Biographical Sketch

Dr. Alexandra F. Paterson
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(a) Professional preparation

Imperial College London	Experimental Solid State Physics	Ph.D. (2017)
The University of Exeter	Physics	BSc (Hons) (2009)

(b) Appointments

2021-present	Assistant Professor in Materials and Electrical Engineering, University of Kentucky, United States
2017-2020	Postdoctoral Research Fellow, King Abdullah University Science and Technology (KAUST), Saudi Arabia
2009-2013	Applied Physicist, Smart Materials and Defence Technologies, QinetiQ Ltd, Farnborough, United Kingdom

(c) Publications

Selected publications:

1. **A. F. Paterson**, A. Savva, S. Wustoni, L. Tsetseris, B. D. Paulsen, H. Faber, A. H. Emwas, X. Chen, G. Nikiforidis, T. C. Hidalgo, M. Moser, I. P. Maria, J. Rivnay, I. McCulloch, T. D. Anthopoulos, S. Inal. "Water stable molecular n-doping produces organic electrochemical transistors with high transconductance and record stability", *Nature Communications*. DOI:10.1038/s41467-020-16648-0 (2020).
2. **A. F. Paterson**, L. Tsetseris, R. Li, A. Basu, H. Faber, A.-H. Emwas, J. Panidi, Z. Fei, M. R. Niazi, D. H. Anjum, M. Heeney, T. D. Anthopoulos, "Addition of the Lewis Acid Zn(C6F5)2 Enables Organic Transistors with a Maximum Hole Mobility in Excess of 20 $cm^2 V^{-1} s^{-1}$". *Advanced Materials*, DOI:10.1002/adma.201900871 (2019).
3. **A. F. Paterson**, H. Faber, A. Savva, G. Nikiforidis, M. Gedda T. C. Hidalgo, X. Chen, I. McCulloch, T. D. Anthopoulos, S. Inal. "On the Role of Contact Resistance and Electrode Modification in Organic Electrochemical Transistors", *Advanced Materials*. DOI:10.1002/adma.201902291 (2019).
4. **A. F. Paterson**, A. D. Mottram, H. Faber, M. R. Niazi, Z. Fei, M. Heeney, T. D. Anthopoulos, "Impact of the Gate Dielectric on Contact Resistance in High-Mobility Organic Transistors". *Advanced Electronic Materials*, DOI: 10.1002/aelm.201800723 (2019).

5. **A. F. Paterson**, B. C. Schroeder, H. Bronstein, M. Heeney, I. McCulloch, T. D. Anthopoulos, “High Mobility Organic Transistors: Recent Progress and Reality Check”. *Advanced Materials,* DOI: 10.1002/adma.201801079 (2018).
6. **A. F. Paterson**, N. D. Treat, W. Zhang, Z. Fei, G. Wyatt-Moon, H.Faber, G. Vourlias, P. A. Patsalas, O. Solomeshch, N. Tessler, M. Heeney, T. D. Anthopoulos, “Small Molecule/Polymer Blend Organic Transistors with Hole Mobility Exceeding 13 cm^2/Vs”, *Advanced Materials*, DOI: 10.1002/adma.201601075, (2016)

(d) Synergistic activities

1. KY Multiscale | NNCI: **Printed Electronics Theme Lead** (2021-present).

   National Science Foundation (NSF) supported National Nanotechnology Coordinated Infrastructure (NNCI): Kentucky Multi-Scale Manufacturing and Nano Integration Node (KY Multiscale)

2. Outreach, science communication and event organisation:

   i. *Science busking* as part of the British Science Festival activities in London British Science Association; member of the *Outreach team* in the Department of Physics at Imperial College London; volunteer at *Imperial College London Festival* in the United Kingdom; volunteer at *The Big Bang Fair* in the United Kingdom. (2011-2017)

   ii. Organised, advertised and chaired a science, technology engineering and mathematics (STEM) entrepreneurship event, *Academia or Industry?,* for postgraduates. Held at The Royal Society in London. (2016)

   iii. Co-organized, advertised and hosted a public, large-scale Greenlight for Girls Outreach event at Imperial College London, for over 200 girls aged 12-16, with 20 science-based workshops. (2015).

   iv. Organised, advertised and chaired an event, *Display Technologies,* to communicate the latest scientific developments in display technologies to the public and the wider, non-specific research community. Held at Imperial College London with guest speakers from academia and industry. (2015)

3. Committee member: *The Society for Information Display*, United Kingdom and Ireland Chapter (2014-2017); *Women in Physics (WiP)*, Imperial College London (2014-2017).

4. Patent: “*Electromagnetic field absorbing composition*”, WO2015052254 A1, G. Fixter, S. Hussain, **A. F. Paterson**, filed October 8, 2014 and issued April 16, 2015.

5. Peer reviewer: *Advanced Science*, *Advanced Electronic Materials, Journal of Materials Chemistry C, ACS Applied Materials & Interfaces, Organic Electronics, IEEE Transactions on Electron Devices, Materials Today: Proceeding.*