

CDT week-- H₂ home visit

20th November 2023

Programme

Cohort 5 students	
Group leader: Dr Yolanda Sanchez Vicente	
8:00	Pick up at Durham University, Department of Physics Rochester Building, DH1 3LE
9:00	Pick up at Northumbria University, City campus east roundabout near Northumbria Nursery
10:00	Drop off: Hydrogen Home, NE21 6LE
10:00-13:00	<p>NGN staff introduction and cover off the site induction / rules</p> <p>CEV and InTEGReL Update – (@Keith Owen)</p> <p>Quick coffee break</p> <p>Update on H21 Projects and update on HyDeploy project (Either in person or remote / Pre -recorded presentation)</p> <p>Tour of site; HyDeploy Compound, Hydrogen Home</p> <p>InTEGReL for discussion, Thank you and leave site</p>
13:00	Return back to the university, drop off at Northumbria University then Durham University.

Low Thornley is a working gas site, please ensure you wear suitable footwear and, if possible, bring hi vis jackets. Spare jackets are available on site, if needed. Please note; failure to wear suitable footwear may result in not being able to join the visit.

Please read the attached visitor briefing before your visit. I will ask you to sign this on arrival.

Group leader instructions

Please arrive to the site as close to your agreed timeslot as possible. You may be asked to leave and return closer to your allocated time if you arrive too early. Due to the nature of the site, you cannot walk around unescorted.

Use the postcode to locate the site, **NE21 6LE**.

If you need to cancel your visit, please let the organiser know as soon as possible.

Site map



9th North East Energy Materials and Systems (NEEMS 9) meeting

21st November 2023, Great Hall (Sutherland Building), Northumbria University, Newcastle Upon Tyne. ([link to campus map](#) – building no 27)

Programme

Morning - Energy Materials and Systems	
9:00	Registration with coffee and tea
9:30	Welcome: Introduction to ReNU and NEEMS
	<u>Industry talks: Challenges from supply chain to application</u>
9:45	Dr Dave Brignall, Northern Lithium <i>Developing a North East based junior mining company to supply battery grade Lithium Carbonate for the UK EV manufacturing</i>
10:25	Alexandra Stavropoulou, Oxford Instruments <i>Electron microscopy and battery materials</i>
11:10	Dr Gary Chandler, Alexander Dennis <i>Reducing emissions in the bus industry</i>
11:50	Break
12:00-12:25	ReNU cohort 2 pitch (final year doctoral candidate) -2 min each student
12:25-12:30	Introduction to industry-challenge projects C9 (Dr Haimeng Wu)
Lunch & ReNU cohort 5 (first year of PhD) Posters	
13:45	Update on ReNU ⁺
14:00 – 14:50	Student led roundtable discussion: <i>Circular economy and Net Zero: challenges and pathways to sustainability</i>
15:00-16:25	Whole Energy Systems group project presentations (cohort 4 students, 4 groups, 15 minutes + 5 mins Q&A for each group) Chair: Dr Vincent Barrioz
	Group 1: Bethany Willis, Jake Forsyth-Hughes and Ian Mills Project: ' Do we need new PV technologies? Examining the economic, supply-chain, and regulatory drivers behind the PV industry and assessing to what extent commercial

	Silicon PV devices can meet these challenges.
	<p>Group 2: Jessica Bedward, Will Tetlow and Mian Mohammad Faisal</p> <p>Project: Smart-City Concepts, how can we have collaboration to create better Net Zero Strategies (Think about Industrial Estates, rainwater capture, Solar Power sharing, Solar Heating Sharing) 10kW Solar / Battery shipping container power modules for example, installed in car parks so a building need not have extensive construction to get to net Zero.</p>
	<p>Group 3: Tesfay Berhe Gebreegziabher, Muhammed Rishan K K and Sam Power</p> <p>Project: Grid scale electrochemical energy storage. Assessing the opportunities and barriers to the use of electrochemical energy storage technologies for grid-level energy storage in the context of increased use of renewable energy generation.</p>
	<p>Group 4: Babatunde Okeowo, Joseph Thomas, David Roughton-Reay</p> <p>Project: Electric cars - Weighing them up. Assess how much the extra weight of electric vehicles is adding to the carbon footprint, and whether we should be aiming to make smaller, lighter EVs, or if this would make little difference and merely switching to any EV, albeit bigger and heavier is making almost the same improvement..</p>
16:30	Drinks and light food reception
17:00	Close



CDT week—Cohort 3 Scientific Presentations

23rd November 2023, Great Hall (Sutherland Building), Northumbria University, Newcastle Upon Tyne. (Building no 27)

Programme

9:30 – 10:00	<i>Registration with coffee and tea</i>
10:00 – 12:00	<i>ReNU students presentations (15 min each including Q&A)</i> <i>Chair: Yongtao Qu</i>
	<i>Switching on the lights: Making light-emitting materials through quaternisation of sp²-hybridised nitrogen atoms</i> - Ruth Pollard
	<i>Post-deposition Annealing of Antimony Selenide Thin Films for Photovoltaic Efficiency Enhancement</i> - Udari Wijesinghe
	<i>Closing the carbon loop with biomass-waste derived carbon nanodots</i> — Lawrence Bruce
	<i>Anti-Perovskite Solid Electrolytes for All-Solid-State Batteries</i> - George Edward Rudman
	<i>Photocapacitors for Ambient Energy Applications</i> -Timo Keller
	<i>Designing Novel Oxysulfides for Energy Applications</i> - Glen Heberd
	<i>Low-Carbon Engineering Framework for a Resilient Water Network Using Renewable Energy and Storage Integration</i> –Divyabhan Duggal
12:00-13:30	<i>Lunch</i>
13:00-15:30	<i>ReNU students presentations (15 min each including Q&A)</i> <i>Chair: Yongtao Qu</i>
	<i>POM-stabilised metal nanoparticles for precise molecular engineering of catalytic interfaces</i> – Amar Mohammed
	<i>Decentralised Integration of Renewable Energy sources through smart grid Technologies</i> – Alexis Aguilar Celis
	<i>Thermodynamics and phase stability of Ba-Zr-S compounds</i> - Prakriti Kayastha

	<i>The synthesis of materials from waste</i> - Catherine Crockett
	<i>Coplanar Reverse- Electrowetting Test Structures for Vibration Sensing and Energy Harvesting</i> - Tida Moyo (Online)
15:30 – 16:30	<i>Networking and conclusion</i>

Campus map



 Reception/Information
  Parking
  Cycle Parking
  Electric Vehicle Charge Point
  Food and Drink
  ATM Machine
  Starbucks
  Subway
  Smoking Area
  Santander Branch
  Accessible Building Entrance
  Accessible Parking

- 1 Burt Hall
- 2 Campus Services
- 3 City Campus East 1 – Business and Law
Student Central
CCE Restaurant & Deli, 1880 Café
- 4 City Campus East 2 – Design School
- 5 Claude Gibb
- 6 Drill Hall
- 7a Ellison Building A Block
- 7b Ellison Building B Block
- 7c Ellison Building C Block
- 7d Ellison Building D Block
- 7e Ellison Building E Block
- 8 Ellison Gardens
- 9 Ellison Terrace
- 10 Glenamara House
- 11 Library
- 12 Student Central
- 13 Lipman Building
- 14 Louvaine Halls and Flats
- 15 Muslim Prayer Facility
- 16 Nixon Hall
- 17 Northumberland Building
Café Central
- 18 Northumbria Nursery
- 19 Occupational Health Centre
- 20 Pandon Building
Pandon Grab and Go
Sandyford Building
Fusion Café
Gallery North
Student Support and Wellbeing Centre
- 21 Sport Central
- 22 Squires Annexe
- 23 Squires Building
- 24 Squires Workshops
- 25 Shop Central
- 26 Students' Union
- 27 Sutherland Building
- 28 Sutherland House (Security)
- 29 Trinity Building
- 30 Wynne-Jones Building inc Chaplaincy and Faith Advice Centre
- 31 The Zone
- 32 Mail and Transport
- Future Developments**
- 33 CIS Building, coming 2018
- 34 Architectural Building, coming 2018

CDT week—Registered Scientist Workshop

Friday, 24th November 2023, Great Hall (Sutherland Building), Northumbria University, Newcastle Upon Tyne. (Building no 27)

Programme

Cohort 5 students and optional for cohort 2-4

Workshop leader: Catherine Tuckey, Nelly Harvey (The Royal Society of Chemistry)

Register Scientist Awardee: Oliver Rigby, Sergio Serrano Blanco

10:00-12:00

ReNU is accredited by both the RSC and the IOP. All ReNU students will be able to apply for Registered Scientist (RSci) status at the end of the second year. RSci is a mark of excellence show personal and professional integrity. By becoming RSci students will receive professional validation of skills and knowledge as a practising scientist; be entitled to use the designatory letters RSci after name demonstrate student's commitment to maintaining high professional standards; elevate student's credibility and confidence; demonstrate that ReNU students have transferrable skills and are committed to improving them; increase ReNU students' appeal to potential employers and more.

Following the online training on 13th October, this workshop is organised to invite students who are interested in submitting RSci applications. In the workshop, we will go through the application form, brainstorm and discuss what we could write in the application form and answer questions if there is any.

The agenda would be:

- **Knowledge:** Review the overarching competence areas
- **How to:** how to work with their mentor or review how it is going so far (building rapport, working or learning styles, 'contracting' phase i.e. working out expectations)
 - comment/case study from successful RSci awardee.
- **Clarifying development goals:** Short exercise: flesh out their development and application goals (so they can take this to their next mentor meeting). Each attendees writes this down for themselves.
 - **How to:** Provide a walkthrough of Pathfinder and how it can be used going into their PhD and compiling evidence for an application, then encourage them to look around for themselves (if they can be asked to bring their laptops to the session).
 - If they aren't RSC members, ask them to sign up there and then, or with IoP.
- **How to:** start forming a plan on how to progress (as they probably won't have many examples to use so far) covering the next 6 months (doing the PhD and developing), 12 months to final submission (completing the statements) also touching on using Pathfinder for these activities.
- worked examples:
 - **Practicing planning their development:** take a couple of the competences and work up the plans for how they would meet

- them (short exercise).
- comment/case study from successful RSci awardee.
 - **Practicing writing out the statements:** take a couple of the competences and go through how to write them out either before hand, or during the workshop in small groups (but they would need to revisit this once they have a bit more experiences to draw on). See attached example of a similar activity we did at Strathclyde
 - facilitate a discussion on how they found the exercise.
 - comment/case study from successful RSci awardee.

Campus map

