on behalf of the discipline;
- ensures the necessary documentation is produced for the benefit of members and affiliates on changes in legislation or regulations; and
- ensures the appropriate guidance is available to assist members and affiliates both in implementing and complying with legislation and regulations in their work and complying with the Institute's policies and *Code of Conduct*.

A Chartered Architectural Technologist undertaking this position must be a practising Chartered Architectural Technologist and have knowledge of the technical aspects of Architectural Technology with an understanding of legislation and regulations. They must also be confident and able to represent the discipline at the highest level which includes Governments.

All candidates must be able to undertake business via email or other electronic mediums.

What do these positions involve?

With each of these positions, you will become a Trustee of CIAT and a member of the Executive Board, which is responsible for the implementation of the Strategic and Corporate Plans, found on our website. The Board makes guidelines for the conduct of business of the Institute, in line with the rules of the Institute and policy. You will become a member of Council, which is the Electoral College and Strategic Forum for the Institute. You will be expected to contribute to the policies and future strategic development of the Institute.

What does being a Trustee involve?

Trustees have an overall legal duty to the Institute and are the individuals who take decisions. Trustees have specific duties and operate within the rules of the Institute. Trustees work collectively as the Executive Board and once a decision has been collectively made – all Trustees are bound to support that decision. A Trustee's primary duty is to the Institute and its Charter under which it is established, as such Trustees must act with integrity and adopt the values which helps CIAT achieves its strategic aims.

What are the time commitments to these roles?

You should be looking to commit up to five hours a week (approximately) but this will depend on the nature of the work, meetings, providing views and advice on documents, the time of year and external representation on behalf the Institute that may be necessary. It is essential you are proactive and reactive dependent on the project work required. With all the positions, you will be working closely with a staff Director at Central Office, and their departmental team and be expected to respond to queries speedily at times; this could be within a couple of hours. There will be specific meetings or working groups that you may need to participate in and possibly chair.

As an Honorary Officer, you will be expected to attend two Council meetings (normally on a Saturday in March and September) and a minimum of four Executive Board meetings (two of which run in tandem with the Council meetings) as well as the AGM (normally in November) and the AT Awards event (October). The positions, excluding President Elect/President, are two-year terms, which become effective from the close of the 2022 AGM in November to the close of the 2024 AGM.

Representing the Institute and discipline

As representatives of the Institute, these positions require you to attend events and meetings on behalf of the Institute, for example, Construction Industry Council meetings, Award presentations, university events, or Government led steering groups, presenting at conferences etc. There will be specialist meetings which you will either have to attend/chair or contribute to, and you will need to report back to Central Office on these. The staff Director will work with you to ensure that you are properly briefed and prepared for these meetings where you will be expected to speak on behalf of CIAT and the discipline of Architectural Technology.

Social media

You would work with the Communications Department in relation to social media engagement.

What do I benefit from taking on a position?

You will have the chance to shape the future of your discipline, profession and the Institute at a strategic level. If you have ever wondered why something has or has not been done then now is your chance to do something positive about it. You also get to network extensively with peers and fellow professionals, gain a greater insight behind the scenes at Institute, Governments and sister institute levels and it contributes to your CPD obligations.

How can I be nominated?

To be nominated for any of the positions, a fellow Chartered Architectural Technologist must nominate you in writing to the Returning Officer, who is the Chief Executive. Any Chartered Architectural Technologist is eligible to propose a candidate, although no nomination is permitted without obtaining the prior consent of the nominee. Any Chartered Architectural Technologist can stand for any position in these elections. No prior experience is required of the Institute – just a passion for Architectural Technology and the Institute.

What happens once I have been nominated?

Once a nomination has been received, you are then asked to formally accept or reject the nomination. You will then be asked to supply a manifesto. Once all the manifestos have been received, they will be issued to the Regional/ Centre Committees for their review, consideration and action. It is then your responsibility to actively organise and carry out your election campaign (at your own cost) to all members and affiliates, this will be via the Communications Department and direct liaison with Regional and Centre Committees. Your campaign can be by a variety of mediums which is for you to choose. We provide you with the contact details of the Regional/ Centre Committees

You will need to prepare a full manifesto for publication and distribution via the Institute's media channels; details of what we would be looking for in the manifesto will be included in the election section of the website and information pack. It will also be featured in the spring issue of *AT Journal*.

We will provide further clarification on the election process and information required. Over the election process, and the lead up to the elections in September, we will be issuing some election special ealerts providing reminders and updates together with profiles of the candidates standing for the positions etc.

If I stand how do I promote my candidacy?

There are a number of ways in which you can put yourself in front of the members and affiliates during your election campaign.

There is the traditional manifesto which will outline your policies, thoughts and aspirations for both the role you are nominated for and the Institute. This should not be a CV but a formal written document which grasps your key objectives and aims. Alongside this, you can create a profile which showcases you as a person, captures your personality and strengths and puts across the real you to people who do not know you and want to know more about the person seeking election.

In this technological and social media focused world, you can create Twitter or Facebook accounts, videos, podcasts, blogs or a series of short films which support your manifesto and profile. You can get your message across simply and they can all be easily accessed.

You could arrange for a Q&A with members and affiliates online or at a location and venue that is accessible and could have visits to Regional and Centre Committees and meet with Council, those who will be voting on the day. There are a number of different mechanisms which will be covered in the information pack.

What is the voting procedure?

- Regional/Centre Committees are encouraged to meet and discuss their preferred candidate, in an open forum which takes into account feedback from the members and affiliates in the Region/Centre.
- It may be that you wish to proactively engage with the Regional/Centre Committees to present your manifesto and respond to questions.
- Regional/Centre Committees advise their Councillor of their preferred candidate.
- The Councillor is expected to vote in accordance with their Regional/Centre Committee's decision; however there may be exceptions where they may change their vote as per their Committee's instructions. These could be based upon the candidate's response at the autumn Council meeting or other factors, for example, if the candidate withdraws from the election at very short notice that would not allow a Councillor reasonable time to refer back to their Regional/Centre Committee.

How is the vote taken?

Elections are held at the autumn Council meeting:

- All candidates are invited to attend the autumn Council meeting to respond to questions brought by a Councillor from their Regional/Centre Committee or to debate a particular issue in relation to their manifesto.
- Council confirms and agrees the method of the election – which has traditionally been by secret ballot.
- Councillors represent their Region/Centre – either using their agreed Committee's vote or changing their vote as per their Committee's instructions based upon the candidate's presentation or other factors.
- Honorary Officer members of Council have a free vote according to their preference (as Trustee) and considering the best interests of the Institute and its Strategic Plan.
- Council votes on the candidate and/or candidates and the election takes place.
- Council policy is that a candidate who is also a serving member on Council may not vote if there are other Candidates standing who do not sit on Council, this includes Honorary officers.
- Council policy is that Regions/Centres do not have the right to send a proxy vote if their Councillor is standing for a position.
- It is the Councillor who carries the vote, or their deputy, in their absence. A serving Honorary Officer who is standing against a candidate who is not a member of Council forfeits their vote. This ensures equity and fairness.
- The President, as Chair, has the casting vote if there is a tie.
- The elected Chartered Architectural Technologist assumes the Officer position from the close of that year's AGM (normally in November), unless an Officer resigns from their position early, in which case the assumption is either immediate or from the date of resignation if later.
- The results are then reported to the members and affiliates via the weekly ebulletin, AT Weekly and Regional/Centre Committee.

When would I assume the position if I were elected?

All three positions take effect from the close of the 2022 AGM on 19 or 26 November 2022.

Key dates summary

- Call for nominations close
  13 December 2021
- Acceptances (or rejections)
  22 December 2021
- Manifestos/profile received
  1 February 2022
- Issue of candidates and their manifestos to all members via an ealert/update of election section of the website
  24 February 2022
- Issue of candidates and their manifestos to Regional/Centre Committees
  24 February 2022
- Presentation at Council
  12 March 2022
- Campaigning by candidates
  24 February – 9 September 2022 inclusive
- Election ealerts and updates on the website
  24 February – 9 September 2022 inclusive
- Election at Council
  10 September 2022
  Candidates advised if not in attendance at Council
- Ealert announcing the election results
  12 September 2022
- Assumption of position
  19 or 26 November 2022 close of 2022 AGM

Further information

For further information or clarification contact Adam Endacott, Editor, a.endacott@ciat.global. ■

Membership news

Chartered Architectural Technologists

We would like to congratulate the following who successfully attended their Professional Interview and are now Chartered Architectural Technologists, MCIAT:

024166	Gurpreet Bansal	Yorkshire, 02
027852	Joshua Campbell	Yorkshire, 02
020918	Andrew Neal	Yorkshire, 02
023810	Sakib Begg	North West, 03
0000317	Roger Hines	North West, 03
023792	Jack Liddell	North West, 03
020383	Nicholas Smith	North West, 03
030908	James Stockdale	North West, 03
033221	Nicholas Chappell	East Midlands, 04
027708	Kane Chesbrough	East Midlands, 04
029910	Christopher Cunningham	East Midlands, 04
022148	Richard McHarg	East Midlands, 04
035152	Sean Tucker	East Midlands, 04
027616	James Lindop	West Midlands, 05
032103	Paul Lyon	West Midlands, 05
017333	William Randall	West Midlands, 05
019374	Sun Yau Tsim	West Midlands, 05
030423	Christopher Henry	Wessex, 06
027756	George Pearson	Wessex, 06
027922	Joshua Thomas	Wessex, 06
030182	Reece Thorner	Wessex, 06
036168	Mark Austin	East Anglia, 07
032429	Anson Lockwood	East Anglia, 07
030083	Declan Palmer	East Anglia, 07
023918	Richard Attrill	Central, 08
024651	Benjamin Giles	Central, 08
024702	Shaun Gannon	Greater London, 09
021384	Freddie Gee	Greater London, 09
035206	Thomas Kronig	Greater London, 09
030163	Sam Monk	Greater London, 09
022201	Rishi Sandhu	Greater London, 09
029728	Joseph Turner	Greater London, 09
028388	Joseph Watkins	Greater London, 09
028944	Matthew Barber	South East, 10
015656	Stuart Bowler	South East, 10
030316	Alex Judd	South East, 10
033713	Andrew Maguire	South East, 10
029240	Daryl Pike	South East, 10
034728	Gerard Holt	Channel Islands, 11
028254	Matthew Gray	Western, 12
031952	Oliver Kellett	Western, 12
018417	Mark Senior	Western, 12
028702	Olorunyomi Taiwo	Western, 12
032451	Rory Kennon	Scotland West, 13
035153	David Christie	Scotland East, 14
021062	Andrew Beattie	Northern Ireland, 15
035884	Ashley Burns	Northern Ireland, 15
022596	Naomi Fyfe	Northern Ireland, 15
013763	Owen Grehan	Northern Ireland, 15
035669	Paul Hamilton	Northern Ireland, 15
036141	James Hanna	Northern Ireland, 15
034329	Ciaran Hughes	Northern Ireland, 15
016527	William McConnell	Northern Ireland, 15
022659	Simon Robinson	Northern Ireland, 15
033103	Joe Brady	Republic of Ireland, C2
033295	Kevin Fenton	Republic of Ireland, C2
035925	Patrick Kavanagh	Republic of Ireland, C2
026278	Barry Walsh	Republic of Ireland, C2

Welcome back

We would like to welcome back the following Chartered Architectural Technologists:

021065	Jose Machado	Yorkshire, 02
020849	Daniel Tomlinson	Yorkshire, 02
028312	Surinder Buray	West Midlands, 05
011055	Dennis Carter	East Anglia, 07
029210	Peter Martin	Greater London, 09
023717	Mark Vaughan	Middle East & Africa, C7

Fellow Members

We would like to congratulate the following Chartered Architectural Technologists who successfully completed their application and are now Fellow Members, FCIAT:

016798	Sarah May	Yorkshire, 02
010038	Karl Grace	West Midlands, 05
017683	Carl Mills	West Midlands, 05
011709	Alan Wibberley	Wessex, 06
027710	Thomas Cannon	East Anglia, 07
008088	Gordon Cole	Central, 08
030401	Jonathan Sin	Greater London, 09
008312	Barry Le Beuvant	Channel Islands, 11
008235	Colin McEwen	Scotland West, 13
008204	Malcolm McCallie	Scotland East, 14
010001	Desmond Cairns	Northern Ireland, 15
012540	Kevin Dobson	Wales, 16
012899	XUE Qiu Li Charlie	Hong Kong, C1

In memoriam

We regret to announce the death of the following members and affiliates:

007384	Malcolm Ing	Northern, 01
007004	Michael Dixon	East Midlands, 04
002099	Trevor Peacock	East Midlands, 04
034405	Philip McElhatton	Wessex, 06
003018	Gerald Rivers	Wessex, 06
010929	Ian Taylor	South East, 10

R John Ralphs

10 August 1930 – 5 May 2021

With great sadness I learnt of the death of former member, John Ralphs, a partner in Ralphs & Mansell in the West Midlands. John was a big influence on my personal and working life and I particularly admired John for his enthusiasm for life and business. I learnt a lot from him and applied this learning to my life, following in his footsteps as Regional Chair of the West Midlands Region, a position he held when we were SAAT and BIAT. He was instrumental in setting up one of the largest Midland housing associations, Normid, and this work became a large element of the practice workload in the mid to late 1970s. Winning many awards for their work, Ralphs and Mansell became one of the most respected practices in the Midlands due to the hard work and professionalism of both partners.

David Yarnall MCIAT

AGM 2021: Manchester

To comply with the Laws of the Institute, CIAT will be holding its Annual General Meeting on Saturday 27 November 2021.

Any member or affiliate can attend the AGM but ask that you register your attendance with the Chief Executive's Office.

The Resolutions have been emailed to all members and affiliates, if you have not received the document then please email communications@ciat.global.

For any questions please contact the Chief Executive's Office by emailing **j.rowlands@ciat.global**.