



# **Early Career Anatomy Academics Conference**

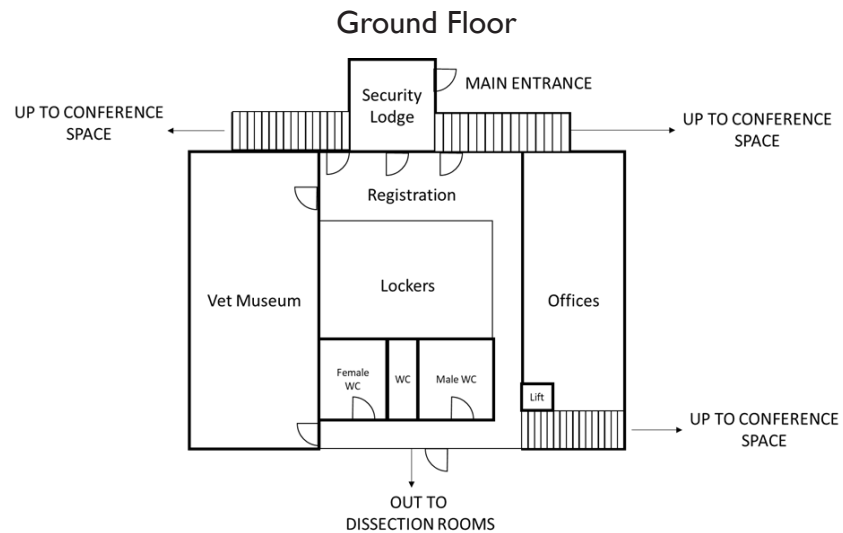
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14th-15th July 2022

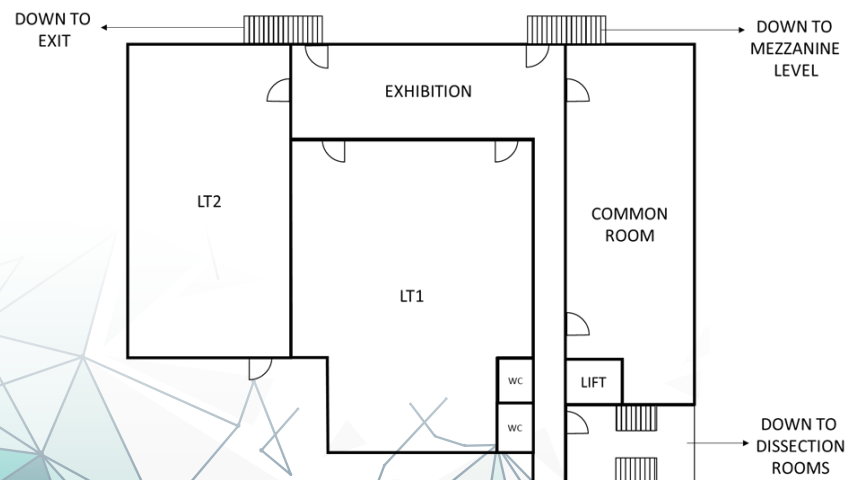
University of Bristol, UK



## School of Anatomy



## Top Floor



**Hello from the host of the first ECAA Conference**

The Early Career Anatomy Academics group has had an incredibly positive impact for me, as it has allowed me to connect with anatomists from around the country, and even beyond! Above this it has enabled collaboration on research projects, and allowed me to learn from some amazing people in the virtual world.

As in-person events started to return, I felt that it was the perfect opportunity to not only meet some of the group, but expand our network, and provide a supportive environment for early career anatomists to learn from each other through a conference.

Credit needs to be given to Professor Michelle Spear (Head of The School of Anatomy, University of Bristol), who has been incredibly supportive of our group, offering the School for the conference, and acting as my sounding board throughout the organisation process.

**Annalise Richards**  
Lecturer, School of Anatomy  
University of Bristol



# WELCOME

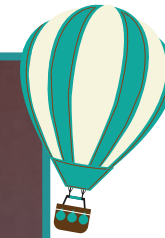
from the  
Founder of  
ECAA



There have been so many people that I have met during my career in anatomy who have been such a source of inspiration, advice and support for me. It struck me that most of these anatomists were still early in their careers but already achieving such great things and that as a group there was a lot that we could learn from each other. While I was trying to figure out a way to get a group of early career anatomists together, the Covid-19 pandemic hit and so a group on social media became the way forward.

The success of this group is entirely down to the support and enthusiasm of its members. Since April 2020, the group has hosted sharing best practice meetings to discuss strategies of teaching anatomy online (suggested and led by Lydia Boynton); weekly features where members of the group can introduce themselves (suggested and led by Munesh Khamuani); clinical anatomy seminars (in collaboration with Pashmina Bhutto) and of course, we are hosting the first early career anatomy academics conference which has been led by Annalise Richards.

**Danya Stone**  
Founder of ECAA



## Welcome to Bristol

On behalf of all colleagues in the School of Anatomy, I am delighted to welcome you to Bristol.

Our School and Vesalius Clinical Training Centre supports 1500 undergraduate students in medicine, dentistry, veterinary science and science and provides CPD and research opportunities for clinicians and allied health professions. We do this with an excellent community of technical, professional services and academic colleagues. It is one of our strongly held beliefs that it is the people that make our School, and staff development is paramount. As such it is our privilege to be further investing in people by hosting the 1st Early Career Anatomists Conference.

I hope that you will be able to meet with some of the Bristol team, if you haven't done so already. I'd like to extend a note of thanks to Kate Sparey - School Manager, Carys Davies - School Technical Manager and their teams for their dedication in supporting the conference. The ECAA and local organising committee have worked hard to bring you this wonderful event. We hope you have a great time.

**Michelle Spear**  
Professor of Anatomy  
Head of School  
University of Bristol



### Connecting to the University of Bristol Wi-Fi

1. Connect to the “UOB Guest” wireless signal
2. Your device will ask you to sign into the Wi-Fi network
3. You will be asked to select an authentication method-the quickest and easiest method is to use either your google, Facebook or Twitter account. Alternatively, you can opt to receive a code via SMS text messages.
4. Follow the on-screen instructions to get connected.

This event runs over the 14th and 15th July. The programme for each day is shown below.

### Programme Day 1: Thursday, 14th July 2022

Time	Event	Location
12:00-14:00	Arrival/Registration Networking	School Foyer Exhibition Space, Lecture Theatre 2
14:00-15:20	Comparative Anatomy Workshop 1	Veterinary Dissection Room
15:20-15:40	Networking Break (Coffee/Tea)	Exhibition Space, Lecture Theatre 2
15:40-17:00	Comparative Anatomy Workshop 2	Veterinary Dissection Room
18:00	Social Event	

### Programme Day 2: Friday, 15th July 2022

Time	Event	Location
09:00-10:00	Arrival/Registration	School Foyer
10:00-10:10	Welcome by ECAA group <i>Annalise Richards and Danya Stone</i>	Lecture Theatre 1
10:10-11:15	<b>Session I: Research</b> <b>Chaired by: Munesh Khamuani</b> <ul style="list-style-type: none"> <li>• Invited speaker I: Publication – perils, pitfalls and perseverance-<i>Mr Philip Adds</i></li> <li>• Oral Presentations</li> <li>• Sponsor Talk I-4D <i>Interactive Anatomy</i></li> </ul>	Lecture Theatre 1
11:15-11:45	Break (Tea/Coffee) and Poster Viewing <i>at the Upper Foyer, Exhibition Space &amp; Lecture Theatre 2</i>	
11:45-13:00	<b>Session II: Career</b> <b>Chaired by: Lydia Boynton</b> <ul style="list-style-type: none"> <li>• Invited speaker II: Anatomy, research &amp; academia: my experiences of how they fit together-<i>Dr Ruth Norman</i></li> <li>• Oral Presentations</li> <li>• Local Speaker: Facing the Imposter-<i>Dr Sara Sulaiman</i></li> <li>• Sponsor Talk II-<i>Wolters Kluwer</i></li> </ul>	Lecture Theatre 1
13:00-14:30	Lunch and Poster Viewing <i>at Student Common Room, Exhibition Space &amp; Lecture Theatre 2</i>	
14:30-15:45	<b>Session III: Non-Research</b> <b>Chaired by: Georga Longhurst</b> <ul style="list-style-type: none"> <li>• Invited speaker III: A lot of different flowers make a bouquet: diversifying anatomy-<i>Dr Scott Paterson</i></li> <li>• Oral Presentations</li> <li>• Sponsor Talk III-<i>Primal Pictures</i></li> </ul>	Lecture Theatre 1
15:45-16:15	Break (Tea/Coffee) and Poster Viewing <i>at the Upper Foyer, Exhibition Space &amp; Lecture Theatre 2</i>	
16:15-17:00	<b>Session IV: Panel Discussion</b> <b>Chaired by: Annalise Richards and Danya Stone</b> <ul style="list-style-type: none"> <li>• Sponsor Talk IV-<i>Elsevier</i></li> <li>• Panel Discussion: <i>Dr Bipasha Choudhury, Mr. Philip Adds, Prof Michelle Spear, Dr Jeremy Mortimer</i></li> </ul>	Lecture Theatre 1
17:00-17:30	Thanks, Prizes and Close	Lecture Theatre 1

## Who are ECAA?

ECAA aims to be a space for early career members of the anatomy community to:

- Network with other early career anatomists
- Be a part of a welcoming community
- Learn from other members of the group
- Share knowledge and ideas with other members of the group
- Engage in discussions about teaching practices
- Foster new research collaborations

We have intentionally not set any limits on who can be a part of ECAA and anyone that considers themselves an early career anatomist is welcome to join.

## How can I join the ECAA community?

Follow us on the following social medial platforms:



Join our Facebook group: Early Career Anatomy Academics



Email us on [team.ecaa@gmail.com](mailto:team.ecaa@gmail.com)



Twitter [@EcaaTeam](https://twitter.com/EcaaTeam)

If you are interested in getting involved we will be looking to organize an official ECAA committee and invite expressions of interest from any early career anatomists.

We are also looking to create a website and official membership following this event.

## Meet the ECAA Conference Committee

### Annalise Richards

Annalise graduated with a BSc(Hons) in Biomedical Science from the University of Sheffield in 2016, before completing a Masters in Human Anatomy and Education there. Annalise's first teaching role was with the University of Bristol as an Anatomy Demonstrator in 2018, teaching predominantly across Medicine and Dentistry. She has since gained a role as a Lecturer in Anatomy at the University of Bristol, now teaching both human and comparative anatomy across a variety of programmes.



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**Contribution to conference:** Chair for conference coordinating



### Danya Stone

Danya moved to Sheffield in 2014 to first complete her undergraduate degree in Biochemistry and Genetics, followed by a master's degree in Human Anatomy and Education. Danya then went on to teach as an anatomy demonstrator at Trinity College Dublin for one year before securing her position as an anatomy lecturer at Brighton and Sussex Medical School in 2019. Danya has also begun a part-time PhD project looking into the emotional experiences of students in response to human cadaveric dissection.

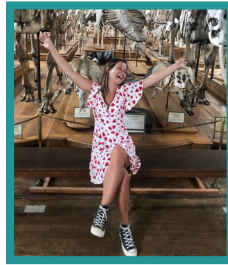
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**Contribution to conference:** Co-chair for conference coordinating and chair for securing funding/sponsorship with Georga Longhurst

### Lydia Boynton

Lydia Boynton is a Senior Teaching Fellow in Anatomy and Diagnostics at Imperial College London. She studied at the University of Sheffield for both her undergraduate in Biomedical Sciences and for her masters in Human Anatomy and Education. She currently teaches undergraduate medical students but has a history of teaching on a variety of allied healthcare profession programmes as well as pure science programmes. Her current role is teaching centred with a focus on curriculum review and evaluation.



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**Contribution to conference:** Chair for speaker selection



### Georga Longhurst

Georga studied Anatomy & Human Biology at the University of Liverpool and graduated in 2014. She subsequently became an anatomy demonstrator at St George's, University of London. She then received a Medical Trainee Scholarship from University College Dublin and undertook a Master's of Research in Reproductive Biology and also

demonstrated anatomy simultaneously. Upon graduating, she worked as a medical editor for Complete Anatomy, working closely with the medical & 3D team. She subsequently became a Teaching Fellow at Trinity College Dublin. She has now returned to London & is a lecturer of Anatomical Sciences at St George's University of London. She is currently undertaking research on the anatomy of the clitoris and the impact of Covid-19 on anatomy education, in addition to inclusive & accessible practices in anatomical education.

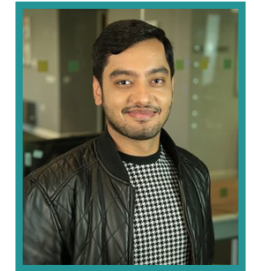
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**Contribution to conference:** Chair for sponsor selection and co-chair for funding with Danya Stone

### Munesh Khamuani

Munesh graduated with a degree in dentistry in 2017 from the University of Karachi, Pakistan. His love for anatomy education led him to the decision to pursue a career as an anatomist. He possesses two postgraduate qualifications, one in Human Anatomy from the University of Edinburgh and the other in Medical Education from the University of Nottingham. He is currently a lecturer at the University of Sunderland School of Medicine, where he teaches histology and anatomy to medical students. His research interest lies in exploring students' experiences of learning anatomy and the effectiveness of educational interventions used in anatomy education.



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**Contribution to conference:** Chair for marketing of the conference and co-chair for abstract submissions with Elena Patera



### Elena Patera

Elena graduated with a BSc(Hons) in Biological Sciences (Study Abroad) from Lancaster University and an MSc in Human Anatomy from the University of Edinburgh. Subsequently, she worked as an Anatomy Demonstrator at the University of Birmingham where she taught anatomy predominantly to medical and dental students. In 2021, she was awarded the Anatomy Medical Traineeship Scholarship from University College

Dublin where she undertook a masters by research in anatomy education & demonstrated in dissection-based laboratory practicals. She recently got appointed the role of a Lead Demonstrator in Anatomical Sciences at St. George's University of London. Her current research areas of interest include anatomy education with a focus on neuroanatomy & the creation of inclusive anatomy educational resources.

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**Contribution to conference:** Chair for abstract submissions & co-chair for marketing with Munesh Khamuani

### University of Bristol Local Committee:

We would like to thank a number of academics who work at the University of Bristol for their valuable support. The Bristol Local Committee consists of the following:

- Prof Michelle Spear
- Ms Kate Sparey
- Ms Carys Davies
- Dr Sara Sulaiman
- Dr Rocky Cheung
- Dr Craig Johnson
- Dr Katie Shine
- Dr Victoria Duggan
- Dr Dan Baumgardt
- Dr Natalia Trepp-Centellas
- Mr Ed Zealley
- Mr Tom Cornwall

## Event Sponsors

We greatly appreciate and thank our sponsors for their valuable financial support that allowed us to run the 1st ECAA Conference in a cost-effective manner thereby allowing individuals to attend it at a low cost.

**Adam, Rouilly**

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# Keynote Speakers

## Dr Ruth Norman

Teaching Fellow in Human Physiology/Anatomy,  
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### **Anatomy, Research and Academia: my experiences of how they fit together**

This presentation will discuss how Ruth came to be in her current position, her experiences of a PhD, as well as discussing PhDs completed by her anatomy colleagues. Ruth will also discuss the different ways of obtaining funding for a PhD, as well as the knowledge and skills to be gained by carrying out a PhD. Ruth will also give examples of both a small physiological research project and a pedagogical research project that she has been involved with.

## Dr Scott Paterson

Senior Lecturer in Anatomy & Programme Director  
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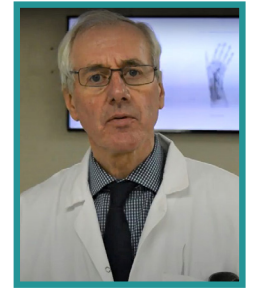
### **A lot of different flowers make a bouquet: Diversifying Anatomy**

As a discipline, anatomy provides a narrative of what a 'normal' or 'healthy' body looks like. This presentation will explore how we can broaden our understanding of 'normal' and 'healthy' to diversify anatomy at a subject level. Through our individual practice, how can we diversify anatomy? How can we confront and challenge the 'isms' (e.g. racism, sexism, ableism, ageism) and ensure that all lived experiences are valued, respected, and represented in our practice?

## Mr. Phil Adds

Editor of Clinical Anatomy (UK),  
Retired Reader and Head of Medical Anatomy at St  
George's

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### **Publication - perils, pitfalls, and perseverance**

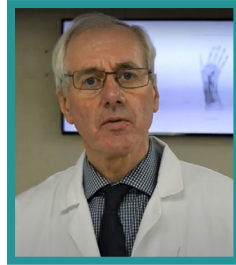
The publication of papers is an important yardstick by which the career of an academic may be judged, so it is important for those engaged in higher education, especially those in the early stages of their careers, to build up a publication record. This talk will highlight some of the available options for publication, and discuss some of the common pitfalls that authors may encounter when submitting their manuscripts.



## ECAA Panel



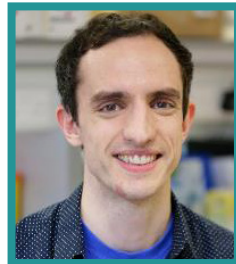
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## Abstracts

### Oral presentations

**OPI: Analysis of Medical Education During War Hostilities in Ukraine.** Olga Avilova and Victoria Erokhina; Human Anatomy Department, Kharkiv National Medical University, Ukraine, Department of Histology, Cytology and Embryology, Kharkiv National Medical University, Ukraine.

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*Introduction:* The unprecedented full-scale invasion of Russia to Ukraine on 24th February 2022 resulted in forced immediate change and adaptation to the hostile circumstances in universities all over Ukraine.

*Aim:* The study is dedicated to investigating medical students' concerns about distance learning of the anatomy and histology at Kharkiv National Medical University (KNMU) during the ongoing war in Ukraine.

*Methods:* This research is based on the results of a survey carried out in May 2022 among 340 foreign students studying at KNMU. The questionnaire was performed in Google forms and consisted of 28 questions about the student's adaptation to distance learning and their experience of using virtual platforms that facilitate their learning acquisition. Final data was analyzed descriptively and performed using Google Sheet statistical platform.

*Results:* Only 67 participants (19.7%) fully adapted to the transformation from regular classes to distance mode. There were 214 respondents (62.9%) who reported partial adaptation to the occurred situation. The negative impact of changing the educational paradigm was shown by 35 students (10.3%), whereas 24 (7.1%) claimed to 'feel terrible as never before'. The respondents (67.8%, n=231) also felt that they have a good opportunity to use educational platforms of virtual dissection and 3D anatomy platforms that might help them grasp the educational material better.

*Conclusion:* The study revealed that armed conflict certainly has a negative impact on the assimilation of knowledge and it takes time to adapt. However, modern approaches to distance learning help to maintain students' interest in the study of anatomy and histology.

*Keywords:* anatomy, histology, distance learning

**OP2: Arachnoid impressions: investigating their development in size and frequency as a process depending on age and biological sex.** Nicoletta Moca, School of Biomedical Science College of Medical and Dental Sciences, University of Birmingham, Birmingham, United Kingdom.

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*Introduction:* In published literature, changes in number and size of arachnoid impressions (AIs) on the human calvarium have been extensively described as an age-related phenomenon. However, only a few studies possess statistical evidence to support this argument.

*Aims:* This study aims to test the reliability of the theoretical statement, with the perspective of developing a method for assessing age at death in skeletal remains based on the morphology and distribution of AIs. Secondly, it aims to assess whether biological males and females within the same age range present different patterns in the development of AIs.

*Materials and Methods:* The sample consists of 92 adult individuals of osteologically-assessed age and biological sex from The University of Sheffield collection. Ethics approval was successfully sought ahead of the study. For each individual, casts of AIs were taken and measured by maximum length and maximum depth using a digital calliper. Annotations on the site and texture of AIs were taken too.

*Results:* Statistical analyses revealed that there is a positive correlation between the age and AI increase in width, depth and frequency. However, only a few tests obtained both significant and strong values; the development of AIs could be influenced by other factors, such as pathological conditions. Differences between sexes presented a weak correlation too.

*Conclusions:* Data confirm what is suggested in literature, that there is a positive correlation between age and size of arachnoid indentations; however, studies on bigger samples of known medical history will be needed to further explore the topic.

*Keywords:* arachnoid impressions, arachnoid granulations, age at death estimation, sexual dimorphism

**OP3: Beyond the tip of the iceberg: A meta-analysis on the anatomy of the clitoris.** Rebecca Beni<sup>1</sup>, Georga J. Longhurst<sup>2</sup>. <sup>1</sup>Institute of Medical and Biomedical Education, St George's University of London, London, United Kingdom, <sup>2</sup> Department of Anatomical Sciences, St George's University of London, London, United Kingdom

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*Introduction:* Historically, the clitoris has been considered a shameful structure and not clinically relevant. Empirical data regarding its anatomy are lacking.

*Aims:* The aims of this study are to collate data on the anatomy of the clitoris and underline the lack of representation within the literature.

*Materials and Methods:* A systematic review and meta-analysis were performed on Ovid Medline and Embase. Descriptions of clitoral structures were extracted from different types of studies, in addition to 32 anatomical textbooks. A meta-analysis was performed to calculate the average and range of clitoral structures. A statistical analysis was performed to compare measurements from different study modalities.

*Results:* Within the textbooks, the word 'penis' was mentioned 2.6 times more than the word 'clitoris'. Discrepancies in anatomical descriptions were noted. Nine textbooks reported the distance between the external urethral meatus and the clitoris (20.00–30.00 mm) and two reported the combined length of the glans and body (30.00 mm; 20.00–40.00 mm). Data were extracted from 31 studies. The average length and range of the glans (8.60 mm; 0.5–35 mm), body (28.14 mm; 13.00 mm–59.00 mm), crura (48.43 mm; 25.00 mm–90.00 mm), bulb of the vestibule (54.00 mm; 13.00 mm–70.00 mm), prepuce (23.84 mm; 5.00 mm–40.00 mm), and frenulum (9.5 mm; 5.00 mm–12.00 mm) were calculated. No statistical difference was found between the different imaging modalities.

*Conclusion:* The clitoris is an underrepresented structure in textbooks. The variations in clitoral measurements must be disseminated widely.

*Keywords:* Clitoris, Female, Female anatomy, Genitalia

**OP4: Finding the right work: work balance: being a doctor and a demonstrator.** Samuel Birks, Academic Unit of Medical Education, University of Sheffield, Sheffield, United Kingdom.

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*Inspiration:* As I'm sure is the case for almost all other attendees at this conference, anatomy has always been the most enjoyable topic of my career. But for most medical graduates, it's a means to an end, and spending more time in the anatomy lab is, unfortunately, not part of the endgame for junior doctors in the NHS. When I felt like something was missing from my more-than-full-time clinical career, I found the answer in restructuring my medical training to get back in the lab.

*Educational Background:* From an intercalated degree to an academic foundation programme and a PGCME, I progressed to a masters concentrating on anatomy education alongside working clinically.

*Discussion:* Having any interests outside of being a full-time emergency medicine trainee was challenging, never mind trying to avoid burnout, so I had to make a change in my clinical work pattern. Now I train as a registrar in A&E for 60% of my week and teach anatomy in the other 40%. My time in the lab is a welcome break from clinical practice and includes teaching dissection, supporting junior demonstrators and preparing teaching resources.

*Future Plans:* Both jobs are rewarding, but I now see teaching as the more permanent fixture in my career. There may come a time when I hang up my stethoscope, but now, I'm where I want to be and wish to encourage other medical graduates that just because they have a medical degree, they don't have to work as doctors all the time.

*Keywords:* emergency medicine, anatomy demonstrator, less-than-full-time (LTFT)

**OP5: Making the most of a coincidence by perseverance.** Rocky Cheung, Lincoln Medical School, University of Lincoln, Lincoln, United Kingdom.

[ccc91rocky@gmail.com](mailto:ccc91rocky@gmail.com)

*Inspiration:* My first episode with anatomy dated back to my days in medical school, at a time when I struggled with the subject massively. Unsatisfactory exam results led to my exclusion and subsequently led to an undergraduate anatomy degree, which I believed would give me another shot at medicine. Little did I know this decision would pave my way into a career that I have never stopped driving towards since then.

*Educational Background:* What I gained the most from my undergraduate degree was developing my own way to study human anatomy. I enjoyed discussing anatomical topics with colleagues and this was how the passion of teaching developed. I continued to do a masters in Human Anatomy followed by a PhD in anatomy education, looking at the effectiveness of 3D printed models. During my PhD, I was employed as a full-time staff teaching anatomy by dissection and prosection.

*Discussion:* I am currently teaching in Lincoln Medical School and will be commencing at the University of Bristol in June. I believe many early career anatomists, like myself, would have moments of self-doubt because of the imposter syndrome. I found it useful to discuss these thoughts with other colleagues and you would realise that you are not alone in that regard.

*Future Goals:* Having made the transition from a learner to a teacher of the subject, my career aspiration is to cultivate the next generations of anatomists through my personal experience and to enrich students' learning experience of anatomy.

*Keywords:* anatomy education, anatomy career, academia

**OP6: “Just a technician”; my career as a dissecting room technician.** Georgina Bond, Medical Teaching Unit, Academic Unit of Medical Education, University of Sheffield, United Kingdom

[g.j.bond@sheffield.ac.uk](mailto:g.j.bond@sheffield.ac.uk)

*Inspiration:* Science has always been interesting to me since a young age, as I spent a lot of time wandering around London museums. There are two people that come to mind when I think of my inspirations, the first being Carla Valentine, technical curator of Bart’s pathology museum and the other one being Ellen Adams deputy manager of the anatomy lab at the University of Southampton.

*Educational Background:* My undergraduate degree was in Biology from Sheffield Hallam University & my master’s degree was in Human Osteology and Funerary Archaeology from the University of Sheffield. It was during this course that I undertook my first dissection.

*Discussion:* As I’ve been preparing this presentation, it has come to my attention that the contributions of technicians to Anatomy education have been largely ignored in the literature which is a shame as our work helps keep the lab running and the education of the students to a high standard. A lot of people refer to technicians as “just technicians” but the title “technician” does not sum us up well enough, and it is during this presentation that I want to discuss the huge amount of roles that we undertake as “just technicians” and how important our contribution is to the anatomy lab.

*Future Career Goals:* It is very well known that my future career goals include hopefully running the medical teaching unit when we have our new facility built and my true dream is to also set up a Sheffield pathology museum within this facility.

*Keywords:* Technician, Anatomy, Dissection

**OP7: Draw Along with Complete Anatomy: A teaching tool for neurovasculature.** Kayleigh Scotcher and Emily Green, School of Medical Education, Newcastle University, Newcastle, United Kingdom.

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*Introduction:* Drawing and the use of 3D anatomy software are proven to be effective teaching methods. However, there is limited research exploring the use of these methods alongside one another. At Newcastle University, we have designed a teaching approach that uses Complete Anatomy combined with a drawing exercise to teach challenging anatomical topics.

*Rationale:* Many students find neurovasculature challenging. 2D diagrams make it difficult to visualise anatomical relationships, and cadaveric specimens frequently show variation. Students often struggle to make the jump from 2D diagrams to cadaveric specimens. Using 3D software alongside drawing can bridge this gap and aid students in conceptualising the course of neurovascular structures.

*Description:* In our approach, one lecturer demonstrates the anatomy using 3D anatomy software, emphasising anatomical relationships and the course of the structures. Simultaneously, a second lecturer draws the structures using a visualiser. Students are encouraged to follow along with the drawing.

*Discussion:* Students reported to have enjoyed this session, and felt it improved their knowledge and confidence. We repeated the session in various learning environments, and modified it based on student feedback, such as allowing more time for the activity to reduce the overall pace. Moving forward, we plan to incorporate more of these sessions into our teaching, potentially to help pull together anatomical topics.

*Conclusion:* Feedback indicated that students preferred an in-person session over an asynchronous resource. In future work, we plan to further evaluate different methods of delivery, as well as investigate the impact of our approach on anatomical knowledge and retention.

*Keywords:* Anatomy, Education, Drawing, Digital, 3D

**OP8: Turning Up: An exploration of compulsory and assessed attendance in medical schools.** Dominic O'Brien, Brighton and Sussex Medical School, Brighton, United Kingdom.

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*Introduction:* Attendance is a compulsory and assessed portion of the undergraduate medical curriculum at the recommendation of the General Medical Council. There are conflicting opinions on this topic, as there are benefits to ensuring attendance, but its enforcement imposes a rigidity around students' learning experiences.

*Rationale:* The uncertainty in literature and the upsetting anecdotal accounts on the effects of assessed attendance imposing stress and complications to students' education; along with the health and safety risks introduced into laboratory environments such as dissection labs with unfit attendees, warrants the practise to be evaluated for its effectiveness.

*Description:* Using literature and anecdotal evidence, several areas were explored to see how assessed attendance of medical students affected them. These areas are: professionalism, attainment, personal growth and mental health.

*Discussion:* Enforcing attendance has been seen to improve both professionalism skills and academic attainment in studies, imparting valuable knowledge of the hidden curriculum, facilitating personal growth and providing engaging learning opportunities. However, it has also been shown to develop cultures of presenteeism, perpetuate issues with disruptive students, restrict independent learning and have added stress for students to meet a standard which can be out of their control through illness or other events.

*Conclusion:* The inherent risk of worsening stress and illness, enabling presenteeism, and removing students' autonomy outweighs the need to impose assessed attendance. Not only due to these detrimental possibilities, but improvements in attendance can be seen with proper explanation of the benefits to students, preserving their autonomy as adult learners and avoiding creating another potential obstacle.

*Keywords:* Assessment, attendance, wellbeing

**OP9: Incorporating Public Engagement with Anatomy in the Anatomy Curriculum.** Craig I Johnson, School of Anatomy, University of Bristol, United Kingdom.

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*Introduction:* Successful public engagement with science ensures mutual benefit between investigator and the public.

*Rationale:* With many links between productive science and positive public engagement, we believe graduates of our Applied Anatomy BSc should come equipped with an appreciation of its importance.

*Description:* Two opportunities to appreciate the importance of public engagement with anatomy were embedded into the third-year syllabus. We deliver a seminar on public engagement with science, and offer a capstone project entitled "Development of a public engagement activity to enhance public understanding of anatomy".

*Discussion:* The seminar ultimately asks students to envisage how they would engage the public with their own research. This produced thoughtful discussion, with students offering suggestions on why and how they might engage with the public, while considering the wider, real-world impact of their projects.

The capstone project allows a student to explore the role of public engagement with anatomy and produce an object that could be used as a public engagement tool. Two capstone projects so far have come to completion, with an anatomy toy produced with an accompanying web resource, and an anatomically-correct crocheted gastrointestinal system aimed at museum display successfully produced.

*Conclusion:* We are analysing what makes good public engagement, and are reviewing the different forms anatomy engagement can take to measure the benefits that are produced.

*Keywords:* Public Engagement, Outreach, Anatomy

**OPI0: Studying a PhD in anatomical education: The good, the bad and the ugly.** Lauren Clunie<sup>1,2</sup>, Rebecca Quinn<sup>1,2</sup>. <sup>1</sup>Centre for Anatomical and Human Sciences, Hull York Medical School, University of Hull, United Kingdom, <sup>2</sup>Health Professions Education Unit, Hull York Medical School, University of York, United Kingdom.

[Lauren.Clunie@hyms.ac.uk](mailto:Lauren.Clunie@hyms.ac.uk)

*Introduction:* This talk provides a unique and personal perspective on education-specific PhD research. Rebecca shares the current challenges she faces as she embarks upon the write up phase of her research, while Lauren reflects on her experiences, but with the benefit of hindsight.

*Rationale:* In this talk, we reflect upon the opportunities and obstacles involved in conducting theoretically driven educational research and is aimed at those interested in pursuing research within anatomical education, whether part of doctoral study or scholarly activity.

*Description:* Following our previous degrees in anatomical sciences (Lauren: BSc Anatomy and Physiology, MSc Medical Visualisation and Human Anatomy; Rebecca: BSc Biomedical Sciences (Anatomy)), we found embarking upon PhD research within the field of anatomical education both challenging and rewarding.

*Discussion:* Challenges included: understanding the role of the researcher, accepting our respective shift in research paradigms, and the required engagement with literature from the fields of sociology and psychology. Rewards included: the ability to put our growing understanding of educational theory into practice, with evident benefits to our students, and strengthened career prospects that are aligned to our research interests.

*Conclusion:* We believe transparency about the PhD process is necessary to support novice educational researchers who are wrangling with educational theory, research paradigms, methodological approaches, and everything in between

*Keywords:* education research, PhD, career reflection

## Poster Presentations

**PI: If you can dream it, you can achieve it: A BAME individual's journey.** Munesh Khamuani, School of Medicine, Faculty of Health Sciences and Wellbeing, University of Sunderland, Sunderland, United Kingdom.

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*Inspiration:* Being a South Asian, it was no surprise that my parents wanted me to study dentistry, but I never enjoyed its clinical side. Fortunately, throughout my undergraduate degree, I loved learning anatomy as much as teaching it to my peers. After graduating, because of the love and satisfaction of helping others to understand anatomy better, I could only see myself becoming an anatomy educator.

*Educational Background:* Since my knowledge of anatomy was limited, I decided to pursue a masters in Human Anatomy. The University of Edinburgh allowed me that opportunity which then led me to take up my first teaching position in Birmingham. Everything was fine until the COVID-19 pandemic hit and my life turned upside down. Subsequently, I did a master's in Medical Education from Nottingham after which I got a full-time anatomy lectureship at the University of Sunderland.

*Discussion:* Although I faced a plethora of challenges after switching my career, I never gave up. I love being an educator, as I get to learn and help people every day. To become a better educator, I must constantly improve myself in various areas, such as my communication skills. Besides, for personal and professional development, it was important to become a reflective practitioner as well which helped me achieve the fellowship of Advance Higher Education.

*Future Plans:* I aspire to become a professor one day which requires a PhD but before embarking on a PhD journey, I want to gain more teaching and research experience in my current job.

*Keywords:* Higher Education, Anatomy Educator, Career Reflection.

**P2: The students' perspective on the unending dissection vs. prosection vs. other anatomy teaching methods debate. A quantitative and qualitative study.** Samuel Birks, Lewis Paton and Gabrielle Finn. Health Professions Education Unit, Hull-York Medical School, University of York United Kingdom

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*Introduction:* The longstanding debate over which is the superior teaching modality for anatomy education in undergraduate medicine is ever present in the literature. Students are tested and the differences are often equivocal but rarely are they asked for their opinion on why they chose their selected method or what they think of it.

*Aim(s):* To evaluate whether prospective medical students put any weight upon the method of anatomy education at a particular institution when choosing where to apply, and to gather their general opinions on the anatomy education they receive.

*Methods:* A mixed-methods cross-sectional study was performed and data from over 350 responses was included from 5 different UK medical schools. Results - the results demonstrated that students who were more concerned with the method of anatomy education on offer at a medical school when they were applying, opted for dissection-based courses. It also showed that teaching using prosection or dissection was felt to be more useful by those that received it, compared to those receiving other non-human-tissue-based teaching methods. The qualitative arm canvassing student opinion yielded 14 key findings across 5 themes: learning, personnel, career, emotion and environment.

*Conclusion:* Medical students of institutions that use dissection may be self-selected group of budding anatomists, and teaching using human-tissue methods was felt to be most useful. The qualitative findings can be used by anatomists to help tailor their practice in line with what the students find most helpful.

Ethical approval was obtained from the host institution.

*Keywords:* dissection, prosection, anatomy education.

**P3: A beginner's guide to using and producing illustrations for your anatomy resources.** Samuel Birks, Academic Unit of Medical Education, University of Sheffield, Sheffield, United Kingdom.

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*Introduction:* The study of anatomy is undeniably a very visual learning experience and imagery in the form of illustrations constitutes a large amount of teaching material for students of anatomy. Illustrators and content creators, however, have a right to decide who uses their work, and how it is used.

*Rationale:* Use of images in a manner other than what is permitted by the artist constitutes copyright infringement, so the seemingly harmless act of copying-and-pasting an image from your Google search into your anatomy handouts may not be as innocent as you think.

*Description:* Some of the more salient points of illustration copyright will be discussed and how that applies to anatomists using other people's images in their resources, including where to find information about usage rights, tips for finding illustrations that are safe for use, and appropriate attribution. Sometimes though, the illustration you need just isn't available so some insights will be shared on how to get started with medical illustration using an iPad.

*Discussion:* Discussion points include recommended hardware and software, the basics of using layers and different brushes, and exporting your images for use in handouts or presentations.

*Conclusion:* By the end of the presentation, I hope to share some helpful information on appropriate and copyright-safe use of images sourced from the internet when anatomists are preparing resources for their students. I'll also demonstrate how anatomists may start to create their own illustrations if they have not done so before.

*Keywords:* anatomy, illustration, copyright

**P4: My Anatomical Journey: from the UK to NZ and back again, plus everything i've learnt along the way!** Joanna Tomlinson, School of Anatomy, University of Bristol, Bristol, United Kingdom.

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*Inspiration:* As clichéd as it sounds, my inspiration to work in Anatomy is a pretty standard one. For long as I can remember, I have been interested in helping others, and understanding how the human body works.

*Educational Background:* My experiences in higher education started off at the University of Dundee studying a major in Psychology. In my 2nd year, I learnt that Anatomical Sciences was a degree subject, research field, and career path. Ever since then I have been hooked! I completed my BSc (Hons) in 2015, went on to work as a Prosector and tutor at St. George's University London, while also working towards my PGCert, FHEA, and teaching on postgraduate courses. Two years on, still keen to learn more, I packed my bags and moved to New Zealand to start my PhD, naïve to what lay ahead.

*Discussion:* After 8 publications, 4 conference presentations, 71,003 words, 3 research assistant positions, a global pandemic, distance supervision, and much more, I'm PhiniseD. Having passion, hard work, and diligence got me through, as well as the support and mentorship from the academic community around me.

*Future Plans:* I am excited to be joining the University of Bristol as a Lecturer, and to embrace the new challenges and adventures it brings. This includes teaching and mentoring students, exploring opportunities to support aspiring anatomists by creating international development opportunities, and improving student and public understanding of anatomy through refining dissemination, engagement and the learning experience.

*Keywords:* FHEA; PgCert; PhD; prosector; study abroad; technician

**P5: "Endurance Running and the evolution of Homo".** Evie Donald, School of Medicine, Faculty of Health Science and Wellbeing, University of Sunderland, Sunderland, England, United Kingdom.

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*Introduction:* Endurance Running (ER) is defined as the ability to sustain a bipedal, running gait over great distances and extended periods of time. It has been conjectured that the ability to perform ER was a key factor driving the evolution of Homo, and thus is responsible for several anatomical features common to the genus.

*Aims:* This study aimed to ascertain if the muscular features required to facilitate ER were present in Australopithecus afarensis, and thus if orthograde running was likely to be within the locomotor repertoire of the species.

*Materials and Methods:* Attachment-site surface area was plotted against muscle mass in extant species of Great Ape, generating regression equations that were able to predict muscle mass from osteological correlates. Predicted muscle masses were subsequently generated for Fossil AL 288-1, or 'Lucy'. A three-dimensional model of Lucy's reconstructed musculoskeletal system was then created and used to generate estimates for muscle fiber and moment arm lengths, and Ground Reaction Force Analysis (GRFA) performed.

*Results:* GRFA revealed that the plantarflexing muscles in Au. afarensis would have been incapable of producing the necessary torque to overcome the counterforces acting upon the ankle joint in midstance of running.

*Conclusions:* This muscular insufficiency would almost certainly have resulted in limb collapse when running bipedally, meaning that a true ER gait was likely impossible for this species to maintain. This study, therefore, supports conclusions drawn by Bramble and Lieberman, who assert that ER capabilities are entirely unique to Homo.

*Keywords:* Anatomy, Evolution, Primates



**P6: Anatomy teaching, online or in-person? A medical student's perspective.** Enya Costin, School of Medicine, Brighton and Sussex Medical School, Brighton, England, United Kingdom.

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*Introduction:* Many educational institutions delivered anatomy teaching virtually during the COVID-19 pandemic. Perspectives of educational providers have been well-represented in the literature, but medical students' opinions have had less coverage.

*Rationale:* As a student who started at Brighton and Sussex Medical School (BSMS) during the COVID-19 pandemic, and who is currently retaking their first year, I am in the unique position to provide a direct comparison of the two teaching techniques for the same content.

*Description:* In my first year (2020-2021), teaching was delivered online during second term. Online delivery of anatomy at BSMS took the form of pre-recorded lectures and live-streamed cadaveric dissection sessions. In my second year (2021-2022), all sessions were delivered in person.

*Discussion:* Although providing an online alternative to cadaveric dissection was essential to ensure students who were unable to attend in person did not miss out on a learning opportunity, technical difficulties were frequently a barrier to learning. Anatomy lectures were pre-recorded, without an allocated schedule, making self-organisation challenging. During virtual delivery, supplementary materials such as the "Complete Anatomy" app became increasingly useful, as there were no alternatives for 3D anatomy models. In-person teaching provided a more scheduled approach to learning and allowed the lecturers to tailor their teaching based on the understanding of their students.

*Conclusion:* Although different resources were used to lessen the disruption of online learning, lectures and dissection sessions delivered in-person still provide a benefit that cannot be replicated virtually.

*Key Words:* Anatomy, Medical Education, Online Learning

**P7: My career journey in anatomy – from Glasgow to Liverpool via the lymphatic system.** Amy Manson, Human Anatomy Resource Centre (HARC), University of Liverpool, Liverpool, United Kingdom.

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*Inspiration:* I was initially a Physiology undergrad but quickly realised that Anatomy was for me. I didn't consider a career path, but just wanted to do a course I liked which may lead to a job that I enjoyed too. My first teaching job in anatomy was intended to be a placeholder, but I am still in the anatomy education field nine years later, and happy to be here!

*Educational background:* I studied BSc (Hons) Anatomy at the University of Glasgow, then MSc Medical Visualisation and Human Anatomy at the Glasgow School of Art and University of Glasgow, jointly. My degrees were a great foundation in anatomy, but it wasn't until I started teaching that I felt like I fully understood the subject. My MSc also gave me a lot of confidence in the face of the unknown.

*Discussion:* I am currently a full-time anatomy demonstrator at the University of Liverpool, responsible for teaching anatomy, alongside colleagues, to many different courses both prosection and dissection labs, and lectures. I had the opportunity last year to be maternity cover for our prosector, and I am going to be module organiser in a planned PGCert course. I am also studying part-time for a PhD.

*Future career plans/goals:* My deadline for PhD submission is August 2023. Beyond that, I have considered aiming for a lectureship role, but it looks to be a lot of stress and paperwork and I am very happy where I am for now!

*Key words:* anatomy, teaching, career

### **P8: Is the fetal type posterior cerebral artery clinically significant?**

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*Introduction:* The fetal type posterior cerebral artery (FTP) is the most common embryologically derived Circle of Willis (CoW) variation, holding a prevalence of up to 46% in the general population. It is defined as an aplasia or hypoplasia of the pre-communicating segment of the posterior cerebral artery.

*Aims:* Currently, CoW variations are overlooked as they are thought to be clinically insignificant. However, when combined with the increasing trend of cerebrovascular disease, the FTP can have significant outcomes for individuals. This literature review aims to evaluate the effects of this variation on ischaemic strokes and intracranial arterial aneurysms to determine its clinical significance.

*Methods:* A comprehensive review of literature surrounding the FTP was undertaken. Google Scholar, Medline, and PubMed databases were searched. Papers whose abstracts mentioned the 'fetal posterior cerebral artery' were read and results were extracted.

*Results:* This variation significantly reduces collateral circulation in the brain which increases the incidence of ischaemic strokes and leads to worse clinical outcomes. Stroke aetiology can too be altered leading to changes in the typical treatment. FTP presence can also significantly increase the formation, rupture, and recurrence rate of intracranial arterial aneurysms.

*Conclusion:* This study demonstrates the clinical significance of the FTP and can be used to improve clinicians understanding of the importance of CoW variations. This can improve prioritisation of patients and treatment outcomes. Large-scale studies are required to confirm the conclusions made and to encourage revisions to cerebral pathology treatment pathways.

*Keywords:* Fetal posterior cerebral artery, Circle of Willis.

### **P9: Encouraging deep learning of vascular anatomy amongst medical students.**

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*Introduction:* Knowledge of vascular anatomy is essential in modern medicine as it is the basis of many minimally invasive techniques. However, in my experience, students find vascular anatomy confusing and overwhelming, making it difficult for some to understand vascular anatomy in the clinical context, for example, how deep vein thrombosis can cause pulmonary embolism. How can we teach vascular anatomy to encourage deep learning and to emphasise the importance of knowledge of vascular anatomy in clinical practice?

*Rationale:* At the University of Sheffield, vascular anatomy is taught as part of cadaveric dissection. This offers the opportunity to study the major vessels and trace them, allowing students to appreciate the continuity of the vascular system. However, dissecting and tracing vessels can be technically challenging for students who are novice dissectors.

*Description:* I incorporated a drawing activity into my teaching to demonstrate the continuity of the lower limb vasculature, which provided a basis for further exploration of vascular anatomy at the cadaver.

*Discussion:* The students were able to explore further without prompting, for example, tracing the obturator vessels from pelvis to thigh. Although the drawing activity was not novel, it helped students visualise and understand the continuity of the vascular system and its clinical relevance, and encouraged independent exploration of the vasculature. Feedback from students was positive.

*Conclusion:* The literature suggests utilising a range of approaches to teach vascular anatomy. I am encouraged to further explore how additional activities in the dissecting room, such as drawing, may enhance students' understanding of vascular anatomy.

*Keywords:* vascular, anatomy, deep learning

**PI0: Impact of peer-led anatomy revision sessions on anatomical knowledge in medical students.**

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*Introduction:* The undergraduate surgical society at Queen's University, Belfast organised a series of peer-led anatomy revision sessions for first- and second-year medical students. The focus of each session was on a different anatomical region with learning outcomes based on the university's medical curriculum. Whilst the benefit of similar sessions for attendees has been researched, our study shows that such events have a positive impact on anatomical knowledge in speakers also.

*Aim:* The study aimed to assess the impact of peer-led teaching sessions on anatomical knowledge in both attendees and speakers.

*Materials and Methods:* Five anatomy revision sessions were organised between October 2021 and April 2022. Medical students intercalating in MSc Clinical Anatomy each delivered a twenty-minute lecture. A survey was completed afterwards by attendees and teachers. For each statement, the most accurate response was selected.

*Results:* Overall, 109 surveys were returned by attendees and 14 by teachers. 100% of attendees agreed that the sessions improved their knowledge of the topics covered and that clinical application aided their understanding. 98% agreed that the sessions helped their preparation for exams; the same proportion agreed that slides created by other students are useful learning resources. All teachers agreed that the events improved their own anatomical knowledge and teaching abilities.

*Conclusions:* The results indicated increased subjective confidence in anatomical knowledge post-event in both attendees and teachers. This demonstrates the advantages of peer-led teaching of anatomy in undergraduate medical education and highlights the benefit that facilitating such teaching opportunities would bring.

*Keywords:* Anatomy; education; peer-led; clinical anatomy

**PI1: Absent genitofemoral nerve, functionally substituted by other nerves, a new variation: case report.**

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*Introduction:* Genitofemoral nerve (GFN) nerve blocks are used for neuralgic pain management and prior to surgery in the inguinal region. The GFN is one of the most variable nerves of the lumbar plexus, commonly reported to be absent. In cases where only the genital branch of the GFN is absent, the Ilioinguinal nerve (IN) has been proposed as a substitute for it. However, there is no literature describing the absence of both branches and their substitution by other nerves.

*Aim:* The aim of this project was to perform a cadaveric dissection of the lumbar plexus and identify any variations encountered.

*Materials and Methods:* The right side of abdomen and pelvis of one cadaver were dissected to delineate the anatomy of the lumbar plexus. Any structures anterior to the lumbar plexus were dissected out, including the psoas muscle, to demonstrate the course of the nerves.

*Results:* We report on an absent right side GFN, in conjunction with an additional branch from the lateral femoral cutaneous nerve (LFCN), that substitutes the function of the absent femoral branch of the GFN. The IN substitutes for the genital branch of the absent GFN.

*Conclusion:* We identified a variation in the lumbar plexus which resulted in absence of both branches of the GFN and their substitution by other nerves. Awareness of these variations is important for anaesthetists performing nerve blocks in that area. Our report adds to the knowledge of variations and contributes to improved procedural efficacy and patient outcomes.

*Keywords:* genitofemoral nerve, cadaveric dissection, nerve block, chronic pain

**PI2: Perceptions of anatomy prosection laboratory teaching by first and second year MPharm students at the University of Birmingham.** Matthew Shaw, Institute of Clinical Sciences, College of Medical and Dental Sciences, University of Birmingham, Birmingham, United Kingdom

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*Introduction:* The School of Pharmacy at the University of Birmingham (UoB) is a rare example of cadaveric anatomy being offered as a core component of a Master of Pharmacy (MPharm) degree and is supported by lectures and small group teaching (SGT) sessions. Demand for anatomy by pharmacists is increasing, however, the literature on engaging MPharm students in anatomy is sparse.

*Rationale:* The traditional role of a pharmacist behind the counter of your local pharmacy is changing into that of a modern clinical pharmacist able to perform physical examinations, diagnose medical conditions, and prescribe appropriate medicines; skills that require a strong foundation in anatomy. Through personal experience however, pharmacy students struggle to find motivation to learn anatomy.

*Description:* The aim was to assess student feedback during prosection laboratory practicals. Two questions were asked initially to year 1 pharmacy students: (1) Did you enjoy this session? (2) Did you prepare for this session? Brookfield's 'Critical Incident Questionnaire' was used for year 2 students.

*Discussion:* All students mentioned the prosection laboratory as improving student engagement. A secondary response referred to SGTs as being helpful and engaging. In response, by 2023/2024, anatomy practical time for these students will have increased from 14 to 20 hours.

*Conclusion:* The guidance provided during prosection laboratory and SGT sessions motivates students to learn anatomy. In future, it is expected to undertake research on the impact of prosection laboratory practicals on student grades and motivation to study anatomy.

*Keywords:* Pharmacy, prosection, small group teaching, practical anatomy

**PI3: From Clinician to Academia.** Naila Ali, University of Birmingham Medical School.

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*Inspiration:* My career shift from clinical to academia was designed by change in residence from Pakistan to UK. Reformed integrated curriculum has created opportunity for clinicians to play their role in academia, bringing in clinical/applied perspective of basic sciences. Considering the flexibility of academia, I needed after a career break, I joined Birmingham university as a Demonstrator in Anatomy.

*Educational Background:* My professional degree in Ophthalmology imparted knowledge of head/neck and brain region in great details in addition to clinical ophthalmology. This came in handy in teaching anatomy in Neurology / Nervous system module. However, to refresh the whole-body anatomy, I got PGDip in Anatomical sciences that also gave me a comprehensive knowledge of Histology and Embryology. I also took PG Certificate and Diploma in Medical education to register with Higher Education Fellowship.

*Discussion:* Though at present at the lowest academic grade, I am happy as this post is giving me experience of student interaction in small group facilitation as well as supervised access to curriculum. I use multiple teaching aids and get experience with Anatomage, Prosection and plastic models plus Complete Anatomy application. I also get to develop myself over summers through attending workshops and conferences as well as a chance to dissect where I get satisfaction for my surgical hands. Only challenge I see is work-style change as an academic job demands being more proactive in finding work to fill in my daily schedule

*Future Plans:* I am planning to carry out my PhD research in neuronal regeneration.

*Keywords:* clinicians, undergraduate medical education, academia, higher education teaching

#### **PI4:A Dissection Map of Skin Perforators from the Radial Superficial Palmar Branch for Use in Reconstructive Hand Flaps.**

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*Introduction:* Use of hand flaps for reconstruction of the palmar hand following trauma is a growing field within plastic surgery. From the mid-90's, pedicled flaps rotating tissue from the affected hand to cover the trauma site gained popularity due to reduced scar contracture and better cosmesis. Existing literature mapping trends in anatomical structures related to the flap, such as origin sites of implicated vessels, is limited.

*Aims:* This project sought to bolster the existing dataset mapping the origin of the superficial palmar branch of the radial artery. It also aimed to identify trends in origin sites for the direct skin perforators of the named vessels for potential improvement in surgery efficacy.

*Materials and Methods:* The palmar aspects of 11 embalmed and 1 fresh frozen hand were dissected to reveal the above vessels and perforators. Their origin site was mapped in relation to an X-Y axis created using the radial side of the index finger, scaphoid tubercle and radial styloid process.

*Results:* This research confirms and builds on previous findings relating to the origin of the superficial palmar branch of the radial artery, with novel contributions including a map of the spatial distribution of direct skin perforators and a statistically significant trend in the diameter of perforators being smaller centrally.

*Conclusion:* Trends in perforator origin and diameter were identified. The benefit of this mapping in guiding surgery should next be explored. Further recommendations include imaging methods for mapping and using larger datasets on fresh frozen specimens from a greater donor demographic.

*Keywords:* Plastics, Surgery, Superficial-Palmar-Arch, Dissection, Flaps, Grafts

*Acknowledgements:* King's College London Dissecting Rooms, Dr David Parry (anatomy lecturer, supervisor), Mr Mobin Syed (plastic surgeon, supervisor).

#### **PI5 :The effect of narrative-based teaching and learning using digital media in anatomy Ishani Atukoralalage.** Ishani Atukoralalage, School of Medicine, University College Dublin, Dublin, Ireland.

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*Introduction:* Education in health sciences has changed due to technological advancements providing novel teaching approaches such as online lectures/modules and training simulations. Considering the COVID-19 pandemic, this pedagogical shift is essential as many institutions have adopted online education. However, for the subject of anatomy, there is still a significant need to find novel teaching methods that utilize multimedia compared to other health science subjects.

*Rationale:* Storytelling is a tried-and-true teaching tool that has been around since the dawn of time. Though storytelling is more commonly associated with young children, it is known to be a "natural" mnemonic device.

*Description:* Combining storytelling with digital media unlocks a novel form of teaching that could be utilized to advance the online education realm. It is an effective tool for retaining and recalling complex concepts. Therefore, audio-visual mnemonics in anatomy could be used to improve students' attention and understanding.

*Discussion:* Many students find it challenging to understand the functional anatomy of visceral organs. For specific topics in these subjects, such as neural pathways of the spinal cord or nervous regulation of the heart, the addition of digital audio-visual mnemonics as supplementary material may increase students' understanding.

*Conclusions:* As a novice anatomy demonstrator, I have not had the opportunity to utilize this method in teaching. However, as a former student, I have found this method very effective and unexploited by anatomy educators. In the future, I plan to conduct a research study to assess the efficacy of narrative-based teaching in anatomy and gain insight into its usability for higher education.

*Keywords:* Narrative-based teaching, Audio-visual mnemonic, Multimedia

**PI 6: Creating a Crocheted Anatomical Model to Encourage Public Engagement with Anatomy.** Emily Connor and Craig Johnson, School of Anatomy, University of Bristol, Bristol, United Kingdom.

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*Introduction:* Despite the fact that the general public show signs of interest in learning about their anatomy, they are generally unable to accurately position major organs in the human body. Cadaveric learning methods traditionally used by anatomy students have been deemed inappropriate for use in public settings and the alternative, plastic, three-dimensional models, tend to have an unnecessary level of detail for lay audiences.

*Rationale:* Successful public engagement with science ensures mutual benefit between investigator and the public. With links between health literacy, public engagement and health outcomes, engaging the public with anatomical sciences is especially important.

*Description:* This project follows the creation of a full scale, crocheted model of the gastrointestinal system. The model was intended for a museum audience (the lay public) to interact with. Individual organs can be connected with press studs and interlocking hook and loop tape to encourage tactile use.

*Discussion:* Existing literature has been used to justify the design of the model. Exploration of how anatomical teaching models and interactive science museum exhibits encourage interest and improve knowledge in their respective audiences were used to guide decision making in the model.

*Conclusion:* The model design is engaging and expected to spark interest and improve knowledge of anatomy for a lay audience in a museum setting. In future, an experimental research project to quantify the interest and knowledge of the audience could be used to fully understand the efficacy of the model in encouraging public engagement in anatomy.

*Keywords:* Anatomical model, Public Engagement, Public Communication

**PI 7: Falling into a passion: when knockbacks propel you forward.** Harry Miles, School of Medicine, University of Sunderland, Sunderland, United Kingdom.

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*Inspiration:* My personal inspirations in life are my great auntie and dad. My dad passed away when I was sixteen, and one of the most important lessons I learnt from him was that things in life may get progressively worse, but you have to keep laughing and smiling to take positives from any situation. My academic inspiration was my year twelve biology teacher Dr Alice England. She always encouraged me to be better despite being badly behaved. She kept me disciplined and would constantly tell me that I should be a teacher and go to university as I had talent.

*Educational Background:* Dr Alice England's opinion was a substantial reason as to why I committed to a degree in Biomedical Science. During the course I took a module in human anatomy as I always had an interest in understanding the body. This was probably the only module I enjoyed throughout my degree! I decided that I would stay for another year by doing a masters in Human Anatomy with Education. Here I earned my FHEA and teaching experience.

*Discussion:* I am currently a lecturer in anatomy at the University of Sunderland. I have experience as a personal tutor, supervisor and unit lead. This is my first job in academia and the transition was tough, but I luckily have a fantastic team around me who helped me settle in seamlessly.

*Future Goals:* In the future I would like to do a PhD in order to progress in academia, start an educational YouTube channel and go into presenting.

*Keywords:* Inspiration, Anatomy, Encouragement

**PI 8: Using Problem-Based Learning Activities as an Approach to Teach Anatomical Variation.** Geetika Ail, Barts and The London School of Medicine and Dentistry, Queen Mary, University of London, London, United Kingdom.

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*Introduction:* Existing literature has made evident that there is a strong link between a clinician's understanding of anatomical variation and their experience in practice. Many clinicians experience cases of variation on a monthly basis. Knowledge of relevant anatomical variation helps to reduce rates of medical malpractice and unnecessary medical interventions. Teaching anatomical variation needs to be commonplace in the study of anatomy; a concept which is lacking in many medical curriculums. An effective method of doing so is by incorporating problem-based learning (PBL) activities for anatomical variants.

*Rationale:* Problem-based learning using clinical cases is a proven teaching strategy effective in teaching the clinical relevance of anatomy. PBL style activities explicitly guide students to an intended learning outcome which motivates their engagement.

*Description:* In a year 2 student-selected component, 12 students explored a PBL-style case study on the variations of facial nerve presentation. Using guided questions, self-directed study, group discussions, and prosections, students explored the surgical implications of the variation.

*Discussion:* The activity provided students an opportunity to apply their "normative" facial anatomy knowledge while also learning the influence of an anatomical variant, creating a salient connection between their existing knowledge and a new concept.

*Conclusion:* By using PBL case studies, students form a deeper understanding of anatomical structures, the variables and processes which may influence them, and the clinical implications of any variants. An interesting future direction of investigation is to evaluate students' knowledge of "normal" anatomical structures after engaging.

*Keywords:* problem-based learning, case studies, anatomical variation, pedagogical approaches, teaching strategies, learning outcomes

**PI 9 Evaluating the self-exploring experience of Using 3D VR Anatomy Application.** Samuel Snowdon, Sharmila Rajendran, Department of Physiology, Anatomy & Genetics, University of Oxford, United Kingdom.

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*Introduction:* In medical education, X-reality is becoming more ubiquitous. This is our first endeavour to use virtual reality in anatomy education.

*Rationale:* Our preliminary assessment evaluates the students' self-exploring experience of anatomical regions using 3D virtual reality (VR) software. A total of 27 medical students explored their own choice of anatomical regions for about 15 mins each and gathered their feedback immediately through an online questionnaire

*Description:* We used an Oculus quest 2 device installed with a trial version of a 3D organon VR application. Clear instructions and a demonstration were provided to show how to handle the device and access the application.

*Discussion:* In the online - questionnaire, we assessed 10 criteria to get most of their immersive adventure experience of using VR. 60 % of the students strongly agreed that using digital reality was engaging, innovative, pleasant, and exciting. According to 40-50% of students, it was motivating, informative, and understandable. About 30% expressed they are neutral in considering it practically. In the future, we intend to expand the number of participants to assess the efficacy of multi-user support along with cadaveric sessions.

*Conclusion:* Our preliminary findings indicate that students are eager to explore more about virtual reality. We also believe that immersive 3D images can help anatomists overcome the difficulties of explaining the complexities of anatomical structures. Integrating digital reality with traditional practical labs is a promising way to create a seamless learning platform.

*Keywords:* X-reality, Anatomy, Education

## Notes

## Notes



## Notes

## Notes



# **Early Career Anatomy Academics Conference**

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14th-15th July 2022  
University of Bristol, UK

Hope you enjoyed Bristol,  
have a safe journey home!

