



## Education

- 2017 –** University of Oregon, United States of America  
Assistant Professor
- 2015 – 2017** Massachusetts Institute of Technology, United States of America  
Postdoctoral Associate  
Advisors: Mircea Dincă, Yogesh Surendranath, Yuriy Román-Leshkov
- 2012 – 2015** University of Bath, United Kingdom  
PhD  
Advisor: Aron Walsh
- 2007 – 2011** Monash University, Australia  
Undergraduate and Honours  
Advisors: Ekaterina Izgorodina, Douglas MacFarlane

## Five Representative Publications

*Electroactive Nanoporous Metal Oxides and Chalcogenides by Chemical Design*

**Hendon, C. H.**, Butler, K. T., Ganose, A. M., Román-Leshkov, Y., Scanlon, D. O., Ozin, G. A., Walsh, A., *Chem. Mater.*, **2017**, *29*, 3663

*Chemical principles for electroactive metal-organic frameworks*

Walsh, A., Butler, K. T., **Hendon, C. H.\***, *MRS Bulletin*, **2016**, *41*, 870

*Realistic Surface Descriptions of Heterometallic Interfaces: The Case of TiWC Coated in Noble Metals*

**Hendon, C. H.\***, Hunt, S. T., Milina, M., Butler, K. T., Walsh, A., Román-Leshkov, Y., *J. Phys. Chem. Lett.*, **2016**, *7*, 4475

*One-Dimensional Magnus-Type Platinum Double Salts*

**Hendon, C. H.**, Walsh, A., Akiyama, N., Konno, Y., Kajiwar, T., Ito, T., Kitagawa, H., Sakai, K., *Nat. Commun.*, **2016**, *7*, 11950

*Absorbate-induced piezochromism in a porous molecular crystal*

**Hendon, C. H.**, Wittering, K. E., Chen, T.-H., Kaveevivitchai, W., Popov, I., Butler, K. T., Wilson, C. C., Cruickshank, D. L., Miljanić, O. Š., Walsh, A., *Nano Lett.*, **2015**, *15*, 2149

## Invited Lectures

- 2017** ACS 253<sup>rd</sup> National Meeting (San Francisco, CA), University of Limerick (Limerick, Ireland), University of Portsmouth (Portsmouth, United Kingdom)
- 2016** World Coffee Leader 2016 (Seoul, South Korea), SCAA Lecture Series (Atlanta, GA), BGA Bloom (Providence, RI) BGA Barista Camp (Java Center, NY), East Coast Coffee Madness (Montreal, Canada)
- 2014** Tamper Tantrum (Prague, Czech Republic) SCAA Lecture Series (Seattle, WA) BGE Lomi (Paris, France)

## Awards

- |             |  |             |   |
|-------------|--|-------------|---|
| <b>2016</b> | Re:Co Symposium Fellowship Award           | <b>2013</b> | RSC Early Career Energy Sector Prize    |
| <b>2014</b> | Silver Prize, HPC Wire Entertainment Prize | <b>2010</b> | Monash University Jubilee Award         |
| <b>2014</b> | British Petroleum Technology Prize         | <b>2009</b> | Monash University Brian Gatehouse Award |

## Complete Publication List

49. Tandem Grotthuss and Vehicular Proton Transport in a Metal-Organic Framework with Two Distinct Hydrophilic Pores  
Park, S. S., Rieth, A. J., **Hendon, C. H.**, Dincă, M., *Angew. Chem. Int. Ed.*, **2017**,
48. Signature of Metallicity of a Metal-Organic Framework  
Dou, J.-H., Sun, L., Ge, Y., Li, W., **Hendon, C. H.**, Li, J., Dincă, M., *J. Am. Chem. Soc.*, **2017**,
47. Revisiting the incorporation of Ti(IV) in UiO-type metal-organic frameworks: metal exchange versus grafting and their implications for photocatalysis  
Santaclara, J. G., Olivos-Suarez, A. I., Gonzalez-Nelson, A., Osadichii, D., Nasalevich, M. A., van der Veen, M. A., Kapteijn, F., Sheveleva, A. M., Veber, S. L., Fedin, M. V., Murray, A. T., **Hendon, C. H.\***, Walsh, A., Gascon, J., *Chem. Mater.*, **2017**,
46. Designing porous electronic thin-film devices: band offsets and heteroepitaxy  
Butler, K. T., **Hendon, C. H.**, Walsh, A., *Farad. Disc.*, **2017**,
45. Electronic structure design of nanoporous, electrically conductive zeolitic imidazolate frameworks  
Butler, K. T., Worrall, S. D., Molloy, C. D., **Hendon, C. H.**, Attfield, M. P., Dryfe, R. A. W., Walsh, A., *J. Mater. Chem. C*, **2017**,
44. Highly Stereoselective Heterogeneous Diene Polymerization by Co-MFU-4l: A Single-Site Catalyst Prepared by Cation Exchange  
Dubey, R., Comito, R. J., Wu, Z., Zhang, G., Rieth, A. J., **Hendon, C. H.**, Miller, J. T., Dincă, M., *J. Am. Chem. Soc.*, **2017**,
43. Grand Challenges and Future Applications for Metal-Organic Frameworks  
**Hendon, C. H.**, Rieth, A. J., Korzyński, M., Dincă, M., *ACS Cent. Sci.*, **2017**, 3, 554
- Cover Imagery**
42. Is iron unique in promoting electrical conductivity in MOFs?  
Sun, L., **Hendon, C. H.**, Park, S. P., Tulchinsky, Y., Wan, R., Wang, F., Walsh, A., Dincă, M., *Chem. Sci.*, **2017**, 8, 4450
41. Selective Dimerization of Propylene with Ni-MFU-4l  
Comito, R. J., Metzger, E. D., Wu, Z., Zhang, G., **Hendon, C. H.**, Miller, J. T., Dincă, M., *Organometallics*, **2017**, 36, 1681
40. Reversible Capture and Release of Elemental Halogens with a Redox-Active Metal-Organic Framework  
Tulchinsky, Y., **Hendon, C. H.**, Lomachenko, K. A., Borfecchia, E., Melot, B. C., Hudson, M. R., Tarver, J. D., Korzyński, M. D., Stubbs, A. W., Kagan, J. J., Lamberti, C., Brown, C. M., Dincă, M., *J. Am. Chem. Soc.*, **2017**, 139, 5992
39. Electroactive Nanoporous Metal Oxides and Chalcogenides by Chemical Design  
**Hendon, C. H.**, Butler, K. T., Ganose, A. M., Román-Leshkov, Y., Scanlon, D. O., Ozin, G. A., Walsh, A., *Chem. Mater.*, **2017**, 29, 3663
38. The organic secondary building unit: strong intermolecular  $\pi$ -interactions define topology in MIT-25, a mesoporous MOF with proton-replete channels  
Park, S. S., **Hendon, C. H.**, Fielding, A. J., Walsh, A., O'Keeffe, M., Dincă, M., *J. Am. Chem. Soc.*, **2017**, 139, 3619
37. The impact of solvent relative permittivity on the dimerization of organic molecules well below their solubility limits: examples from brewed coffee and beyond  
Bradley, E. S., **Hendon, C. H.**, *Food Funct.*, **2017**, 8, 1037
36. Mechanism of Single-Site Molecule-Like Catalytic Ethylene Dimerization in Ni-MFU-4l  
Metzger, E. D., Comito, R. J., **Hendon, C. H.**, Dincă, M., *J. Am. Chem. Soc.*, **2017**, 139, 757
35. Magnetic Coupling in a Hybrid Mn(II) Acetylene Dicarboxylate  
**Hendon, C. H.\***, Pradaux-Caggiano, F., Hatcher, L. E., Gee, W. J., Wilson, C. C., Carbery, D. R., Walsh, A., Melot, B. C., *Phys. Chem. Chem. Phys.*, **2016**, 18, 33329
34. Chemical principles for electroactive metal-organic frameworks  
Walsh, A., Butler, K. T., **Hendon, C. H.\***, *MRS Bulletin*, **2016**, 41, 870
33. Realistic Surface Descriptions of Heterometallic Interfaces: The Case of TiWC Coated in Noble Metals

**Hendon, C. H.\***, Hunt, S. T., Milina, M., Butler, K. T., Walsh, A., Román-Leshkov, Y., *J. Phys. Chem. Lett.*, **2016**, 7, 4475

32. *Tracking a Common Surface-Bound Intermediate during CO<sub>2</sub>-to-Fuels Catalysis*

Wuttig, A., Liu, C., Peng, Q., Yaguchi, M., **Hendon, C. H.**, Motobayashi, K., Ye, S., Osawa, M., Surendranath, Y., *ACS Cent. Sci.*, **2016**, 2, 522

31. *Lone-Pair Stabilization in Transparent Amorphous tin Oxides: A Potential Route to p-Type Conduction Pathways*

Wahila, M. J., Butler, K. T., Lebens-Higgins, Z. W., **Hendon, C. H.**, Nandur, A. S., Treharne, R. E., Quackenbush, N. F., Sallis, S., Mason, K., Paik, H., Schlom, D. G., Woicik, J. C., Guo, J., Arena, D. A., White Jr., B. E., Watson, G. W., Walsh, A., Piper, L. F. J., *Chem. Mater.*, **2016**, 28, 4706

30. *Frontier orbital engineering of metal-organic frameworks with extended inorganic connectivity: Porous alkaline earth oxides*

**Hendon, C. H.\***, Walsh, A., Dincă, M., *Inorg. Chem.*, **2016**, 55, 7265

29. *One-Dimensional Magnus-Type Platinum Double Salts*

**Hendon, C. H.**, Walsh, A., Akiyama, N., Konno, Y., Kajiwara, T., Ito, T., Kitagawa, H., Sakai, K., *Nat. Commun.*, **2016**, 7, 11950

28. *Polymorphism of the azobenzene dye compound methyl yellow*

Cruikshank, D. L., **Hendon, C. H.\***, Verbeek, M. J. R., Walsh, A., Wilson, C. C., *CrystEngComm*, **2016**, 18, 3456

27. *Self-Assembly of Nobel Metal Monolayers on Transitions Metal Carbide Nanoparticle Catalysts*

Hunt, S. T., Milina, M., Alba-Rubio, A. C., **Hendon, C. H.**, Dumesic, J. A., Román-Leshkov, Y., *Science*, **2016**, 352, 974

26. *The effect of bean origin and temperature on grinding roasted coffee*

Uman, E., Colonna-Dashwood, M., Colonna-Dashwood, L., Perger, M., Klatt, C., Leighton, S., Miller, B., Butler, K. T., Melot, B. C., Speirs, R. W., **Hendon, C. H.\***, *Sci. Rep.*, **2016**, 6, 24483

**Highlighted in Nature (DOI: 10.1038/532417b)**

25. *Electronic origins of photocatalytic activity in do metal organic frameworks*

Nasalevich, M. A., **Hendon, C. H.**, Santaclara, J. G., Svane, K., van der Linden, B., Veber, S. L., Fedin, M. V., Houtepen, A. J., van der Veen, M. A., Kapteijn, F., Walsh, A., Gascon, J., *Sci. Rep.*, **2016**, 6, 23676

24. *A Simple and Non-Destructive Method for Assessing Ligand Incorporation of Bipyridine Dicarboxylates as Linkers in Metal-Organic Frameworks*

**Hendon, C. H.**, Bonnefoy, J., Quadrelli, E. A., Canivet, J., Chambers, M. B., Rouse, G., Walsh, A., Fontecave, M., Mellot-Draznieks, C., *Chem. Eur. J.*, **2016**, 22, 3713

23. *Crystal structure optimization using an auxiliary equation of state*

Jackson, A. J., Skelton, J. M., **Hendon, C. H.**, Butler, K. T., Walsh, A., *J. Chem. Phys.*, **2015**, 143, 184101

**Cover Imagery**

22. *Role of entropic effects in controlling the polymorphism in formate ABX<sub>3</sub> metal-organic frameworks*

Kieslich, G., Kumagai, S., Butler, K. T., Okamura, T., **Hendon, C. H.**, Sun, S., Yamashita, M., Walsh, A., Cheetham, A. K., *Chem. Commun.*, **2015**, 51, 15538

21. *Million-Fold Electrical Conductivity Enhancement in Fe<sub>2</sub>(DEBDC) versus Mn<sub>2</sub>(DEBDC) (E = S, O)*

Sun, L., **Hendon, C. H.**, Minier, M., Walsh, A., Dincă, M., *J. Am. Chem. Soc.*, **2015**, 137, 6164

20. *Catalytic Amine Oxidation under Aerobic Ambient Conditions: Mimicry of Monoamine Oxidase Enzyme*

Murray, A. T., Dowley, M. J. H., Pradaux-Caggiano, F., Baldansuren, A., Fielding, A. J., Tuna, F., **Hendon, C. H.**, Walsh, A., Lloyd-Jones, G. C., John, M. P., Carbery, D. R., *Angew. Chem. Int. Ed.*, **2015**, 127, 9125

19. *Modular design of SPIRO-OMeTAD analogues as hole transport materials in solar cells*

Murray, A. T., Frost, J. M., **Hendon, C. H.**, Molloy, C. D., Carbery, D. R., Walsh, A., *Chem. Commun.*, **2015**, 51, 8935

**TOC ROFL**

18. *Chemical principles underpinning the performance of the metal-organic framework HKUST-1*

**Hendon, C. H.**, Walsh, A., *Chem. Sci.*, **2015**, 6, 3674

**Hot Paper**

17. *Absorbate-induced piezochromism in a porous molecular crystal*

**Hendon, C. H.**, Wittering, K. E., Chen, T.-H., Kaveevitvachai, W., Popov, I., Butler, K. T., Wilson, C. C., Cruickshank, D. L., Miljanić, O. Š., Walsh, A., *Nano Lett.*, **2015**, *15*, 2149

**TOC ROFL**

16. *Nanocrystals of Cesium Lead Halide Perovskites (CsPbX<sub>3</sub>, X=Cl, Br, and I): Novel Optoelectronic Materials Showing Bright Emission with Wide Color Gamut*

Protesescu, L., Yakunin, S., Bodnarchuk, M. I., Krieg, F., Caputo, R., **Hendon, C. H.**, Yang, R. X., Walsh, A., Kovalenko, M. V., *Nano Lett.*, **2015**, *15*, 3692

**ACS Editor's Choice, Cover Art**

15. *Cation-Dependent Intrinsic Electrical Conductivity in Isostructural Tetrathiafulvalene-Based Microporous Metal-Organic Frameworks*

Park, S. S., Hontz, E. R., Sun, L., **Hendon, C. H.**, Walsh, A., Van Voorhis, T., Dincă, M., *J. Am. Chem. Soc.*, **2015**, *137*, 1774

14. *Assessment of polyanion (BF<sub>4</sub><sup>-</sup> and PF<sub>6</sub><sup>-</sup>) substitutions in hybrid halide perovskites*

**Hendon, C. H.**, Yang, R. X., Burton, L. A., Walsh, A., *J. Mater. Chem. A*, **2015**, *3*, 9067

13. *Photocatalytic CO<sub>2</sub> Reduction Utilizing Cp\*Rh-based Catalysts in Solution and Heterogenized within Metal-Organic Frameworks*

Chambers, M. B., Wang, X., Elgrishi, N., **Hendon, C. H.**, Walsh, A., Bonnefoy, J., Canivet, J., Quadrelli, E. A., Farrusseng, D., Mellot-Draznieks, C., Fontecave, M., *ChemSusChem*, **2015**, *8*, 603

12. *Electronic structure modulation of metal-organic frameworks for hybrid devices*

Butler, K. T., **Hendon, C. H.**, Walsh, A., *ACS Appl. Mater. Interfaces*, **2014**, *6*, 22044

11. *Tunable Trimers: Using Temperature and Pressure to Control Luminescent Emission in Gold(I) Pyrazolate-Based Trimers*

Woodall, C. H., Fuertes, S., Beavers, C. M., Hatcher, L. E., Parlett, A., Shepherd, H. J., Christensen, J., Teat, S. J., Intissar, M., Rodrigue-Witchel, A., Suffren, Y., Reber, C., **Hendon, C. H.**, Tiana, D., Walsh, A., Raithby, P. R., *Chem. Eur. J.*, **2014**, *20*, 16933

**Hot Paper**

10. *Ligand design for long-range magnetic order in metal-organic frameworks*

Tiana, D., **Hendon, C. H.**, Walsh, A., *Chem. Commun.*, **2014**, *50*, 13990

9. *The role of dissolved cations in coffee extraction*

**Hendon, C. H.\***, Colonna-Dashwood, L., Colonna-Dashwood, M., *J. Agric. Food Chem.*, **2014**, *62*, 4947

8. *Atomistic origins of high-performance in hybrid halide perovskite solar cells*

Frost, J. M., Butler, K. T., Brivio, F., **Hendon, C. H.**, van Schilfgaarde, M., Walsh, A., *Nano Lett.*, **2014**, *14*, 2584

7. *Computational screening of structural and compositional factors for electrically conductive coordination polymers*

Tiana, D., **Hendon, C. H.**, Walsh, A., Vaid, T. P., *Phys. Chem. Chem. Phys.*, **2014**, *16*, 14463

6. *Electronic chemical potentials of porous metal-organic frameworks*

Butler, K. T., **Hendon, C. H.**, Walsh, A., *J. Am. Chem. Soc.*, **2014**, *136*, 2703

**TOC ROFL**

5. *Three-electron two-centred bonds and the stabilisation of cationic sulfur radicals*

**Hendon, C. H.**, Carbery, D. R., Walsh, A., *Chem. Sci.*, **2014**, *5*, 1390

**TOC ROFL**

4. *Helical frontier orbitals of conjugated linear molecules*

**Hendon, C. H.**, Tiana, D., Murray, A. T., Carbery, D. R., Walsh, A., *Chem. Sci.*, **2013**, *4*, 4278

3. *Engineering the Optical Response of the Titanium-MIL-125 Metal-Organic Framework through Ligand Functionalization*

**Hendon, C. H.**, Tiana, D., Fontecave, M., Sanchez, C., D'assas, L., Sassoie, C., Rozes, L., Mellot-Draznieks, C., Walsh, A., *J. Am. Chem. Soc.*, **2013**, *135*, 10942

2. *Thermodynamic and electronic properties of tunable II-VI and IV-VI semiconductor based metal-organic frameworks from computational chemistry*

**Hendon, C. H.**, Tiana, D., Vaid, T. P., Walsh, A., *J. Mater. Chem. C*, **2013**, 1, 95  
**Hot Paper**

1. *Conductive metal-organic frameworks and networks: fact or fantasy?*

**Hendon, C. H.**, Tiana, D., Walsh, A., *Phys. Chem. Chem. Phys.*, **2012**, 14, 13120

**Cover Imagery**

## Books

Colonna-Dashwood, M., **Hendon, C. H.\***, 2015, ISBN: 978-1-78280-608-0

*Water For Coffee*

## Teaching Experience

*SCAA Lecturer 2014 – 2017 / World Coffee Leader 2016*

In 2014 I was elected to the Specialty Coffee Association of America lecturer series, presenting to a broad audience on chemistry, physics and biology relating to coffee. These lectures provided a foundation for numerous other educational lectures and public demonstrations to practitioners in the coffee industry. In 2016 I was elected to be a World Coffee Leader, further cementing my ability to communicate science to a diverse audience.

*University of Bath Teaching Associate 2012 – 2015*

Throughout my PhD I was a teaching associate for 1<sup>st</sup>-3<sup>rd</sup> year undergraduate computational and physical chemistry. This included both wet and dry-laboratory classes. Teaching reference: Fiona Dickinson, University of Bath, f.dickinson@bath.ac.uk

*Monash University Teaching Associate 2010 – 2011*

Throughout my Honours year, I was a teaching associate for 1<sup>st</sup> year synthetic organic and inorganic chemistries.

## Representative Media Coverage

### The Atlantic

<http://tinyurl.com/jmz4sk4>

### The New York Times

<http://tinyurl.com/glpebj9>

### Business Insider

<http://tinyurl.com/q74u573>

### Time Magazine

<http://tinyurl.com/hz2ur7u>

### Science

<http://tinyurl.com/jfr74qh>

### Nature

<http://tinyurl.com/htl5x>