

Materials & Devices

Volume 1, Issue 2
16th June 2022

Hello everyone and welcome to the 2nd issue of Materials and Devices newsletter!

As the academic year draws to a close, there has been no shortage of achievements within the theme.

Suggestions and ideas are always welcome. If you have any ideas for the next newsletter please send them in.

Please email items for the next newsletter to [Ellie White](mailto:Ellie.White@bristol.ac.uk) (zl21970@bristol.ac.uk)

Thesis Submittals

Congratulations are in order for the following:

[Dr. Will Hoffmann](#) (Dr Antognozzi & Dr Gersen's group) passed his viva with minor corrections and is now starting a new PDRA in France.

[Gareth Griffiths](#) (IAC) submitted his thesis and is now working at Frazer-Nash Consultancy.

[Angus Siberry](#) (IAC) submitted his thesis and has started work at his own spin-out company, Science Software Development Ltd.

[Paul Forna Kreutzer](#) (EMAM) submitted his thesis & is continuing his work as a PDRA in EMAM.

Funding Successes/Miscellaneous

[Dr. Tomas Martin](#) (IAC) was successful in plasma FIB bid.

[Dr. Jude Laverock](#) (Prof. Fox's group) organised the UK Surface Analysis Forum hosted by the NanoES-CA facility on the 13th April.

The EMAM group hosted an industrial visit from NNL on 28th April with [Ellie White](#), [Haiqi Huang](#) and [Alex Leide](#) presented their work in AFCP.

[Liia Buhhanevits](#) and [Liam Cullingford](#) (Prof. Fox's group) attended a Researchers and the Media workshop at Imperial College London in May.

Recent Publications

[Sam Fearn](#) (IAC) submitted his debut publication to Radiation titled "An Open-Source Iterative Python Module for the Automated Identification of Photopeaks in Photon Spectra", a link to the publication can be found [here](#).

[Dr. Niall Mulkerns](#) and [Dr. William Hoffmann](#) (previous PhD students from Dr Antognozzi & Dr Gersen's group) submitted a paper to Nanoscale titled "Measuring the refractive index and sub-nanometre surface functionalisation of nanoparticles in suspension", a link to the publication can be found [here](#).

[Dr. Henkjan Gersen](#) had a paper on "Smooth side-walls on crystalline gold through facet-selective anisotropic reactive ion etching: towards low-loss plasmonic devices" manuscript accepted by ACS.

[Dr. Zeina Abdallah](#), [Dr. Nathawat Poopakdee](#), [Dr. James W. Pomeroy](#) and [Prof. Martin Kuball](#) (CDTR) submitted a paper to CS Mantech titled "A Novel Thermoreflectance-based Method for in-situ Die Attach Thermal Conductivity Assessment of Packaged Devices", a link to the publication can be found [here](#).

[Yuke Cao](#), [Prof. Michael Uren](#), [Dr. James W. Pomeroy](#) and [Prof. Martin Kuball](#) (CDTR) submitted a paper to CS Mantech titled "Design and Manufacture of Edge Termination in Vertical GaN Diodes: Electric Field Distribution Probed by Second Harmonic Generation", a link to the publication can be found [here](#).

[Dr. Daniel E. Field](#), [Dr. Filip Wach](#), [Dr. James W. Pomeroy](#) and [Prof. Martin Kuball](#) (CDTR) submitted a paper to CS Mantech titled "Differences in SiC Wafer Thermal Conductivity from Face-to-Face Dependent on Polishing", with the publication linked [here](#).

[Dr. Matthew Smith](#) and [Prof. Martin Kuball](#) (CDTR) submitted a paper to CS Mantech titled "GaN-on-Si Membranes for Power Device Applications: Stress Evolution Throughout Fabrication", a link to the publication can be found [here](#).

[Dr. Dong Liu](#) (EMAM) and [Prof. Martin Kuball](#) (CDTR) had a paper on "Unusual Deformation and Fracture in Gallium Telluride Multilayers" manuscript accepted by the Journal of Physical Chemistry Letters.

Research Shout outs

Congratulations to [Rosie Smart](#) (IAC), who won the award for best Nuclear MSci Dissertation for 2019/2020 after delays due to lockdowns.



Congratulations also to [Rebecca Nicholls](#) (IAC), who won Best Student Talk at Journées des Actinides Santa Margherita Ligure in Italy.

[Angus Siberry](#) (IAC) competed in the final of the Young Person's Lecture Competition on the 4th May, a link to his final talk can be found [here](#).

[Dr. Matthew Smith](#) (CDTR) won the best poster at the CS Mantech '22 conference that was held on 9th-12th May in Monterey, USA.

PGR Science Faculty Representative 2022-2023

[Phil Smith](#) (IAC) recently won the SU elections and is the PGR representative for the science faculty. Here is a short statement from him:

Hi, my name is Phil (he/him), and I am the newly elected Faculty of Science – PGR representative, taking over from Rory Burford.

I ran for this position to continue the work begun in Physics, where I collected data and opinions surrounding stipends and cost of living.

The truth is, with rising Cost of Living, many individuals in the PGR community are under critical financial pressure, and this is having a severe impact on personal health and wellbeing. A major factor for PGR students is the rapidly rising cost of housing, particularly in the rental sector, which the overwhelming majority of PGR students utilise. The survey respondents reported spending an average of 44.9% of their income on rent, a figure far in excess of the 30% affordability criterion used by the Office of National Statistics for households in rental accommodation. Hourly-Paid Teaching (HPT) has changed from a “nice thing for the CV” to a “must do” activity as the most likely source of additional income, and yet it does not fill the gap in the Cost of Living. The situation is even worse for self-funded PGRs, and for international students whose studentships are often set at unrealistic levels.

As faculty rep I will be elevating this critically important topic to reach as many students as possible and tackle the status-quo. I need your support to make our voices heard and I will challenge everyone necessary to guarantee fair pay for all students of the University of Bristol.



Seminar Success

A massive thank you to Jarrod Lewis (IAC), who has been organising the Materials & Devices seminar series and a Physics Colloquium.

Gerry Lander's (Institut Laue-Langevin) Physics Colloquium on the 3rd of May titled "Discoveries that changed the world: 1932-1942— James Chadwick & Lise Meitner" had over 50 attendees from across the school.



Conferences

Dr. Ross Springell and a mix of students and PDRAs from IAC and EMAM presented posters at NNL's AFCP showcase in Preston, UK in March 2022. Attendees included, from left to right; Dr. Alex Leide (EMAM), Phil Smith (IAC), Dr. Lottie Harding (IAC), Ellie White (EMAM) and Haiqi Huang (EMAM).



Syed Akbar Hussein (IAC) presented a poster on their work on uranium based superconducting spintronics at Fermi SCES 2022 in Les Houches, France on 27th March-1st April.



Prof. Martin Kuball, Dr. Zeina Abdallah, Dr. Daniel E. Field, Dr. Matthew D. Smith, Hyeonseop Kim (pictured left), and Yuke Cao (CDTR) attended the CS Mantech '22 conference in Monterey, USA on 9th—12th May.

Prof. Martin Kuball is the technical programme chair of the above international conference, and will be the president of this conference next year.

Dr. Ross Springell, Dr. Lottie Harding, Florence Legg, and Angus Siberry (IAC) had a successful trip to the TRANSCEND consortium meeting at the University of Lancaster, UK on 24th—25th May.

Dr Dong Liu (EMAM) presented an invited talk at the UK Neutron & Muon Science and User Meeting and the title is: 'In situ high-temperature neutron diffraction on unirradiated and irradiated nuclear graphite materials'.

Sarah Mann (PhD student in EMAM group) also attended this 3-day conference.



PhD Opportunity: Role Opening for Seminar Organiser(s)

The theme is looking for the next seminar organiser, as Jarrod is nearing the end of his studies.

Preferably his replacement would be a student nearing the end of their 1st year, or in their 2nd year currently.

The role primarily involves emailing potential speakers, advertising the seminar to the theme, and arranging suitable rooms or Zoom/MS Teams meetings.

Organising the theme seminar is a great way to network with academics both within the department and beyond, and allows you to influence the topics discussed.

In total this amounts to no more than 2 hours of admin work per month.

If you are interested, please email Lilly Liu (dong.liu@bristol.ac.uk), and for informal questions about the role feel free to contact Jarrod (jarrod.lewis@bristol.ac.uk).

Rewards & Recognitions Scheme

Thank you to everyone who submitted a recommendation for the award. The committee is reviewing all of the recommendations received and the winners for the award will be announced in the next newsletter issue.

There will be another opportunity to nominate friends and colleagues again later in the year.

Pets of M&D!

This issue, introducing one of the cats from the IAC, [Suki](#).

Suki is an incredibly diligent and helpful cat, one of her most recent appearances was on a UKRI panel interview that [Tomas Martin](#) was participating in.

If you would like any of your furry friends to be featured in future issues, please don't hesitate to send your pictures into [Ellie](#).

