

Issue 7

Autumn/Winter

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The magazine for aspiring Architectural Technology professionals

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Front cover is a picture of student accommodation in Plymouth taken by Damon Andrews CIAT student member.



Editor's Foreword

Welcome to issue seven of aspirATion magazine. In this issue we catch up with the Northern Region aspirATion Group, and find out what they've been up to.

We hear from Gareth Alexander MCIAT course director at Ulster University, about the BIMFusion team that took part in the recent Build Earth Live Hyperloop competition.

CIAT student members from Coventry University, who were finalists in the International TRADA Student Design Competition 2016 with the building, The Hedron, tell us about their experience.

James Banks Membership Director informs you how you can progress your membership to become a Chartered Architectural Technologist via the MCIAT Professional Assessment.

As well as much much more!

Jack Wilson

Education and Membership Administrator

Keep up to date with all the latest news and events from the Institute by following us on our social media channels

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The Art of Learning

Dr Jonathan R Scott MCIAT

Course Leader in Architectural Technology at the Robert Gordon University

The core identity for Architectural Technology at the Robert Gordon University is rooted in the paradigm of technical design and associated skills. This paradigm is about appreciating and understanding design and turning ideas into reality. It is focused on the integration of the three Technologies – Building Technology, Information Technology, and Sustainable Technology. This is evidenced through the detailed design and problem-solving outcomes of studio based modules. Our core modules are taught through a studio based pedagogy – studios that are dedicated to only our use.



In July 2015, the BSc Architectural Technology course moved into new premises in Aberdeen purpose designed for the School, which includes Architecture, Architectural Technology, Surveying and Construction Management students. The Architectural Technology course team was involved in the evolution and creation of spaces for the course, albeit the design had already been fixed by the time we were involved. Now having been in the new location for over a year, the students can benefit from a strong provision and spaces within the building which includes: a 70+ cap studio for years 1-3 (but used by all courses in the school). Architectural Technology students do get preferential application for the use of this space. The picture included illustrates our stage two Architectural Technology currently working on their first semester project. We have a dedicated

stage four space that can fit forty students – this is bespoke to the students and, other than holding industry link events or marketing events, the space is wholly dedicated to the students who each have a desk and a display board. Attached to the stage four space is a small computer lab for 10 students with a further 50 high spec computers on a lower floor dedicated to the whole school (exclusively for the school). On the same level as both these studios we have a small 'hand only' workshop area (see picture) and an AT dedicated exhibition space for exhibits and reviews. All this is located on the one floor.

Being in the same school as like-minded construction industry professionals we do benefit from cross-disciplinary teaching and research. We also benefit from workshops (hand and digital) bespoke to the school and the latest surveying equipment. On the whole, a very satisfactory resource provided by the University for the School, which the course subsequently benefits from. What this allows us to provide is a fantastic foundation to allow the students to explore architectural technology related issues in a range of media – resulting in excellent end of year exhibitions in spaces dedicated for our use.

This paradigm is about appreciating and understanding design and turning ideas into reality.





Sarah Parker a student at Robert Gordon University gives us her perspective on the new space.

Now in my Honours year at Robert Gordon University (RGU) and looking forward to my future; I know I made the right decision back in 2013 when I decided Robert Gordon was for me. I was enticed by the advertised hands-on teaching approach and studio space.

Having moved into a new purpose built building after my second year we were dedicated a

The floor acts as a single dedicated studio space for our course which we use on a daily basis

whole floor for Architectural Technology. This has enabled us to integrate with other year groups.

The floor acts as a single dedicated studio space for our course which we use on a daily basis. The availability of our own small computer laboratory on this floor as well as a computer laboratory on the first level of the building is brilliant. The spaces we have allow for us to have studio days with our lecturers, where we receive weekly feedback, the day of which changes to accommodate this arrangement for all years.

Our lecturers are readily available and more than happy to make time to help

us whenever we need them – be that 5 minutes before they leave for the day, or as soon as they walk into our studio space. We are constantly encouraged and pushed by all the lecturers for our course. This makes for a challenging, sometimes stressful, but very enjoyable course as a whole.

We are regularly presented with opportunities through the university such as: Erasmus exchange programmes; National Awards; student representatives and ambassador roles within the university; and external competitions. If you are willing, there is almost always something to take part in.

While in my third year at RGU I was nominated for the Women in Property National Student Award. An award that saw me present my most recent project, at that point, to a panel of judges made up of industry professionals and if successful travel to London to take part in Interviews with more industry professionals. This gave me a huge confidence boost.

My second semester of third year I decided to take part in the Erasmus exchange programme and joined the (BA) Architectural Technology and Construction Management programme at KEA School of Design and Technology in Copenhagen. This was an incredible opportunity to live and study abroad for 5 months while gaining international experience and friends.

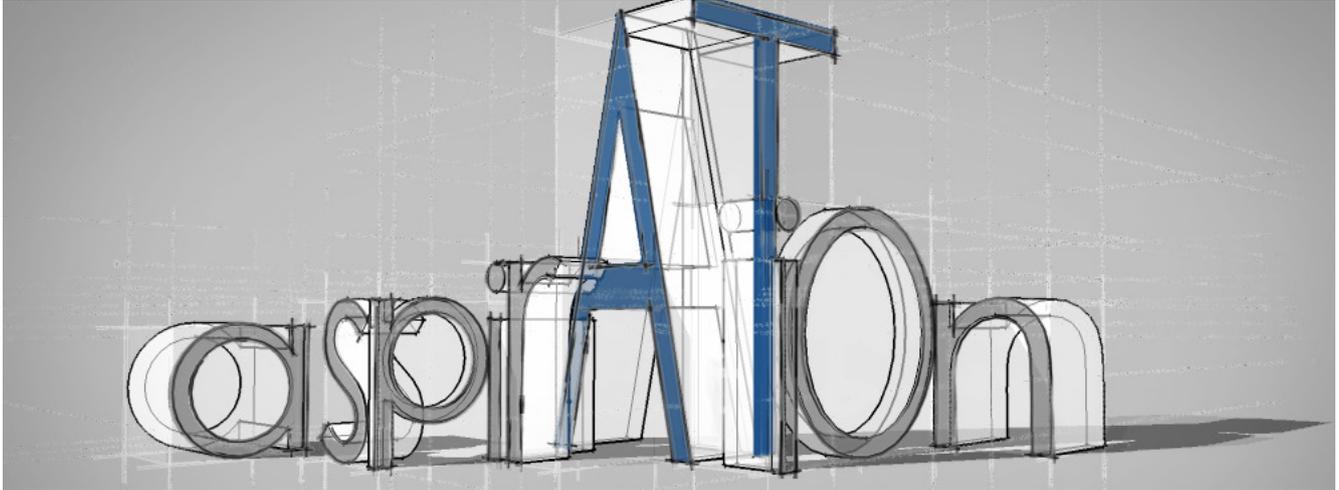
During my third year, while still studying at RGU, I volunteered to be student representative for my year. This involved representing the views of my fellow students at student and staff liaison meetings and also being involved in open days. I have carried this on to my final year while also taking on the additional responsibility of becoming a student ambassador for the Access to Art and Architecture programme. This programme sees S5/6 students from local schools come and get a taste of university life.

Most recently we were presented with the opportunity to take part in an Innovation Competition to design a local office for an Oil and Gas company. This has given us some experience of interior design outside of our studio projects and experience of working with a real client.



Out and About with: aspirATion Northern Region

By Rosie Johnson Student Member and Northern Region aspirATion Chair



The launch event for the Northern Region aspirATion Group took place on 26 May 2016 at St James' Park. The venue was chosen as it was a sure way to draw a crowd (Football, Newcastle United and those interested in architecture).

The event was free of charge and included a guided architectural tour of the facilities followed by a networking session.



The event was a "sell out" and all attendees thoroughly enjoyed themselves and took something from the event. The views across Newcastle, the opportunity to sit amongst the players shirts in the changing rooms. It was hard not to be impressed by the sheer size and sentiment associated with this beloved stadium. It would be fair to say that this launch event was a great success despite the fact that the Northern Region aspirATion Group arranged this in less than a month!

The Group hopes to increase membership levels in the longer term by targeting a more inclusive demographic. Workshops using Revit and SketchUp (to showcase some of the software used in the industry) and activity based workshops around construction will be developed for students in secondary schools and Sixth Form Colleges. The Group also hopes to develop a strategy for newly qualified technologists, ACIAT and MCIAT members.

The Group is looking forward to launching the next event and hopes to see returning faces and new ones too! Keep your eyes peeled for further information on upcoming events and workshops. The Group would like to thank Carol (NUFC Stadium Tour Guide) for sharing her vast knowledge and expertise and Kevin Elliott MCIAT for providing the technologist spin.

If you would be interested in attending any of our events or joining the aspirATion Group Northern Region Committee, please contact Rosie Johnson (Chair) via email (northern@ciat-aspiration.org.uk).



The Hedron

TRADA Student Design Competition 2016

Jack Nolan & Izzie Piorkowska Student members at Coventry University



Jack and I have recently completed our first year as Architectural Technology students at Coventry University, and our transformation in these short nine months has been incredible. We would like to share our journey through this year, our challenges and achievements, and above all the incredible success we had of becoming one of six finalists in the International TRADA Student Design Competition 2016 with our building, The Hedron.

ATs in training

The first few weeks for us at University were daunting, we began our lectures in completely uncharted territory, among us completely new faces, our peers and lecturers. It was clear from week one that Jack and I worked well together, but it wasn't going to be simple, we both stared out our first detail of a building and fell into a blind panic.

ATs first building design

As the weeks and months flew by we completed project after project learning so much along the way. We look back now and wonder how we were ever so frightened of what we now find so exciting. We both completed individual design projects at University for a new nursery building in Coventry city centre and worked closely together to build

and build on our skills and quality of design, as well as buildability and a huge focus on inclusive design. We both agreed after this project that we would use our skills and combine them to help us

Jack 'Starting this year having a very basic knowledge for architecture to nine months later and knowing how all these structures work, come together, the materials and having an appreciation for all trades in the business, this first year at University has taught me so much and given me a lot of knowledge for future years'

our transformation in these short nine months has been incredible.

Izzie 'The nursery design project both frightened and excited me, as I delved further into the design process, it became a reality that the things that I think of and draw, could someday be standing in front of me full of people. This thought made me determined to be an inclusive designer with attention to construction details, whilst innovatively creating designs which challenge architecture as we know it.'

ATs on site

We also spent time on a nearby building site and practised our surveying skills. These experiences were so valuable to us for learning and understanding the process of not only designing a building, but all the factors which must be considered before during and after construction.



Jack and Izzie on various site visits

TRADA Design Competition

After having completed our first semester with great success, we were faced with an even bigger challenge, which made our fear of details in week one look like baby steps. We were given a brief to design a new flagship building for the Sylva Wood Foundation, under the TRADA Student Design Competition. We were not afraid of the challenge which lay ahead, we knew we would work on this brief as a team. We were anxious to get started.

We got out our sketch books and began drawing things which made us think of trees and organic yet innovative design. We researched other timber buildings and drew some more.

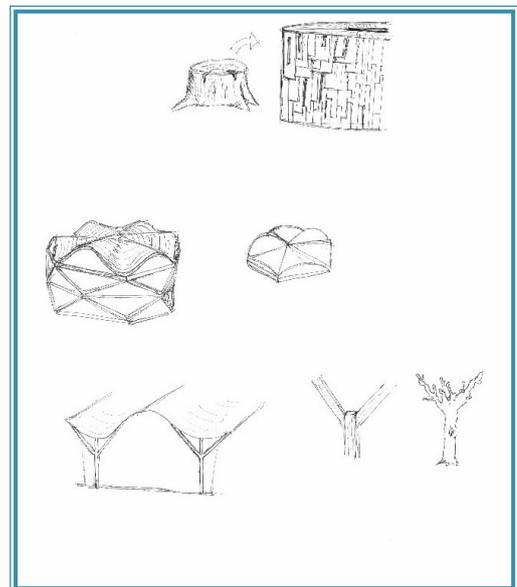
Timber was a material which we were used to designing with from our first designs as we were both very keen to find new ways of using timber in construction and showcasing its strength and flexibility.

Together we combined our ideas on SketchUp and worked on moulding the shape of a tree trunk into something creative, inspiring but most importantly buildable and sustainable. As ATs we knew it was hugely important to showcase the timber details in the building, and so threw a great amount of focus into making the Hedron work structurally.

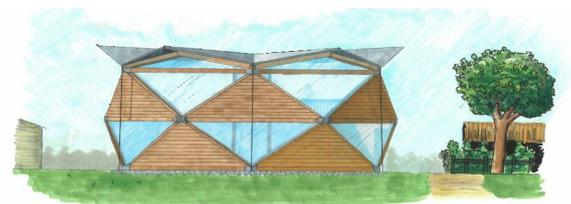
We were not afraid of the challenge which lay ahead.

Our first presentation of the project was greeted with some concern, the building was so different to other groups designs as we strayed away from the original shape of the building on site which was rectangular, and instead went for a hexagonal shape. We used the mathematical and structural strength of hexagons and triangles to showcase individuality and strength, triangles are well known for being a strong shape, as shown in buildings such as the Eden Project in Cornwall and the Gherkin in London. We were asked to create a small model to help people understand how the structure works, and so for our second presentation we built a small model of the structure.

As time went on and with support from our lecturers on the details and how to best use the space to create inclusivity and following the client's needs for the building, the Hedron evolved.



Initial sketches



Final Elevations

We knew we needed to expand the floor space to allow for more office and lab space, and to use the buildings shape to its full potential. We focused on natural light, views to the new planned oak forest and inclusivity to all users. As you increase the radius of a hexagon the space increases exponentially, which made it very simple for us to adapt the floor plans.



Ground floor and first floor plans

After we finalised a floor plan we threw our focus into construction details. We wanted to do our building justice and so created a detail of the entire section of the building, showing how it works both for the user and for the construction process, as well as some close up details of joints.



Section through building

We built a new 1:100 Model to accompany our presentation, and once again to ensure people could understand that although it looks complex, it is in fact as Oxford architects described it 'A very simple design constructed into an interesting shape'



The long wait

As we finalised our report for the competition and submitted it, we could do nothing but wait for the result. We finished our degree show and left University for the summer, anxiously waiting to hear what the judges thought of our precious Hedron. By this point Jack and I had fought hard for our design and were adamant that this building was special, and sure enough we heard news. We were chosen as finalists among five other teams. This was our proudest moment.



Jack and Izzie showing the Hedron Model to Gabriel, the Client.

The long wait

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Competition finals

We arrived at the Sylva Wood Foundation for the second time after our first site visit, and this time we could envision the Hedron standing in the place of the current barn building. Excitement and nerves set in simultaneously as we set up our presentation and model.

The whole day was very lovely, we had refreshments, and a chance to chat with the other contestants, one team coming from as far as Denmark, and others had flown in from Scotland. It became more obvious just how huge a success it was to have gotten this far with such talented competition, especially as first years.

Although we didn't come home with a prize, Jack and I felt like winners. We stood by our design idea through the entire journey and as the Hedron

grew, so did we, as Architectural Technologists and as people. The opportunity to present to the TRADA judges was one we value highly and we will hopefully be competing together again next year.

The future

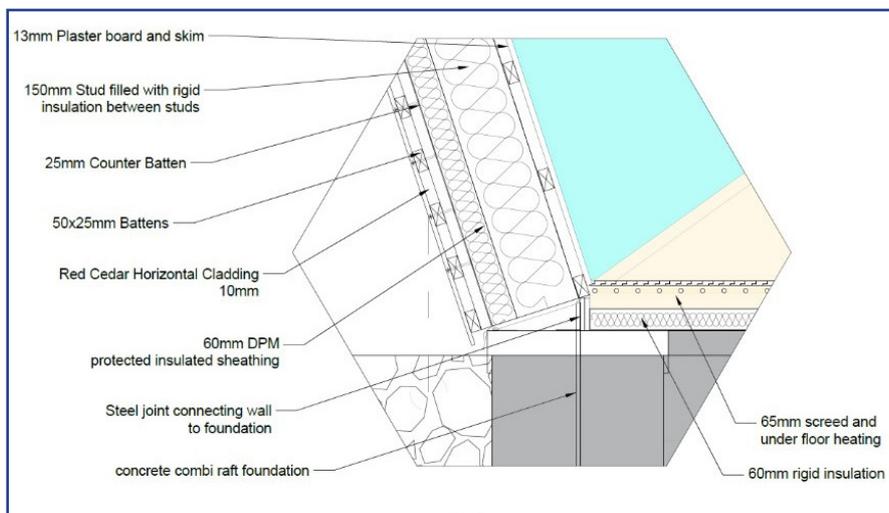
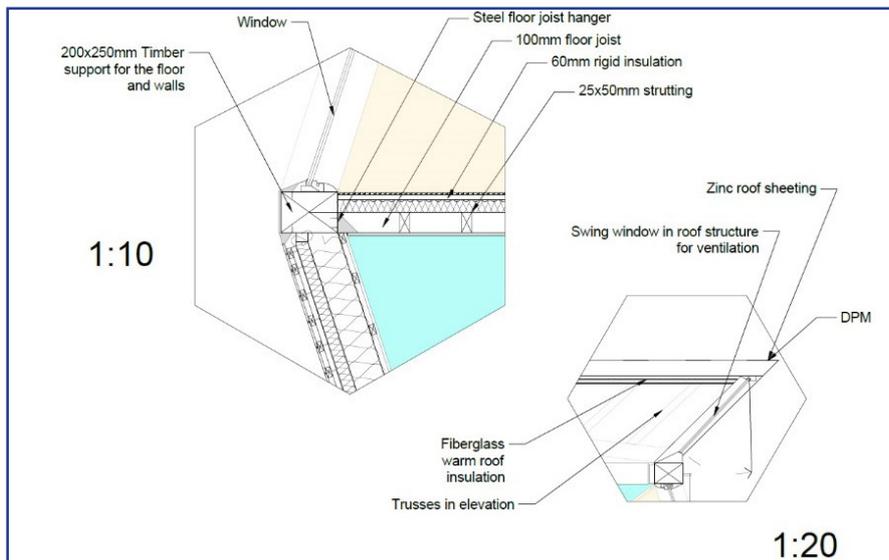
Through this year we have been massively supported by our incredible lecturers who have taught us valuable skills and pushed us above and beyond our limits.

When this year began we were both terrified of labelling a detail, and now that we have entered our second year we're excited to be involved in more projects, more events and work even harder! Jack and I hope that after some experience in the industry after we graduate, we will become Chartered Architectural Technologists, and open a firm together.

We have big goals but a lot of determination thanks to our first year as ATs, and we cannot wait to carry on working towards these ambitions.



Final 3D picture



Details NTS



To work (placement) or not to work (placement) – that is the question?

By Ben Macey, Student member studying at University of West England (UWE)

Originally when starting my study at UWE I did not plan on enrolling on a placement. Through experiences while studying and advice taken from other students, staff and friends I changed my mind and managed to secure a placement at Relph Ross Partnership Ltd, a CIAT Registered Practice based in Salisbury. This was one of the best decisions I have made so far in my career.

In my opinion, the experience I have gained from my placement so far is fundamental in allowing the knowledge gained in my first two years of study to set in and be built upon. I am learning vital new skills every day, something which I feel I wouldn't have had the opportunity to do without working in practice.

While on my placement I have worked on a large variety of projects at each of the RIBA plan of works, but more predominantly stages 1, 2, 3, 4 and 5. Working on these stages has given me a good understanding of how the building process works and what complications can occur, as well as the various different methods and solutions that are available to complex technical/non-technical design issues.

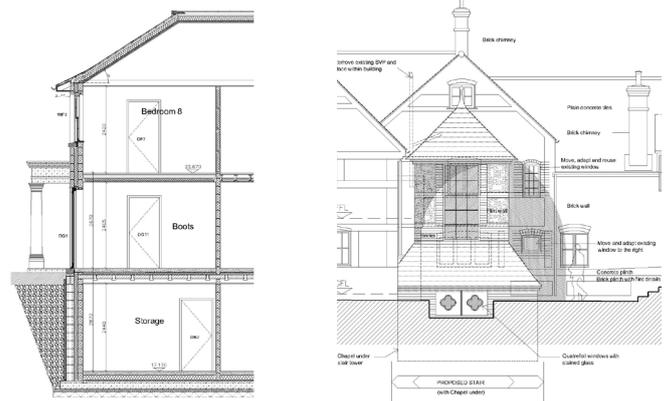
In terms of the soft skills I am developing, I feel my confidence has grown, and I now feel happy working on projects with minimal supervision. My team working skills are progressing each day and I feel my project and risk analysis along with management knowledge is improving with each project I work on – I find the site visits particularly helpful in this respect.

I feel the strengths of my placement so far fully outweigh the weaknesses and it has been an eye opening and educational experience into the working environment. The feedback I gained from UWE concluded this as a 'wide and invaluable experience'. They pointed out the areas to focus on to 'complete a great overall platform of experience' were: contract, costs and concept

I feel the strengths of my placement so far fully outweigh the weaknesses

design, which are three areas I'm focusing on and aim to improve over the remainder of the placement.

Taking on a placement has challenged me on a daily basis and has allowed me to vastly develop my knowledge and skills learnt at UWE as well as develop new skills. I feel lucky to be working on projects and completing tasks with significant level of responsibility, This is beneficial for my degree and qualifying as a Chartered Architectural Technologist, as well as giving me vital work experience to build upon in the future.



Overall I have found the year out placement really enjoyable and invaluable, and would strongly recommend this to others.



Some of Ben's work

which allows experienced members who act as the mentors, to assist other members working in the industry in a variety of areas by providing a range of support, advice and guidance, the mentees. The platform also encourages e-learning. It supports a wide range of learning and development resources. All of these are accessible from your smartphone, tablet, laptop or desktop computer.

Online materials include: The MentorMatchMe Guide to Mentoring; a learning diary; and a range of learning resources.

All members can benefit in a variety of ways by joining a mentee such as:

Membership progression/qualifying

Guidance and support is available on membership progression, routes to qualifying and assistance on various areas/standards when completing the qualifying processes such as the T/MCIAT Professional and Occupational Performance (POP) Record or the MCIAT Professional Assessment from staff, Member Panel and Interview Assessors and possibly recently qualified Members.

Continuing Professional Development (CPD)

Support and guidance could be available if CPD is required on numerous relevant industry topics.

Education/careers

Members looking to study at an Accredited Honours or Masters degree level programme or requiring general guidance on Architectural

Technology courses available. Careers advice available for those members who may be looking into diversifying their skills.

Guidance and support is available on membership progression, routes to qualifying and assistance on various areas

Setting up in practice/offering services

If you are looking to set up on your own in practice and need guidance then further information is available. There are a number of information sheets and guidance documentation to assist you in ensuring that you are in compliance with the Code of Conduct and elaborate on considerations to be made when setting up and

considering commissions. Chartered Members also benefit from the Professional Indemnity Insurance Scheme run for us by CIAT Insurance Services, which offers both competitive rates and a first class service, as well as a legal helpline. Those who are already practising may benefit from the practice services available – outlined in the Practice Services, Information and Guidance document.

Employment/jobs

Guidance could be available from members/employers on how to develop your employability skills and prepare for interviews etc. Jobs cannot

be advertised on MentorMatchMe but can be done through CIAT jobs in collaboration with RIBA Appointments and CIOB Jobs.

International – support from our Centres Help and advice on living, studying or working overseas, including legislation and education or procedures involved in setting up a practice.

Media/PR

Writing articles or case studies promoting the discipline, projects and good practice etc

Awards

Support if you are considering or keen to enter one of the Institute's Awards:

The Award for Excellence in Architectural Technology

The Alan King Award,

Student Award for Excellence (Report) and

Student Award for Excellence (Project)

An opportunity to look at the work of previous award winners

Building Information Modelling (BIM)

Gain insight or share knowledge from members who work with BIM in SME's through to large practices on their experience of BIM implementation and collaboration

Leadership/management

General guidance is provided for members on leadership and management.

Guidance could be available from members/employers on how to develop your employability skills and prepare for interviews etc

How You Could Benefit as a Mentee (open to all members)

Any member may choose to become a mentee and gain additional knowledge. Mentees may not just be students, profile candidates or Associates working to become a competent professional (MCIAT or TCIAT), for example a Chartered Member with many years of experience holding a senior position may wish to become a mentee in relation to another area of practice.

Benefits include:

- Gaining guidance on qualification/ progression from those who have been through the system or have experiences to share.
- Receiving independent guidance and support about your expectations and career plan.
- Learning about setting up your own CIAT Registered Practice from experienced practitioners
- Developing the capabilities and skills needed to succeed in a dynamic global economy
- Identifying your strengths, weaknesses and the best way to work with these in your career
- Developing a structured CPD plan

Joining as a Mentee

1. You would need to create an account by signing up to www.ciat.mentormatch.me
 2. Register as a mentee and provide your membership grade and number.
- Once your account has been set up you will be prompted to complete a profile form, which will enable mentors and mentees to be matched based on areas of common interest and experience. When matched, we encourage you to meet (face to face or via an online meeting facility) for a couple of hours each month. If you wish to be a Mentored, you must register your email address..

Further information

If you have any questions about the platform do not hesitate to contact James Banks, Membership Director (james@ciat.org.uk)

Any member may choose to become a mentee and gain additional knowledge.



The Technology Network

Technology Network, the directory of members willing to give guidance to other members, continues to grow from strength to strength. The main aim of Technology Network is to put members with experience in different areas, in touch with each other for guidance and support. Some members who work in isolation, benefit from contact with others in their field, as do newly qualified members experiencing teething problems.

If you would like to find out more about Technology Network, please contact Donna Chappell Practice Administrator donna@ciat.org.uk

Visiting Velux in Denmark

By James Jones (Student member at the University of Bolton)

I had such an amazing time in Denmark! Of course I always thought I knew what a Velux window was, I see them daily, however during my time in Denmark I was amazed to learn just how naive I was and how much I take for granted the world around me. It wasn't long before I realised how little I actually knew about the detail, effort, knowledge, creativity, design, manufacturing and just about everything that goes into creating a product.

This was my first study trip and although I was excited and looking forward to it, I was a little sceptical as to what to expect and if it would be something I could use or look back on in the future. I have been told these things can be boring but I was very wrong, this trip was an amazing experience and I am so lucky to have been a part of it.

To learn about the history of the company was fantastic, the fact that Velux, now a worldwide organisation with over 10,000 employees in 35 different countries all started in a little town of Østbirk with only 12 employees that struggled for years, so much so that it nearly shut down was extraordinary! To then realise and understand the passion and belief that must have gone

This trip was an amazing experience and I am so lucky to have been a part of it.

into making windows was wonderful. My eyes have been opened to the creativeness, craftsmanship and knowledge that is needed to succeed. To have learnt about how Velux make their products and then test their products to achieve maximum results was to me bizarre, the attention to detail and understanding of how things work and how things work together was nothing less than marvellous. I can honestly say Velux Head office blew my mind.

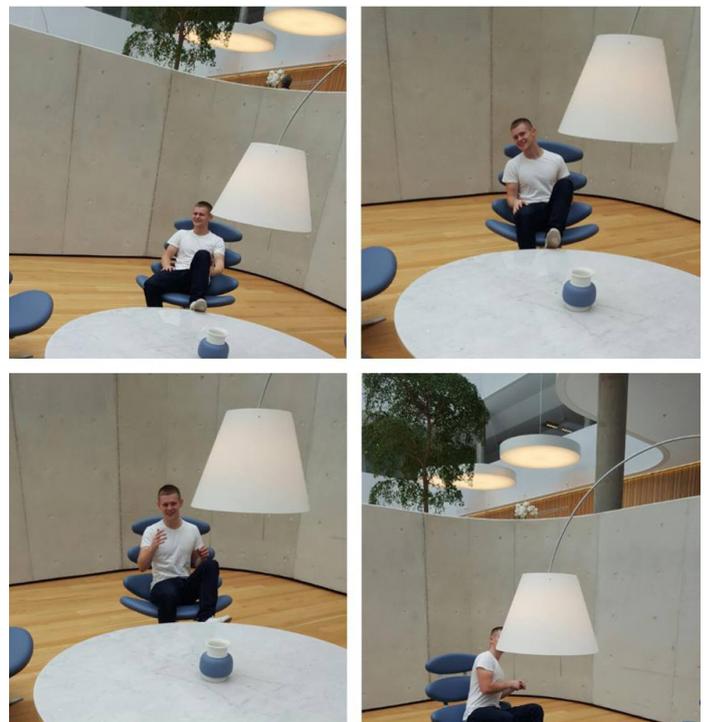
I also have witnessed, first-hand, the wholesomeness and authenticity of the Danish culture. It is not hard to see that the Danish have a truly beautiful mentality. I got this sense that the people genuinely want to help one another and care for one another as well as caring for

the planet. It was refreshing and motivating, a characteristic I wish to adopt, Denmark is indeed a very special place.

I would like to thank Velux not only for their time and knowledge they dedicated to me on their products but also for the lifestyle and choices they are pursuing daily. For the brief time I was there I felt very welcomed and cared for from the very start, I felt like part of their team and hopeful for my future, I must say there is something oddly satisfying about being involved with producing as opposed to consuming. I think this trip was made more enjoyable due to the fantastic people that I was amongst. I learned far more than I ever thought I would and had even more fun.

Thank you everyone to whom I met for giving me an experience I will never forget with a special thanks to Nooshin Akrami MCIAT, Simon Inch, Wai Cheung and Scott Leeder, for making it possible.

I learned far more than I ever thought I would and had even more fun.



James Jones at Velux

From Denmark with love

By Rebecca Fea graduate from Cardiff Metropolitan University

As a recent graduate of Cardiff Metropolitan University, I am pleased and proud to say my course offered various opportunities to broaden my knowledge and stimulate my interests by the means of attending industry talks, CIAT CPD meetings, architecture exhibitions and many more. However, the experience that influenced me the most was my participation in the ERASMUS scheme. Through ERASMUS I was given the chance to choose a country of my preference where I could attend a similar (or identical in some instances) course as mine, alongside students coming not only from all over Europe but from all over the World.



Rebecca Fea and her VIA University College Classmates

In a 'post Brexit' Britain currently torn by political debates trying to establish the practicality and feasibility of the promises made during the Brexit campaign, I cannot help but think of the impact my European experience had on me. From the very first moment my course started in the small village of Horsens (Denmark), every statement I made in class was showered by comments and questions interrogating how the solution I had offered or the product I had specified could work in different countries and different circumstances. Despite it being rather challenging to get used to, I soon started thinking that way. Every time I thought I had found a solution, I would question it and investigate whether it would actually work under all aspects and in concomitance with all the components that actually make a building (whether it was mechanical equipment or structural elements). After a year spent trying

to soak in as much information from as many countries as possible, I came back to Cardiff where I applied my new knowledge and managed to achieve, to my delight, great results and degree. Having worked in a multinational practice for a year, I now find myself still applying the same mentality to the projects I work on by analysing every situation in front of me and locating it in the much wider context that comprises each building. This skill is one that is undoubtedly learnt and refined with experience, but I am very grateful I had the chance to experience it first hand during my studies as I feel it helps soften the transition between university and the "working world", which can be perceived by some as rather traumatic.

Studying abroad also made me realise that many of the stereotypes linked with this profession (such as the fear of being used as a "CAD monkey" are really just linked to the character and interests of each individual. Seeing how architecture develops around the world is for me, only the start point to a never-ending passion for design and construction: by combining very technical tasks with imagination and design we allow the environment we live in to develop and hopefully flourish.

I cannot help but think of the impact my European experience had on me.



Rebecca and friends outside VIA University College

Build Earth Live Hyperloop

By Gareth Alexander MCIAT, Course Director at Ulster University



Photograph left to right: Niall Murphy (O&W), Marc Tracey (O&W), Melanie Dawson (Grahams), Victoria Cheevers (Grahams), Shervin Yousefzadeh (Grahams), Ken Geary (O&W), Chris Millar (Grahams).

Two of last year's final year students from the Architectural Technology and Management programme at Ulster University were part of the BIMFusion team that took part in the recent Build Earth Live Hyperloop competition. Build Earth Live is an annual, global team-based contest for the AEC industry put on by solution provider Asite. Participants are challenged to put their building information modelling skills to use by collaborating with their team over a 48 hour period. The competition brief this year was to design three Hyperloop terminals - at Al Maktoum International Airport, Dubai International Airport, and Fujairah International Airport as well as the Hyperloop track infrastructure and route between the three terminals.

Chris Millar and Victoria Cheevers, who studied at Ulster, now work in the BIM Support team at Graham Construction, based in Northern Ireland. As members of the BIM Fusion team they worked in collaboration with Ostick & Williams Architects, Semple McKillop (MEP) and Ulster University. The team were shortlisted as one of seven finalists, from an original pool of 250 entries, from 29 countries. The team were invited to showcase their submission in front of a live audience of judges and VIP guests as part of the BEL Hyperloop awards ceremony in Dubai in October,

the BIM Fusion team were recognised as leaders in their field winning the award of 'Best Use of BIM for Sustainability or Constructability'.

"Ulster University is delighted to be associated with the BIMFusion team and we congratulate them on their award, which is well deserved. We are immensely proud of Chis Millar and Victoria Cheevers, whose input was key to the success of the team. This award builds on their experience while studying here at Ulster and demonstrates that graduate Architectural Technologists are equipped with the skills needed in industry. Recognition at this level gives graduates the confidence that they have the potential to lead the way with BIM in the real world."



Final design

3D Printing the way forward in Architectural Technology

By Frank Gergaud, Student member at Lund University

Nowadays, a lot of common products are built automatically by computer (cars, shoes, laptops, etc.). The Construction industry is one of the biggest sectors employing people (110 million according to International Labour Organization) and not yet using advanced robotics into the construction process. This is likely to change because 3D printers can revolutionise the building industry. Some companies are already working with 3D building printing because it can produce quicker, cheaper, and greener buildings than the traditional construction sector. All around the globe, companies are trying to push the boundaries of 3D printers.

Winsun, a Chinese company specialises in research and development for building materials and 3D building printing, has already printed a six multi-storey building and one villa with 1 100 m². According to Winsun's expertise, it's costs 20% of what it would cost when built traditionally, 25% of cost reduced due to less quantity of materials needed and between 50% to 70% of cost reduction due to less labour needed on building sites. WinSun estimates that the price for a 200 m² 3D printed house will cost approximately 4 200€. According to WinSun, 3D building printing can be sustainable because there is less need of raw materials, reduces energy consumption during the construction process, less or zero waste emission and even the printing material can be sustainable. Indeed, it can be a mix of recycled materials from construction waste, bioplastic or even more. Currently there is ongoing research project on printing materials.

Apis Cor Engineering, a Russian company based in Irkutsk, develop Apis Cor 3D printer. In March 2016, I had contact with the customer service representative, Kostantin Nefedev to discuss about the new Apis Cor 3D printer and research on new printing materials.

3D printers can revolutionise the building industry.

Apis Cor developed a new version of Apis Cor 3D printer in the beginning of April 2016 and showed this new version at an exhibition in Moscow. Apis Cor 3D printer is a crane-like feature and measures 5.5m length by 1m width, 1.5m height and weight 2.4 tons. Apis Cor 3D printer is compact, quick launch (30min to be assembled), convenient transportation, low energy consumption (only 8 kw of energy), cost effective & less or even no construction waste. However, even if a new 3D printer is available, it still needs to have the structure reinforced and pouring heavy concrete, cannot be done by the 3D printer at the moment. There is still a need for workers to create a durable building. Apis Cor is currently working in collaboration with a Russian-Italian Company (RenkaRUS) to develop new printing materials called: "geopolymer". Geopolymer material has already shown its benefits during the testing phase and right now Apis Cor and RenkaRUS are developing the solution that will help to make this mixture both available and cost efficient for the purpose of the construction industry. Geopolymer material being very resistant to many common concrete durability issues.

Printing a building with a 3D printer has been a desire from a lot of architects, engineers, technologists, researchers, for a long time. This dream may come true, but it is too early to clearly identify the impacts of this technology as the research continues. From the professional's point of view of Apis Cor Engineering, 3D printing technology will definitely change the building industry field and reduce environmental footprint of the building. Time will tell if this technology can be generalised to the entire building industry.



Looking to progress your membership?

2015 MCIAT Professional Assessment and Professional Standards Framework



The primary qualifying mechanism for Chartered membership is via the MCIAT Professional Assessment completed in conjunction with the Professional Standards Framework, which clearly defines the minimum threshold standards expected of prospective Chartered Architectural Technologists, MCIATs.

The qualifying mechanism covers three distinct stages outlined with the Professional Standards Framework:

Stage 1 – Educational Standards - CIAT Accredited Honours or Masters degree (or equivalent).

The educational standards have been developed in conjunction with the UK Quality Assurance Agency (QAA) subject benchmark statement in Architectural Technology. Potential applicants can demonstrate equivalence via non accredited qualifications, project related experience, continuing professional development (CPD) and research.

Stage 2 – Practice Standards - Practice Assessment

The practice standards are measured through the Professional Assessment which is an evaluation of prospective Chartered Members' knowledge, experience, skills and professionalism. It is primarily based on the following four areas:

- Designing
- Managing
- Practising
- Developing (self)

Stage 3 – Professional Standards - Professional Interview

The Professional Assessment Interview process is designed to reflect the broad nature and range of professional practice within Architectural Technology.

The professional standards are the manifestation of the educational and practice standards. They determine a Chartered Members ability to engage, communicate and interact with affected parties in an appropriate, professional, ethical and knowledgeable manner. All Chartered Members must be aware of their professional limitations and obligations in relation to the Institute's Code of Conduct.

The 2015 Professional Assessment essentially links the Educational, Practice and Professional standards for all Architectural Technology professionals.

The criteria within the Framework reflect the evolving and organic nature of the discipline. In the interests of maintaining consistency and parity, all new Chartered Architectural Technologists will be required to meet the criteria. Further, the Framework will be useful for measuring Continuing Professional Development (CPD) and training needs of existing Members.



The MCIAT Professional Assessment is candidate orientated, user friendly and streamlined. It retains flexibility, rigour, robustness and is a quality assured qualifying process, based on performance

and designed to recognise the diversity of Architectural Technology.

Candidates must provide an in-depth critical analysis clearly summarising their educational knowledge, practical experience and professionalism (stages 1, 2 and 3). Stages 1 and 2 should take the form of a reflective report referring to challenges and successes encountered whilst working on projects and how any issues were resolved. Also undertake a self-evaluation highlighting strengths and weaknesses in relation to area/s of practice. Stage 3 involves professional communication. Appropriate evidence must be provided in all stages to prove competence. Each application will be assessed on its merit. However, each applicant will need to demonstrate a sufficient level of knowledge and understanding and professional competence/experience in relation to their sphere/s of practice and demonstrate to the Institute they can meet the expectations of a Chartered Architectural Technologist, MCIAT.



What about the MCIAT POP Record?

If you are completing the MCIAT POP Record, this remains a viable progression route to qualify as a Chartered Architectural Technologist, MCIAT

If you have any queries about the evolution of the discipline or qualifying process to becoming a Chartered Member, please do not hesitate to contact James Banks Membership Director E: james@ciat.org.uk T: 020 7278 2206

The 2015 Professional Assessment essentially links the Educational, Practice and Professional standards for all Architectural Technology professionals.

Get involved with aspirATion magazine



Articles are being accepted for issue 8 of AspirATion. You can write about anything relevant to Architectural Technology whether it's about courses, industry or CIAT membership. You must be a student member of CIAT or a recent graduate member for your article to be accepted.

Articles do not need to be long, 400-500 words with appropriate pictures is enough. Writing articles counts towards required CPD as well. Areas to focus on include:

- Your experiences on placements/during part-time work
- How you have worked on assignments
- How you have applied your problem-solving skills to an assignment/project
- A condensed version of some of your work
- Working as an Architectural Technology professional after graduating
- What inspires you
- Inclusive design

You can also submit high quality pictures for the front cover of the next issue. These can be pictures of projects you/students are working on, buildings you find inspiring, etc. They must be at least 300 dpi.

Please note that articles are accepted all year round and may be included in future issues

Send your articles and pictures directly to jack@ciat.org.uk

Student work: Retreat Pod

Design project by Sajni Devraj Sanghani, student member at The University of Salford



This small retreat is a pod designed specifically for Andrew, a musician, who is a concert director and works at the Djangoli music centre of University of Salford. It is sited at Heaton Park, Manchester, close to a pond. This was purposely chosen to meet his requirements of a peaceful place, away from the hassle of the city and nearby an area which allows him to catch a glimpse of various bird species.

Initial design processes were then begun with clear analysis of the site. At first the pod design was a long rectangular, set on the ground, with well-lit windows to maximize the connection from the outside environment, but later the idea of a pod resting underneath columns was inspired by the silhouette of a bird resting alongside a body of water. The roof design was also later shaped like the head of a bird.



However, the concept follows that of tree houses whereby to gain the best bird watching views, it is designed above the ground level.

The two balconies on different levels on the

opposite facades of the building allows the client to bird watch from his comfort zone. Moreover, water birds such as swans and ducks can also be seen swimming in the pond, and this adds to the hypnotizing view of the connection of water and nature. Easy access from the main staircase to the lush green trees surrounded around the pod also offer a place to go to the outside for his further bird watching.

Although it is a small pod, its inner zones are well spaced for a single person as he mentions, "a space for me and only me" but sufficient enough to cater for other guests. He also enjoys cooking and playing guitar with his friends thus in the design process, the living room and the kitchen were the main activity zones and must be spaced adequately.

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Also as there would need to be a close connection and this pod has an open wall space connecting the living and the kitchen.

The loft level was just designed for his space to relax and play his guitar. It also offers window views to tree levels and a further balcony. The structure is made out of wood in order to blend in with the nature around and the architecturally designed roof is left exposed. The roof curve is supported by glulam beams which adds to its sophisticated look.

The pod design is also privileged to natural light. The windows are orientated mainly towards the east and west for maximum daylight. Thus the kitchen area experiences the sweet morning sunlight whereas the balcony will enjoy the warm golden sunset light in the evenings.



Interior Views



Exterior View

CIAT aspirATion

Greater London's Inaugural Event

By Joshua Slingsby BSc(Hons) ACIAT Greater London aspirATion Chair

It is official aspirATion Greater London Region (GRL) has officially become active! Pop the champagne, drop the balloons, GRL aspirATion has arrived. Kicking off it held its inaugural event, consisting of a guest lecture evening to be part of an annual series. Graciously hosted by London South Bank Universities Architectural Technology (AT) Department, it saw inspiring speakers, new technology tested and exciting discussions for the future.



Joshua Slingsby giving a talk

The purpose behind the initiative and event was to create an initial platform for communication, to form a conduit of contact between aspirATion (aspiring future AT professionals and the Institute. As Chair for aspirATion London, the first priority highlighted was communication, to be able to talk to the members and understand what they need from the Institute and in essence what does aspirATion need to be for them. For this to happen, the guest lecture series was formed to allow practising members to come and present their life and works to students, daunting I know, and to create an opportunity for aspiring members to talk and network with AT professionals.

A simple idea that became a successful evening, where students, alumni and academics from all four Accredited universities in London attended, creating a melting pot of AT professionals from the London community. Not only was attendance physical but also virtual with a successful attempt to have live beam backs to the Republic of Ireland and Channel Islands projected on to the wall of the lecture hall. This was a beta test for future events, to be able to offer inclusivity and involvement to

the more remote members of the Institute. The evenings success must be put down to the inspiring speakers who graciously gave up their time, including James Banks, Membership Director, who gave a fantastic insight into membership progression and the routes members can take to achieve Chartered status. Greater London's Regional Chair, Niall Healy MCIAT, who gave an in depth talk of a technologist's role within industry and project delivery with some great insight into his own work and achievements. And of course it was an absolute honour to introduce our very own President-Elect Alex Naraian MCIAT, speaking of his own progression as a technologist and increasing involvement within the Institute leading to him taking on the honourable challenge of becoming the Institutes President in November 2017..

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Following the inspiring and insightful words of the speakers there was some exciting discussions and certainly some inspiring ideas for what aspirATion could take on in the future.

Moving forward, aspirATion GRL is looking to expand and build on this first event, namely with a follow up guest lecture evening in the series. But also in its working, currently a committee of limited numbers, GRL are looking for aspiring members who want to be involved and to take on responsibilities and roles within aspirATion and the wider AT community. If you are a student member, Associate member/profile candidate of less than 5 years or Chartered/Technician member of less than 3 years who has the drive and passion for AT professionals then we will be soon advertising an event in early 2017 and I hope to see you there. In the meantime, get in contact if you want to know more and get involved and watch this space Greater London Region. aspirATion has arrived! Joshua Slingsby BSc(Hons) ACIAT greaterlondon@ciat-aspiration.org.uk