From: Glen McHale, Northumbria University, 8/10/19
Subject: Opportunities in (i) Smart Materials & Surfaces and (ii) Energy Materials

Dear Colleagues,

I would be grateful if you could circulate this email to those who may be interested.

Re: Opportunities in (i) Smart Materials & Surfaces and (ii) Energy Materials

- **Academic Posts Available – Lecturer/Senior Lecturer to Associate Professor/Professor**
- **Various Disciplines/Multiple Posts including**
    - Electrical Engineering
    - Mechanical Engineering
    - Physics

Northumbria University here in Newcastle upon Tyne (UK) is currently advertising a wide range of academic posts as part of any initiative to strengthen the quality of its research and to contribute to its development across both Research and Learning & Teaching.

The posts are advertised at

https://www.northumbria.ac.uk/work-for-us/job-vacancies/

with a closing date for applications of **3rd November 2019**.

The University Vision is to be a "***Research-rich, business-focused, professional University with a global reputation for academic excellence***." In the last UK-wide Research Excellence Framework (REF2014), we achieved the highest rise in research power (by 30 places) of any UK University. In learning and teaching the University holds a silver Teaching Excellence Framework (TEF) award and seeks to increase that to gold. Our ambition for the next UK-wide Research Excellence Framework (REF2021) is to achieve step change in research with a further rise of 20 places.

My own research interest is aligned to **Smart Materials & Surfaces** and **Energy Materials** with staff in these areas located in the departments of Mathematics, Physics & Electrical Engineering and Mechanical & Construction Engineering. In the next UK-wide Research Assessment Exercise (REF2021) we will contribute in Materials Physics/Science/Engineering to a Faculty submission to Unit of Assessment (UoA12) "General Engineering" of 100+ academic staff with work that is world-leading (4*) and internationally excellent (3*).

There has been significant investment in research and research facilities by the University with strong appointments and significant refurbishment and extension of laboratories. Staff have returned this confidence with success in the recent EPSRC Centre for Doctoral Training (CDT) competition leading a CDT in Renewable Energy North East Universities (ReNU) and success with response mode EPSRC grant awards. Examples of recent top-ranking journal-based outputs by staff within the **Smart Materials & Surfaces Lab** research group include the following.

1. Recoverable and self-healing electromagnetic wave absorbing Nanocomposites, Dai, et al. *Composites Science and Technology* **174,** 27 (2019)
2. Snap evaporation of droplets on smooth topographies, Wells et al., *Nature Communications* **9**, 1380 (2018)
3. Topological liquid diode, Li et al., *Science Advances* **3**, eaao3530 (2017)

4. Transparent flexible thermoelectric material based on non-toxic earth-abundant p-type copper iodide thin film, Yang et al., *Nature Communications* **8**, 16076 (2017)
5. Not spreading in reverse: The dewetting of a liquid film into a single drop, Edwards et al., *Science Advances* **2**, e1600183 (2016)
6. Ever-increasing pseudocapacitance in RGO-MnO-RGO sandwich nanostructure for ultrahigh rate lithium storage, Yuan et al., *Advanced Functional Materials* **26**, 2198 (2016)
7. Superconfinement tailors fluid flow at microscales, Setu et al, *Nature Communications* **6**, 7297 (2015)
8. A sublimation heat engine, Wells et al., *Nature Communications* **6**, 639 (2015)
9. Voltage-induced spreading and superspreading of liquids, McHale et al., *Nature Communications* 4, 1605 (2013)

We welcome applications from well-qualified individuals from the UK, EU and International.

For informal enquiries about these vacancies, please contact

- Associate Professor Rodrigo Ledesma-Aguilar: rodrigo.ledesma@northumbria.ac.uk
  (Physics/Theoretical Physics/Fluid Mechanics)
- Associate Professor Gary Wells: gary.wells@northumbria.ac.uk
  (Electrical Engineering/Experimental Physics/Soft Matter/Materials)
- Professor Laurent Dala: laurent.dala@northumbria.ac.uk
  (Mechanical Engineering/Fluid Mechanics/Materials)