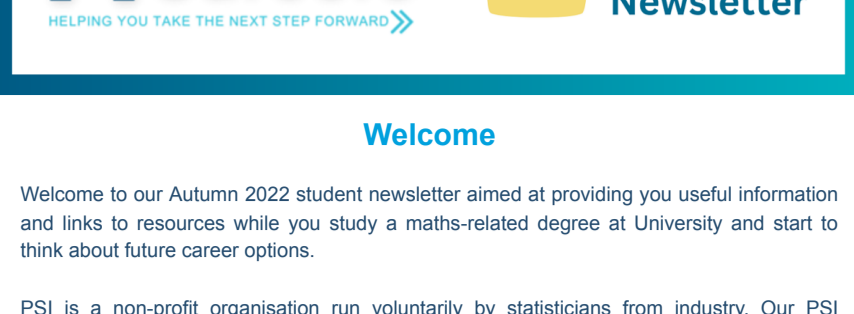




"We are a community dedicated to leading and promoting the use of statistics within the healthcare industry for the benefit of patients"



## Welcome

Welcome to our Autumn 2022 student newsletter aimed at providing you useful information and links to resources while you study a maths-related degree at University and start to think about future career options.

PSI is a non-profit organisation run voluntarily by statisticians from industry. Our PSI Careers website can be found [here](#).

### Just for Fun

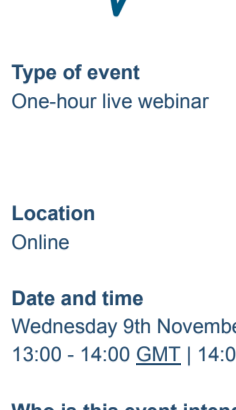
The last Square Root Day was 4th April 2016 – when the day and the month are both the square root of the last two digits of the year (4/4/16). Can you work out when the next one will be?  
Ref: [www.help4teaching.com](http://www.help4teaching.com)

## PSI Events

PSI offers a range of opportunities to learn about statistical techniques used in the Pharmaceutical industry, as well as valuable personal skills. Sessions range from a couple of hours to all-day events. More details and how to register can be found on our [website](#).

In early 2023, the PSI events team are planning to run sessions on [Meta-Analysis & Indirect comparisons](#), and [Platform Trials & Master Protocols](#). Once details are finalised, they will be available on the events website above.

### PSI Vaccines SIG Webinar: Assessing Population Level Vaccine Effectiveness Under Different Study Designs



The PSI Vaccines SIG are running this one hour webinar on vaccine effectiveness and vaccine herd protection, and is free to both PSI members and non-members.

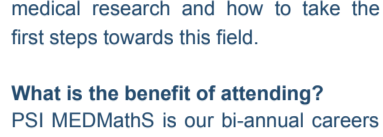
#### Location

Online

#### Date and time

Thursday 20th October 2022  
16:00 - 17:00 BST | 17:00 - 18:00 CEST

[Register](#)



**Type of event**  
One-hour live webinar

**Location**  
Online

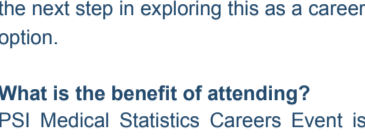
**Date and time**  
Wednesday 9th November 2022  
13:00 - 14:00 GMT | 14:00 - 15:00 CET

**Who is this event intended for?**  
All students studying Mathematics, Statistics, or a degree with high numerical content who would like to learn more about the career possibilities within medical research and how to take the first steps towards this field.

**What is the benefit of attending?**  
PSI MEDMATHS is our bi-annual careers talk which offers an introductory presentation about how Mathematics and Statistics are applied in medical research, with time for questions. Find out how PSI can help students in their future careers.

**Registration deadline: Monday 7th November 2022.**

[Register](#)



**Type of event**  
Full-day interactive event, including a live panel discussion and an exhibition session

**Location\***  
GSK House, Brentford, London

**Date and time**  
Wednesday 7th December 2022  
12:00 - 17:00 GMT

**Who is this event intended for?**  
All students with an interest in the field of Medical Statistics, for example within pharmaceuticals, healthcare and/or medical research, and would like to take the next step in exploring this as a career option.

**What is the benefit of attending?**  
PSI Medical Statistics Careers Event is an excellent opportunity to find out more about the types of opportunities available within Medical Statistics, talk to different organisations and make contacts for the future.

**Registration deadline: Wednesday 9th November 2022**

\*Student travel expenses within the UK will be reimbursed following the event.

[Register](#)

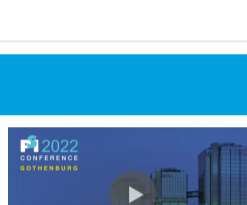
## Video on Demand

PSI has a range of videos-on-demand available on their website, which are available to watch with a free student PSI account. We have highlighted two recent videos below:



The first is a session investigating the best way to combine detailed patient level data into an informed representation of the patient. Patient level data contains demographic information as well as exposure, concomitant medications, adverse events, and laboratory data. These can be presented in one plot or multiple aligned plots. The use of color and pre-attentive attributes is supporting easy interpretation of the data.

The second is a recording of a journal club, where two papers are discussed. The papers are both based on the topic of "Estimating Treatment Effects". Watch to hear Yongming Qu (Eli Lilly) and Solomon Harrar (University of Kentucky) present their recent work.



## PSI Conference

In June 2022, PSI held its annual conference in Sweden. One of the sessions was for Career Young Statisticians to network and also to share some of their work. The talks were videoed and are available to view [here](#): [PSI Conference 2022 - Career Young Statistician Session](#).



More sessions from the conference are also available to watch on the [video-on-demand](#) page. Look for the videos with [PSI Conference 2022](#) in the title.

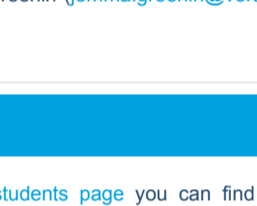
If you're interested in attending next year's PSI conference, which will be held in Hammersmith, London on [11-14th June 2023](#), [click here](#) to find out more.

## Placement Students - Highlights from 2021/22



Over the summer months, we welcome a new intake of placement students across the many companies offering industrial placements. Internships are a fantastic opportunity for students to gain confidence, build soft skills and apply their theoretical knowledge in the real world. Students frequently surpass expectations and generally perform the role of a new graduate, this is a great benefit and resource to the company! Having acquired company and industry knowledge over the course of 1 year, placement students provide attractive re-hiring potential after completion of their studies.

PSI Careers (a.k.a. CALC) have spoken to 13 placement students in the 2021/22 intake to hear about their experiences - see the video below for highlights. Find the full articles and contact details for companies that offer placements on the [PSI website](#).



We are impressed by the breadth of companies, roles and studies represented, and the level of work undertaken. Best of luck to all students for their final year and beyond!

## PSI New Starters Special Interest Group (SIG)

Are you interested in the Medical Statistics industry and would like to grow your professional network, learn about different early career paths and build valuable skills? The New Starters SIG is running quarterly virtual events to facilitate networking between 'new starters' from across the medical research field - the pharmaceutical industry, Contract Research Organisations and Clinical Trial Units as well as PhD students and students exploring a career in one of these sectors. Meeting people new to the industry is a great opportunity to ask questions about others' experiences and to learn about new areas of the industry that you may not know much about.

We have successfully run two virtual events now with different activities facilitating networking and we are now exploring giving you the opportunity to present at these events to gain experience in presenting in a casual environment.

Please reach out to Jemma Greenin ([jemma.greenin@veramed.co.uk](mailto:jemma.greenin@veramed.co.uk)) if you would like to know more.

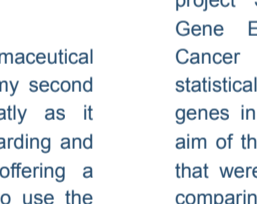
## Podcasts

On the [Effective Statistician/students](#) page you can find PSI's series of podcasts with Alexander Schacht about medical statistics as a career option, where you can hear more about the role of a medical statistician and the different career paths and opportunities available.

By listening to the PSI Careers podcast series, you will gain an insight into:

- Role of a medical statistician
- Career paths and opportunities
- How to become a medical statistician
- An overview of the drug development process

This short video gives a brief introduction to how PSI supports statisticians and new graduates



## Undergraduate Prize winners 2022

In June 2022, PSI awarded cash prizes to undergraduate students who were nominated by their University. Each University can only nominate one student and the PSI Careers team were very impressed with the nominations received.

This is an annual award so if you are interested in being considered for the award, remember to discuss with your tutor for next year.

Some of the winners wrote the following about their path in studying medical statistics.



**Zac Atter**

Hi, my name is Zac. I studied a BSc in Mathematics and Statistics with a placement year at the University of Bath and have just graduated this year (2022). In my final year, the relevant modules I studied were probability, general linear models, applied statistics and medical statistics. Outside of studying I am an avid dancer and was a member of a dance society throughout my time at university.

I first found out about the pharmaceutical industry at a careers fair in my second year. It interested me greatly as it appeared to be a deeply rewarding and fulfilling career while also offering a challenge and requiring me to use the mathematical skills I had learnt throughout university. This was confirmed after spending a year long placement at Amgen as a biostatistical student intern. In this placement, I worked in the general medicine department and used various statistical software to produce reports and graphics on clinical trials.

Winning the PSI prize has given me more confidence in my choice to study for an MSc in Statistics with Applications in Medicine at the University of Southampton. I hope to be employed as a biostatistician after completing this course.



**Hannah Simpson-Clancy**

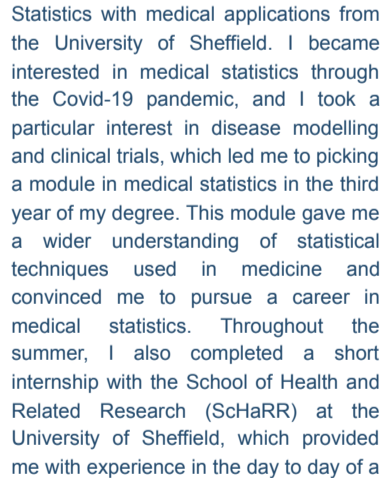
Hello, my name is Hannah. I studied BSc Mathematics at the University of Huddersfield and graduated in July 2022. Outside of studying, the vast majority of my time is spent with my daughter so my hobbies are limited. However, I do love to read a good murder mystery.

My experience in medical statistics comes from my final year individual project 'Statistical Methods Applied to Gene Expression Data to Explore Cancer Features'. The project statistically analysed the expression of genes in epithelial ovarian cancer. The aim of the project was to identify genes that were differentially expressed when comparing normal ovaries with cancerous ovaries; epithelial ovarian cancer subtypes may then be identified based on the presence of these genes. As statistical analysis in genomics is becoming more prominent when discussing diseases, this topic has allowed me to develop my statistical analysis skills in current research areas. Completing this project has provided me with an interest in medical statistics and I hope to apply for a masters in research to further understand how statistics can be used in cancer research. My hope is that I can pursue statistics in a medical field as a future career.

After a year out in my third year of university, I started to appreciate how much I enjoyed my degree. I wanted to use my statistics knowledge after my degree ended. I started writing for the Science and Tech section of my student newspaper and became a vacation student at the Institute of Cancer Research (ICR) within the Clinical Trials and Statistics Unit. This summer I was a Research assistant at the Medical Research Council Biostatistics Unit. After these fantastic experiences and further study in my Medical Statistics and genetics modules, I know that medical statistics is for me.

I am excited to start a PhD at ICR this coming October within Early Phase and Adaptive Trials.

When I started university, I was unsure about my future but now I am delighted to start my career in an area I am so passionate about. I would like to extend my thanks to PSI for recognising my work, I look forward to contributing to the Biostatistics field in the years to come.

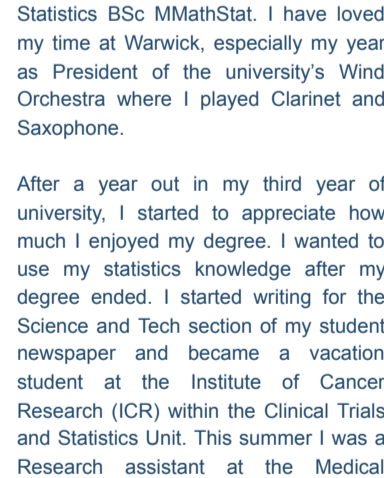


**Ryan Rowles**

Hi everyone, my name is Ryan Rowles, and I am very grateful to say I won the PSI Undergraduate Student Prize for my studies relating to medical statistics in 2022 at University of Sheffield.

I graduated in 2022 with a First-Class degree in BSc Mathematics, and I am currently studying towards an MSc in Statistics with medical applications from the University of Sheffield. I became interested in medical statistics through the Covid-19 pandemic, and I took a particular interest in disease modelling and clinical trials, which led me to pick a module in medical statistics in the third year of my degree. This module gave me a wider understanding of statistical techniques used in medicine and convinced me to pursue a career in medical statistics. Throughout the summer, I also completed a short internship with the School of Health and Related Research (SciHARR) at the University of Sheffield, which provided me with experience in the day to day of a medical statistician and gave me the chance to work on several studies that the statistics team were working on, mostly helping with data analysis in the programming language R.

Outside of my studies, I am a big football fan and support Chelsea F.C, although I do enjoy going to the games of my local team from home Mansfield Town. Following the completion of my postgraduate degree in 2023, I hope to pursue a career as a medical statistician, using my mathematical and statistical expertise to improve the lives of as many people as possible, and potentially complete a PhD in this discipline.



**Emily Alger**

My name is Emily, I won the PSI Undergraduate prize in 2022 at University of Warwick for my Integrated masters dissertation. I predicted the oxygenation level of cancer cells from blood flow using functional regression and functional data analysis. I'm graduating from the University of Warwick this year in Mathematics and Statistics BSc MMathStat. I have loved my time at Warwick, especially my year as President of the university's Wind Orchestra where I played Clarinet and Saxophone.

After a year out in my third year of university, I started to appreciate how much I enjoyed my degree. I wanted to use my statistics knowledge after my degree ended. I started writing for the Science and Tech section of my student newspaper and became a vacation student at the Institute of Cancer Research (ICR) within the Clinical Trials and Statistics Unit. This summer I was a Research assistant at the Medical Research Council Biostatistics Unit. After these fantastic experiences and further study in my Medical Statistics and genetics modules, I know that medical statistics is for me.

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## Special Interest Groups (SIG)

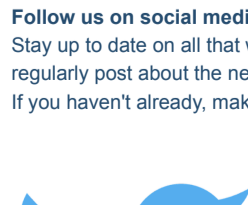
PSI has several SIGs which provide a forum for members to discuss topics of mutual interest, keep updated on developments in a particular area of industry, to organise events on their specialist field and/or to collaborate on developing the science of that field.

The SIGs are a useful community that statisticians in the industry can reach out to and/or join at any time during their career in the industry.

To see which SIGs are currently in place, and for further information on any of the SIGs, take a look at their pages on the PSI website: [SIGS](#).

In this newsletter, we have a spotlight on the Pre-Clinical SIG.

### SIG Spotlight: Pre-Clinical



The pre-clinical SIG was formed originally as Toxicology Special Interest Group in 2006. Since then, we have grown to have around 50 affiliates; there are mostly statisticians working across industry (pharma and CRO) and academia. The core team members meet once a month and our focus is to share learnings, discuss challenges, explore opportunities, and learn from each other's experiences. We also work together to organise webinars and workshops. Typically, we have three webinars and one workshop every year. This year we were delighted to hold our first and virtual workshop in September, that included a course on the applications of Bayesian Statistics in a pre-clinical setting. For more details on the webinars and workshops we have coming up please check out our [webpage](#).

## Reminders

### PSI student membership

PSI student membership is free to join and has many benefits during your journey to becoming a statistician in the pharmaceutical industry.

PSI run many webinars which are free to members (but cost for non-members), so as a free PSI Student member you can also join these events for free.

[Join PSI](#)

### Job Vacancies

Many companies employing statisticians advertise their job vacancies on the [PSI website](#). Career Opportunities are updated on a regular basis, and is always worth a look to see what options are available.

### Follow us on social media

Stay up to date on all that we have got going on through our social media channels! We regularly post about the newest updates, upcoming events and conferences. If you haven't already, make sure to give us a follow!



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[@PSIupdate](#)



LinkedIn Profile  
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