

*Transire suum pectus mundoque
potiri*

The Newsletter

Editor:
David MacTaggart

TITIVILLUS

For medieval monks, moments of inattentiveness or tiredness while scribing could lead errors that would highly compromise a manuscript. In jest, such errors were put down to the “patron demon” of calligraphy, *Titivillus*. Well, Titivillus is still at mischief, and sharp-eyed readers will have spotted his handiwork in the previous newsletter. For some reason, Titivillus decided to rotate the photo of an aperiodic jigsaw puzzle, which could only be spotted by the feet in the top-left corner. Perhaps Titivillus has taken an interest in the rotational properties of aperiodic tilings, he is, after, all a polymath. For example, for many years, every edition of the *Oxford English Dictionary* listed an incorrect page reference for the earliest mention of Titivillus. Who else but Titivillus!

NEW STAFF

In this quarter we have been joined by new staff. They are very welcome and we wish them the very best for their time with us in Glasgow.

Abdollah Jalilian joins us as a Lecturer in Statistics, with a research specialism in inference for spatial and spatio-temporal statistics, particularly in epidemiology, ecology and other environmental sciences. Abdollah was previously at the University of Lancaster (and before that at Razi University and Kermanshah University of Medical Sciences).

Anton Izosimov joins us as a Reader in Mathematics, with research interests ranging across applied and pure mathematics, in integrable systems, geometric fluid dynamics, algebra and combinatorics amongst others. Anton joins us from the University of Arizona (and before that from Toronto and Moscow State Universities).

Archer Gong Zhang joins us as a Lecturer in Statistics and Data Analytics, with a research specialism in the theory and methodology of data integration and distribution shift, where data has been collected from multiple sources and the underlying populations are interconnected in some way. Archer was previously at the University of Toronto, and before that he did his PhD in the University of British Columbia.

PHD SUCCESS

Many congratulations to *Catherine Holland*, *Parna Mandal*, *Ijupatil Joseph*, *Martin Vrabec* and *Erin Bryce*, who passed their vivas in this quarter.

NIMMO PRIZES

Each year, the School awards prizes for teaching excellence in memory of the late Jonathan (Jon) Nimmo. Jon was highly respected as both a researcher and a teacher, and was a long-standing servant of our School. On a personal note, this Editor can testify to these qualities, having had the privilege to have been taught by Jon and later to work with him as a colleague.

The prizes are split into categories, and this year’s winners are:

Pietro Columbo (Tutor, Demonstrator & GTA): Pietro was nominated for his contribution to lecturing Science Fundamentals, tutoring Data Analysis Skills and for project supervision.

Craig Alexander (Early Career): Craig was nominated for his teaching and student support within the statistics group. In particular, his work on Data Analysis Skills and towards developing courses to be brought to the statistics honours review.

Andrew Elliott and *Jenn Gaskill* (Early Career): Andrew and Jenn were nominated for their ongoing work on the Data Programming Open and Distance Learning (ODL) course, with particular emphasis towards robust assessment in the age of AI.

Karen Boyd (Professional Services Staff): Karen was nominated for her work towards exam operations with particular emphasis on developing the Assessment Management Hub, streamlining processes and mentoring colleagues.

Misha Feigin, *Steve Roper* and *Gordon Ritchie* (Open award): The MyGrades team were nominated for their work to provide the developers of MyGrades with an inordinate amount of feedback on a system that had many bugs and inadequacies. This has culminated in a system that is now almost fit for purpose, and the School will have little trouble implementing MyGrades full scale in the Autumn. Moreover, they have also kept the school informed of the developments and requirements of the system throughout at every level, including LTC meetings, dedicated MyGrades all-staff meetings and Teachmeets.

Many congratulations to all the winners!

Editor’s note: Thank you to *Mike Whitaker* for providing the above summaries.

GENERATIVE AI FOR DATA SCIENCE WORKSHOP

BY VINNY DAVIES

Held on Monday 23rd June, around 40 participants from academia and industry attended the Generative AI for Data Science Workshop, co-led by *Vinny Davies*, *Craig Alexander*, and *Jenn Gaskell* from our School, along with Jake Lever from Computer Science. The event explored how tools such as ChatGPT can be used in practical ways to support data science and statistical workflows. Attendees engaged in a series of hands-on activities led by the organizers, designed to build confidence and skills in applying these tools effectively. The workshop also featured several talks from invited speakers, who shared examples of how generative AI is being used in modern research and industry settings to enhance productivity and innovation.

THIRSTY WORK

BY BRENDAN OWENS

Members of our International Congress of Mathematics (ICM) committee were exploring possible venues for the 2030 ICM General Assembly meeting in Dublin last month.



Editor’s note: Four faces, but only two pints...

In addition, *Michael Wemyss* has been invited to speak at the 2026 ICM in Philadelphia. Online readers can find more details *here*.

FAVOURITE SHAPES

Certain simple (and not so simple) shapes are fundamental to many areas of mathematics and beyond. A recent article in *Scientific American*, entitled “Mathematicians’ Favorite Shapes Hold the Key to Big Mathematical Mysteries,” explores some of these shapes. Our very own *Tara Brendle* describes the structure of *Borromean rings*. The article is well worth a read and online readers can find a link to it *here*.

A few years ago, I (your humble Editor) attended a very nice conference at the Ettore Majorana Foundation and Centre for Scientific Culture (Erice, Sicily) about topological methods in mathematical physics. In one of the presentations, Rob Scharein, the author of KnotPlot, asked, “What’s the most famous name associated with knots in Italy?” My first reaction, as well as that of Mitch Berger (one of the leading theorists on magnetic topology), was “Borromean,” the name of the family whose coat of arms contains the link that is now referred to as the Borromean rings (the most famous of this clan is probably St Charles Borromean). However, with an incredulous look, Rob’s response to this suggestion was, “No! Leonardo!” While the genius of Leonardo in many areas is well-recognized, his connection to knots is probably less known. Prints of knot designs exist, such as the “sixth knot” at the British Museum (see *here*). The other main work of Leonardo related to knots is in the *Sala delle Asse*, in the Sforza Castle in Milan. Leonardo’s knots have a detail and precision (qualities found in all his work) reminiscent of Celtic illumination from many centuries before.

ENVECOSTATS 2025

BY DANIELA CASTRO-CAMILA

The Environmental and Ecological Statistics Conference (EnvEcoStats 2025) took place in Lancaster from 1-3 July, co-organised by Lancaster and Glasgow as a satellite event of the ISI World Statistics Congress. The event brought together researchers and practitioners to share cutting-edge methods and challenges at the interface of statistics, ecology, and the environment. We are delighted to share that *Iain Bell* won the Best Poster Presentation award. More information can be found at envecostats.wordpress.com.



A pleased Iain receiving his well-deserved certificate.

PRIMA DELLA CLASSE

Many congratulations to *Camilla Andreozzi* who won the prestigious Ede & Ravenscroft prize.



The Head of School, Professor Nigel Mottram, presenting Camilla with her certificate.

Camilla has also had her exemplary work published in Volume 9 of [X]position, the University's multidisciplinary undergraduate research journal. This is the first themed volume and students from across all four colleges have critically engaged with the theme, An Evolving Digital World, in different ways.

The title of Camilla's article is "Data: a powerful weapon that can backfire," and can be found [here](#).

LEE JENKINS MEMORIAL POSTER PRIZE

BY SURAJIT RAY

Alastair Gemmell, has been awarded the Lee Jenkins Memorial Poster Prize by the British Nuclear Medicine Society at their Annual Spring Meeting 2025. The winning poster investigated the Tumour Sink Effect in 99mTc EDDA/HYNIC-TOC quantitative SPECT-CT, in collaboration with NHS teams. This achievement showcases successful interdisciplinary research across CoSe, MVLS and the NHS. The British Nuclear Medicine Society (BNMS) is the UK's only independent forum dedicated to all aspects of nuclear medicine. Established in 1966, the BNMS promotes clinical practice, education, and research in the field, with a diverse membership including clinicians, scientists, and technologists.

Online readers can find out more about the award [here](#) and the list of prizewinners [here](#).

IASC 2025 DATA ANALYSIS COMPETITION

BY DANIELA CASTRO-CAMILO

PhD student Mengran Li has been awarded third place in the IASC

2025 Data Analysis Competition for her entry "On the Importance of Tail Assumptions in Climate Extreme Event Attribution." Organized by the International Association for Statistical Computing (IASC), this year's competition focused on the analysis of climate change and related events, and their impacts.

More information can be found [here](#).

WORKSHOP ON MODELLING, DATA, AND UNCERTAINTY QUANTIFICATION FOR ENGINEERING DIGITAL TWINS

BY VINNY DAVIES

This focused workshop, held on Wednesday 4th June, brought together around 30 attendees to explore the role of modelling, data, and uncertainty quantification in engineering digital twins. Organised by Vinny Davies and Lawrence Bull from our School, together with Eky Fabrianto from Engineering, the event featured a range of talks highlighting current research and practical challenges in the field. Speakers included Dirk Husmeier and David Dalton from our School, as well as representatives from industry and other University departments. The day encouraged cross-disciplinary discussion and showcased the importance of statistical methods in supporting the development and use of digital twins in engineering contexts.

INTERNATIONAL WORKSHOP ON BRAIN MODELLING

In June, Ariel Ramirez Torres hosted an international workshop entitled "Multiscale brain modelling and beyond: a focus on biological tissues."

The aim of the workshop was to serve as a dynamic collaborative forum, uniting researchers from diverse disciplines to explore the intricacies of brain dynamics and the broader complexities in the mathematical modelling and numerical analysis of biological tissues. Online readers can find out more [here](#).

INLA WORKSHOP CELEBRATES 60 YEARS OF HÅVARD RUE AND LOOKS AHEAD

BY DANIELA CASTRO-CAMILO

The University of Glasgow hosted the INLA: Past, Present, and Future workshop from 21-23 May 2025,

celebrating both recent advances in the Integrated Nested Laplace Approximation framework and the 60th birthday of Prof. Håvard Rue, founder of INLA. The event brought together leading developers and users to reflect on INLA's development and discuss future directions. Highlights included a retrospective on the origins of INLA, updates on the current INLA 2.0, new software tools, and an overview of inlabru. The workshop also showcased user-led applications across diverse fields and sparked lively discussion on emerging challenges and opportunities. Congratulations to our own Jafet Belmont, who was awarded Best Contributed Talk by a Student or ECR. For more details, visit inla-workshop.github.io.



Daniela Castro-Camila with prizewinner Jafet Belmont.

BUILDING MATTERS

BY LYNSEY-ANNE MOFFATT

The refurbishment of the School has been shortlisted for the *Refurbishment of the Year* category at the Learning Places Scotland Awards 2025. Online readers can find more details [here](#).

BIOFILTER PILOT STARRING OUR MATHS & STATS BUILDING

BY JULES LAMERS

on behalf of the Sustainability Committee

Soon, the north-west (out)side of our school will host an exciting pilot project of our colleagues from the James Watt School of Engineering.

What? The pilot project will test and optimise prototypes for a small-scale, low-cost, low-tech and low-energy biofilter for rainwater using sand. The goal is to develop biofilters that can provide clean drinking water directly to individual households, without the need of a water grid, for use in rural areas in Scotland and beyond. Ideally the blueprint will be made accessible freely and openly.

How? The contractors who are constructing the Keystone Building will

attach pipes to the two drains on the north-west side of our building, which will be connected to four water tanks, in turn connected to biofilters placed on plateaus inside our current bike sheds, where they are safe but visible. There will be information signs to explain the project and raise awareness for sustainable water usage habits. The required energy will be generated on site, e.g. using little wind propellers. The picture shows an artist impression that gives an idea of the scale and the approximate intended setup.



An artist's impression of the biofilter.

Why us? Our building is very suitable because of its external drains, its proximity to the group doing the research, and its visibility.

Consequences for us? Minimal: It only requires some work on or close to ground level (nowhere near the roof!), which will likely happen over a weekend to minimize any disruption. The prototypes won't affect accessibility for the building, nor block any windows. While our current bike sheds will be used and altered, we will get replacement bike sheds, probably on other side of building. Afterwards, our current bikesheds can be restored.

Benefits for us? Besides facilitating interesting research, there may also be opportunities for collaboration, combining mathematical modelling with tests in the prototype. The mathematical models will build on work found [here](#). After the pilot, we'd hopefully have both our current and new bike sheds.

When? Soon - hopefully this month. The precise date will be communicated as soon as it is known, and signs will be put on the bike shed in advance to ensure everyone will be able to remove their bikes in time. The prototypes will be there for about a year.

Find out more? I (JL) am the contact person in our School. For more about the project, check out <https://www.offgridwater.org.uk/> or write to Professor Cindy Smith, RAEng-Scottish Water Research Chair, James Watt School of Engineering (Cindy.Smith@glasgow.ac.uk).

VII SOFT TISSUE WORKSHOP

In June, a group from Mathematics and Statistics travelled to the 7th Soft Tissue workshop held at Politecnico di Milano. The workshop was one in a series of workshops and this year it was hosted by our partners in Politecnico di Milano with whom we co-organized the event.

SoftMech, based within the School of Mathematics and Statistics, is a large and established Centre of Mathematics for Healthcare, with primary support from the EPSRC since 2016.

Nick Hill, Director of SoftMech, together with Dirk Husmeier, Radostin Simitev, Peter Stewart, Raimondo Penta, Scott Richardson and Andrew Brown, along with PhD students Sarah Donaldson, Mariam Al Mudarra, Zita Fulop, Silvia Renon and Yuzhang Ge presented their work over the three-day workshop.

The event was a poignant reminder of the legacy of the late Professor Xiaoyu Luo, who we sadly lost earlier this year, with the work of her students being represented at the workshop. Anna Pandolfi from Politecnico di Milano presented the work of our beloved Post Doc, Jakub Koery who passed away in 2024.

Francesco Migliavacca from Politecnico di Milano opened the workshop and there were five keynote speakers and a Public Lecture by the renowned Alfio Quarteroni. The workshop dinner was held at Ristorante La Cucuma on the second day of the workshop. Zita Fulop came joint 2nd in the Early Career Researcher Oral Competition.



SoftMech members with Italian collaborators. *Si mangia bene in Italia!*

Editor's note: Thank you to Gillian Brown for providing the above summary.

CSA AFRICA PYTHON

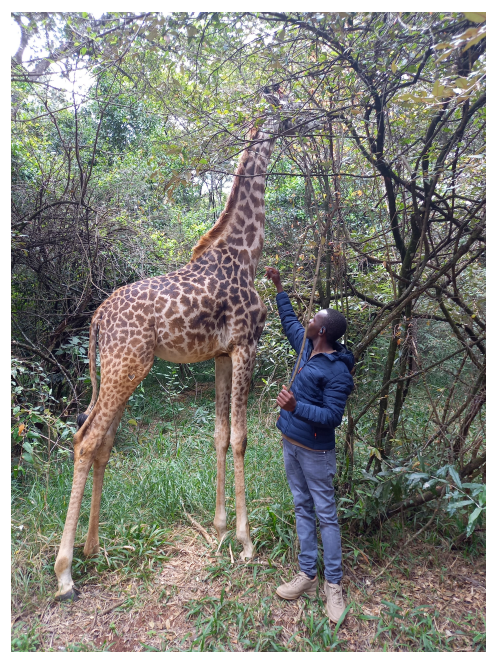
BY ARIANE MELI CHRISKO & ELKANAH NYABUTO

Elkanah and Ariane from our School had the opportunity to contribute to the CSA Africa Workshop this year as volunteer tutors. A quick note about CSA (Computer Science Academy, www.csafrica.org): it is an initiative led by the University of Glasgow's School of Computing Sci-

ence, as part of the University's international outreach programme. Its mission is to equip young Africans with essential programming skills and foster collaboration in science and technology across borders. This year's edition, held from July 14th to 31st at the University of Nairobi, brought together more than 150 participants from eight African countries. Training was delivered across three tracks: Python Fundamentals, Python for Data Science, and Python for Software Engineering.

The 2025 teaching team included Dr. Sofiat Olaosebikan, founder of CSA Africa and lecturer at the University of Glasgow; Fionnuala Johnson, Python Fundamentals Instructor, also a teaching staff member at the University; Dr. Kenechi Omeke, Python for Data Science Instructor and Glasgow alumnus; and Dr. Stephen McQuistin from the University of St Andrews, who led the Software Engineering track. They were joined by Grace Wangui, a MSc student from the School of Computing Science, Orla Johnson, an undergraduate student from Imperial College London and a group of committed local volunteers from the University of Nairobi. In addition to tutoring in the Python for the Data Science track, Elkanah and Ariane also supported workshop organization of the event.

Reflecting on their experience, Ariane and Elkanah shared that the workshop was more than just code; it became a space for inspiring stories, the exchange of ideas, and the rewarding opportunity to guide newcomers to Python and witness their growth. It was a joy to work with such dynamic students and an enthusiastic CSA team, all while enjoying Nairobi's blend of city life and nature.



How tall are you?

Looking ahead, CSA Africa is already preparing for the 2026 edition, which is expected to return to Nairobi, Kenya or take place in Lagos, Nigeria, or perhaps even both. Those interested in joining this growing movement as volunteers, supporters, or collaborators

are warmly encouraged to reach out to the CSA organisers or connect with Ariane and Elkanah to learn more about their experience.



Our CSA Africa ambassadors.

Learn more about the CSA Africa 2025 event [here](#).

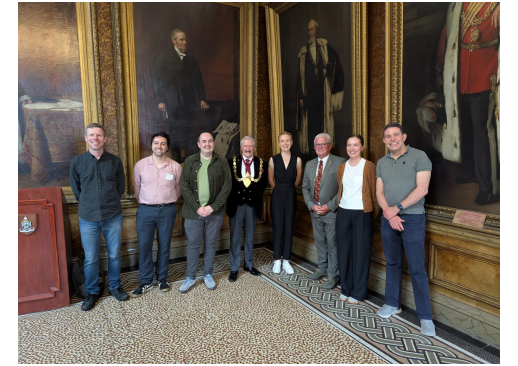
UK CONFERENCE ON TEACHING STATISTICS 2025

BY CRAIG ALEXANDER

On the 24th and 25th June, the UK Conference on Teaching Statistics (UKCOTS), supported by the Royal Statistical Society (RSS) was held at the University of Glasgow. Organised by Craig Alexander, Mitchum Bock, Eilidh Jack and members of the RSS Teaching Statistics Section, the conference brought together educators researching statistics education across the UK and beyond.

The conference featured a mixture of engaging talks, practical workshops, and interactive sessions, offering attendees the opportunity to engage with innovative pedagogical practices, and the challenges and opportunities currently facing Statistics education. A highlight of the conference was the plenary session on Generative AI in Statistics education, with Jenn Gaskell sharing experiences on Generative AI as one of the plenary speakers. The contributions of University of Glasgow staff to talks and workshops was fantastic to see, with many local attendees sharing their work and ideas. Special thanks go to Vinny Davies, David Hodge, and Eilidh McMurdo for their invaluable support in chairing sessions and ensuring the smooth running of the programme.

We were also fortunate enough to attend a civic reception held at the Glasgow City Chambers, offering delegates the chance to connect in a historic setting, and enjoying some classic Glaswegian hospitality (i.e. a drinks reception!)



The Stats team with dignitaries (standing on a braid).

Hosting UKCOTS in Glasgow was good preparation as we prepare to bid to host the quadrennial International Conference on Teaching Statistics (ICOTS) in 2030 - watch this space!!

UNIVERSITY OF GLASGOW COMPUTATIONAL BIOLOGY CONFERENCE

BY VINNY DAVIES

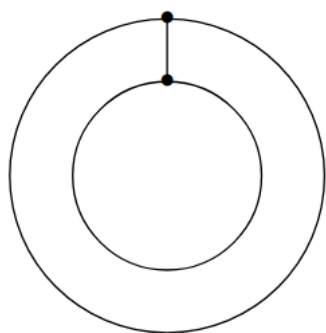
Now in its fifth year, the University of Glasgow Computational Biology Conference took place on 15–16th June in the ARC. The event usually attracts around 150 attendees and tickets regularly sell out, reflecting strong interest across disciplines. It brings together researchers from mathematics, statistics and computing science alongside those working on a wide range of biological challenges. The conference offers a great opportunity to share research, learn about new developments, and build connections across fields. Tickets are free, supported by our School, which has reserved some places for the group. If you happen to have any spare funds lurking in PI incentive pots or unused grants, we won't say no – any support helps keep the event accessible to everyone!

HISTORICAL CURIOSITIES

In my first tutorial class, when I was a PhD student, one of the students asked me, “but what exactly is an infinitesimal?” I can't remember exactly what I said, but it was clear that the student was not completely happy with my response. Fortunately, he was polite enough to let me get on with the rest of the tutorial.

Not realizing it, this student had actually hit upon one of the major themes, if not the major theme, that has run through mathematics and its philosophical understanding over millennia. Our first written knowledge of grasping with the mathematically infinite comes from the Greeks, and the “paradoxes of Zeno” are common examples when introducing 1st year stu-

dents to infinite series. It was not until the scholastic flowering of the 13th century when the language describing the mathematically infinite became more sophisticated. It was generally agreed, in line with Aristotle, that it was wrong to think of an infinitely divisible line as actually being composed of infinitely many infinitesimal parts. Let us turn to a (slightly simplified) geometric demonstration, by the Scottish philosopher and theologian *John Duns Scotus* (c.1266-1308), to argue this point. Consider two concentric circles.



Suppose that these circles be composed of infinitely many infinitesimal points. Then by pairing off points from each circle, as is shown above, it would follow that the two circumferences would be composed of the same number of points. This would mean that both circumferences would be equal, which is clearly not true. Thus, the original supposition is rejected - lines are not composed of infinitely many infinitesimal points.

The issue here is one about language. For example, to say that “this line is infinitely divisible,” can be taken two ways. The first is that the line *has been* divided into infinitely many parts. The second is that that it is *always possible* to continue to divide it. The ϵ - δ description of limits, in real analysis, sits well with the latter interpretation.

Galileo Galilei (1564 - 1642) also discussed Scotus’ concentric circle problem. He considered the circles to be composed of infinitely many infinitesimal points, which could be paired off, but that the outer circle contained infinitely many infinitely small gaps, whereas the smaller circle did not.

The philosophical debate between the “potential infinity” and the “actual infinity” would (and does) continue, but this article is too finite to deal with it properly. For those interested in the history of the philosophy of the mathematical infinite, from ancient times through to Cantor and Wittingstein, an excellent resource is *The Infinite* by A.W. Moore.

OUTREACH NEWS

BY SHAZIA AHMED

This year’s *Glasgow Science Festival* ran from the 5th to 15th June 2025 with the theme “Glasgow Celebrates.” We took inspiration from the

city coat of arms and teamed up with colleagues in the School of Chemistry to offer four sets of activities themed around the poem:

Here’s the tree that never grew,
Here’s the bird that never flew,
Here’s the bell that never rang,
Here’s the fish that never swam

offering a range of activities illustrating what a tree needs to grow, a bell to ring, a bird to fly and a fish to swim.

The outreach committee would like to thank *Francesco Giglio, Alex Houston, Beth Paschke, Emilia Mack* and *Shazia Ahmed* for contributing to the development and delivery of these activities. Thanks are also due to *Ana Lecuona, Adele L’Etang, Benn MacDonald, Mitchum Bock, Andy Wand* and *Meyvizhi Sasibala* for volunteering their time and contributing to the success of the event.

COFFEE MATHS

Here is one for discussion at the coffee break (marker pens at the ready!).

In 1995, Bailey, Borwein and Plouffe derived the following expansion for π ,

$$\pi = \sum_{i=0}^{\infty} \frac{1}{16^i} \left(\frac{4}{8i+1} - \frac{2}{8i+4} - \frac{1}{8i+5} - \frac{1}{8i+6} \right).$$

What is remarkable about this formula is that it enables the n th hexadecimal digit of π to be computed without having to compute any of the previous digits!

For our purposes, we will consider a slightly modified version, due to Adamchik and Wagon,

$$\pi = \sum_{i=0}^{\infty} \frac{1}{16^i} \left(\frac{2}{8i+1} + \frac{2}{8i+2} + \frac{1}{8i+3} - \frac{1/2}{8i+5} - \frac{1/2}{8i+6} - \frac{1/4}{8i+7} \right).$$

Starting from the integral

$$\int \frac{1}{x^2 - \sqrt{2}x + 1} dx,$$

derive the latter expansion for π .

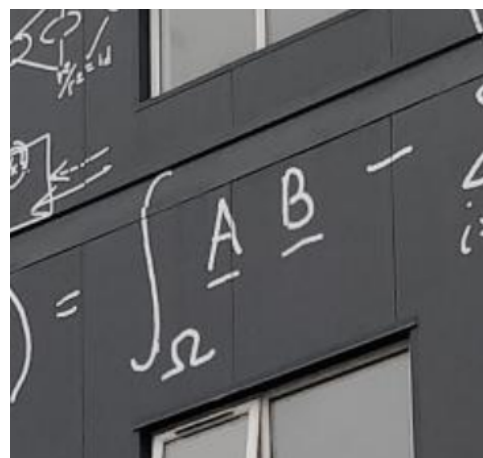
This problem is based on a description by *Nick Lord*. The solution will be available with the next Newsletter. For online readers, the solution to last quarter’s problem can be found [here](#).

THE LIGHTER SIDE OF THE EQUATION

Missing the point!

Question: When is magnetic helicity guaranteed to be zero?

Answer: When one doesn’t bother to complete the *dot* product.



Research summaries in rhyme and haiku

Magnetic topology in constant change,
Buffeted through the inertial range.
Resistivity’s not there,
But why should we care?
In turbulence, none of this is strange.

- *Your Editor*

Plasma fills our world
Lasers: supreme human light
Useful when they meet

- *Val Aslanyan*

A digital twin, smart and keen,
Modelled life through data unseen.
With stats as its guide,
It tracked every stride,
But still couldn’t guess where you’d been!

- *Vinny Davies & Professor Chat GPT*

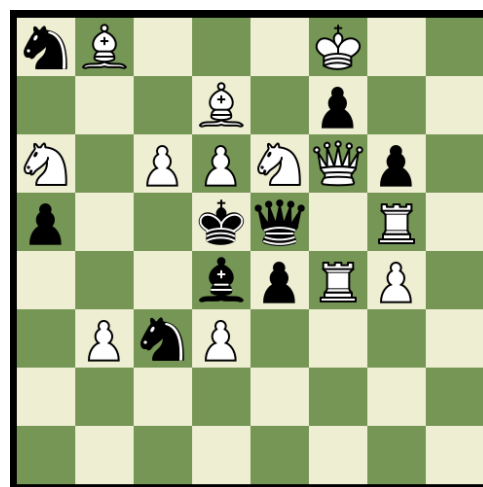
When storms in the data arise,
And variance grows or it dies,
It spreads through the land,
with time close at hand,
in patterns no one ever spies.

- *Philipp Otto & Chat GPT FRS*

HODGE THEORY

BY DAVID HODGE

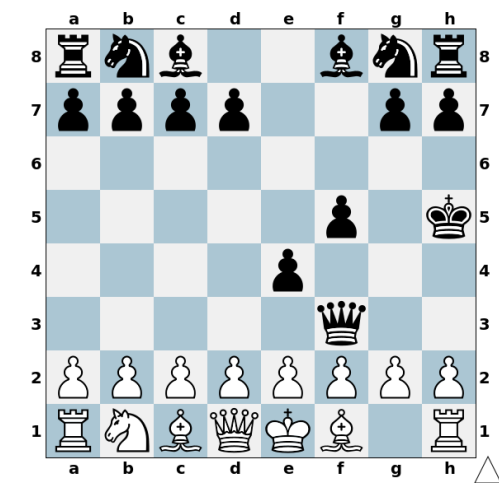
In early July I visited Alba Iulia in Transylvania for the annual World Chess Solving Championships. Our team wasn’t full strength this year, so we didn’t manage to emulate last year’s title winning performance, but still ending a respectable 5th. Personally I ended 11th after the two-day main event, so thought I’d challenge you with the very first problem from the main event this time! It’s only a checkmate in 2, so how hard can it be?



Checkmate in 2, so White plays first,

and no matter what Black does White has a checkmate to follow immediately. Hint: It is harder than it looks, there are lot of carefully constructed ‘almost’ solutions.

Last issue’s solution:



Position after Black’s 8th move. What was the full game?

Solution: Here’s the unique way to reach this position: 1.Nc3 e5 2.Nd5 e4 3.Nf6+ Qxf6 4.Nh3 Qf3 5.Nf4 f5 6.Nd5 Kf7 7.Nc3 Kg6 8.Nb1 Kh5

Proof: With a bit of counting we can see Black has played at least two queen moves; three pawn moves and three kings moves, which already accounts for their 8 moves. So where is White’s missing knight? It has been captured along the way by either the Black King or Queen. However, knights always change colour of the square they are on, so it’s not possible to end with 8.Nh5 Kxh5 as the white knight that began life on g1 should be on a dark square on move 8! Thoughtful deduction tells us the only option is for White’s b1-knight to have been captured on a dark square during the play and then the g1-knight takes its place back on b1, making the final two moves 8.Nb1 Kh5!

HEAD OF SCHOOL’S CORNER

BY NIGEL MOTTRAM

Thanks to everyone who has contributed to another fascinating newsletter, and of course thanks to our esteemed Editor for bringing it all together. It’s again great to hear about just some of the many varied activities that are going on within the School. We are planning on compiling some of these, and future, stories into a regular alumni newsletter – so that our past students (and staff) can keep in touch with the School and learn more about what we do outside the lecture room. It also seems like a good time of year, just after we have seen another cohort of students graduate, to mention the varied careers our students have after they leave their studies. So, I thought I’d pick out just a few of our alumni that have been mentioned in our newsletter over the last couple of years:

Within the field of mathematics, one of our most notable students was of

course *Colin Maclaurin* – a child prodigy who entered the University at the age of 11, in 1709, and graduated three years later. He was later made a Professor, in Aberdeen, at the age of 19. This made him the youngest Professor in the world, a record held for almost three hundred years. Maclaurin's contributions to mathematics go far beyond the Maclaurin's series we teach at undergraduate level, and if you're interested to read more then the transcript of Turnbull's lecture on his work might be of interest [1].

Another of our graduates that has been discussed recently is *Elizabeth Pettigrew Taylor* [2], one of the first women to graduate with a degree from Glasgow. In fact she was one of the first of two women to graduate with a degree in mathematics anywhere in Scotland, the other being Margaret Murray from St Andrews [3] in the same year. Elizabeth Pettigrew Taylor graduated with an M.A. on the 3rd November 1898, with first class honours in Mathematics and Natural Philosophy, after which she taught mathematics in schools in England and Canada, before returning to Scotland.

Moving forward to more recent times, and to illustrate that a maths degree can take you into a variety of careers – I thought I'd mention *Sir Ken McCallum*, who graduated in 1996 with a degree in mathematics, and is now the Director General of MI5. Almost exactly two years ago, he gave the Bowman Lecture, discussing the role that mathematics and data science has to play in the security services. You can see a recording of this Bowman lecture [4].

Finally, and even more recently, I thought I'd mention *Dr Angela Tabiri*, who gained her PhD in mathematics in 2019. Dr Tabiri has continued her research career and is now at the African Institute for Mathematical Sciences in Ghana, but also works hard to increase opportunities for women in mathematics with mentoring and outreach activities. You can here more from Dr Tabiri in a recent BBC News article [5].

Of course this is just a few of the thousands of students that have been taught mathematics and statistics at Glasgow, and we are about to welcome another group of students just starting their degrees – in fact, as a subject, maths & stats is going from strength to strength, with our undergraduate numbers increasing again this year (we're expecting nearly 500 new students in September, across undergraduate and postgraduate levels). This seems an appropriate time to thank all staff for their continued hard work in making these new students, as well as returning students, welcome, and of course for all the other activities in research, scholarship,

outreach, non-academic collaboration that goes on in the School. For those ex-students and staff that are now reading these articles in the alumni newsletter, you can hear more about our work by connecting via LinkedIn (www.linkedin.com/school/uofgmaths-stats/) or by contacting us through our Alumni Office here <https://www.gla.ac.uk/alumni/>.

[1] Turnbull lecture

[2] Elizabeth Pettigrew Taylor

[3] First women graduates in mathematics in Scotland

[4] Bowman Lecture

[5] Dr Tabiri's BBC article

PET THERAPY

The response to Pet Therapy has been very positive. We've already have enough pictures sent in to last well into next year! For this quarter, our first furry friend is not quite a pet, but rather an occasional visitor to *Nigel Mottram's* garden.



Our second furry friend is one of *Vinny Davies' cats, Oreo*. Oreo is very dapper in this shot and has a concentrated gaze. Perhaps he's spotted a squirrel...



LET US KNOW

Thank you to all who contributed to this quarter's Newsletter. If you would like to contribute to future editions, we would be delighted to hear from you. Please contact the Editor at

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