Metals for a Circular Future

Activity report for the EPA and ESAI
Grassroots Workshop Support Scheme

29 October 2026 | 12:00–14:00
Room K103, Dargan Centre, SETU Carlow
Organised and facilitated by Dudu Geng
PhD Researcher in Materials Engineering

With support from the EPA/ESAI Grassroots Workshop Support Scheme, I organised and hosted an in-person workshop connecting materials research with everyday questions about sustainability. The event took place successfully at SETU Carlow on 29 October 2026 and combined a personal opening presentation, short contributions, an interactive product-card activity and informal discussion.

The workshop was free and open to people from all disciplines, with no specialist knowledge required. Its purpose was to make metal circularity understandable and relevant: how can we keep products useful for longer, make informed decisions about repair and reuse, and recover valuable materials when products reach the end of their use?



Participants gathered for a group photograph at Metals for a Circular Future.

The scheme's support gave me an opportunity, as an early-career researcher, to take responsibility for organising and facilitating a public-facing environmental discussion. I am grateful for the chance to connect a subject I study with the experiences and questions of people beyond my immediate research area.

A personal opening and a practical focus

I began with Baotou, the city in Inner Mongolia where I was born. Historical and contemporary photographs of Baogang, alongside personal photographs, provided a way into the topic through a real place and my own connection to it. The opening question was how an industrial city can continue to develop while reducing its environmental impact.



Introducing Baotou and Baogang as a starting point for discussing industrial change and sustainability.

The presentation traced selected company-reported milestones: product life-cycle assessment work beginning in 2015, carbon targets announced in 2021, the 2024 air-pollutant assessment milestone and low-carbon production roadmap, and certification of a hot-rolled coil product in 2025. These examples were used to explain an ongoing transition, with attention to the distinction between environmental targets and demonstrated results.

Increasing scrap use, improving energy efficiency and measuring product impacts made

the discussion more concrete. The presentation also distinguished cleaner air from lower carbon emissions, and certification of an individual product from claims about an entire company.

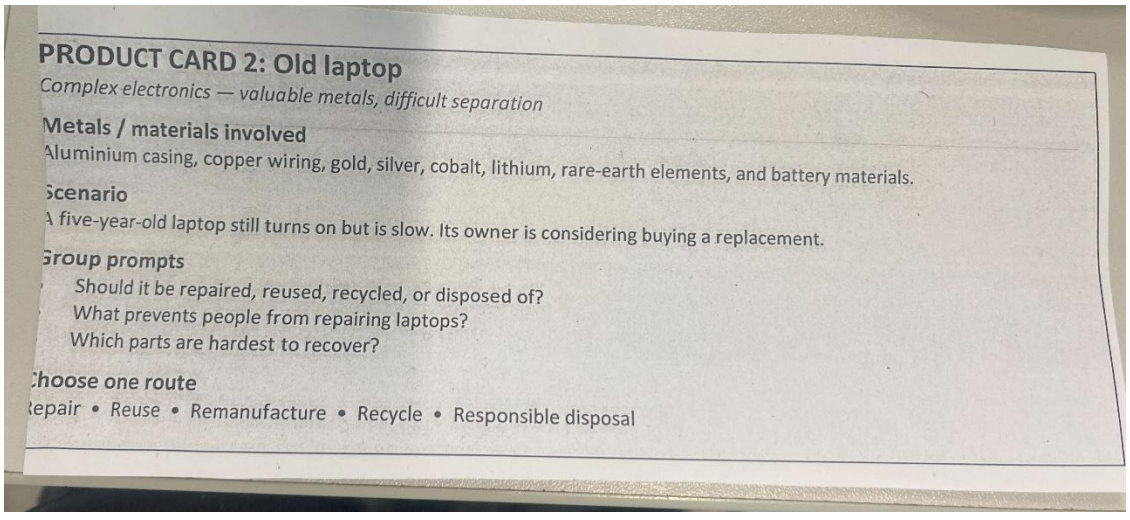
I connected this industrial context with my research on aluminium–copper alloy solidification at SETU. The aim was to show how questions about material behaviour relate to wider decisions about production and use, while keeping the explanation accessible.

From there, the workshop moved to familiar objects such as bicycles, kettles and laptops. The supporting materials explored repair costs, access to spare parts, product design and the availability of repair services. These examples helped frame circularity as a practical issue involving people, information and infrastructure as well as materials.

The old laptop quiz and discussion

A short quiz-style product-card activity brought the topic into an everyday situation. Participants were asked to consider a five-year-old laptop that still turned on but had become slow. Its owner was thinking about buying a replacement.

The card highlighted the valuable materials inside electronics, including aluminium, copper, gold, silver, cobalt, lithium and rare-earth elements. It then asked participants to consider possible next steps: repair, reuse, remanufacture, recycling or responsible disposal.


PRODUCT CARD 2: Old laptop

Complex electronics — valuable metals, difficult separation

Metals / materials involved

Aluminium casing, copper wiring, gold, silver, cobalt, lithium, rare-earth elements, and battery materials.

Scenario

A five-year-old laptop still turns on but is slow. Its owner is considering buying a replacement.

Group prompts

- Should it be repaired, reused, recycled, or disposed of?
- What prevents people from repairing laptops?
- Which parts are hardest to recover?

Choose one route

Repair • Reuse • Remanufacture • Recycle • Responsible disposal

Questions that opened the conversation

Should the laptop be repaired, reused, recycled or disposed of? What prevents people from repairing laptops? Which parts are hardest to recover? Participants were invited

to choose a route and think through the reasons behind it.

This was a discussion exercise rather than a scored test. The scenario left room to consider what additional information would be needed, such as the cause of the slowdown, repair options, cost and the condition of the device. It made the relationship between product life, material value and recovery easier to discuss without requiring specialist knowledge.

Connecting the exercise with the wider workshop

The laptop card complemented the broken-kettle example in the presentation materials. Both raised the question of why a circular option may be difficult in practice, even when someone wants to avoid waste. The activity also offered a common starting point for people with different research interests and everyday experiences.



Dr Vivek Christhunathan sharing with the group during the workshop in Room K103.

Short contributions and audience reflections were part of the workshop format, alongside opportunities for informal conversation over refreshments. Participants were welcome to share a research experience, a question or a personal observation, and were equally welcome to listen.

What the support made possible

The workshop delivered a two-hour, in-person opportunity to discuss metal circularity in accessible language. Its documented outputs include the host presentation, an illustrated presentation deck, the product-card activity and photographs of the event.

Together, these materials provide a record of the session and a basis for future educational use.

The practical value of the format was that participants could approach a broad environmental subject through a familiar decision. The laptop scenario linked resource use and material recovery with questions about the products people already own. The personal opening provided another route into the conversation, connecting a place and its industrial history with present-day sustainability questions.

Learning as an early-career organiser

For me, organising the event provided experience in planning a workshop, preparing accessible materials, coordinating campus arrangements and facilitating contributions. Translating my research interests into examples that a broad audience could engage with was an important part of that learning.

The experience also highlighted the value of a manageable discussion prompt. A specific situation, such as an old laptop that still works, gives people a clear question to consider and room to explain different choices. For a future session, I would retain this approach and add a brief feedback form to record what participants found useful and what they would like to explore next.

Publicity and follow up

The event was promoted through a SETU website event listing and registration materials. A photographic record and presentation materials have been retained, and a LinkedIn recap has been prepared to share the workshop's themes and acknowledge the support received. These outputs can help extend the conversation beyond those who were able to attend.

Acknowledgements

I sincerely thank the EPA and ESAI for supporting the workshop through the Grassroots Workshop Support Scheme. This support helped turn an idea into an event that connected my hometown, my research and a wider conversation about sustainability.

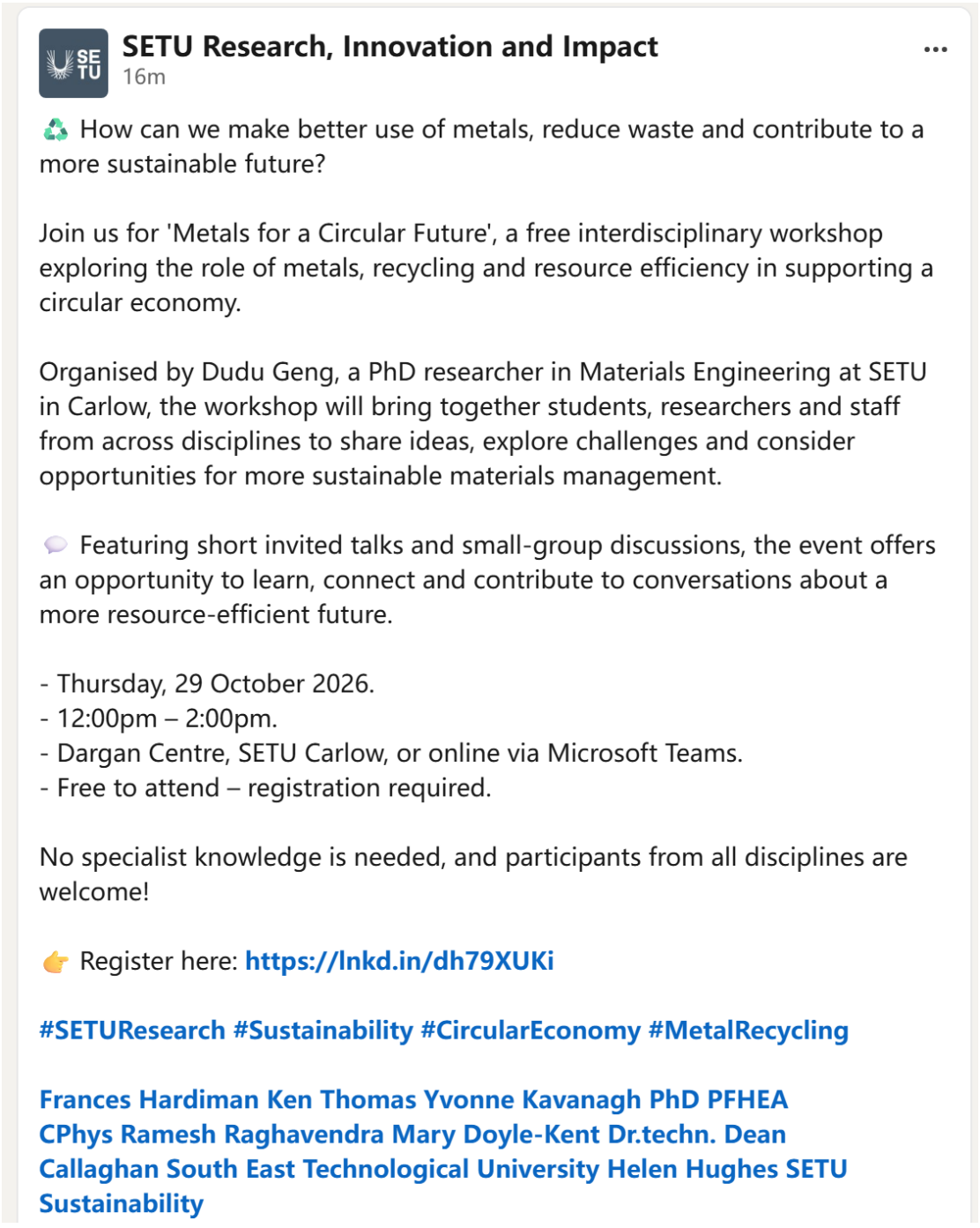
Thank you also to everyone who attended, contributed or took time to listen, and to the SETU colleagues who assisted with the venue, publicity and practical arrangements. Their time and encouragement were greatly appreciated.

Dissemination through University

Dissemination link

SETU | Metals for a Circular Future: Workshop to Explore Recycling…

https://www.linkedin.com/feed/update/urn:li:activity:7515781109243179008



SETU Research, Innovation and Impact
16m

♻️ How can we make better use of metals, reduce waste and contribute to a more sustainable future?

Join us for 'Metals for a Circular Future', a free interdisciplinary workshop exploring the role of metals, recycling and resource efficiency in supporting a circular economy.

Organised by Dudu Geng, a PhD researcher in Materials Engineering at SETU in Carlow, the workshop will bring together students, researchers and staff from across disciplines to share ideas, explore challenges and consider opportunities for more sustainable materials management.

💬 Featuring short invited talks and small-group discussions, the event offers an opportunity to learn, connect and contribute to conversations about a more resource-efficient future.

- Thursday, 29 October 2026.
- 12:00pm – 2:00pm.
- Dargan Centre, SETU Carlow, or online via Microsoft Teams.
- Free to attend – registration required.

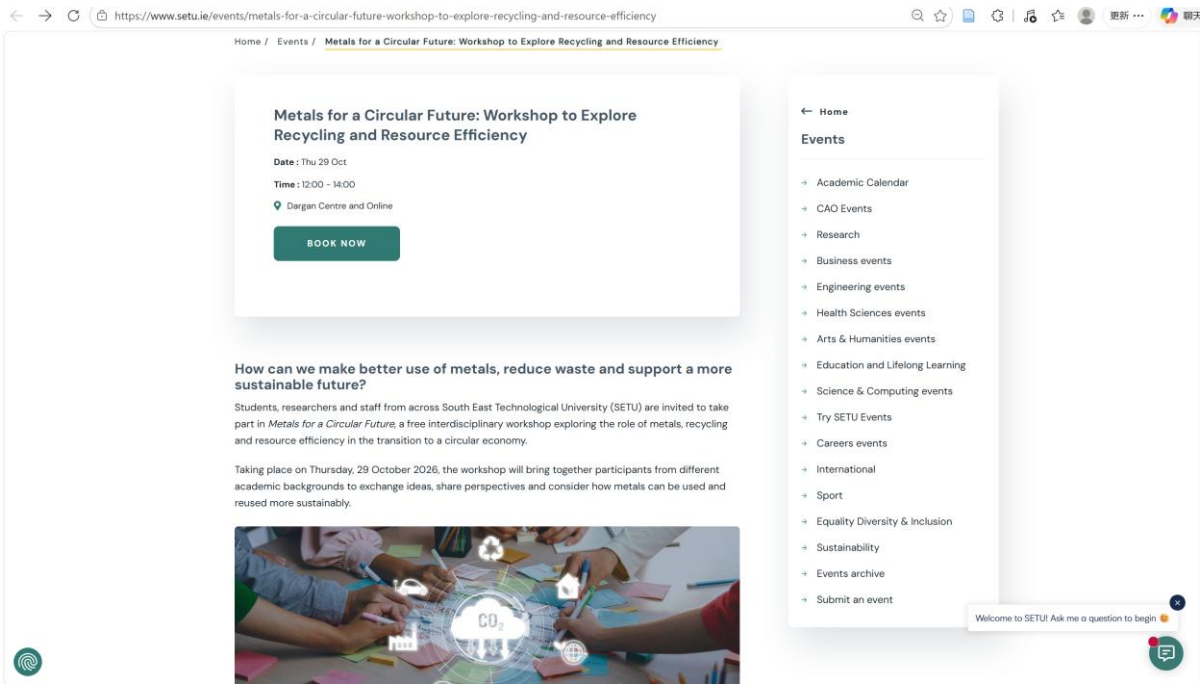
No specialist knowledge is needed, and participants from all disciplines are welcome!

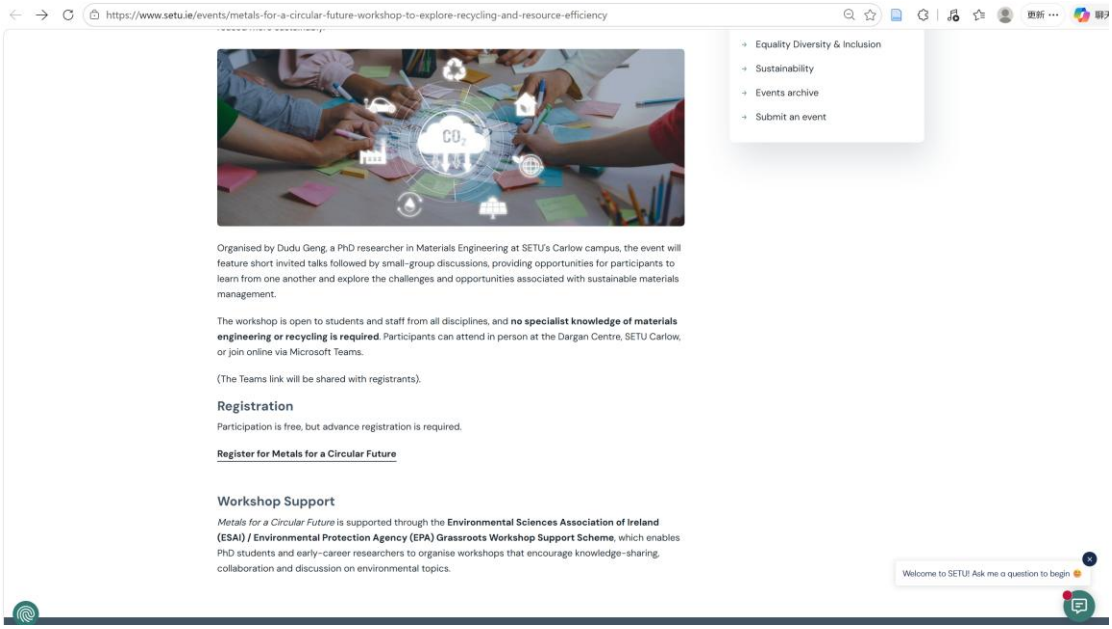
👉 Register here: **https://lnkd.in/dh79XUKi**

#SETUResearch #Sustainability #CircularEconomy #MetalRecycling

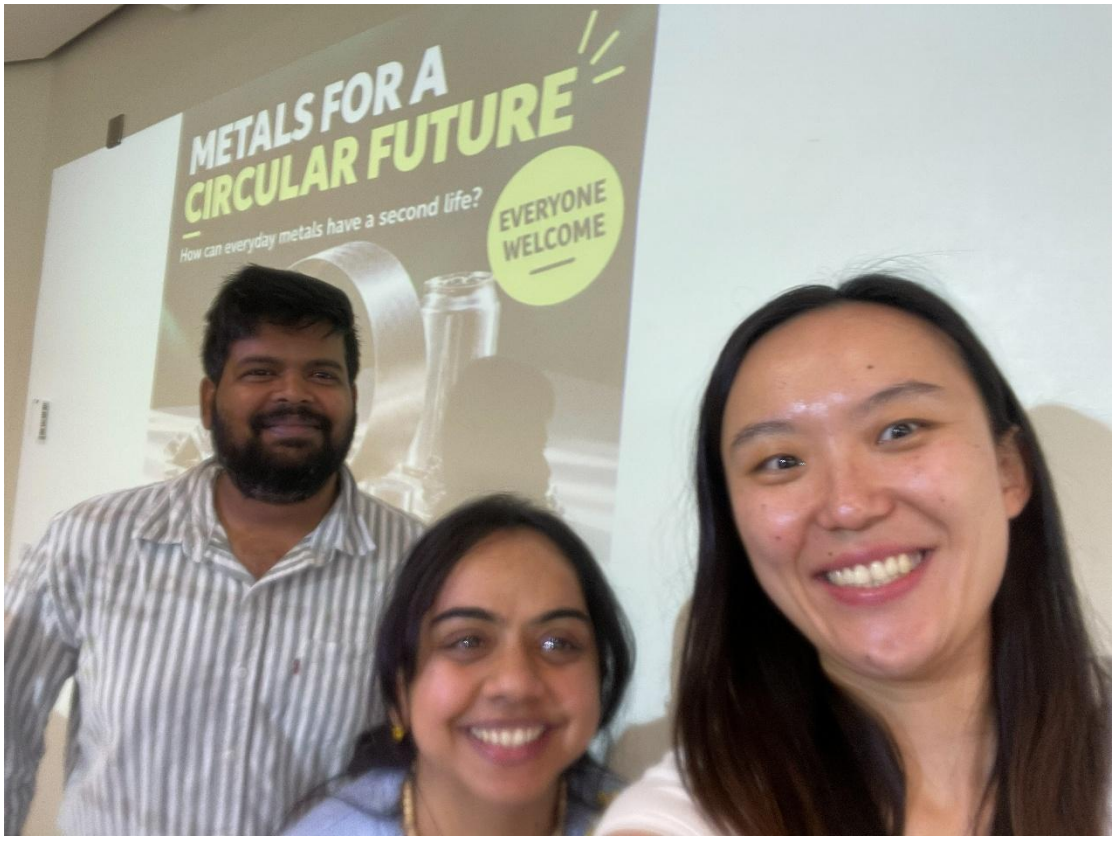
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Metals for a Circular Future
Workshop to Explore Recycling and Resource Efficiency
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https://www.setu.ie/events/metals-for-a-circular-future-workshop-to-explore-recycling-and-resource-efficiency
Home / Events / Metals for a Circular Future: Workshop to Explore Recycling and Resource Efficiency
Metals for a Circular Future: Workshop to Explore Recycling and Resource Efficiency
Date : Thu 29 Oct
Time : 12:00 - 14:00
Dargan Centre and Online
BOOK NOW
How can we make better use of metals, reduce waste and support a more sustainable future?
Students, researchers and staff from across South East Technological University (SETU) are invited to take part in Metals for a Circular Future, a free interdisciplinary workshop exploring the role of metals, recycling and resource efficiency in the transition to a circular economy.
Taking place on Thursday, 29 October 2026, the workshop will bring together participants from different academic backgrounds to exchange ideas, share perspectives and consider how metals can be used and reused more sustainably.
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More pictures from the event




CIRCULAR FUTURE
How can everyday metals have a second life?
EVERYONE WELCOME
No specialist knowledge needed—just bring your curio
Thursday, 29 October 2026
12pm–2pm
FREE • IN PERSON
Short talks
Everyday examples
Networking
Discover, discuss and share ideas for a more sustainable
SCAN TO REGISTER
FREE ENTRY
epaResearch


TU Carlow
13:00–13:08 Manasa Hegde
13:08–13:16 Conversation
13:16–13:24 Dr Meryem Aqlil
13:24–13:32 Dr Rajendra Kumar
13:32–13:40 Dr Dylan S. Edirisinghe
13:40–14:00 Discussion & closing
availability






NMTV
内蒙古卫视
包钢：辉煌70年
齐心协力建包钢 挺起祖国工业脊梁
Baogang包钢, or
Baotou Iron and
Steel Group


Blast Furnace No. 1)
This iconic photograph captures the completion of Baogang's No. 1 blast furnace and its first production of molten iron. It embodies the spirit of "Building Baogang Together."
Baogang Today · The Modern Steelworks in Colou
A contemporary view of Baogang, featuring the
sculpture at the entrance and the neatly landscap
contrast with the historical photographs is striking.
Early Baogang · Original Colour Photograph (Blast Furnace in the 1980s)
An original colour photograph taken in the 1980s, rather than a colourised image. It shows workers and the blast furnace pipework of the time.


METALS FOR A
CIRCULAR FUTURE


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How can everyday metals have a second life?
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Kahoot! Plus
Kahoot!
Metal Circularity, Ireland


at never became waste
Trami
Tasih-naer
used for generations


Copper that never became waste
Mined once, used for generations




Can we sort metal by listening to it?

