

Newsletter

Brought to you by **Dr Chris Hamlett**, Discover Materials National Outreach Officer

Welcome to the new school year and to our third newsletter.

We hope that you have had a great summer holiday – we certainly did.

Amongst other things we hosted six sixth form pupils for a week as part of the **In2STEM** programme, which culminated in the students making a great video about aluminium (<https://youtu.be/YS2gM6PiI54>). We also helped run the three-day residential **Magic of Materials Summer School** at which thirty year 10 pupils from around the UK learned about different areas of Materials Science from experts in the field (<https://discovermaterials.co.uk/news/magic-of-materials-summer-school/>).

Materials Science in the News

Gold from old circuit boards

Given the decline in the use of coins the Royal Mint has started to recycle pure gold from e-waste – find out more here:

<https://www.bbc.co.uk/news/articles/c6p2k11e41po>

Awareness weeks in the Summer Term

Info from www.awarenessdays.com

No Disposable Cup Day 2024 (4th October 2024)

If you happen to have some disposable cups why not make use of them to celebrate 'No Disposable Cup Day' and make an electrolysis cell – check out Una's video here to find out more:

<https://youtu.be/mRZxvpQSTq4>

Recycle Week 2024 (14th – 20th October)

Materials are finite resources and how we manage their use is of great importance to humanity. There are loads of great activities and resources to help explore the sustainability of materials.

- Separating materials (resource):
<https://discovermaterials.co.uk/resource/separating-materials/>
- Circular Economy (Ellen MacArthur Foundation):
<https://www.ellenmacarthurfoundation.org/>

You could get your students to bring in different materials and explore the different materials properties which could be used to separate them (and check out your local council's website to find out how they manage recycling).

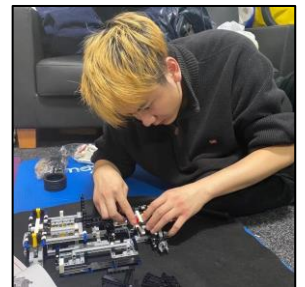
Discover Materials Ambassadors

Discover Materials Ambassadors are Materials Scientists keen to inspire the next generation

Carl Lu

PhD student, Loughborough University

Carl is a researcher working on polymer-based composites and when he is not working in the lab he loves making great outreach resources such as the 'Soliquid' activity that helps you explore the properties of different liquids – why not try it out at home or in the classroom.



Learn more about 'Soliquid':
<https://discovermaterials.co.uk/resource/soliquid-activity/>

Check out Carl's ambassador profile page::

<https://discovermaterials.co.uk/discover-materials-ambassadors/carl-lu/>

What is it?

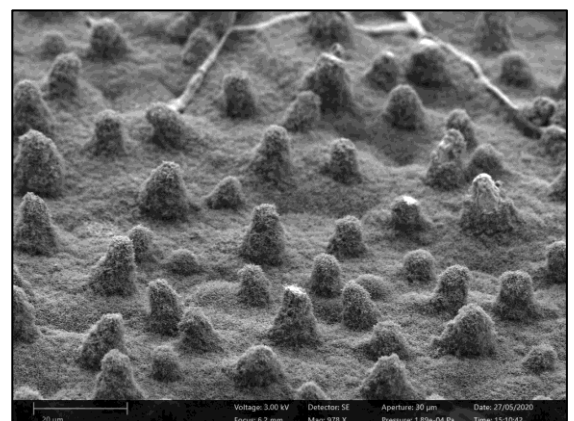


Image taken for Discover Materials by Zeiss

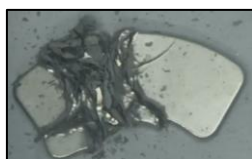
For Secondary Schools

This section highlights useful resources and careers information on our website to help guide **11-18 year olds** into developing their interest in Materials Science and Engineering and discovering pathways to careers in the field.

This month's featured **resource - Sustainability videos**

This year we made videos introducing the sustainability of different materials.

In addition to the **aluminium** lifecycle we made (link in the 'Welcome' section) we also explored how **magnets** used to be used in car manufacturing and how they are now being recycled (https://youtu.be/mKXhINNy4Wo?si=2hUlyvWZeUQVN_j3)



Curriculum Link(s)*:

- Earth and Atmosphere (Chemistry, KS3)
- Periodic Table (Chemistry, KS3)
- Atomic structure and the Periodic Table (Chemistry, KS4)
- Chemical and allied industries (Chemistry, KS4)
- Magnetism (Physics, KS3)

Careers page

This month's featured **careers** resource:

UCAS webpage

<https://www.ucas.com/explore/subjects/materials-science-and-engineering>

The UCAS page is a great starting place for your pupils to explore the different university courses in Materials Science and Engineering.



Upcoming Events...

- British Science Festival (15th September, University of East London)
- Night at our Museum (25th October, Rugby Museum and Art Gallery)
- More information on these, and other events, can be found on the Events page on our website: <https://discovermaterials.co.uk/events/>

DISCOVER MATERIALS

For Primary Schools and Families

This section highlights activities and information for primary school teachers and families to help inspire **0-11 year olds** about what things are made from.

This month's featured **activity: Crash Helmets for Eggs:** <https://www.iom3.org/careers-learning/schools-outreach/resources-for-5-11/crash-helmets-for-eggs>

This is great resource developed by IOM3 - teams design a helmet and make it out of packaging materials to protect an egg from a fall - follow the link above for more information and printable resources to run the activity in class.

And why not check out our 'Crash Helmets for Pumpkins' video to find out the importance of crash helmets:

https://youtu.be/IC7NHxCwh2Q?si=4YQX9kZQ8_N



Curriculum Link(s)*:

- Use of Everyday Materials (KS1)
- Properties and Changes of materials (KS2)

* Curriculum links relevant to English National Curriculum

What is it?

It is a scanning electron microscope (SEM) image of one of the bumps on a **Louts Leaf** – these help the lotus leaf to be superhydrophobic

Learn more here:

<https://youtu.be/Dy2kFuDABjk>



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