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NATIONALITY **British Citizen****APPOINTMENTS AND RESEARCH****Associate Professor** **Aug 2023-to date****Department of Physics, University of Warwick, Coventry, UK**

Synthesis and Optical Spectroscopy Characterisation of Composite Halide Perovskites (Prof. Tobias Korn, University of Rostock, Germany), Diamond NV Center Magnetometry and Quantum Computing (Prof Gavin Morely and Dr Anis Rahman, University of Warwick), 1D Van der Waals Heterostructures (Prof. Shigeo Maruyama, Tokyo, Engineering), Composite 1D Materials (Dr. Maria Burdanova, Moscow Institute of Science and Technology), Theory, Modelling and Electronic Properties Calculations of Halide Perovskite Composite Architectures (Dr. Christopher Patrick, Oxford, Materials), Boron Nitride (Dr. Roy Whitney, BNNT LLC, US), Phase Change Materials (Prof. Huaixin Yang, Chinese Academy of Sciences), High Performance Electron Microscopy (Prof. Quentin Ramasse, UK Midrange Electron Microscopy Facility - SuperSTEM), Chemistry of Perovskites (Prof. Richard Warton, University of Warwick, UK)

Assistant Professor**Aug 2020-Aug 2023****Department of Physics, University of Warwick, Coventry, UK**

Catalysis (Dr. Doğan Özkaya, Dr. Johnathan Sharman, and Dr. Enrico Petrucco, Johnson Matthey, UK), Chemistry of Perovskites (Prof. Richard Warton, University of Warwick, UK), High-Performance Electron Microscopy (Prof. Quentin Ramasse, UK Midrange Electron Microscopy Facility-SuperSTEM)

Senior Research Fellow**Aug 2016-Aug 2020****Department of Physics, University of Warwick, Coventry, UK**

Graphene and Modified Graphene (Prof. Andre Geim, Manchester Graphene Institute), Physics of Van der Waals Heterostructures (Prof. Rahul Nair, Manchester, Physics, Prof. Muhammed Missous, Electrical and Electronic, Manchester) Layered Functional Materials (Prof. Sarah Haigh, Manchester, Materials), Chemistry of Perovskites (Prof. Richard Warton, University of Warwick, UK)

Jul 2010-Aug 2016**Research Fellow****Department of Physics, University of Warwick, Coventry, UK**

Chemistry of Perovskites (Prof. Richard Warton, University of Warwick, UK), High-Performance Electron Microscopy (Prof. Quentin Ramasse, UK Midrange Electron Microscopy Facility-SuperSTEM), Catalysis (Dr. Doğan Özkaya and Dr. Enrico Petrucco, Johnson Matthey, UK)

Sep 1994 – May 2007**EDUCATION****Lecturer****Urmia University, Urmia, Iran**

Teaching undergraduate and postgraduate physics modules on Electricity and Magnetism, Electromagnetism, Superconductivity, Quantum Mechanics, Optical Properties of Solids, and Electrodynamics

PhD Materials Science**University of Manchester, Manchester, UK**

Doctor of Philosophy in (EPSRC funded EP/F013140/1)

Thesis: Compositional and Structural Properties of Semiconductor Nanostructures

Visiting EPSRC Mid-range national facility at SuperSTEM

Sep1992-July 1994

MSc (Hons, 1st) Physics**Sharif University of Technology, Tehran, Iran**

Sep1988- Jul 1992

BSc (Hons, 2:1) Physics**Sharif University of Technology, Tehran, Iran****TEACHING**Advanced Characterization of Nanomaterials, PhD students (Midlands Physics Alliance Graduate School, University of Warwick, 20 PhD Students, writing content, delivering lectures, examination) **2014-2023**MSc and BSc final years projects (PX3A0/PX3A1/PX402, writing proposal, supervision, marking and assessment) **2017-2023**Electricity and Magnetism (1st year BSc), Electromagnetism (2nd Year BSc), Superconductivity (4th Year BSc), Quantum Mechanics (3RD Year BSc), Optical Properties of Solids (4th Year BSc), Electrodynamics (4th Year BSc-Full content leader-lectures, setting, marking,30-50 students) **1994 –2007****AWARDS AND GRANTS**PI, Warwick Innovations, Proof of Concept for PV devices **Apr 2023**Best Value Proposition and Commercialization Award (Alan Turing Institute) **Mar 2023**Fellow of Warwick Institute of Engagement **Feb 2022- to date**Vice Chancellor's WOW Award for Engagement **Jan 2023**Top three Warwick's Short-Listed Proposals for EPSRC Net-Zero Call **Nov 2022**PI EPSRC, XAFS and XRD of Inorganic Halide Perovskites (beam time) **Dec 2020**PI EPSRC, Diamond Light Source Structure of Confined Materials (beam time) **Oct 2020**ESRF XMaS-BM28 Grenoble (beam time) **Sep 2020**Named Researcher EPSRC, Crystallography and Functional Evolution of Atomically Thin Confined Nanowires **July 2018 £1.1M**Named Researcher, EPSRC, Advanced Devices by ElectroPlating **Jul 2016 £6.3M**Named Researcher, EPSRC, Nanostructures by Supercritical Electrodeposition **Jun 2011 £6.5M****STUDENT SUPERVISION**Supervision and co-supervision of 6 PhD students (Department of Physics, Warwick) **2022- to date**Supervision of 4 MSc students (Department of Physics, Warwick) **2011- to date**Supervision of 10 BSc students (Department of Physics, Warwick) **2015- to date**Supervision of 11 BSc students (Urmia University, Iran) **1994 –2007****ADMINISTRATION AND MANAGEMENT**Core member of Warwick Physics' Research Committee **2018-to date**Department of Physics' Welfare and Communication Committee Core Member **2016- to date**Member of Physics' Research Culture Forum **2022- to date****JOURNAL REVIEW**

Carbon, ACS Nano, Nano Letters, Physica Status Solidi, Materials, Catalysis

MEMBERSHIPSAssociate Member of Warwick Institute of Advance Studies **Sep 2021- to date**Associate Member of Institute of Physics **Sep 2009- to date**STEM Ambassador of Museum of Science and Technology-UK **Sep 2009- to date****INVITED CONFERENCES PRESENTATION**International Winter School on Electronic Properties of Novel Materials, Kirchberg, Austria **2023**EMRS Fall Meeting, Warsaw, Poland **2022**The 81st JSAP Autumn Meeting, (2020), Tokyo, Japan **2020**International Microscopy Congress, Sydney, Australia **2018**22nd Meeting of the International Society of Electrochemistry, Tokyo, Japan **2018**

The Micro-Science Microscopy Congress, Manchester, UK

European Microscopy Congress (2016), Strasburg, France	2017
Advanced Electron Energy Loss Spectroscopy School, Jülich, Germany	2016
Microscience Microscopy Congress (MMC2014), Manchester, UK	2015
XII International Conference on Nanostructured Materials, Moscow, Russia	2014
18TH International Microscopy Congress (IMC2014) Prague, Czech Republic	2014
Frontiers of Microscopy in Materials Science (FEMMS), Lorne, Australia	2014
European Materials Research Society Meeting, Strasbourg, France	2013
European Microscopy Congress, Manchester, UK	2013
Condensed Mater Materials and Physics, University of Warwick, UK	2012
International Conference on Defects in Semiconductors, Brighton, UK	2010
The Institute of Physics EMAG conference, Sheffield, UK	2010
Microscopy of Semiconducting Materials VXI, Oxford, UK	2009

PUBLICATIONS

I have a considerable number of highly cited research outputs. With an h-index of 25, I have published 65 peer-reviewed journal articles, including publications in *Advanced Materials* (lead author, first manuscript, lead the project, designed experiments, and performed synthesis and characterisation including aberration corrected atomic scale microscopy, IF 32.1), *Nature Comm.* (lead author, first manuscript, lead the design and conducting of In-Line Holography characterisation methodology for Fluorinated Graphene, including aberration corrected atomic scale, IF 16.6), *Angewandte Chemie* (involved in writing manuscript and preparing figures, prepared samples, lead, designed and performed advanced microscopy experiments, IF 16.6), *ACS Nano* (lead author, first manuscript, lead the project, designed experiments, and performed synthesis and characterisation including aberration corrected atomic scale, IF 17.1), *nano* (involved in writing manuscript and preparing figures, prepared samples, lead, designed and performed advanced microscopy experiments, IF 11.3), and *Nano Letters* (involved in preparing manuscript, lead, prepared samples, designed and performed advanced microscopy experiments, IF 10.8).

REFEREED JOURNAL ARTICLES

1. M A Santos, A E Aliev, R. I. Walton, L. A. T. Carrasco, E. L. Perez-Cappe, M. G. Montiel, Edgar O. P. Reyex, N. D. S. Mohallem, R. J. Kashtiban, Y. M. Laffta, C. L. Insunza, R Shearing, D. J.L. Brett, “P and Fe doping, a strategy to develop light and magnetic responsive multifunctional materials: the case of LiMn₂O₄” *Journal of Alloys and Compounds* (2023), 172837
2. R.J Kashtiban, CE Patrick, Q Ramasse, RI Walton, J Sloan “Picoperovskites: The Smallest Conceivable Isolated Halide Perovskite Structures Formed Within Carbon Nanotubes” *Advanced Materials*, (2023), 2208575
3. Z. Hu, B. Breeze, R. J. Kashtiban, J. Sloan, and J. Lloyd-Hughes, “Zigzag HgTe Nanowires Modify the Electron–Phonon Interaction in Chirality-Refined Single-Walled Carbon Nanotubes” *ACS Nano* 16, (4), (2022) 6789–6800
4. R. J. Kashtiban, M. Burdanova, A. Vasylenko, J. Wynn, P. V. C. Meideros, Q. Ramasse, A. Morris, D. Quigley, J. Lloyd-Hughes and J. Sloan, “Linear and Helical Cesium Iodide Atomic Chains in Ultranarrow Single-Walled Carbon Nanotubes: Impact on Optical Properties”, *ACS Nano*, 15, (8), (2021), 13389–13398
5. M. G. Burdanova, Gleb M. Katyba, R. Kashtiban, G. A. Komandin, E. Butler-Caddle, M. Staniforth, A. A. Mkrtchyan, D. V. Krasnikov, Y. G. Gladush, J. Sloan, A. G. Nasibulin and J. Lloyd-Hughes “Ultrafast, high modulation depth terahertz modulators based on carbon nanotube thin films”, *Carbon* 173 (2021) 245-252
6. D.L. Burnett, C.D. Vincent, J.A. Clayton, R.J. Kashtiban, R.I. Walton, “Hydrothermal Synthesis of Iridium-Substituted NaTa perovskites”, *Nanomaterials*, 11, (6), (2021) 1537
7. R. Oozeerally, D. L. Burnett, T. W. Chamberlain, R. J. Kashtiban, S. Huband, R. I. Walton, V. Degirmenci, “Systematic Modification of UiO-66 Metal-Organic Frameworks for Glucose Conversion into 5-Hydroxymethyl Furfural in Water” *ChemCatChem*, 13, (10), (2021), 2517-2529
8. D. L. Burnett, E. Petrucco, R. J. Kashtiban, S. F. Parker, J. D. B. Sharman and R. I. Walton, “Exploiting the flexibility of the Pyrochlores composition for acid-resilient iridium oxide electrocatalysts in proton exchange membranes” *J. Mater. Chem. A*, 9, (44), (2021), 25114-25127
9. P. D. Morris, I. J. McPherson, M. A. Edwards, R. J. Kashtiban, R. I. Walton and P. R. Unwin “Electric Field-Controlled Synthesis and Characterisation of Single Metal–Organic-Framework (MOF) Nanoparticles” *Angew. Chem. Int. Ed.* 59, (44), (2020), 19696 – 19701
10. D. L. Burnett, E. Petrucco, K. M. Rigg, C. M. Zalis, J. Lok, R. J. Kashtiban, M. R. Lees, J. D. B. Sharman and R. I. Walton “(M,Ru)O₂ (M = Mg, Zn, Cu, Ni, Co) Rutilites and Their Use as Oxygen Evolution Electrocatalysts in Membrane Electrode Assemblies under Acidic Conditions” *Chem. Mater.*, 32, (14), (2020), 6150–6160

11. M. G Burdanova, R. J Kashtiban, Y. Zheng, R. Xiang, S. Chiashi, J. M. Woolley, M. Staniforth, E. Sakamoto-Rablah, X. Xie, M. Broome, J. Sloan, A. Anisimov, E. Kauppinen, S. Maruyama and J. Lloyd-Hughes "Ultrafast Optoelectronic Processes in 1D Radial van der Waals Heterostructures: Carbon, Boron Nitride, and MoS₂ Nanotubes with Coexisting Excitons and Highly Mobile Charges" *Nano Lett.*, **20**, (5), (2020) 3560–3567
12. D. L Burnett, E. Petrucco, A. E Russell, R. J. Kashtiban, J. D. B. Sharman, R. I Walton "In situ XAFS of acid-resilient iridate Pyrochlores oxygen evolution electrocatalysts under operating conditions" *Phys. Chem. Chem. Phys.* **22**, (34), (2020), 18770-18773
13. L. K McLeod, G. H. Spikes, R. J Kashtiban, M. Walker, A. V. Chadwick, J. DB Sharman, R. Walton 'Structures of mixed manganese ruthenium oxides (Mn_{1-x}Ru_x) O₂ crystallised under acidic hydrothermal conditions' *Dalton Trans.* **49**, (8), (2020), 2661-2670
14. R. Pertiwi, R. Oozeerally, D. L Burnett, T. W Chamberlain, N. Cherkasov, M. Walker, R. J. Kashtiban, Y. K. Krisnandi, V. Degirmenci, R. I Walton "Replacement of Chromium by Non-Toxic Metals in Lewis-Acid MOFs: Assessment of Stability as Glucose Conversion Catalysts", *Catalysts*, **9**, (5), (2019) 436-456
15. M. G. Burdanova, A. P. Tsapenko, D. A. Satco, R. Kashtiban, C. DW Mosley, M. Monti, M. Staniforth, J. Sloan, Y. G Gladush, A. G Nasibulin, J. Lloyd-Hughes "Giant negative terahertz photoconductivity in controllably doped carbon nanotube networks" *ACS Photonics* **6**, (4), (2019), 1058–1066
16. R. Huang, G. P Kissling, R. Kashtiban, Y. J. Noori, K. Cicvarić, W. Zhang, A. L Hector, R. Beanland, D. C Smith, G. Reid, P. N Bartlett, CH Kees de Groot "Towards a 3D GeSbTe phase change memory with integrated selector by non-aqueous electrodeposition" *Faraday Discuss.* **213** (2019), 339-355
17. D. S Cook, R. J Kashtiban, K. Krambrock, G. M de Lima, H. O Stumpf, L. RS Lara, J. D Ardisson, R. I Walton "Nanocrystalline Transition-Metal Gallium Oxide Spinel from Acetylacetonate Precursors via Solvothermal Synthesis" *Materials* , 12(5), (2019), 838-854
18. D. S. Park, G. J Rees, H. Wang, D. Rata, A. J Morris, I. V Maznichenko, S. Ostanin, A. Bhatnagar, C. J. Choi, R. DB Jónsson, K. Kaufmann, R. J. Kashtiban, M. Walker, C. Chiang, E. B Thorsteinsson, Z. Luo, I. Park, J. V Hanna, I. Mertig, K. Dörr, H. P Gíslason, C. F McConville "Electromagnetic Functionalization of Wide-Bandgap Dielectric Oxides by Boron Interstitial Doping" *Adv. Mater.* **30**, (39), (2018), 1802025-1802034
19. Clark, L. Nguyen, M. J. Hamer, F. Schedin, E. A. Lewis, E. Prestat, Al. Garner, Y. Cao, M. Zhu, R. Kashtiban, J. Sloan, D. Kepaptsoglou, R. V Gorbachev, S. J. Haigh 'scaleable patterning of encapsulated black phosphorus' *Nano Lett.* **18**, (9), (2018), 5373–5381
20. P. N Bartlett, R. Beanland, J. Burt, M. M Hasan, A. L Hector, R. J Kashtiban, W. Levason, A. W Lodge, S. Marks, J. Naik, A. Rind, G. Reid, P. W Robertson, J. Sloan, D. C Smith" Exploration of the smallest diameter tin nanowires achievable with electrodeposition: sub 7 nm Sn nanowires produced by electrodeposition from a supercritical fluid" *Nano Lett.* **18**, (2), (2018), 941–947
21. C. I Hiley, H. Y. Playford, J. M Fisher, N. C. Felix, D. Thompsett, R. J Kashtiban, R. I Walton 'Pair Distribution Function Analysis of Structural Disorder by Nb⁵⁺ Inclusion in Ceria: Evidence for Enhanced Oxygen Storage Capacity from Under-Coordinated Oxide" *J. Am. Chem. Soc.* **140**, (5), (2018), 1588–1591
22. H. Kunicki, T. W Chamberlain, G. Clarkson, R. J Kashtiban, J. E Hooper, D. M Dawson, S. E Ashbrook, R. I Walton" An expanded MIL-53-type coordination polymer with a reactive pendant ligand" *Cryst. Eng. Comm.* **20**, (31), (2018), 4355-4358
23. C. I Hiley, J. M Fisher, R. J Kashtiban, G. Cibin, D. Thompsett, R. I Walton "Incorporation of Sb⁵⁺ into CeO₂: local structural distortion of the fluorite structure from a pentavalent substituent" *Dalton Trans.* **47**, (49), (2018), 9693-9700
24. A. W Lodge, M. M Hasan, P. N Bartlett, R. Beanland, A. L Hector, R. J Kashtiban, W. Levason, G. Reid, J. Sloan, D. C Smith, W Zhang, 'Electrodeposition of tin nanowires from a dichloromethane-based electrolyte' *RSC Adv.* **8**, (42), (2018), 24013-24020
25. L. Nguyen, H. Komsa, E. Khestanova, R. J Kashtiban, J. JP Peters, S. Lawlor, A. M Sanchez, J. Sloan, R. V Gorbachev, I. V Grigorieva, A. V Krasheninnikov, S. J Haigh 'Atomic Defects and Doping of Monolayer NbSe₂" *ACS Nano* **11**, (3) (2017), 2894–2904
26. R. Huang, X. Yan, S. Ye, R. J. Kashtiban, R. Beanland, K. A. Morgan, M. D. B. Charlton, C. H. de Groot, "Compliance-Free ZrO₂/ZrO_{2-x}/ZrO₂ Resistive Memory with Controllable Interfacial Multistate Switching Behaviour" *Nanoscale Research Letts.* **12**, (1), (2017), 384-393
27. D. S. Cook, Y. Wu, K. Lienau, R. More, R. J. Kashtiban, O. V. Magdysyuk, G. R. Patzke, R. I. Walton, "Time-resolved powder X-ray diffraction of the solvothermal crystallisation of cobalt gallate spinel photocatalyst reveals transient layered double hydroxides", *Chemistry of Materials*, **29**, (12), (2017), 5053-5057

28. L. Nguyen, E. A. Lewis¹, E. Prestat, Y. Cao, R. Kashtiban, J. Sloan, D. Kepaptsoglou, R. Gorbachev, S. J. Haigh”, Imaging the structural degradation of graphene-encapsulated black phosphorus”, *ACS Nano* **11**, (3), (2017), 2894-2904
29. L. M Daniels, R. J. Kashtiban, D. Kepaptsoglou, Q. M Ramasse, J. Sloan, R. I. Walton, “Local A-Site Layering in Rare- Earth Orthochromite Perovskites by Solution Synthesis”, *Chemistry A European Journal*, **22**, (51), (2016), 18362-18367
30. C. Robertson, A. Lodge, P. Basa, M. Carravetta, A. Hector, R. Kashtiban, J. Sloan, J., D. Smith, J. Spencer, A. Walcarius, “Surface Modification and Porosimetry of Vertically Aligned Hexagonal Mesoporous Silica Films” *RSC Advances* **6**, (114), (2016), 113432-113441
31. D. C. Smith, J. H. Spencer, L. P. McDonnell, J. Sloan and R. J. Kashtiban, Harrison Trehitt, E. Faulques, “Resonance Raman Spectroscopy of Extreme Nanowires and Other 1D Systems”, *JoVE*. **110**, (2016) e53434
32. K. S. Vasu, E. Prestat, J. Abraham, J. Dix, R. J. Kashtiban, J. Beheshtian, J. Sloan, P. Carbone, M. Neek-Amal, S. J. Haigh, A. K. Geim, R. R. Nair, “Van der Waals pressure and its effect on trapped interlayer molecules” *Nature Comm.*, **7**, (1), (2016), 12168-12180
33. J. H. Spencer, DC Smith, LP McDonnell, J Sloan, R. J. Kashtiban, “Coherence lifetime broadened optical transitions in a 2 atom diameter HgTe nanowire: a temperature dependent resonance Raman study”, *RSC Advances* **6**, (98), (2016), 95387-95395(30%)
34. C. I. Hiley, M. R. Lees, D. L. Hammond, R. J. Kashtiban, J. Sloan, R. I. Smith, and R. I. Walton, “Ba₄Ru₃O₁₀.2(OH)1.8: A New Member of the Layered Hexagonal Perovskite Family Crystallised from Water”, *Chem. Comm.* **52**, (38), (2016), 6375-6378
35. C. Bosch-Navarro, L. M. Perkins, R. J. Kashtiban, J. P. Rourke, I. J. Shannon, J. Sloan, “Selective Imaging of Discrete Polyoxometalate Ions on Graphene Oxide under Variable Voltage Conditions” *ACS Nano* **10**, (1), (2016), 796-802
36. C. I. Hiley, J. M. Fisher, D. Thompsett, R. J. Kashtiban, J. Sloan, R. I. Walton, "Incorporation of Square-Planar Pd²⁺ in Fluorite CeO₂: Hydrothermal Preparation, Local Structure, Redox Properties, and Stability" *J. Matter. Chem. A* **3**, (24), (2015), 13072-13079
37. U. Monteverde, J. Pal, M. Missous, U. Bangert, R. Zan, R. J. Kashtiban, and D. Powell "Under Pressure: Control of Strain, Phonons and Bandgap Opening in Graphene" *Carbon* **91** (2015), 266-274
38. F. de Lima, M. H. Harunsani, D. J. Martin, R. J. Kashtiban, J. Sloan, O. A. Serra, J. Tang and R. Walton "Control of Chemical State of Cerium in Doped Anatase TiO₂ by Solvothermal Synthesis and its Application in Photocatalytic Water Reduction" *J. Matter. Chem. A*, **3**, (18) (2015) 9890-9898
39. C. Robertson, R. Beanland, R. J. Kashtiban, J. Sloan, D. C. Smith and Alain Walcarius, “Silica pores oriented perpendicular to a titanium nitride substrate” *Phys. Chem. Chem. Phys.*, **17**, (6), (2015) 4763-4770
40. J. H. Spencer, J. M. Nesbitt, H. Trehitt, R. J. Kashtiban, G. Bell, V. G. Ivanov, E. Faulques, J. Sloan and D. C. Smith, "Raman Spectroscopy of Optical Transitions and Vibrational Energies of ~1 nm HgTe Extreme Nanowire within single-walled carbon nanotubes" *ACS Nano*, **8**, (9), (2014), 9044-9052
41. K. Sardar, E. Petrucco, C.I. Hiley, J.D.B Sharman, P.P. Wells, A.E. Russell, R.J. Kashtiban, J. Sloan and R.I. Walton, “Water-Splitting Electrocatalysis in Acid Conditions Using Ruthenate-Iridate Pyrochlores” *Angew. Chem.*, **126**, (41), (2014), 10960-10964
42. R. J Kashtiban, M. A. Dyson, R. R Nair, R. Zan, S. L Wong, Q. Ramasse, A. K Geim, U. Bangert, J. Sloan, “Atomically Resolved Imaging of Highly Ordered Alternating Fluorinated Graphene” *Nature Comm.*, **5**, (1), (2014), 4902-4911
43. H. Y. Playford, A. C. Hannon, M. G. Tucker, R. J. Kashtiban, J. Sloan, and R. I. Walton, “Characterization of Structural Disorder in γ -Ga₂O₃” *J. Phys. Chem. C* **118**, (29), (2014), 16188-16198
44. R Carter, M Suyetin, S Lister, M Dyson, H Trehitt, S Goel, Z Liu, K Suenaga, C Giusca, R J. Kashtiban, J Hutchison, J Dore, G Bell, E Bichoutskaia, and J. Sloan, 'Band Gap Expansion, Shear Inversion Phase Change Behaviour and Low-Voltage-Induced Crystal Oscillation in Low-Dimensional Tin Selenide Crystals' *Dalton Trans.*, **43**, (20), (2014), 7391-7399
45. D.L. Burnett, M. H. Harunsani, R. J. Kashtiban, H.Y. Playford, J. Sloan, A.C. Hannon and R.I. Walton” Investigation of Some New Hydro(solvo)thermal Synthesis Routes to Nanostructured Mixed-Metal Oxides”, *J. Solid State Chem.* **214**, (2014), 30-37
46. L. M. Daniels, M. C. Weber, M. Guennou, M. R. Lees, R. J. Kashtiban, J. Sloan, J. Kreisel, and R. I. Walton 'Structures and Magnetism of the Rare-Earth Orthochromite Perovskite Solid Solution La_{1-x}Sm_xCrO₃” *Inorg. Chem.* **52**, (20), (2013), 12161–12169
47. K. Sardar, S. C. Ball, J.D. B. Sharman,” Bismuth Iridium Oxide Oxygen Evolution Catalyst from Hydrothermal Synthesis “*Chem. Mater.* **24**, (21), (2012), 4192-4200

48. M. Gimeno-Fabra, A. Munn, L. Stevens, T. Drage, D M. Grant, R. J. Kashtiban, J. Sloan, and R. I. Walton
49. "Instant MOFs: continuous synthesis of metal organic frameworks by rapid solvent mixing" *Chem. Commun.*, **48**, (86), (2012), 10642-10644
50. S. R.C. Pinto, A. G. Rolo, M. Buljan, A. Chahboun, S. Bernstorff, N. P. Barradas, E. Alves, R. J. Kashtiban, U. Bangert, M. J.M. Gomes "Low-temperature fabrication of layered self-organized Ge clusters by RF-Sputtering "Nanoscale *Research Letters* **6**, (1), (2011), 341-347
51. K. Sardar, H. Y. Playford, R. J. Darton, E. R. Barney, A. C. Hannon, D. Tompsett, J. Fisher, R. J. Kashtiban, J. Sloan, S. Ramos, G. Cibin, R. I. Walton, "Nanocrystalline Cerium–Bismuth Oxides: Synthesis, Structural Characterization, and Redox Properties", *Chem. Mater.***22**, (22), (2010), 6191–6201
52. K. Sardar, J. Fisher, D. Tompsett, M. R. Lees, G. J. Clarkson, J. Sloan, R. J. Kashtiban, and R. I. Walton, "Structural variety in iridate oxides and hydroxides from hydrothermal synthesis" *Chem. Sci.* **2**, (8), (2011), 1573-1578
53. K. Sardar, M.R. Lees, R.J. Kashtiban, J. Sloan, and R.I. Walton, 'Direct Hydrothermal Synthesis and Physical Properties of Rare Earth and Yttrium Orthochromite Perovskites' *Chemistry of Materials* **23**, (1), (2011), 48-56
54. S. R. C. Pinto, A. G. Rolo, A. Chahboun, R. J. Kashtiban, U. Bangert, M. J. M. Gomes "Raman study of stress effect on Ge nanocrystals embedded in Al₂O₃" *Thin Solid Films* **518**, (19), (2010), 5378-5381
55. S. R. C. Pinto, A. G. Rolo, A. Chahboun, Maja Buljan, A. Khodorov, R. J. Kashtiban, U. Bangert, N. P. Barradas, E. Alves and M. J. M. Gomes 'Multilayers of Ge nanocrystals embedded in Al₂O₃ matrix: structural and electrical studies' *Microelectronics Engineering*, **87**, (12), (2010), 2508-2512
56. S. R. C. Pinto, R. J. Kashtiban, A. G. Rolo, M. Buljan, A. Chahboun, U. Bangert, N. P. Barradas, E. Alves and M. J. M. Gomes "Structural study of Si_{1-x}Ge_x nanocrystals embedded in SiO₂ flms. *Thin Solid Films*" **518**, (9), (2010), 2569-2572
57. M. Buljan, S. R. C. Pinto, R. J. Kashtiban, U. Bangert, S. Levichev, V. Hol'ý and M. J. M. Gomes "SiGe quantum dots in amorphous silica matrix" *Journal of Applied Physics*, **106**, (8), (2009), 84319-84323
58. I. F. Crowe, R. J. Kashtiban, Ben Sherliker, Ursel Bangert, Matthew P. Halsall, Andrew P. Knights, and Russell M. Gwilliam. "Spatially correlated Er and Si-nanocrystals in co-implanted silica after and a single high temperature anneal, *Journal of Applied Physics*,**107**, (4), (2010), 44316-44321
59. S. C. Davies, D. J. Mowbray, F. Ranalli, P. J. Parbrook, Q. Wang, T. Wang, B. S. Yea, B. J. Sherliker, M. P. Halsall, R. J. Kashtiban and U. Bangert "Optical and microstructural studies of InGa_N/Ga_N quantum dot ensembles" *Applied Physics Letters* ,**95**(2009), 111903-111905
60. R. J. Kashtiban, U. Bangert and M. Missous "The Investigation of the effect of growth interruption on structural formation of InAs/GaAs quantum dots superlattice structures grown by molecular beam epitaxy" *Microelectronics Journal*, **40**, (3), (2009), 479-482
61. R. J. Kashtiban, U. Bangert, I. F. Crowe, M. P. Halsall "Erbium environments in erbium-silicon/silica light emitting nanostructures " *Journal of Physics: Conference Series* **281**, (1), (2011) pp 12016-12023
62. R. J. Kashtiban, U. Bangert, I. F. Crowe, M. P. Halsall, A. J. Harvey and M Gass" Study of Er-doped Silicon Nanocrystals in Silica " *Journal of Physics: Conference Series* **241**, (1), (2010), 12097-12100
63. R. J. Kashtiban, U. Bangert, I. Crowe, M. P. Halsall, B. Sherliker, A. J. Harvey, J. Eccles, A. P. Knights, R. Gwilliam, M. Gass "Study of Er-doped Si NCs by EELS, and HRTEM techniques in an aberration corrected STEM' *Journal of Physics: Conference Series*, **209**, (1), (2010), 12043-12047
64. R. J. Kashtiban, U. Bangert, B. Sherliker, M. P. Halsall and A. J. Harvey. 'Study of InGa_N/Ga_N quantum dot systems by TEM techniques and PL spectroscopy' *Journal of Physics: Conference Series*, **209**, (1), (2010), 12038-12041
65. R. J. Kashtiban, S. R. C. Pinto, U. Bangert, A. G. Rolo, A. Chahboun, M. J. M. Gomes, and A. J. Harvey. "Ge-nanocrystals in Al₂O₃matrix: a structural study" *Journal of Physics: Conference Series*, **209**, (1), (2010), 2063

**REFEREED
CONFERENCE
PROCEEDINGS**