PERSONAL DETAILS

Name: David Ryan Glowacki **Date of birth:** 9 July 1981
URL: www.glow-wacky.com **Nationality:** dual US/UK

EDUCATION

2004 – 2008 PhD in Physical Chemistry at the University of Leeds, UK
Advisor: Professor Michael Pilling

2003 – 2004 Master Of Arts in Cultural Theory at the University of Manchester, UK
Advisor: Professor Graham Ward

1999 – 2003 BS in Chemistry (*summa cum laude*) at the University of Pennsylvania, USA

PROFESSIONAL APPOINTMENTS

2014 – now Faculty Appointment by Courtesy, Dept of Computer Science (University of Bristol, UK)

2013 – now Faculty Appointment, Department of Chemistry (University of Bristol, UK)

2013 – now Visiting Scholar, Department of Chemistry/Mechanical Engineering (Stanford, USA)

2014 – 2015 Adjunct Faculty and MFA Supervisor, California College of Contemporary Art (San Francico, USA)

2013 – 2018 Royal Society University Research Fellow

2009 – 2013 Postdoctoral Research Associate (University of Bristol, UK)
Advisor: Professor Jeremy Harvey

2008 – 2009 Postdoctoral Research Associate at the (University of Leeds, UK)
Advisor: Professor Michael Pilling

MAJOR AWARDS (further notes on the next page)

2014 Named as Fellow of the Royal Society of Chemistry (FRSC)

2014 Royal Society of Chemistry Harrison-Meldola Memorial Prize for "theoretical work on energy transfer process in chemical reaction dynamics." This Prize is made to UK scientists aged 32 or under for "the most meritorious and promising original investigations in chemistry and published results of those investigations." Each year, no more than one of these awards goes to a chemist working in the area of physical or theoretical chemistry

2013 Royal Society University Research Fellow (URF). The URF award is extremely competitive. Approximately 30 are awarded each year across *all fields of science*, and the application success rate is typically 5 – 7%, with very few going to chemists. The URF pays salary and expenses for up to ten years, and affords a tremendous amount of scientific and intellectual freedom, e.g., enabling my visiting position at Stanford.

SCHOLARSHIPS AND ACADEMIC AWARDS

2007 J.B. Cohen Award for best PhD thesis, University of Leeds, School of Chemistry (UK)

2004 – 2007 Overseas Research Studentship (£12k/yr) and Tetley/Lupton PhD Scholarship (£3k/yr) to support PhD research at the University of Leeds School of Chemistry (UK)

2004 Arts, Histories, and Culture Award for best MA dissertation (University of Manchester)

2003 Fulbright Scholarship finalist for MA study at the University of Manchester (UK)

OTHER AWARDS

2011 – now New Talent Award (£6k/year) at Bristol Pervasive Media Studio (digital research lab)

2014 UK National Science Engagement Award (230 entries; ~3.5% selection rate)

2013 UK Innovation Award, '*Outstanding Contribution to Innovation*' (over 50 entries, ~2% selection rate)

2013 Prix Ars Electronica (Austria); Honorary Mention in Digital Aesthetics (3500 entries; ~2.1% selection rate)

2013 UK Royal Television Society Award, '*Best Digital Innovation*' (over 20 entries; ~5% success rate)

2013 Attendee at the Lindau Nobel Laureate Meeting (~2.5% selection rate)

2013 University of Bristol Science Engagement Award

GRANT INCOME

2016 – 2019 "Reaction Networks and Mechanisms: Discovery and Application in Combustion" [$240k to support Dr. Robin Shannon, Air Force Office of Scientific Research]

2016 – 2018	Marie Sklodowska Curie research fellowship (€183k to support Dr. Basile Curchod, European Commission)
2016 – 2020	Reactive Scattering Dynamics at the Gas-Liquid Interface: Bridging the gap between the Gas-Phase and Solution (£300k, EPSRC)
2015 – 2016	Immersive Scientific Software Frameworks, phase 2 (£250k, InnovateUK)
2015 – 2016	Scientific Software for Chemical Education, (£50k, UFI Charitable Trust)
2014 – 2015	Immersive Scientific Software Frameworks, phase 1 (£80k, InnovateUK)
2014 – 2018	Coupled Reaction Dynamics and Conformational Sampling on Multidimensional Enzyme Energy Landscapes (£135k, The Royal Society of London)
2014 – 2018	Integrated Hardware-Software Frameworks for Peta and Exascale simulation of quantum dynamics in biomolecular systems (£70k, EPSRC)
2013 – 2018	Beyond Equilibrium: ultrafast solution phase dynamics and Enzyme Catalysis (£500k, The Royal Society of London)
2013 – 2014	Sculpting Molecular Dynamics with Human Energy Fields: research & development (£120k, Arts Council England)
2013	*GPU-accelerated interactive molecular dynamics* (£10k, NVIDIA)
2010 – 2013	*Sculpting Dynamics Using Human Energy Fields* (£70k, EPSRC; £25k, Watershed Digital Media Centre; £20k, Royal Society of Chemistry)

RESEARCH SUPERVISION

2014 – now	**PhD students:** Michael O'Connor, Robert Arbon, Lisa May Thomas, Stephen Ingram, and Silvia Amabilino **Post-doctoral researchers:** Dr. Robin Shannon and Dr. Simon Bennie; **Research fellow:** Dr. Basile Curchod
2011 – 2014	co-supervisor of graduated PhD student Patrick von Glehn (with Profs. Adrian Mulholland & Jeremy Harvey)
2010 – 2014	Supervisor of four graduated masters degree project students [Robert Lightfoot (2011); Reece Beekmeyer (2012); Michael O'Connor (2013); James Price (2012)]

TEACHING ACTIVITIES

2015 – now	Lecturer to TMCS (Theory and Modelling in the Chemical Sciences) PhD students
2015 – now	Lecturer to University of Bristol undergraduates
2015 – now	Guest lecturer, digital aesthetics, California College of Contemporary Art (San Francisco)
2009 – now	Guest lecturer, photochemical dynamics, University Centre in Svalbard (Norway)
2009 – 2013	Tutorial Leader, Physical chemistry, School of Chemistry, University of Bristol

ORGANISATION OF SCIENTIFIC MEETINGS

2015	International Workshop on the OpenCL Parallel Compute Language, Stanford University 200 international participants, co-organized with Simon McIntosh-Smith

MEMBERSHIPS OF SCIENTIFIC SOCIETIES & NETWORKS

2009 – now	Member, Royal Society of Chemistry
2007 – now	Member, American Chemical Society
2013 – now	Academic Faculty member of a €6.7m Doctoral Training Centre Consortium between the Universities of Bristol, Oxford, and Southampton (www.tmcs.ac.uk)

MAJOR CROSS-INSTITUTIONAL COLLABORATIONS

2014 – now	Prof Hai Wang (Dept. of Mechanical Engineering, Stanford), Prof. Anna Krylov (Dept of Chemistry, USC), and Prof. Jim Pfaendter (Dept of Chem. Engineering, U of Washington) *Reaction Networks and Mechanisms: Discovery and Application in Combustion*
2014 – now	Prof. Ken McKendrick, Dr. Matt Costen, and Dr. Stuart Greaves *Reactive Scattering Dynamics at the Gas-Liquid Interface*
2013 – 2015	Prof Todd Martinez, Department of Chemistry, Stanford University *Non-adiabatic dynamics in high dimensional systems*
2008 – 2013	Dr. Dmitry Shalashilin & Dr. Emanuele Paci, School of Chemistry, University of Leeds *Rare event acceleration – development and application of the BXD algorithm*
2008 – now	Dr. Struan Robertson, Accelyrs Inc., Cambridge *maintenance of MESMER, an open-source, cross-platform master equation solver*

HIGH-PROFILE BRISTOL COLLABORATIONS

I have maintained a range of productive collaborations in the wider Bristol area, with colleagues at the University of Bristol (UoB) and beyond. These have led to high-profile publications in the following areas: (1) *Interactive High-Performance Computing* [with Simon McIntosh-Smith, Senior Lecturer in the UoB Dept of Computer Science]; (2) *conformational sampling and efficient algorithms for modelling enzyme catalysis* [with Prof. Adrian Mulholland in the UoB School of Chemistry]; (3) *non-statistical dynamics in condensed phases* [with Prof. Barry Carpenter in the School of Chemistry at the University of Cardiff]; (4) *ultrafast solution phase reaction dynamics* with Prof. Andrew Orr-Ewing at the UoB School of Chemistry; and (5) *interactive molecular dynamics frameworks* with Dr. Thomas Mitchell (University of the West of England), Prof. Joseph Hyde (Bath Spa University), and Philip Tew (Bristol Pervasive Media Studio).

OTHER NOTES

- I have served as a reviewer for over 10 well-known chemistry journals, including *J Chem Phys, J Phys Chem, JACS, Phys Chem Chem Phys, Nano Letters*, and *Nature Chemistry*
- I have made major contributions to several well-known scientific software packages, including CHARMM (Martin Karplus, Harvard), TINKER (Jay Ponder, Washington-St. Louis), OpenMM (Vijay Pande, Stanford), and TeraChem (Todd Martinez, Stanford).
- MESMER, an open-source cross-platform code for solving non-equilibrium Markov-state models, to which I have made major contributions, has had over 4000 downloads since its release in 2012
- In addition to my scientific output, I am also an internationally recognized for my contributions to interactive computing, scientific visualization, and digital aesthetics. This is the result of an ongoing project called dS ['danceroom spectroscopy', www.danceroom-spec.com]. Since 2010, dS has received major investment over €400k from a range of partners, including NVIDIA, Hoffman-LaRoche, The Royal Society, EPSRC, the Royal Society of Chemistry, the University of Bristol, and Arts Council England. It now receives invitations to top cultural and scientific venues across the world, and has already been experienced by over 200,000 people spanning Europe, the United States, and Asia. It has been installed at over 20 venues worldwide, including the London 2012 Olympics, the ZKM | Centre for Art and Media Technology in Karlsruhe, the Barbican in London, Austria's Ars Electronica, the Salzburg festival, New York's World Science festival, Stanford's art gallery, and the Bhutan international festival in Thimphu. I receive many invitations to deliver high-profile lectures related to science, technology, and aesthetics, and have delivered over twenty in the last three years.

SCIENTIFIC PUBLICATIONS (corresponding author denoted as *):

51 total publications including journals, books, and conference volumes, including 3 in Science, 2 in Nature Chemistry, and 1 in Proceedings of the National Academy of Science; 1074 citations; h-index = 20.

- M. O'Connor, S. McIntosh-Smith, and D.R. Glowacki, "Adaptive boxed molecular dynamics in multidimensional collective variable space", *Faraday Discussions*, in press
- J.N. Harvey, M. O'Connor, and D.R. Glowacki, "Empirical Valence Bond Methods for Exploring Reaction Dynamics in the Gas Phase and in Solution", *From Physical Chemistry to Chemical Biology: Theory and Applications of the Empirical Valence Bond Approach* (Imperial College Press, London), in press
- D.R. Glowacki, A.J. Orr-Ewing, and J.N. Harvey "Reaction and Relaxation Dynamics in a Strongly Interacting Explicit Solvent: F + CD3CN Treated with a Parallel Multi-state EVB Model", *Journal of Chemical Physics* 143*, 044120* (2015)
- L. Vereecken, D. R. Glowacki, and M. J. Pilling, "Theoretical Chemical Kinetics in Tropospheric Chemistry: Methodologies and Applications", *Chemical Reviews*, 115 (10), pp 4063–4114 **(2015)**
- G.T. Dunning, D.R. Glowacki,* *et al.* "Vibrational relaxation and micro-solvation of DF following F-atom reactions in polar solvents", *Science*, *Vol. 347 no. 6221 pp. 530-533* **(2015)**
- B.K. Carpenter,* J.N. Harvey, and D.R. Glowacki, "Prediction of Enhanced Solvent-Induced Enantioselectivity for a Ring Opening with a Bifurcating Reaction Path", *Phys Chem Chem Phys, **17**, 8372-8381* (2015)
- J. D. Hirst, D. R. Glowacki, M. Baaden,* "Molecular simulations and visualization: introduction and overview", *Faraday Discussions 169*, **(2014)**, 9-22
- A. Sisto, D. R. Glowacki,* T. J. Martinez,* "Non-adiabatic dynamics of multi-chromophore complexes: a scalable GPU-accelerated exciton framework," *Acc. Chem. Res.* **(2014)** 47 (9), pp 2857–2866
- J. Booth, S. Vazquez, E. Martinez-Nunez, A. Marks, J. Rodgers, D. R. Glowacki, and D. V. Shalashilin, "Recent Applications of Boxed Molecular Dynamics: a simple multiscale technique for atomistic simulations," *Phil. Trans. Royal Society A, v372 n2021 20130384* (**2014**)
- D. R. Glowacki,* *et al.* "A GPU-accelerated immersive audiovisual framework for interactive molecular dynamics using consumer depth sensors," *Faraday Discussions 169* **(2014)** 63 – 89

- J. J. Nogueira, Y. Wang, F. Martin, M. Alcami, D. R. Glowacki, D. V. Shalashilin, E. Paci, W. L. Hase, E. Martinez-Nunez, and S. Vazquez, "Unraveling the factors that control soft landing of small silyl ions on fluorinated self-assembled monolayers," *J. Phys. Chem. C, 118 (19), pp 10159–10169* (**2014**)
- L. Y. P. Luk, *et. al.* "Unraveling the role of protein dynamics in dihydrofolate reductase catalysis," *Proceedings of the National Academy of Sciences USA,* 110 (41), 16344-16349 **(2013)**
- D. R. Glowacki,* *et al.* "Non-equilibrium phenomena and molecular reaction dynamics: mode space, energy space, and conformer space," *Molecular Physics, Vol 111(5), p 631,* **(2013)**
- D. R. Glowacki,* P. Tew, T. Mitchell, J. Hyde, J. Price, and S. McIntosh-Smith, "danceroom Spectroscopy: Interactive quantum molecular dynamics accelerated on GPU architectures using OpenCL," *UK Many Core Development Conference* (UKMAC '12) **(2012)**
- D.V. Shalashilin,* G. S. Beddard, E. Paci, and D. R. Glowacki,* "Peptide kinetics from picoseconds to microseconds using Boxed Molecular Dynamics: power law rate coefficients in cyclization reactions," *Journal of Chemical Physics*, 137, 165102 **(2012)**
- D. R. Glowacki,* *et al.* "MESMER, an object-oriented, open source **M**aster **E**quation **S**olver for **M**ultiple **E**nergy well **R**elaxation," *Journal of Physical Chemistry A, 116(38) p 9545* (**2012**)
- D. R. Glowacki,* *et al.* "Interception of excited vibrational quantum states by O_2 in atmospheric association reactions", *Science*, Vol 337, no. 6098, pp 1066-1069 (**2012**)
- J. M. C. Plane,* C. L. Whalley, L. Soriano, A. Goddard, J. N. Harvey, D. R. Glowacki,* and A. A. Viggiano, "$O_2(a^1D_g)$ + Mg, Fe, and Ca: Experimental kinetics and formulation of a weak collision, multiwell master equation model with spin-hopping", *Journal of Chemical Physics*, 137, 014310 (**2012**)
- D. R. Glowacki,* J. N. Harvey and A. J. Mulholland,* "Protein dynamics and enzyme catalysis: The ghost in the machine?" *Biochemical Society Transactions*, 40, 515-521 (**2012**)
- R.A. Rose, S.J. Greaves, F. Abou-Chahine, D. R. Glowacki,* T.A.A. Oliver, M.N.R. Ashfold, I.P. Clark, G.M. Greetham, M. Towrie, and A.J. Orr-Ewing,* "Reaction dynamics of CN radicals with tetrahydrofuran in liquid solutions," *Phys Chem Chem Phys*, 14, 10424-10437 (**2012**)
- D. R. Glowacki,* *et al.* "Taking Ockham's razor to enzyme dynamics and catalysis," *Nature Chemistry*, 4, 169-176 **(2012)**
- D. R. Glowacki,* *et al.* "Ultrafast energy flow in the wake of solution phase bimolecular reactions," *Nature Chemistry*, 3, 850–855 **(2011)**, cover article
- D. R. Glowacki,* *et al.*, "Product Energy Deposition for CN + alkane H abstractions in Gas and Solution Phases," *Journal of Chemical Physics,* 134, 214508 **(2011)**
- M. N. R. Ashfold and D. R. Glowacki, "Photochemistry: Scrambled by the Sun?" *Nature Chemistry* (3), 423–424, (**2011**)
- S.J. Greaves, R.A. Rose, F. Abou-Chahine, D.R. Glowacki, D. Troya, and A.J. Orr-Ewing, "Quasi-classical trajectory study of the dynamics of the Cl + CH_4 reaction," *Physical Chemistry Chemical Physics*, 13, 11438-11445 (**2011**)
- A. J. Orr-Ewing,* D. R. Glowacki, S. J. Greaves, and R.A. Rose, "Chemical Reaction Dynamics in Liquid Solutions," *J. Phys. Chem. Lett.*, 2 (10), pp 1139–1144 **(2011)**
- D. R. Glowacki,* *et al.*, "Boxed molecular dynamics: decorrelation timescales and the kinetic master equation," *J. Chem. Theory Comp.*, 7 (5), pp 1244–1252 **(2011)**
- L. Goldman, D. R. Glowacki,* B. K. Carpenter,* "Nonstatistical Dynamics in Unlikely Places: [1,5] Hydrogen Migration in Chemically Activated Cyclopentadiene," *JACS*, 133 (14), pp 5312–5318 (**2011**)
- S.J. Greaves *et. al.*, "Vibrationally quantum-state-specific reaction dynamics of H atom abstraction by CN radical in solution," *Science, Vol. 331, no. 6023, p 1423-1426* **(2011)**
- S.A. Carr, D.R. Glowacki,* C.H. Liang, M.T. Baeza-Romero, M.A. Blitz, M.J. Pilling* and P.W. Seakins, "Experimental and modelling studies of the pressure and temperature dependences of the kinetics and the OH yields in the acetyl + O_2 reaction," *J. Phys. Chem. A*, 115 (6), pp 1069–1085 (**2011**)
- D. R. Glowacki,* et al. "Alkene Hydroboration: Hot Intermediates That React While They are Cooling," *J. Am. Chem. Soc.*, *132*(*39*), 13621-13623 (**2010**)
- D. R. Glowacki* and M.J. Pilling,* "Unimolecular reactions of peroxy radicals in atmospheric chemistry and combustion," *ChemPhysChem*, 11(18), 3836–3843 (**2010**)
- K.L. Gannon, M.A. Blitz, C.H. Liang, M.J. Pilling, P.W. Seakins, and D.R. Glowacki, "Temperature dependent kinetics and H atom yields from reactions of $^1CH_2$ with acetylene, ethene and propene," *Journal of Physical Chemistry A*, 114(35), p 9413–9424 (**2010**)
- K.L. Gannon, D.R. Glowacki, M.A. Blitz, J. N. Harvey, C. H. Liang, M.J. Pilling, and P.W. Seakins, "An experimental and theoretical investigation of the competition between chemical reaction and relaxation for

the reactions of $^1CH_2$ with acetylene and ethene: implications for the chemistry of the giant planets," *Faraday Discussions, 147*, 173-188 (**2010**)

- S. K. Reed, D. R. Glowacki, and D.V. Shalashilin "Quantum dynamics simulations of energy redistribution in HO-SO_2," *Chemical Physics*, 370(1-3), 223–231 (**2010**)
- D. R. Glowacki,* *et al*., "Boxed Molecular Dynamics: A Simple and General Technique for Accelerating Rare Event Kinetics and Mapping Free Energy in Large Molecular Systems," *J. Phys. Chem. B*., 113(52), 16603-16611 (**2009)**
- D. R. Glowacki *et al*. "Nonstatistical Dynamics in Organic Reaction Mechanisms: Time-Dependent Stereoselectivity in Cyclopentyne–Alkene Cycloadditions," *JACS*, 131 (39), pp 13896–13897 **(2009)**
- M. E. Jenkin, D. R. Glowacki, A. R. Rickard, M. J. Pilling, "Comment on 'Primary Atmospheric Oxidation Mechanism for Toluene,'" *Journal of Physical Chemistry A*, 113 (28), p 8136–8138 (**2009**)
- D. R. Glowacki *et al*. "Evidence for formation of bicyclic species in the early stages of atmospheric benzene oxidation," *J. Phys. Chem. A*, 113 (18), p 5385–5396 **(2009)**
- S. Murrison, D.R. Glowacki, C. Einzinger, J. Titchmarsh, S. Bartlett, B. McKeever, S. Warriner, and A. Nelson, "Remarkably slow rotation about a single bond between sp^2 and sp^3 hybridised carbon atoms," *Chemistry, A European Journal*, 15 (9), p 2185–2189 (**2009**)
- D. R. Glowacki, S.K. Reed, M.J. Pilling, D.V. Shalashilin, E. Martínez-Núñez, "Classical, quantum, and statistical simulations of vibrationally excited $HOSO_2$: IVR, dissociation and implications for OH + SO_2 complex Formation," *Physical Chemistry Chemical Physics*, 11(6), 963-974 (**2009**)
- M. Baeza-Romero,* D.R. Glowacki *et al* "Combined experimental and theoretical study of the reaction between methylglyoxal and OH/OD radical: OH regeneration," *Phys Chem Chem Phys*, 9(31), 4114 (**2007**)
- K. Gannon, D.R. Glowacki, *et al*. "H atom yields from the reactions of CN radicals with C_2H_2, C_2H_4, C_3H_6, *trans*-2-C_4H_8, and iso-C_4H_8," *J Phys Chem A*, 111(29), p 6679 **(2007)**
- K.W. McKee, M.A. Blitz, P.A. Cleary, D. R. Glowacki, et al., "Experimental and Master Equation Study of the Kinetics of OH + C_2H_2: Temperature Dependence of the Limiting High Pressure and Pressure Dependent Rate Coefficients," *J Phys Chem A*, 111(19), p 4034 **(2007)**
- D. R. Glowacki *et al*., "Design of and initial results from a highly instrumented reactor for atmospheric chemistry (HIRAC)," *Atmospheric Chemistry and Physics*, 7(20), p 5371 **(2007)**
- D. R. Glowacki *et al*. "Design and performance of a throughput-matched, zero-geometric loss, modified three objective multipass matrix system for FTIR spectrometry," *Applied Optics*, 46(32), p 7872 **(2007)**

DIGITAL AESTHETICS & HUMANITIES PUBLICATIONS (corresponding author denoted as *):

- T. Mitchell, J. Hyde, P. Tew, D. R. Glowacki, "danceroom Spectroscopy: at the frontiers of physics, performance, interactive art, and technology," *Leonardo*, April 2016, 49(2), p 138-147, (2016), cover article
- T. Mitchell, P. Tew, J. Smith, D.R. Glowacki, "Interactively Evolving Atomic Aesthetics and Dynamics", EvoStar 2016, in press (nominated for best paper)
- Joseph Hyde,* Thomas Mitchell, and D.R. Glowacki, "Molecular Music: repurposing a mixed quantum-classical model as an audiovisual instrument", in the *Proceedings of the 17th International Generative Art Conference*, (*GENArt 2014*), Roma, Italia
- D. R. Glowacki,* "Sculpting molecular dynamics in real-time using human energy fields," in *Molecular Aesthetics,* ISBN: 9780262018784 (MIT Press), ed. Peter Weibel, **(2013)**
- D. R. Glowacki, "All things to all people: unraveling the structure of the apostolic Panopticon," *Journal of Cultural and Religious Theory*, 11(1), p 78 (**2010**)
- D. R. Glowacki, "To the Reader: the structure of power in biblical translation, from Tyndale to the NRSV," *Journal of Literature and Theology*, 22(2), p 210 (**2008**)

INVITED SEMINARS (SELECTED)

Since 2007, I have given over 40 invited and contributed seminars for my scientific work. This includes conferences, companies, and academic departments across Europe, the USA, and Asia

2016 Advancing the Frontiers of (Bio)Chemistry with Valence Bond Approaches (Uppsala, Sweden)
2016 International Seminar on Gas Kinetics (York, UK)
2016 Advanced Methods for de novo Discovery of New Reactions and prediction of chemical reaction networks (Telluride, CO, USA)
2016 CECAM meeting on "Theoretical and Computational Studies of Non-Equilibrium and Non-Statistical Dynamics" (Paris, France)

2016 Royal Society Symposium on Public Engagement (Chichley Hall, UK)
2016 Virtual Winterschool on Computational Chemistry (International Teleconference with 400 participants)
2015 *Reactive Intermediates in Atmospheric Chemistry & Combustion*, Pacifichem International Conference 2015 (Honolulu, Hawaii)
2015 Joint Indonesia-UK Symposium on Theoretical Chemistry, sponsored by the Royal Society of Chemistry (Bandung, Indonesia)
2015 Joint Thailand-UK Symposium on Theoretical Chemistry, sponsored by the Royal Society of Chemistry (Bangkok, Thailand)
2015 Physical Chemistry Seminar (Oxford University)
2015 International conference on molecular energy transfer 2015 (Chengdu, China)
2015 D-School Seminar (Stanford University, USA)
2015 Chemistry Seminar (Birmingham University, Birmingham)
2015 Chemistry Seminar (Heriot Watt, Edinburgh)
2015 Chemistry Seminar (Imperial College, London)
2015 Chemistry Seminar (Trinity College, Dublin)
2014 Physics Colloquium (University of Bristol, UK; host Prof. Michael Berry)
2014 Human-Computer-Interaction Seminar (Stanford University, USA; host Prof. Michael Bernstein)
2014 International Photonics Research Conference (Stanford University, USA)
2014 Keynote speaker at Roche Continents (Salzburg, Austria; hosted by Hoffmann-LaRoche Ltd.)
2014 Physical Chemistry Seminar (Caltech, USA; host Prof. Thomas Miller III)
2014 Faraday Discussion on Molecular Simulation and Visualization (University of Nottingham, UK)
2014 Centre for Computer Research in Music and Acoustics (Stanford University, USA)
2014 Curiosity^3 Science & Aesthetics lecture series (Columbia University, USA)
2013 Chemistry Dept. Seminar (Cardiff University, UK; host Prof. Peter Knowles)
2013 International Transatlantic Frontiers in Chemistry (Kloster Seeon, Bayern, Germany)
2013 International workshop on "The Role of Enzyme Dynamics and Catalysis" (Telluride, CO, USA)
2012 UK Many core Development Conference (Bristol, UK)
2012 Chemistry Dept Seminar (University of Santiago de Compostela, Spain; host Prof Saulo Vazquez)
2012 Combustion Institute Seminar (Sandia National Labs, Livermore, USA; host Dr. David Chandler)
2011 Physical chemistry seminar (UW-Madison, USA; host Prof. Fleming Crim)
2011 Chemical Dynamics group meeting (Argonne National Labs, USA; host Dr. Stephen Pratt)
2011 CHARMM developer conference, (UW-Madison, USA; host Prof. Martin Karplus)
2010 NSF Partnerships in International Research and Education meeting (University of Santiago de Compostela, Spain; Host Prof. Bill Hase)
2010 International Multiscale Molecular Modeling Conference (University of Edinburgh, UK)
2009 Kinetics Seminar at Accelrys Inc. (Cambridge, UK)

ARTISTIC/CULTURAL EXPOSURE (SELECTED)

2015 (Jun) Gordon Craig Theatre, *Hidden Fields*, Stevenage (UK)
2015 (Mar) Z-Space, *Hidden Fields*, San Francisco (CA, USA)
2015 (Mar) Stanford Art Gallery, *Hidden Fields*, Stanford University (CA, USA)
2015 (Feb) Bhutan International festival, *danceroom Spectroscopy* public installation invited by the Bhutanese Royal Family, Thimphu (Bhutan)
2014 (Sept) Stanford Art Gallery, *danceroom Spectroscopy* public art installation, Stanford University (USA)
2014 (Aug) Salzburg International Festival, *Hidden Fields* (invited as part of the Roche Continents Art-Science Programme), Salzburg (Austria)
2014 (Jul) Bristol Proms, *Hidden Fields*, Bristol Old Vic Theatre, Bristol (UK)
2014 (Apr) Digital Dance Festival, *Hidden Fields public workshop*, University of Bedford (UK)
2014 (May) Leonardo Arts & Science festival, *danceroom Spectroscopy* public installation, San Jose (CA, USA)
2014 (Mar) Barbican Arts Centre; *danceroom Spectroscopy* public installation and *Hidden Fields* performance, London (UK)
2014 (Jan) SoundImageSound festival, University of the Pacific, *Molecular Music*, Stockton (CA, USA)
2014 (Jan) ZKM | Centre for Art and Media Technology, *danceroom Spectroscopy* public installation and *Hidden Fields* performance, Karlsruhe (Germany)
2013 (Nov) Waterman's Theatre, *Hidden Fields* performance, London (UK)

2013 (Nov)	Bath Spa University, 'Seeing Sound Festival', *Hidden Fields* performance, Bath (UK)
2013 (Oct)	Passenger shed, 'dSFest 360' *danceroom Spectroscopy* public installation and *Hidden Fields* performance, Bristol (UK)
2013 (Jul)	Bristol Proms, The Old Vic Theatre, *danceroom Spectroscopy* installation in collaboration with violinst Nicola Bendetti, Bristol (UK)
2013 (Jun)	World Science Festival, *danceroom Spectroscopy* installation, New York City (NY, USA)
2013 (Mar)	Big Bang Fair, *danceroom Spectroscopy* installation, London (UK)
2013 (Feb)	Kinetica Art Fair, *danceroom Spectroscopy* installation, London (UK)
2012 (Nov)	Barbican Arts Centre, *danceroom Spectroscopy* public installation and *Hidden Fields* performance, London (UK)
2012 (Aug)	London 2012 Olympics, *danceroom Spectroscopy* public installation and *Hidden Fields* performance, London (UK)
2012 (Jul)	Arnolfini Art Gallery, *danceroom Spectroscopy* public installation and *Hidden Fields* performance, (Bristol) UK
2012 (Jun)	Arnolfini Art Gallery, residency to develop the *Hidden Fields* performance, Bristol (UK)
2011 (Aug)	Shambala Arts Festival, *danceroom Spectroscopy* installation, Northhamptonshire (UK)
2011 (Aug)	Arnolfini Art Gallery, *danceroom Spectroscopy* public installation, Bristol (UK)
2011 (Jun)	Arnolfini Art Gallery, residency to develop *danceroom Spectroscopy*, Bristol (UK)
2011 (May)	Sonar Festival, *danceroom Spectroscopy* public installation, Barcelona (Spain)
2011 (Mar)	Changing Perspectives Arts/Science Festival, *danceroom Spectroscopy* public installation, Bristol (UK)