

Materials & Devices

Volume 1, Issue 1
4th April 2022

Hello everyone and welcome to the first **Materials and Devices Newsletter!**

The aim of this newsletter is to bring together all of the different groups within our theme, as well as highlight and celebrate student and staff achievements. It will be published on bimonthly basis.

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

Please email items for the next newsletter to **Ellie White** (zl21970@bristol.ac.uk).

Welcomes & Farewells

A warm welcome to **Dr Mariia Zimina** who has recently started a postdoctoral fellowship at the IAC after 6 years at the Research Centre CEZ in the Czech Republic. Their current research is working on a project with EDF on investigating the degradation in advanced gas-cooled reactors.

Wishing all the best to **Dr. Alex Leide**, who is leaving the EMAM group in April to take up an amazing opportunity with UKAEA as a non-metallic materials engineer.

Best of luck to **Wil Hoffman**, who is leaving Drs. Antognozzi and Gersen's group to start a PDRA in France.

All the best to **Dr. Dean Connor** who is leaving the IAC to take up a new PDRA role at NNL.

Thesis Submittals

Congratulations are in order for the following:

Dr Daniel Field (CDTR) passed his viva and has taken a PDRA at the Centre for Diamond Science and Technology, University of Warwick.

Dr Lottie Harding (IAC) passed her viva and is continuing her work as a PDRA in the IAC.

Feiyuan Yang (CDTR) submitted his thesis and started a KTP position at DYNEX Semiconductors.

Siqi He (IAC) has submitted his thesis and starting a PDRA in EMAM group from May.

Research Shout-outs

Congratulations to **Angus Siberry**, from the IAC, who won the local heat of the IOM3 Young Persons' Lecture Competition. He will progress to the UK final in May, more information can be found [here](#).

Recent Publications

Niall M. C. Mulkerns, William H. Hoffman, Ian D. Lindsay and Dr Henkjan Gersen submitted an article to Sensors titled "Shedding Light on Capillary-Based Backscattering Interferometry", link to the article [here](#).

Dr. Nathawat Poopakdee, Dr. Zeina Abdallah, Dr. James W. Pomeroy and Prof. Martin Kuball from CDTR submitted an article to ACS Applied Electronic Materials titled "In situ Thermoreflectance Characterization of Thermal Resistance in Multilayer Electronics Packaging", link to article [here](#).

Daniel E. Field, Dr James W. Pomeroy and Prof. Martin Kuball from CDTR submitted an article to Applied Physics Letters titled "Thermal characterization of direct wafer bonded Si-on-SiC", link to the article [here](#).

Taylor Moule, Stefano Dalcanale, Akhil S. Kumar, Michael J. Uren and Prof. Martin Kuball from CDTR submitted an article to IEEE Transactions on Electron Devices titled "Breakdown Mechanisms in β -Ga₂O₃ Trench-MOS Schottky-Barrier Diodes", link to article [here](#).

Feiyuan Yang, Manikat Singh, Michael J. Uren and Prof. Martin Kuball from CDTR submitted an article to IEEE Transactions on Electron Devices titled "Study of Drain Injected Breakdown Mechanisms in AlGaIn/GaN-on-SiC HEMTs", link to article [here](#).

Funding Successes

EMAM group (led by Dr. Lilly Liu) won a new HORIZON-EURATOM research bid with 10+ EU partners to work on fuel technology options and fuel cycle strategy for the GEMINI+ system.

The **CDTR group** (led by Prof. Martin Kuball) has seen positive outcomes from several grants, in particular a ~£5 million program grant passing the outline stage.

Upcoming talks

M&D Seminar Series, 14:00, Friday 8th April, “Microscopy of materials—What can the IAC microscope facility do?”, **Dr. Tomas Martin**

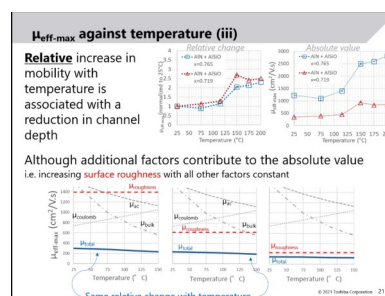
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Conferences

Dr. Matthew Smith (CDTR) presented at IEEE Wide Bandgap Power Devices and Applications meeting in November 2021. The paper can be found [here](#).



Picture of a Physicist

As a way to get to know everyone, as well as have a much truer representation of what it is to be a physicist, the **Materials & Devices Theme** doing its own 'Picture a Physicist'. Whether it's a picture of you doing what you love or next to some super fancy equipment, please send them in!

Kicking this off is our Theme Lead **Dr. Dong (Lilly) Liu** and your visibility officers of the **M&D Visibility Committee** who look after newsletters, seminars, websites and more.



Theme Lead

EMAM group

Dr. Dong (Lilly) Liu

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EMAM

Ellie White (PhD student)

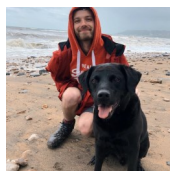
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EMAM

Dr. Alex Leide (PDRA)

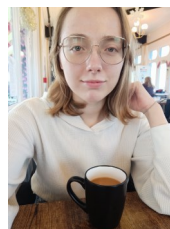
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IAC

Jarrod Lewis (ft. Jasper) (PhD student)

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Prof. Neil Fox's Group

Liia Buhhanevits (PhD student)

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CDTR

Dr. Teri Thingujam (PDRA)

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Drs. Antognozzi & Gersen's Group

Arthur Ely (PhD student)

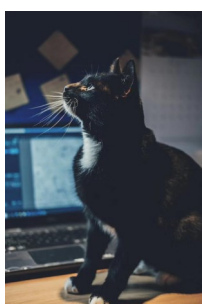
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Pets of M&D!

Kicking off the pets corner is **Nano**, one of the cats from the **EMAM group**.

When Nano is not busy trying to play hide and seek in drawers, he's a supportive work partner!

We'd love to meet the rest of the furry friends of M&D! Send in your pictures to **Ellie White** along with their name and a little description and they'll get featured in the newsletter.



Rewards & Recognitions Scheme

To recognise everyone's participation in the community, we have decided to set up a **rewards and recognition scheme** in Materials and Devices Theme.

This is purely **NON-ACADEMIC**, this reward is to celebrate the contributions made to the community itself.

Twice a year we will ask for nominations of PhD students and PDRAs who you think deserves recognition for their contributions to the theme.

There will be two winners, each winner will receive a mug, a £50 voucher, as well as their name engraved onto the Rewards & Recognitions trophy.

Nominations can come from anyone, but they must include the name of the person you are nominating, their group and 2-4 sentences explaining why they deserve to be nominated. Nominations close **16th May**, and should be sent to **Ellie White**. Winners will be announced in the next newsletter.