UNIVERSITY OF SUSSEX

JOHN SPENCER PhD CChem FRSC FHEA

Personal Details

John Spencer BSc (Sussex) PhD (Strasbourg) CChem FRSC FHEA
Professor of Bioorganic Chemistry
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Summary

Professor with industrial leadership in medicinal chemistry with a consistent track-record of successful project delivery and IP generation. Driven team player with good communication skills and in excess of several million pounds of secured external research funding with an H-index of 29, >135 papers and 10 patents. 10 years' experience as a medicinal chemist "at the bench" e.g. heading a parallel synthesis group for (Nobel Laureate) Sir James Black with clinical and preclinical candidates. Proven research outputs in synthetic organic chemistry, drug discovery and palladium catalysis. Successful track record of mentoring junior colleagues in research strategy and grant bids. Holder of a number of positions of responsibility: Director of Research and Knowledge Exchange, committee member for new course generation (Pharmacy), PhD convenor for Department, UK grant committee chairman (RSC). International external profile; 2 editorial board positions, regular invited editor for journals, invited academic positions abroad, plenary and invited lectures.

Employment History

University of Sussex **(March 2012-present)**

- Director of Research and Knowledge Exchange (DRKE) for Life Sciences (Oct 17-).
- Professor of Bioorganic Chemistry (April 2016-)
- Reader in Synthetic Chemistry (March 2012-April 2016).
- PhD convenor for Dept. Responsible for 52 current students, pastoral care, providing training, progress reports, assessing applications (IELTS, UKBA etc); 2012-17.
- Study abroad representative, Seminar organiser (2012-13).
- Chemistry representative on MPharm, Junior Research Award (JRA) committees for training $2^{nd}/3^{rd}$ yr students in research placements for 8 weeks over summer.
- Member of Validation Committee for MChem in Chemistry with Drug Discovery and new BSMS Pharmacy School Executive Committee (2014-).
- Teaching (ca. 104 h pa): convenor for Yr 3 Bioorganic (typically 60-90 students; 24 lectures, 5 workshops), Yr 2 Organic and Bioinorganic modules (typically 70 students, 24 lectures, 5 workshops), laboratory classes for yr 1 Organic Chemistry (typically 50 students, 16 h total); all mixed cohort of Chemistry and Biochemistry. Yr 4 Stereochemistry (Advanced MChem option, typically 10-20 students, 24 lectures, 6 workshops).
- 6 PhD completions: G. Roffe (50% with Hazel Cox), A. Close, M. Ansell, S. Sansook, S. Boonseng (20% with Hazel Cox), R. Jones.

University of Greenwich **(June 2006-March 2012)**

- Reader in Medicinal Chemistry.
- Course coordinator for MSc Pharmaceutical Sciences (>250 student intake). Curriculum development, timetabling, periodic review and validation, examinations.
- 6 PhD completions: R Rathnam, H Patel, I. S. Chuckowree, N. Cooper, C. B. Baltus, S. Hamid, MSc by Research (5 completions). All on time. All first time successful.

James Black Foundation **(2001- June 2006)**

- Laboratory-based medicinal chemist working on GPCR/oncology-based projects.

- Set up and managed a parallel synthesis group of 5 with successful implementation of parallel synthesis in medicinal chemistry programmes, increasing synthetic output, hit-to-lead generation & lead optimisation, leading to two oncology molecules in preclinical or clinical Phase 1 trials in man (a small MW PTH-1 and a CCK_2 antagonist).
- IP generation, patent drafting.

Thrombosis Research Institute (1999-2001)

- Laboratory-based chemistry team leader, running a serine protease inhibitor programme.
- Responsible for a back-up series patent strategy. Meetings and presentations at board level.
- Responsible for in-house developmental chemistry, discussions with CROs for outsourcing scale-up for a boron-based thrombin inhibitor drug that reached Phase II clinical trials (Z-D-Phe-Pro-boroMpg-OPin, **TRI50b**).

Cerebrus Ltd. (1998–1999)

- 6 mth. temporary contract (headcount freeze): development of novel CNS acting agents.
- Synthesis optimisation of preclinical drug candidates, within tight timelines.
- Synthesis of neuroprotective agents, selective 5-HT ligands.

European Translation Agencies (Freelance) (1997-2001)

- French-English translation of patents, papers, agricultural, clinical, medical texts.
- In-house proof reading French/English translations at Xerox (1 year contract).

Xenova Ltd. (1996-1997)

- Postdoctoral position; synthetic routes to plasminogen activator inhibitor molecules.
- Selection of molecules for preclinical assessment as part of collaboration with Eli Lilly.
- Line management of a graduate chemist.

E.T.H. Institute (Zurich) Switzerland (1994 –1996)

- Postdoctoral (Chiral-2) fellowship with Prof. A. Togni; financed by the National Swiss Foundation.

- Chiral metallocene ligand synthesis. Catalytic asymmetric catalysis: hydrogenation, hydroboration and palladium chemistry. Collaboration with Ceiba-Geigy (Basle).
- Supervision of MSc. and PhD students. Demonstrating, lecturing.

Education and Qualifications

Université Louis Pasteur, Strasbourg (1990-1994)

- PhD in Organic Chemistry entitled "*Etude des Régio*, *Chimio et Stéréoselectivités de la Formation d'Hétérocycles Induite par le Palladium* (II)," defended in public in French. Supervisor: Dr. Michel Pfeffer. EEC financed.
- French D.E.A. (equivalent to MSc.) in "*Chimie Organique et Supramoléculaire*, "1991.
- Supervision of a D.E.A. student (A. E. Gies, PhD obtained in 1998). Tutoring/demonstrating.

University of Sussex (1986-1990)

- BSc (1st Class Hon.) in Chemistry with European Studies.
- Certificate of Language Proficiency (French). Erasmus year (1998-1999) spent in Caen.

Shirebrook Comprehensive, Derbyshire (1981-1986)

- 4 "A" levels: Chemistry (A), French (A), Physics (B), General Studies (B). 8 "O" levels.

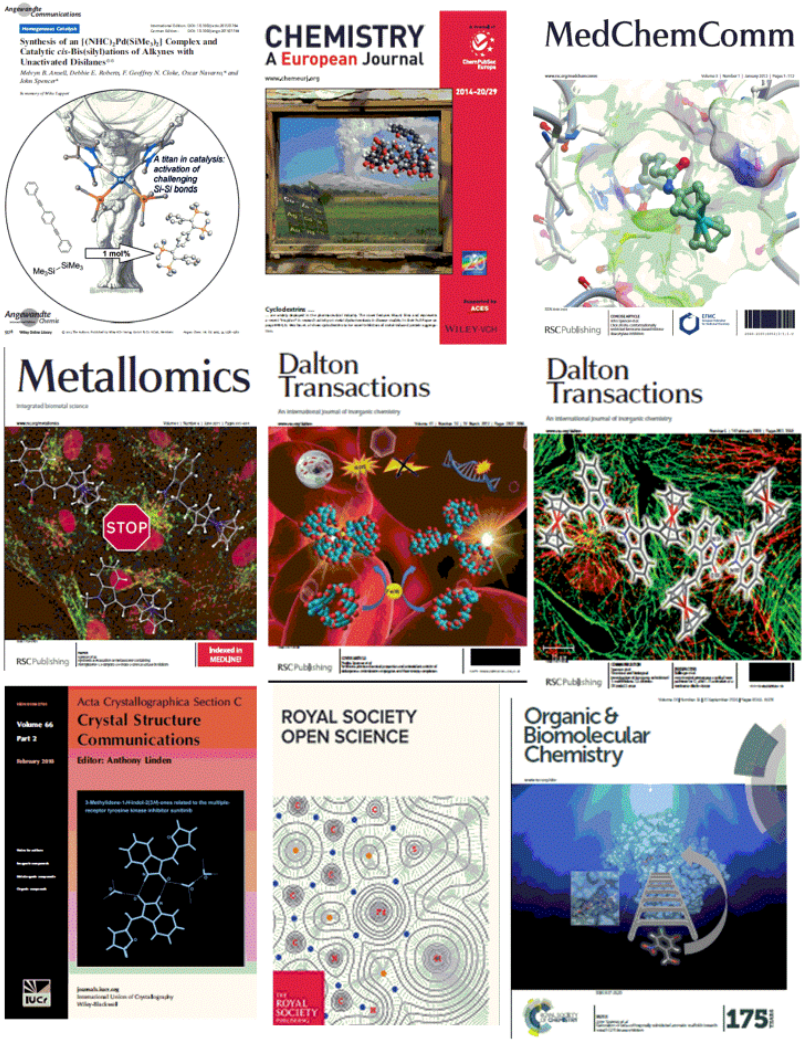
Skills and Interests

- Full, clean, driving licence.
- Sports; football. swimming.
- Fluent written/spoken French. Bilingual presentation skills. Proofreading diploma (1999).

Indicators and Evidence of Esteem

- Highly cited papers, see : http://sciencewatch.com/inter/aut/2008/08-jan/08janDupoET/
- Session Chair/Organiser//Committee member of SelectBio "Academic Drug Discovery" (Cambridge, UK) annual conference, since 2014: https://selectbiosciences.com/conferences/index.aspx?conf=AcDD

- Several journal covers (OBC, RSC Open Sci, 2 *Dalton, Metallomics, Acta Cryst*., *MedChemComm*, *Chem Eur J*., *Angew. Chem*.
- Invited lectures: Reading Uni, SCI Epigenetics (2017). Tocris Biosciences (Bristol), Cambridge (SelectBio "Academic Drug Discovery" and **conference chair**) (2016), Newcastle, Toulouse (Feb, 2016), Uni of Leicester (Nov 2015), Uni. of Catania (Italy, 2015), Cambridge (SelectBio "Academic Drug Discovery" and **session chair**) (2015), Queen Mary (2015), SWAT (Scientists Working on Advanced Therapies, Niemann Pick Research Foundation (London, Jan 2015): Uni. of Durham (Nov, 2014), Sycocal Conference (Uni de Tours, France, **plenary in French**), Selcia (July, 2014), Uni of Auckland (2014), Notts Trent (2013), ULP Strasbourg (Nov 2013, **plenary, in French**),



(OMICS (Las Vegas, 2013, session chair), RSC Heterocycles meeting (London, 2013), RSC Emerging Chemists Cancer Meeting (2011), Strasbourg, Paris (Marie Curie) (2011, **in French**), Dubai MedChem Conference (2011, 2 session chairs). EPFL Lausanne, Novartis, UK (2010), Berlin and Shanghai medchem conferences (2009, Shanghai session chair), Lerici (RSC Invitation, Italy) 2008; Brazil (Pd catalysis) 2006, 2005.

- FRSC CChem since 2009 (Fellow of the Royal Society of Chemistry, Chartered Chemist).
- FHEA since 2015 (*Fellow of the Higher Education Academy*).
- Editorial board member for *Fut. Med. Chem*., Scientific Reports (Nature Group).

- (Invited) RSC Heterocyclic and Synthesis Committee member; 2011-14.
- (Invited) RSC Grants and Travel Awards Committee member; 2014-17.
- Guest editor, *Fut. Med. Chem*. (Microwaves edition, **2010**, *2*, 149), *Pharmaceuticals* (Antibiotics special, with Dr Mark Bagley) **2010**. Future Chemistry ebook invited editorial (with M Bagley) **2014**. (Invited) Guest editor for (open access journal) *Molecules*, **2015**, special edition on Boron Chemistry.
- Commissioned as principal advisor in the preparation of 4th/5th ed. of "Introduction to Medicinal Chemistry" (G. Patrick, OUP), co-author on Chapter 16 on parallel synthesis/library design (4th ed.) and author of biannual web updates for book.
- Principle advisor for new textbook for "An Introduction to Drug Synthesis" for BSc students ((G. Patrick, OUP)).
- External examiner for >20 PhDs: 2017 (Southampton), 2016 (Birmingham, Auckland), 2014 (Palermo, St Andrews, QMUL), 2013 (Reading, Lille-2, France (**in French**), Auckland, NZ (remote examination), 2012 (Oxford, ParisTech, ULP Strasbourg, **both in French**), 2011 (Bristol, Bath), 2010 (EPFL, UEA, Strathclyde, Imperial), 2009 (Huddersfield, UEA), 2008 (Madras (remote), Strathclyde, Cardiff).
- External MSc Medchem course validation (UWS, Paisley, 2010), BSc Medchem validation (Glamorgan, 2010).
- External examiner (MSc Med. Chem.) for Bath and Strathclyde for Medcinal Chemistry.
- External expert panel member for CNRS HCERES research assessment of Université de Tours (France) medicinal chemistry group.
- Regular referee: Tetrahedron, Dalton, Organometallics, Eur J. Inorg. Chem., BMCL, BMC, Org. Lett., J. Org. Chem., Inorg. Chem., ChemComm, Chem. Sci., Chem. Eur J., J. Organomet Chem.
- Referee for BBSRC, Auckland Medical Research Foundation, EPSRC, ANR, CNRS, Alsace Medical Foundation (last three, all in French), DFF-MOBILEX (Danish Council for Independent Research), Yorkshire Cancer. Res.
- **PhD students awarded prizes:**
- Samiyah Hamid Best MRes Thesis, University of Greenwich, **2007**.
- C Baltus: Inaugral Vice Chancellor's Award for best University of Greenwich PhD of **2012**. http://www2.gre.ac.uk/about/news/articles/2012/a2297-christine

- Irina Chuckowree (School of Science, Greenwich): best PhD **2011**.
- Rhiannon Jones (MChem project student), Bader Prize (Sussex) **2013** (best returning organic chemistry PhD student).

Research Grants Awarded

- EPSRC awarded grant start Sept 2017: "Poised Fragment Libraries for Atypical Bromodomain Inhibition"; PI, 3 yr PDRA. EP/P026990/1 **£430K**. **(£537K FEC**).
- WWCR p53 rescue continuation, PI start Dec 17: 18-0043 **£187.55K**
- Manganese Overload (with UCL lead partners (Rihel, Tuschl, Wilson et al): Great Ormond Street funded (120K, co-I for synthesis of Mn-selective ligands). £**3K**
- Interreg with Southampton (lead), Caen, Rouen; co-I, 4 PhD studentships. Jan 2018-Jan 2022. **3.7M Euros**
- PhD CASE award (TOCRIS) PROTAC strategy: **£97K** with EPSRC match funding. Sept 2017-.
- Horizon 2020 RISE LysoMod - Genetic and Small Molecule Modifiers of Lysosomal Function; awarded: . Co-I, **£30-40K**. **1.2 M** Eur total value.
- *Rescuing p53 Mutants in Cancer. WWCR:* PDRA funding (14-1002) 2 yr. 2014-16 **£165K**
- *Synthesis and Evaluation of Copper probes for NPC:* Niemann Pick C Foundation. PDRA funding 1.5 yr. 2016-18 **£99K**
- *Alpha-Helical Mimetics*. 2014-18 iCASE, EPSRC (EP/M507568/1). PhD AZ/Tocris PhD **£92.75**
- 2013-2017 EPSRC DTG **£69K**

- *Synthesis of Bioinorganic Probes.* 2013-17 Thai Government-funded PhD **£75K**
- *RSC International Authors Travel Grant:* 2015 **£0.77K.**
- *Design of Tetrasubstituted Aromatic Libraries*. 2012-15. Astra Zeneca PhD **£24K.**
- *Cyclodextrins*. Oxford Nanoporetech sponsored PDRA. Marc 2012-Jan 2014: **£224K** (100% FEC).

Earlier grants (Greenwich).

- *Cyclodextrins*. Oxford Nanoporetech sponsored PDRA. 2011-2012 **£100K**
- *Suzuki Couplings towards Biphenyl Libraries*. 2008-2011. Novartis PhD: **£36K.**
- *Microwave Chemistry*. 2008. BP sponsored equipment grant: **£53K.**
- *Fragment Based Drug Discovery*, Anti-infectives. 2006-2009; Avexa PhD: **£45K.**
- *RSC Small Research Fund*. 2006-2009: **£6K.**
- Various consultancies. 2008 to present: Selcia, Astra Zeneca, Tocris: **£25K.**
- *Greenwich Uni. Alumni Cancer Fund*: **£6K.**

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Peer-Reviewed Publications, Reviews and Book Chapters.

(Next REF outputs, thus far, 1 Nat Comm (IF 11.6), 1 Angew (IF 11), Chem. Sci (IF 8.8), 1 ACS Catal. (IF 10), 2 Chem Eur J (IF5.6); 3 Adv Synth Catal. (IF 6.4), 2 Oncotarget (5), Structure (IF 5.6).

1. *Synthesis and Biological valuation of Ferrocene-based Cannabinoid Receptor-2 Ligands* Sansook, S.; Wei Tuo, W.; Bollier, M.; Barczyk, A.; Dezitter, X.; Klupsch, F.; Leleu-Chavain, N.; Farce, A.; Tizzard, G. J.; Coles, S. J.; Spencer, J. ; Millet, R.*. *Fut. Med. Chem. in press.*
2. *Molecular Signatures Associated with the Treatment of Triple-Negative MDA-MB231 Breast Cancer Cells with the Histone Deacetylase Inhibitors JAHA and SAHA.* Librizzi, M.; Caradonna, F.;* Cruciata, I.; Dębski, J.; Sansook, S.; Dadlez, M.; Spencer, J.; Luparello, C. Chem. Res. Tox. **2017**, accepted. **ACS, Editor's Choice.**
3. *Synthesis of Kinase Inhibitors Containing a Pentafluorosulfanyl Moiety.* Sansook, S.; Ocasio, C. A.; Tizzard, G. J.; Coles, S. J.; Fedorov, O.; Bennett, J. M; Elkins, J.; Spencer, J.* *Org. Biomol. Chem.* **2017** *15*, 8655- 8660.
4. *N1-Arylation of 1,4-Benzodiazepines with Diaryliodonium Salts. Khan, R.; Felix, R.; Kemmitt, P. D.; Coles, Simon J.; Tizzard, G. J.; Spencer, J.* Synlett. **2017**, accepted.*
5. *Pojamide: An HDAC3-Selective Ferrocene Analogue with Remarkably Enhanced Redox-Triggered Ferrocenium Activity in Cells.* Ocasio, C.A.*; Sansook, S.; Jones, R.; Roberts, J. M.; Scott, T. G.; Tsoureas, N.; Coxhead, P.; Guille, M.; Tizzard, G. J.; Coles, S. J.; Hochegger, H.; Bradner J. E.; Spencer, J.* *Organometallics* **2017**, *36*, 3276–3283.
6. *Khan, R.; Marsh, G.; Felix, R.; Kemmitt, P. D.; Baud, M. G. J.; Ciulli, A.; Spencer, J. Gram Scale Laboratory Synthesis of TC AC 28, a High Affinity BET Bromodomain Ligand. ACS Omega **2017**, 2, 4328−4332.*
7. *Khan, R.; Boonseng, S.; Kemmitt, P.; Felix, R.; Coles, S. J.; Tizzard, G. J.; Williams, G; Simmonds, O., Harvey, J.-L.; Atack, J.; Cox, H.; Spencer, J.;* Combining Sanford Arylations on Benzodiazepines with the Nuisance Effect. *Adv. Synth. Catal. **2017**, 359,* 3261 -3269.
8. Lineham, E.; Spencer, J.; Morley, S.; *Dual Abrogation of Mnk and Mtor; A Novel Therapeutic Approach for the Treatment of Aggressive Cancers. Fut. Med. Chem*. **2017**, *9 (13)*, 1539-1555.

9. *Rationalization of the Mechanism of in situ Pd(0) Formation for Cross-Coupling Reactions from Novel Unsymmetrical Pincer Palladacycles Using DFT Calculations*. Boonseng, S.; Roffe, G. W.; Targema; M.; Cox, H.; Spencer, J. *J. Organomet. Chem.* **2017**, 845, 71-81.

10. *A Ruthenium Anticancer Compound Interacts with Histones and Impacts Differently on Epigenetic and Death Pathways Compared to Cisplatin.* Licona, C., Spaety M.-E.**,**, Capuozzo, A., Ali, M.,; Rita, S..; Armat, O..; Delalande, F; Van Dorsselaer, A., Sarah C., Spencer, J., Pfeffer M., Mellitzer G., Gaiddon C. *Oncotarget*, **2017**, 8 (2), 2568-2584.

11. *Therapeutic Potential of Fatty Acid Amide Hydrolase, Monoacylglycerol Lipase, and N-Acylethanolamine Acid Amidase Inhibitors*. Tuo, W.; Leleu-Chavain, N.; Spencer, J.; Sansook, S.; Millet, R.; Chavatte, P. *J. Med. Chem*. **2017**, *60*, 4−46.

12. *Transition Metal Catalyzed Hetero Element-Element' Additions to Alkynes*. Ansell, M. B.*; Navarro, O.*; Spencer, J.* *Coord. Chem. Rev.* **2017**, *336*, 54-77.

13. *Synthesis of Functionalized Hydrazines: Facile Homogeneous (N-Heterocyclic Carbene)-Pd(0) Catalyzed Diboration and Silaboration of Azobenzenes*. Ansell, M. B.; Kostakis, G. E.; Braunschweig, H.*; Navarro, O.*; Spencer, J. * *Adv. Synth. Catal.* **2016**, *358*, 3765 –3769.

14. *Synthesis of Bioorganometallic Nanomolar-Potent CB_2 Agonists Containing a Ferrocene Unit.* Sansook, S.; Tuo, W.; Lemaire, L.; Tourteau, A.; Barczyk, A.; Dezitter, X.; Klupsch, F.; Leleu-Chavain, N.; Tizzard, G. J.; Coles, S. J.; Millet, R*.; Spencer, J.* *Organometallics*, **2016**, 35, 3361−3368. doi: 10.1021/acs.organomet.6b00575.

15. *A First Generation Inhibitor of Human Greatwall Kinase, Enabled by Structural and Functional Characterisation of a Minimal Kinase Domain Construct.* Ocasio, C. A.*, Rajasekaran, M. B.*; Walker, S.; Le Grand, D.; Spencer, J.; Pearl, F. M. G. Ward, S. E.; Savic, V.; Pearl, L. H.; Hochegger, H. and Oliver, A.W., *Oncotarget*, **2016**, *7*, 71182-71197.

16. *An Experimental and Theoretical Study into the Facile, Homogenous (N-Heterocyclic Carbene)$_2$-Pd(0) Catalyzed Diboration of Internal and Terminal Alkynes*. Ansell, M. B.; Menezes da Silva, V. H. H.; Heerdt, G.; Braga, A. A. C.*; Spencer, J*., Navarro, O*. *Catal. Sci. Technol.*, **2016**, 6, 7461–7467. DOI: 10.1039/C6CY01266C.

17. Boonseng, S., Roffe, G. W, Jones, R. N, Tizzard, G. J, Coles, S. J, Spencer, J.* and Cox, H. * *The Trans Influence in Unsymmetrical Pincer Palladacycles: an Experimental and Computational Study. Inorganics*, **2016**, *4*, 1-14.
18. *Elaboration of Tetra-Orthogonally-Substituted Aromatic Scaffolds Towards Novel EGFR-Kinase Inhibitors*: Close, A.J, Jones, R. N, Ocasio, C. A, Kemmitt, P., Roe, S M. and Spencer, J.* *Org. Biomol. Chem*. **2016**, *14*, 8246-8252.
19. *Biological Effect of a Hybrid Anticancer Agent Based on Kinase and Histone Deacetylase Inhibitors on Triple-Negative (MDA-MB231) Breast Cancer Cells.* Librizzi, M., Spencer, J., Luparello. C.* *Int. J. Mol. Sci.* **2016**, *17*(8), 1235; doi:10.3390/ijms17081235.
20. *Mutations In SLC39A14 Disrupt Manganese Homeostasis and Cause Childhood-Onset Parkinsonism-Dystonia*: K. Tuschl*, E. Meyer, L. Valdivia, N. Zhao, C. Dadswell, A. Abdul-Sada, C. Hung, M. Simpson, W. Chong, T. Jacques, R. Woltjer, S. Eaton, A. Gregory, L. Sanford, E. Kara, H. Houlden, S. Cuno, H. Prokisch, L. Valletta, V. Tiranti, R. Younis, E. Maher, J. Spencer, A. Straatman-Iwanowska, P. Gissen, L. Selim, G. Pintos-Morell, W. Coroleu-Lletget, S. Mohammad, S. Yoganathan, R. Dale, M. Thomas, J. Rihel, O. Bodamer, C. Enns, S. Hayflick, P. Clayton, P. Mills, M. Kurian, S. Wilson. *Nat. Comm.* **2016**, 7. 11601.
21. *Regioselective Routes to Orthogonally-Substituted Aromatic MIDA Boronates*, A. J. Close, P. Kemmitt, S. M. Roe and J. Spencer* *Org. Biomol. Chem*. **2016**, 14, 6751-6756.
22. *Synthesis of Unsymmetrical NCN' and PCN Pincer Palladacycles and Their Catalytic Evaluation Compared with a Related SCN Pincer Palladacycle*, Gavin W. Roffe, Graham J. Tizzard, Simon J. Coles, Hazel Cox, John Spencer* *Org. Chem. Frontiers,* **2016**, *3*, 957-965.
23. *[Review] Stefan Bräse Privileged Scaffolds in Medicinal Chemistry: Design, Synthesis, Evaluation.* Spencer, J. *ChemMedChem*, **2016**, 11, 1107.
24. *Harnessing fluorine-sulfur contacts and multipolar interactions for the design of p53 mutant Y220C rescue drugs.* Bauer, M. R., Jones, R., Baud, M. G. J., Wilcken, R.; Boeckler, F. M., Fersht, A. R., Joerger, A. C.*, Spencer, J.* *ACS Chem. Biol*. **2016,** *11*, 2265−2274.
25. (N-Heterocyclic Carbene)$_2$-Pd(0)-Catalyzed Silaboration of Internal and Terminal Alkynes: Scope and Mechanistic Studies. Ansell, M. B.; Spencer, J.* Navarro, O.* *ACS Catal.* **2016**, 6, 2192−2196.
26. *A Synthetic, Catalytic and Theoretical Investigation of an Unsymmetrical SCN Pincer Palladacycle.* Roffe, G. W, Boonseng, S., Baltus, C. B, Coles, S. J, Day, I., Jones, R. N, Press,

N. J, Ruiz, M., Tizzard, G. J, Cox, H. and Spencer, J.* *Royal Society Open Science*, **2016**, 3 (4). 150656.

27. *A Poised Fragment Library Enables Rapid Synthetic Expansion Yielding the First Reported Inhibitors of PHIP(2), an Atypical Bromodomain.* Cox, O. B., Krojer, T.; Collins, P.; Monteiro, O.; Talon, R.; Bradley, A.; Fedorov, O.; Amin, J.; Marsden, B. D.; Spencer, J.; Von Delft, F.*; Brennan, P. E.* *Chem. Sci.* **2016**, *7*, 2322-2330. See also: http://www.worldwidecancerresearch.org/cancer-research-news/2016/recycle-recycle-recycle.
28. *Isoskeletal Schiff Base Polynuclear Coordination Clusters: Synthetic and Theoretical Aspects.* Griffiths, K.; Dokorou, V. N.; Spencer, J.; Abdul-Sada, A.; Vargas, A.;* Kostakis, G. E. *CrystEngComm* **2016**, *18*, 704-713.

29. *Late Stage C-H Activation of a Privileged Scaffold. Synthesis of a Library of Benzodiazepines.* Khan, R.; Felix, R.; Kemmitt, P. D.; Coles, S. J.; Day, I. J.; Tizzard, G. J. Spencer, J.* *Adv. Synth. Catal*. **2016**, 358, 98-109. (IF=6.4).
30. *A 8-Hydroxyquinoline-Cyclodextrin Conjugate as an Efficient Chelating Agent for Cobalt(II) and Nickel(II) in Neutral Aqueous Solution*. Sgarlata, C.; Oliveri*, V.; Spencer, J. *Eur. J. Inorg. Chem.* **2015**, 5886–5891.
31. *Transient Protein States for the Design of Small-Molecule Stabilizers of Mutant p53.* Joerger, A. C.*; Bauer, M. R.; Wilcken, R.; Baud, M. G.; Harbrecht, H.; Exner, T. E.; Boeckler, F. M.; Spencer, J.; Fersht, A. R. *Structure*, **2015**, *23*, 2246–2255. (IF=5.6). See: http://www.worldwidecancerresearch.org/cancer-research-news/2015/molecular-plaster.

32. Use of a Camera to Monitor Reaction Stirring and Reagent Dissolution During a Reaction; A MIDA Boronate library Generation Study. Close, A. J.; Corden, V.; Kemmitt, P. D.; Spencer, J.* 2015. http://www.cemmicrowave.co.uk/assets/cameramida-boronate---app-note.pdf.

33. *The Histone Deacetylase Inhibitor JAHA Down-regulates pERK and Global DNA Methylation in MDA-MB231 Breast Cancer Cells*. Librizzi, M.; Chiarelli, R.; Bosco, L.; Sansook, S.; Gascon, J.; Spencer, J.; Caradonna, F.; Luparello, C.* *Materials,* **2015**, *8*, 7041–7047.

34. *Bismuth coordination Networks Containing Deferiprone: Synthesis, Characterisation, Stability and Antibacterial Activity.* Burrows, A. D.*; Jurcic, M.; Mahon, M. F.; Pierrat, S.; Roffe, G. W.; Windle, H.; Spencer, J.* *Dalton Trans*. **2015**, *44*, 13814–13817.
35. *Synthesis of an $(NHC)_2Pd(SiMe_3)_2$ (NHC = N-Heterocyclic Carbene) Complex. Catalytic, cis-Bis-Silylations of Internal Alkynes with Unactivated Disilanes*. Ansell, M. B.; Roberts, D. E.; Cloke, F. G. N.; Navarro, O.*; Spencer, J.* Angew. Chem. Int. Ed. Engl. **2015**, *54*, 5578 –5582. (IF=11.3; inside cover article).
36. *Cytotoxicity of the Urokinase-plasminogen Activator Inhibitor Carbamimidothioic acid (4-boronophenyl) Methyl Ester Hydrobromide (BC-11) on Triple-negative MDA-MB231 Breast Cancer Cells*. Longo, A.; Librizzi, M.; Chuckowree, I. S.; Baltus, C. B.; Spencer, J.; Luparello, C.* *Molecules*, **2015**, *20*, 9879-9889.
37. *Thermal Analysis of Novel Biphenylamide Derivatives.* Owusu-Ware, S. K.; Cherry, A. J.; Baltus, C. B.; Spencer, J.; Antonijevic, M.* *J. Therm. Anal. Calorim.,* **2015**, *121*, 437-452.
38. *A Rapid Route for the Preparation of Pyrimido[5,4-d]- and Pyrido[3,2-d]oxazoles*. Lemaire, L.; Leleu-Chavain, N.; Tourteau, A.; Abdul-Sada, A.; Spencer, J.; Millet, R.*, *Tetrahedron Lett.* **2015**, *56*, 2448–2450.
39. *The Nature of the Bonding in Symmetrical Pincer Palladacycles.* Boonseng, S.; Roffe, G. W.; Spencer, J.; Cox, H.* *Dalton Trans*. **2015**, *44*, 7570-7577.
40. *Carbon dots (C-dots) from Cow Manure with Impressive Subcellular Selectivity Tuned by Simple Chemical Modification*. Barbosa, C.D. E. S.; Corrêa, J. R.; Medeiros, G. A.; Barreto, G.; Magalhães, K.; de Oliveira, A. L.; Spencer, J.; Rodrigues, M. O.; Neto, B. A. D.* Chem. Eur. J. **2015**, *21,* 5055-5060. (IF=5.8).
41. *Seizure Control by Derivatives of Medium Chain Fatty Acids Associated with the Ketogenic Diet Show Novel Branching-Point Structure for Enhanced Potency*. Chang, P.; Zuckermann, A.; Williams, S.; Close, A. J.; Cano-Jaimez, M.; McEvoy, J. P.; Spencer, J.; Walker, M. C.; Williams, R. S. B.* JPET, **2015**, *352 (1*), 43-52. Royal Holloway colleagues led the study.
42. *Microwave-Mediated Synthesis of N-Methyliminodiacetic Acid (MIDA) Boronates*. Close, A. J.; Kemmitt, P.; Emmerson, M. K.; Spencer, J.* *Tetrahedron*, **2014**, *70*, 9125-9131.
43. *Synthesis of Hybrid Anticancer Agents Based on Kinase and Histone Deacetylase Inhibitors.* Patel, H.; Chuckowree, I.; Coxhead, P. Guille, M.; Wang, M.; Zuckerman, A.; Williams, R. S.

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