

CURRICULUM VITAE FELIPE GARCIA ([ResearcherID](#), [ORCID](#), [Google Scholar](#), [Scopus](#))

Contact Details	Email: garciafelipe@uniovi.es / fgarcia@cantab.net.	
Academic Qualifications	PhD: Inorganic Chemistry, University of Cambridge (2006). Dissertation title: “Main Group Imides and Phosphides”. Supervisor: Prof. D. S. Wright. MSc Inorganic Chemistry (Licenciado con grado: Modalidad Tesina), Universidad de Oviedo (2002). Dissertation title: “Cyclic and cage complexes of group 15 elements”. Supervisor: Prof. D. S. Wright. BSc in Chemistry (Licenciado en Química), Universidad de Oviedo (2000).	
Professional Qualifications and Memberships	Jan. 2016 – Present Member of Singapore National Institute of Chemistry. Jun. 2015 – Present Member of the American Chemical Society. Jun. 2010 – Present Associated member of the Higher Education Academy. Sep. 2009 – Feb. 2011 Fellow of Wolfson College. The University of Cambridge. Jul. 2004 – Present Fellow of the Cambridge European Society. The University of Cambridge. Sept. 2001 – Present Associate Member of the Royal Society of Chemistry.	
Summary of Working Experience	Dec. 2021– Dec. 2023 Margarita Salas Senior Researcher. The University of Oviedo. The <i>Margarita Salas Senior</i> scheme is a new programme from the <i>Foundation for the Promotion in Asturias of Applied Scientific Research and Technology (FICYT)</i> to attract highly qualified well-established researchers to R&D and Higher Education institutions in the Principality of Asturias (Spain). Sep. 2020 – Oct. 2021 Principal Research Fellow. Nanyang Technological University. Mar. 2011 – Sep. 2020 Assistant Professor. Nanyang Technological University. Oct. 2006 – Feb. 2011 College Lecturer. Newnham and Trinity Colleges. The University of Cambridge. Oct. 2005 – Oct. 2009 Junior Research Fellow. Wolfson College. The University of Cambridge. Oct. 2004 – Sept. 2006 Research Associate. Chemistry Department. The University of Cambridge. Oct. 2001 – Oct. 2004 EPSRC PhD Studentship. The University of Cambridge. Jul. 2001 – Sept. 2001 BASF internship. Ludwigshafen. Germany.	
Academic Honours and Awards – Teaching and Research	2021 Green Chemistry Letters & Reviews Advisory Board. Taylor and Francis. 2020 Top 5% most cited authors in Royal Society journals 2019 Science Communication Manager (Action Leadership Position) for European COST action “Mechanochemistry for Sustainable Industry (Mech@SustInd)”. 2018 Rising Star Award. 43rd International Conference of Coordination Chemistry. 2018 “Emerging Investigators”. Chemical Communications (RSC). 2018 “New talent”. Crystal Engineering Communications (RSC). 2016 Excellence in Teaching Award. SPMS. Nanyang Technological University. 2015 College of Science Ideas Competition. Individual-level Award. NTU. 2015 “New talent: Asia-Pacific”. Dalton Transactions (RSC). 2010 Junior Faculty Teaching Award. Chemistry Department. The University of Cambridge. 2010 Present Associate Fellow. The Higher Education Academy (UK). 2005 2008 Wolfson College Junior Research Fellowship. The University of Cambridge. 2001-04 Cambridge European Trust Bursary. University of Cambridge 2001-04 Isaac Newton Trust European Research Studentship (Ten studentships offered per year at the University of Cambridge).	

Other merits	Nov 2021	Maria Zambrano Fellowship. Ministerio de Universidades (Spain). Declined
	Jun 2021	Full Professorship. The North-western Polytechnical University (China). Declined
	Jul 2021	Associate Professorship. The Xi'an Jiaotong-Liverpool University (China). Declined
	Mar 2017	Full Professorship. School of Science and Technology. Sunway University (Malaysia). Declined

Research Executive Summary

Career Profile	• 93 manuscripts published in peer reviewed journals (plus two submitted) • 3 book chapters published (plus one accepted and one in preparation) • H-index 24 (Scopus), 24 (WoS) • 2,325 citations (Scopus), 2,270 (WoS) ≈ 45% published in top general chemistry international journals – <i>Nature communications</i>, <i>Angewandte Chemie, International Edition</i> (Wiley), <i>Journal of the American Chemical Society</i> (ACS), <i>Chemical Communications</i> (RSC), and <i>Chemistry – A European Journal</i> (Wiley), which have impact factors ranging from 5 to 15. ≈ 40% published in Nature Index list journals.
Recent Achievements	I have established three lines of research: 1) Mechanochemistry for sustainable synthesis. 2) New main group building blocks for functional materials, supramolecular chemistry, and ion sensing. 3) Novel main group molecules for biological systems applications. • Since 2015 I have published 36 manuscripts (34 as corresponding author) in peer reviewed journals (plus one under revision +and two submitted). 44% published in top general chemistry international journals – <i>Nature Communications and Communications Chemistry</i> (NPG); <i>Chemical Society Reviews</i>, <i>Chemical Science</i> and <i>Chemical Communications</i> (RSC); <i>Angewandte Chemie, International Edition</i> and <i>Chemistry – A European Journal</i> (Wiley) – which have impact factors ranging from 5 to 41. 45% published in journals found in the Nature Index list. • Recipient of a “Rising Star Award” at the 43rd International Conference of Coordination Chemistry (2018). • Top 5% most cited authors in Royal Society of Chemistry journals in 2020 • My work was showcased in special edition articles of 3 peer-reviewed journals: ○ <i>Chemical Communications</i> (RSC), “Emerging Investigators 2018”. ○ <i>Crystal Engineering Communications</i> (RSC), “New Talent 2018”. ○ <i>Dalton Transactions</i> (RSC), 2015, “New Talent: Asia-Pacific”. • My work was highlighted in the <i>Chemistry World</i> magazine (July 2018). • I secured ~ €1.2M of external funding on Mechanochemistry related projects since 2017. • My work was disseminated via 40 presentations at international conferences / meetings. • Served on the organising committee of: ○ Singapore Inorganic Chemistry Symposium (2014 – 2020) as Joint Chair. ○ 7th Asian Silicon Symposium (ASIS) (Singapore 2019). ○ Mechanochemistry and Solvent-free Synthesis. Pacificchem (ACS, Hawaii 2021). ○ Scientific Advisory Committee of the International Conference on Mechanochemistry and Mechanical Alloying 2022 (INCOME2022). • Advisory board of: ○ <i>Green Chemistry Letters and Reviews</i>. Taylor and Francis. • I supervised 8 Ph.D. students (6 graduated and 2 current – 1 as co-supervisor). • I mentored 4 postdoctoral researchers.

RESEARCH SUMMARY

Areas of Research	• Green Chemistry • Bioinorganic Chemistry • Mechanochemistry • Main Group Chemistry • Synthesis • Materials
Research Awards and Recognition	2021 Green Chemistry Letters & Reviews Advisory Board. Taylor and Francis. 2020 Top 5% most cited authors in Royal Society of Chemistry journals 2020 Visiting Professor. The University of Bologna. Bologna (Italy) – Postponed. 2018 Rising Star Award. 43rd International Conference of Coordination Chemistry. 2018 “Emerging Investigators”. Chemical Communications (RSC). 2018 “New talent”. Crystal Engineering Communications (RSC). 2015 CoS Ideas Competition – Individual-level Award. NTU. 2015 “New talent: Asia-Pacific”. Dalton Transactions (RSC). 2005-08 Wolfson College Junior Research Fellowship. The University of Cambridge. 2001-04 Cambridge European Trust Bursary. University of Cambridge 2001-04 Isaac Newton Trust European Research Studentship. (Ten studentships offered per at the University of Cambridge).

Presentations and International Conferences

Invited Lectures	2022 Phosphazanes 2.0: New Strategies for Stability and Complexity Towards Molecular Functionality. Spanish Workshop on Phosphorus Chemistry 2022 Pick Your Scale: Mechanochemical Synthesis of Main Group Complexes. International Conference on Mechanochemistry and Mechanical Alloying. INCOME2022. 2022 Main Group Mechanochemistry: Challenges and Opportunities for a Sustainable Society. BCMATERIALS Seminar. Bilbao. March 2022. 2021 Main Group Mechanochemistry: Challenges and Opportunities for a Sustainable Society. IUPAC World Chemistry Congress (WCC) and Canadian Chemistry Conference and Exhibition (CCCE) – August 2021. 2021 Main Group Mechanochemistry: Challenges and Opportunities for a Sustainable Society. NSF Center for the Mechanical Control of Chemistry Online Seminar Series – June 2021. 2021 Scaling-up Mechanochemistry in Cost Action CA18112. 1st Greenering International Conference – Virtual Conference – Feb 2021. 2021 Main Group Mechanochemistry Opportunities and Challenges. Mechanochemistry Virtual Symposium #1 – Jan 2021. 2020 Mechanochemical Synthesis of Main Group Compounds and Complexes. CA18112 Mechanochemistry for Sustainable Industry – Webinar Series 1 – 12th June 2020. 2020 Pick Your Scale: Mechanochemical Synthesis of Main Group Complexes. 10th International Conference on Mechanochemistry and Mechanical Alloying. Jun. 2020. Cagliari, Italy. Postponed to 2022. 2020 Novel PN Building Blocks: Unique opportunities for supramolecular chemistry. Guest Speaker at Shiv Nadar University, India. Postponed. 2020 Mechanochemistry: New Opportunities and Challenges in Synthetic Chemistry. Nanyang Research Conference on Synthetic Chemistry and Catalysis. Singapore. 2019 Solvent-free Synthesis of Main Group Compounds and Complexes. 7th Asian Coordination Chemistry Conference. October 2019. Kuala Lumpur, Malaysia. 2019 New Trends in Phosphazane Chemistry: Novel Syntheses, Unique building blocks, and Robust Frameworks. Departmental seminar, Oviedo, Spain.
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Invited Lectures (cont.)

- 2019** **Novel Strategies for Mitochondrial Delivery.** Paris-Singapore Chemical Biology Workshop. Singapore.
- 2018** **Mechanochemistry in Main Group Synthesis.** Catalysis and Fine Chemicals 2018. Bangkok, Thailand.
- 2018** **New T*PP Lipophilic Cations for Enhanced Mitochondrial Uptake.** 9th Asian Biological Inorganic Chemistry Conference. Singapore.
- 2018** **Main Group Mechanochemistry. Mechanochemistry: Microscopic and Macroscopic Aspects.** Beilstein Organic Chemistry Symposium. Ruedesheim, Germany.
- 2016** **Mechanochemical Synthesis of Main Group Compounds.** 14th Conference of the Asian Crystallographic Association. December 2016. Hanoi, Vietnam.
- 2016** **Mechanochemical Approaches to Main Group Compounds.** 1st Southeast Asian Conference on Crystal Engineering. August 2016. Colombo, Sri Lanka.
- 2012** **Main Group PN systems.** International Symposium on Organometallic Chemistry. Seoul, Korea.

Oral presentations

- 2022** **Mechanochemistry a New Chemical Space in the Main Group Arena.** 44th International Conference on Coordination Chemistry - August 2020. Rimini (Italy)
- 2022** **Main Group Mechanochemistry: Challenges and Opportunities.** XXXVIII Biennial Meeting - Spanish Royal Society of Chemistry (RSEQ) – June 2022.
- 2021** **Mechanochemical Synthesis of Hybrid Inorganic-Organic materials.** Pacifichem 2021 Congress – Dec 2021
- 2021** **Mechanochemical Synthesis of Main Group Compounds and Materials.** Pacifichem 2021 Congress – Dec 2021
- 2021** **New Synthetic Strategies Towards Cyclophosphazane Macrocycles.** ACS 2021 Spring Meeting – April 2021
- 2018** **Mechanochemistry: New Opportunities in Main Group Synthesis.** Armenia Chemistry Frontiers, October 2018, Yerevan, Armenia.
- 2018** **Mechanochemical Synthesis in Main Group Chemistry.** 256th ACS National Meeting. Exposition. Boston, USA.
- 2018** **Mechanochemical Synthesis of Main Group Compounds and Complexes.** 43rd International Conference in Coordination Chemistry. Rising Stars Session, July 2018, Sendai, Japan.
- 2018** **Novel Synthetic Approaches to Robust Main Group Phosphazane Macrocycles.** 15th International Symposium on Inorganic Ring Systems. Kyoto, Japan.
- 2018** **Mechanochemical Synthesis of Main Group Compounds and Complexes.** Warwick University, United Kingdom.
- 2017** **Main Group Mechanochemical Synthesis.** 9th International Conference on Mechanochemistry and Mechanical Milling. Kosice, Slovakia.
- 2017** **Rational Design of Triphenylphosphonium Derivatives for Enhanced Mitochondrial Uptake.** 11th Asian International Medicinal Chemistry Symposia, Melbourne, Australia.
- 2017** **Stability Enhanced Cyclodiphosphazanes by Oxidation with Chalcogen Elements.** 6th Asian Conference on Coordination Chemistry. Melbourne, Australia.
- 2017** **Mechanochemical Syntheses applied to Main Group Compounds.** The 12th international conference of Heteroatom Chemistry. Vancouver, Canada.
- 2016** **Synthesis and Structural Studies of Aryl-NHC Stabilized Trimethyl Group 13 Complexes.** 27th International Conference in Organometallic Chemistry. Melbourne, Australia.
- 2016** **Mechanochemical Syntheses of Main Group Compounds.** 27th International Conference in Organometallic Chemistry. Melbourne, Australia.

Oral presentations (continued)	2015	Mechanochemical Synthetic Approaches to Phosphazanes. Pacifichem. Hawaii, USA.
	2015	Mechanochemical Reactions of Phosphazanes. Golden Jubilee Chemistry Conference. National University of Singapore, Singapore.
	2015	Mechanochemical Reactions of Phosphazanes. International Symposium on Mechanochemistry. University of Science and Technology of China. Hefei, China.
	2014	Novel Mechanochemical Approaches to Phosphazane Synthesis. 8 th Singapore International Chemistry Conference. Singapore.
	2014	NHC Group 13 Complexes. 41 st International Conference in Coordination Chemistry. Singapore.
	2014	Water Stable Cyclodiphosphazanes. 41 st International Conference in Coordination Chemistry. Singapore.
	2010	Phosphazanes from molecules to functionalised frameworks. Heriot-Watt University, United Kingdom.
	2008	Main Group Phosphazane Compounds. Invited Departmental research seminar. Universitat Jaume I, Spain.
	2007	Group 4 amides and Phosphinidines. Inorganic Section Colloquia. Strathclyde University, United Kingdom.
	2006	Coordination Chemistry and Reactivity of Main Group Phosphido Compounds. Micra 2006. Durham University, United Kingdom.
Poster Presentations	2020	New T*PP Lipophilic Cations for Enhanced Mitochondrial Delivery. ACS Fall 2020 National Meeting & Expo, August 2020. San Francisco, USA.
	2020	Mechanochemistry: New Opportunities and Challenges in Synthetic Chemistry. ACS Spring 2020 National Meeting & Expo. Philadelphia, USA. Cancelled
	2019	Mechanochemical Synthesis of Main Group Compounds. 24 th International Conference on the Chemistry of the Organic Solid State ICCOSS XXIV. New York, USA.
	2018	“One-pot two-step” Mechanochemical Synthesis of Group 13 Salen complexes. Mechanochemistry: Microscopic and Macroscopic Aspects. Beilstein Organic Chemistry Symposium. Ruedesheim, Germany.
	2018	Development of Cyclophosphazane-based Hybrid Organic-inorganic Multicomponent cocrystals using mechanochemistry. Mechanochemistry: Microscopic and Macroscopic Aspects. Beilstein Organic Chemistry Symposium. Ruedesheim, Germany.
	2018	Mechanochemical Synthesis of Cyclophosphazane Frameworks. 15 th International Symposium on Inorganic Ring Systems. Kyoto, Japan.
	2017	Rational Design of Triphenylphosphonium Derivatives for Enhanced Mitochondrial Uptake and Photodynamic Therapy. 12 th International Conference of Heteroatom Chemistry. Vancouver, Canada.
	2017	Main Group Mechanochemical Synthesis. Organometallic Gordon Conference. Salve Regina University, USA.
	2016	Stabilisation and Reactivity of Phosphazanes. ICOMC. Melbourne, Australia.
	2015	Stabilisation and Reactivity of Phosphazanes upon Oxidation. Pacifichem. Hawaii, USA.
	2014	C-N bond Cleavage in Phosphazanes. ICC41. Singapore.
	2006	Group 13 Pyridyl Moieties as Chelating Ligands, Mixed Ligand Precursors, and Heteroatom Networks. F. García, M. McPartlin, M. C. Rogers, J. S. Silva, D. S. Wright. ICOMC 2006. Zaragoza, Spain.
	2006	The inverse coordination of LiCl using Group 13 phosphide hosts. M. J. Duer, F. García, J. M. Goodman, J. P. Hehn, R. A. Kowenicky, V. Naseri, D. S. Wright. ICOMC 2006. Zaragoza, Spain.

Research Funding

	Role	Year	Project Title	Amount (S\$)	Source of Grant
Pending	PI	Pending	<i>Catalizadores Moleculares de Baja Solubilidad (CMBS) para Síntesis Química Sostenible</i>	€ 40, 00.00 (applied)	Becas Leonardo (LEO22-2-1983)
	PI	01/221–12/23	<i>Synthesis, Recycling and Prototyping the Mechanochemistry of Carbonates</i>	€ 120,000 (145,200 with overheads)	Ministry of Science and Innovation (PID2021-127407NB-I00)
Awarded by Spanish funding bodies	PI	12/21–12/23	<i>Eco-Friendly and Circular Carbonate Plastics Manufacturing and Upcycling Using Mechanochemistry</i>	€ 324,850 (~ \$ 367.81K)	FICYT AYUD/2021/59709
	Co-PI	08/21–07/23	<i>High-Throughput Screening of Perovskites for Catalysis by Mechanochemistry and Machine Learning</i>	S\$ 624,950 (749,940 with overheads) (~ € 473.5K) (~ \$ 539.2K)	A*STAR AME IRG (A2083c0060)
Awarded by Singapore Funding Bodies	Co-PI	03/20–02/22	<i>Development of Chemoenzymatic Reactions using Nanomoles of Solid Reagents on Glass Beads</i>	S\$99,000 (~ € 64.5K) (~ \$ 71.2K)	MOE AcRF Tier 1 2019-T1-002-114
	PI	06/17–06/21	<i>Mechanochemical Approaches to Main Group Solid-state Photoredox Systems.</i>	S\$ 618,546 (742,255 with overheads) (~ € 484K) (~ \$ 533.7K)	A*STAR AME-IRG (A1783c0003)
	Co-PI	03/17–/19	<i>Engineering Fluorinated Organo-Lanthanide Complex for NIR-Vis Upconversion Fluorophores.</i>	S\$ 125,000 (~ € 81.5K) (~ \$ 89.9K)	MOE AcRF Tier 1 (2016-T1-002-055)
	PI	11/15–05/18	<i>Group 13 NHC Bonding and Reactivity Studies: Towards Effective P-P Oligomerization</i>	S\$ 79,200 (~ € 51.6) (~ \$ 56.9K)	MOE AcRF Tier 1 (M4011441 2015-T1-001-234)
	PI	11/14–03/15	<i>Novel Cyclodiphosphazane Mitochondrial Cancer Therapies</i>	S\$ 6,000 (~ € 3.9K) (~ \$ 4.3K)	College of Science (CoS). Ideas Competition NTU
Funded by Nanyang Technological University	PI	03/11–02/14	<i>Main Group Building Blocks For Technological Materials</i>	S\$ 250,000 (~ € 163K) (~ \$ 179.8K)	Start-up Grant (M4080552)
	PI	07/08 – 06/10.	<i>New Synthetic Strategies for TTF Based Donor Ligands.</i>	£ 7000.	Royal Society International Joint Project

Funded by UK funding bodies	PI	05/10 - 07/10	Chemistry Department Summer Studentship	£ 2,500	University of Cambridge
	PI	05/09 - 07/09	Newton Trust Research Fund	£ 6000	Trinity College, Cambridge
	PI	05/09 - 07/09	Senior Member Research Research Fund.	£ 3,000.	Newnham College, Cambridge

Publication List

Scientific Journals

2022

Submitted

97. **Modulating the topology of acyclic bis(cyclodiphosphazane) frameworks: Intra- vs Inter-molecular interactions.** Y. Sim, F. Leon, G. Hum, Phang, O. H. Chee, R. Ganguly, Yongxin Li, J. Díaz, T. Alkhdhir, S. Mohamed* and F. García*. *Submitted*.
96. **Solvent-free approach to high-performance carbonaceous metal selenide/MXene composite electrode materials from metal-organic framework/MXene precursors for Li/Na storage.** Xiaoyan Shi, Weiquan Liang, Qiunan Liu, Bin Chen, lianyi shao, Junjie Cai, Zhipeng Sun and Felipe García*. *Submitted*

Preprints

95. **NH-bridged Dimeric Cyclodiphosphazanes: Molecular Switches based on Bifurcated and Trifurcated Hydrogen Bonding Motifs.** G. Hum, S. J. I. Phang, H. C. Ong, F. Leon, S. Quek, Y. X. J. Khoo, J. Diaz, and F. García*. Preprint: *ChemRxiv* **2022**, DOI: 10.26434/chemrxiv-2022-dm6h1.
94. **Phosphazenyolphosphonium Frameworks: A Novel Main Group Mitochondrial Delivery Vector with Enhanced Properties.** H. C. Ong, J. T. S. Coimbra, M. J. Ramos, B. Xing, Pedro A. Fernandes,* and Felipe García*. Preprint: *ChemRxiv* **2022**, DOI: 10.26434/chemrxiv-2022-xhrd8.

Published

93. **Mechanosynthesis and Photophysics of Colour-tunable Photoluminescent Group 13 Metal Complexes with Sterically Demanding 3,5-di-tert-butyl Substituted Salen and Salophen Ligands.** F. Leon, C. Li, J. F. Reynes, V. K. Sigh, X. Lian, H. C. Ong, G. Hum, H. Sun, and F. García*. *Faraday Discussions*, **2022**, Accepted. Preprint: *ChemRxiv* **2022**, DOI: 10.26434/chemrxiv-2022-gm12z.
92. **Single- and double-bridged PNP Ligands in Chromium c catalysed Ethylene Oligomerisation.** Q. Lo, D. Pye, A. K. Tomov, S. Gesslbauer, Y. Sim, F. García, A. J. P. White and G. J. P. Britovsek. *Catal. Sci. Tech.*, **2022**, DOI: 10.1039/d2cy00550f.
91. **Synergic Topological- and Size-Control on Phosphazane Chemistry: First Unfolded Hybrid Tetrameric Macrocycle.** Y. Sim, F. Leon, R. Ganguly, J. Díaz, J. K. Clegg,* and F. García*. *Commun. Chem.*, **2022**, 5, 59 DOI: 10.1038/s42004-022-00673-9 (Preprint: *ChemRxiv* **2021**, DOI:10.26434/chemrxiv.14060936.v1)

2021

90. **Mechanochemical Transformation of Planar Polyarene to Curved Fused-Ring System: Solid-Phase Synthesis of Corannulene.** Y. Teoh, G. Bati, F. García* and M. Stuparu*. *Nat. Commun.*, **2021**, 12, 5187. DOI: 10.1038/s41467-021-25495-6 (*ChemRxiv* **2021**, DOI: 10.26434/chemrxiv.13531010.v1).
89. **Alkyl vs Aryl Modifications: A Comparative Study on Modular Modifications of Triphenylphosphonium Mitochondrial Vectors.** H. C. Ong, J. T. S. Coimbra, M. J. Ramos, B. Xing, P. A. Fernandes,* F. García*. *RSC Chem. Biol.*, **2021**, DOI: 10.1039/D1CB00099C (Preprint: *ChemRxiv* **2021**, DOI: 10.26434/chemrxiv.14445327).
88. **Mechanochemical Rearrangements.** D. Virieux, F. Delogu, A. Porcheddu,* F. García*, E. Colacino.* *J. Org. Chem.*, **2021**, 86, 13885–13894. DOI: 10.1021/acs.joc.1c01323.

87. **Rhenium carbonyl complexes bearing methylated triphenylphosphonium cations as antibody-free mitochondria trackers for X-ray fluorescence.** G. Schanne, L. Henry, H. C. Ong, A. Somogyi, K. Medjoubi, N. Delsuc, C. Policar, F. García*, H. C. Bertrand*. *Inorg. Chem. Front.*, **2021**, 8, 3905-3915. DOI: 10.1039/D1QI00542A (*ChemRxiv* **2021**, DOI: 10.26434/chemrxiv.14400989.)
86. **Mechanosynthesis of Higher-Order Cocrystals: Tuning Order, Functionality and Size in Cocrystal Design.** Z. X. Ng, D. Tan, T. Wei Liang, F. Leon, X.-Y. Shi, Y. Sim, Y. Li, R. Ganguly, Z. Yanli, M. Sharmarke* and F. García*. *Angew. Chem., Int. Ed.*, **2021**, 60, 17481 - 17490. DOI: 10.1002/anie.202101248 (*ChemRxiv* **2021**, DOI: 10.26434/chemrxiv.13515938.v1).
85. **Upscaling Mechanochemistry: Challenges and Opportunities for Sustainable Industry.** E. Colacino,* V. Isoni,* D. Crawford,* F. García*. *Trends in Chem.*, **2021**, 3, 335-339 DOI: 10.1016/j.trechm.2021.02.008. *Invited Science & Society article*.
84. **Mechanochemical Synthesis of Tripodal Tetradentate Tris[4-(1,2,3-triazol-5-ylidene)methyl]amine Mesoionic Carbene Ligands and Their Complexation with Silver(I).** Z. Z. Ang, S. Laxmi, F. García*, and J. England*. *Inorg Chem.* **2021**, 60, 3556-3564. DOI : 10.1021/acs.inorgchem.0c02429
83. **Cobalt-Catalysed Intermolecular [2+ 2+ 2] Cycloaddition of Nitriles and Alkynes: Facile Synthesis of Polyarylpiperidines and Their Mechanochemical Cyclodehydrogenation to Nitrogen-Containing Polyaromatics.** CS Wang, Q Sun, F. García, C Wang,* N Yoshikai.* *Angew. Chem., Int. Ed.*, **2021**, 60, 9627-9634. DOI: 10.1002/anie.202017220. (*ChemRxiv* preprint, DOI: 10.26434/chemrxiv.13465697.v1).
82. **Mechanosynthesis of Metal Complexes and Mechanochemocatalysis.** F. León and F. García*. *Comprehensive Coordination Chemistry III (Third Edition)*, **2021**, Pages 620-679. DOI: 10.1016/B978-0-08-102688-5.00031-3. *Invited Contribution*.
81. **Multi-gram Mechanochemistry of Salophen-Complex: A Comparative Analysis.** V. K. Singh, A. Chamberlain-Clay, H. C. Ong, F. León, G. Hum, M. Y. Par, P. Daley-Dee, F. García*. *ACS Sust. Chem. & Eng.*, **2021**, 9, 1152-1160. DOI: 10.1021/acssuschemeng.0c06374 (*ChemRxiv* Preprint. DOI: 10.26434/chemrxiv.13065512.v1).

2020

80. **Investigating the solid-state assembly of pharmaceutically-relevant *N,N*-dimethyl-O-thiocarbamates in the absence of labile hydrogen bonds.** D. Tan,* Z. X. Ng, R. Ganguly, Y. Li, H. S. Soo, F. García*. *CrystEngComm*, **2020**, 22, 8290-8298 DOI: 10.1039/D0CE01336F - (*ChemRxiv*. Preprint. DOI: 10.26434/chemrxiv.12949697.v1)
79. **Mechanochemical Synthesis of Strained π Surfaces.** B. Gabor, D. Csokas, S.i M. Tam, R. D. Webster, Imre, F. García*, and M. C. Stuparu*. *Angew. Chem., Int. Ed.*, **2020**, 59, 21620-21626 DOI: 10.1002/anie.202007815. *Highlighted in Synfacts 2020; 16(12): DOI:10.1055/s-0040-1719585*
- 78 **Synthesis, properties, and catalysis of p-block complexes supported by bis(arylimino)acenaphthene ligands.** J. Wang, H. S. Soo,* F. García*. *Commun. Chem.*, **2020**, 3, 113. DOI : 10.1038/s42004-020-00359-0. *Invited review* ,
77. **N-bridged Acyclic Trimeric poly-Cyclodiphosphazanes: Highly Tuneable Building Blocks within the Cyclodiphosphazane Family.** X. Shi, F. León, Y. Sim, S. Quek, G. Hum, Y. X. J. Khoo, Z. X. Ng, P. M. Yang, H. C. Ong, V. K. Singh, R. Ganguly, J. K. Clegg, J. Díaz, and F. García* *Angew. Chem., Int. Ed.*, **2020**, 59, 22100-22108. DOI: 10.1002/anie.202008214.
76. **Site-Selective Aromatic C–H λ^3 -Iodination with Benziiodoxole Triflate in Solution and Solid Phases.** W. Ding, C. Wang, J. R. Tan, C. C. Ho, F. Leon, F. García*, and N. Yoshikai*. *Chem. Sci.*, **2020**, 11, 7356-7361. DOI: 10.1039/D0SC02737E.
75. **Encapsulating Ruthenium in Silica using a Single Source Precursor: Differing Outcomes for a Cycloaddition Reaction.** C. K. Barik, R. Ganguly, F. García and W. K. Leong*. *Inorg. Chim. Acta*, **2020**, 512, 119833. DOI: 10.1016/j.ica.2020.119833.

74. **European Research in Focus: Mechanochemistry for Sustainable Industry (COST Action MechSustInd).** J. G. Hernández*, I. Halasz*, D. E. Crawford*, M. Krupicka*, M. Baláž*, V. André*, L. Vella-Zarb*, A. Niidu*, F. García*, L. Maini*, E. Colacino*. *Eur. J. Org. Chem.* **2020**, 1, 8-9. DOI: 10.1002/ejoc.201901718.

2019

73. **Mechanochemistry: a disruptive innovation for the industry of the future.** M. Baláž*, L. Vella-Zarb*, J. G. Hernández*, I. Halasz*, D. E. Crawford*, M. Krupička*, V. André*, A. Niidu*, F. García*, L. Maini*, E. Colacino*. *Chem. Today*, **2019**, 37, 32-34.
72. **Enabling Mitochondrial Uptake of Lipophilic Dications Using Methylated Triphenylphosphonium Moieties.** H. C. Ong, Z. Hu, J. T. S. Coimbra, M. J. Ramos, O. L. Kon, B. Xing, E. K. L. Yeow, P. A. Fernandes* and F. García*. *Inorg. Chem.*, **2019**, 58, 8293-8299. DOI: 10.1021/acs.inorgchem.8b03380.
71. **Completely Solvent-free Protocols to Access Phase-Pure, Metastable Metal Halide Perovskites and Functional Photodetectors from the Precursor Salts.** Z. Hong, D. Tan, R. Abraham John, Y. K. E. Tay, Y. K. T. Ho, X. Zhao, T. C. Sum, N. Mathews, F. García* and H. S. Soo.* *iScience*, **2019**, 16, 312-325. DOI: 10.1016/j.isci.2019.05.042.
70. **Main Group Mechanochemistry: from curiosity to established protocols.** D. Tan and F. García*. *Chem. Soc. Rev.*, **2019**, 48, 2274-2292. DOI: 10.1039/C7CS00813A. [Cover artwork](#).

2018

69. **Synthesis of Unique Phosphazane Macrocyclic Frameworks via Steric Bond Activation.** Y.-X. Shi, R. Z. Liang, K. A. Martin, D. G. Star, Y. Li, R. Ganguly, J. Díaz,* and F. García*. *Inorg. Chem.*, **2018**, 57, 10993-11004. DOI: 10.1021/acs.inorgchem.8b01596.
68. **Orthogonality in Main Group Compounds: Direct One-step Synthesis of Air- and Moisture-stable Cyclodiphosphazanes by Mechanochemistry.** Y. Sim, D. Tan, R. Ganguly, Y. Li, and F. García*. *Chem. Commun.*, **2018**, 20, 5998-6004. DOI: 10.1039/C8CC01043A. [Invited contribution "Emerging Investigators 2018 issue"](#).
67. **Cis-cyclodiphosph(V/V)azane as Highly Stable and Robust Main Group Supramolecular Building Blocks.** D. Tan, Z. X. Ng, Y. Sim, R. Ganguly, Y. Li, and F. García*. *CrystEngComm.*, **2018**, 20, 5998-6004. DOI:10.1039/C8CE00395E. [Invited contribution to "New Talent 2018 issue"](#).

2017

66. **Bay-Region Functionalization of Ar-BIAN Ligands and Their Use Within Highly Absorptive Cationic Iridium(III) Dyes.** K. Hasan, J. Wang, A. K. Pal, H. S. Soo,* F. García*, and E. Zysman-Colman.* *Sci. Reports*, **2017**, 7: 15520. DOI: 10.1038/s41598-017-14996-4.
65. **Main Group Mechanochemistry.** A. Ackvile-Gečiauskaitė, and F. García*. *Beilstein J. Org. Chem.*, **2017**, 13, 2068-2077. DOI: 10.3762/bjoc.13.204. [Invited special issue on "Mechanochemistry"](#).
64. **Synthesis, Optical, and Electrochemical Properties of Indium(III) Bis(arylamino)acenaphthene Complexes.** J. Wang, R. Ganguly, Y. Li, J. Díaz,* H. S. Soo,* and F. García*. *Inorg. Chem.*, **2017**, 56, 7811-7820. DOI: 10.1021/acs.inorgchem.7b00539.
63. **Mechanochemical Synthesis of Phosphazane-based Compounds.** Y. Sim, Y.-X. Shi, R. Ganguly, Y. Li, and F. García*. *Chem. Eur. J.*, **2017**, 47, 11279-11285. DOI: 10.1002/chem.201701619. ["Hot Paper" and cover artwork](#).
62. **Unique Triphenylphosphonium Derivatives for Enhanced Mitochondrial Uptake and Photodynamic Therapy.** Z. Hu, Y. Sim, K. O. Lian, N. W. Har, A. Ribeiro, P. Fernandes, X. Bengang, F. García*, and E. K. L. Yeow*. *Bioconjug. Chem.*, **2017**, 28, 590-599. DOI: 10.1021/acs.bioconjchem.6b00682.
61. **Aryl-NHC group 13 Trimethyl complexes: Structural, Stability and Bonding Insights.** M. W. Meiyi, A. M. Gill, L. Yunpeng, Y. Li, R. Ganguly, L. Falivene,* and F. García*. *Dalton Trans.*, **2017**, 46, 854-864. DOI: 10.1039/C6DT04448D.

2016

- 60. Mechanochemistry Made It Possible: Synthesis of the Sterically Encumbered Phosphazane $P_4(N^iBu)_6$.** Y.-X. Shi, K. Xu, J. Clegg, R. Ganguly, H. Hirao, T. Friscic, and F. García.* *Angew. Chem. Int. Ed.*, **2016**, 55, 12736-12740. DOI: 10.1002/anie.201605936. "Hot Paper" – Highlighted in *Chemistry World (RSC)*.
- 59. A multi-Step Solvent-Free Mechanochemical Route to Indium(III) Complexes.** W. Jingyi, J. Díaz, H. S. Soo,* and F. García.* *Dalton Trans.*, **2016**, 45, 7941-7946. DOI: 10.1039/C6DT00978F.

2015

- 58. Steric C-N bond activation on the dimeric macrocycle $[P(\mu-NR)_2(\mu-NR)]_2$.** X. Y. Shi, R. Z. Liang, K. A. Martin, D. G. Starr, J. Díaz, Y. Li, R. Ganguly, and F. García.* *Chem. Commun.*, **2015**, 51, 16468-16471. DOI: 10.1039/C5CC06034F. *Cover artwork*.
- 57. Synthesis and hydrolytic studies on the air-stable $[(4-CN-PhO)P(E)(\mu-N^iBu)]_2$ (E = O, S and Se) cyclodiphosphazanes.** Y.-X. Shi, K. A. Martin, N. Weston, S. Gonzalez-Calera, R. Ganguly, Y. Li, Y. Lu, A. Ribeiro, M. Ramos, P. Fernandes,* and F. García.* *Inorg. Chem.*, **2015**, 54, 6423-6432. DOI:10.1021/acs.inorgchem.5b00735.
- 56. Synthesis, structural studies and ligand influence on the stability of aryl-NHC stabilised trimethylaluminium complexes.** M. Wu, M. A. M. Gill, L. Yunpeng, L. Falivene, L. Yongxin, R. Ganguly, L. Cavallo, and F. García.* *Dalton Trans.*, **2015**, 44, 15166-15174. DOI: 10.1039/C5DT00079C. *Invited contribution to "New Talent: Asia-Pacific"*.

Pre-2015

- 55. Switching between halogen- and hydrogen-bonding in stoichiometric variations of a cocrystal of a phosphine oxide of halide ions within homologous inverse coordination hosts; modification of halide-ion selectivity.** S.-Y. Oh, C. W. Nickels, F. García, W. Jones, and T. Friscic. *CrystEngComm.*, **2012**, 14, 6110-6114. DOI: 10.1039/C2CE25653C.
- 54. Confinement of halide ions within homologous inverse coordination hosts; modification of halide-ion selectivity.** F. García, R. J. Less, M. McPartlin, A. Michalski, R. E. Mulvey, V. Naseri, M. L. Stead, Ana M. de Vega, and D. S. Wright. *Chem. Commun.*, **2011**, 1821-1823. DOI: 10.1039/c0cc04483k.
- 53. Syntheses and structures of $[Me_2Si\{As(P^iBu)_3\}_2]$ and $[(CyP)_3SiMe_2]$ (Cy = cyclohexyl, C_6H_{11}).** W. T. K. Chan, F. García, M. McPartlin, R. L. Melen, and D. S. Wright. *J. Organomet. Chem.*, **2010**, 695, 1069-1073. DOI: 10.1016/j.jorganchem.2009.12.011.
- 52. Mixed Alkylamido Aluminate as a Kinetically Controlled Base.** H. Naka, J. V. Morey, J. Haywood, D. J. Esler, M. McPartlin, F. García, H. Kudo, Y. Kondo, M. Uchiyama, and A. E. H. Wheatley. *J. Am. Chem. Soc.*, **2008**, 130, 16193-16200. DOI: 10.1021/ja804749y.
- 51. Synthesis and structure of the Li_{13} cage $[([O\cdots P(\mu-N^iBu)]_2Li)_3(LiCl)_6\cdots Li(Cl/O^iBu)_{0.5}(THF)_7]$, containing a $[O\cdots P(\mu-N^iBu)]_2^{2-}$ dianion.** W. T. K. Chan, F. García, S. Gonzalez-Calera, M. McPartlin, J. V. Morey, Robert E. Mulvey, S. Singh, and D. S. Wright. *Chem. Commun.*, **2008**, 2251-2253. DOI: 10.1039/b800051d.
- 50. Suppressing the anionic Fries rearrangement of aryl dialkylcarbamates; the isolation of a crystalline ortho-deprotonated carbamate.** F. García, M. McPartlin, J. V. Morey, D. Nobuto, Y. Kondo, H. Naka, M. Uchiyama, and A. E. H. Wheatley. *Eur. J. Org. Chem.*, **2008**, 4, 644-647. DOI: 10.1002/ejoc.200701096.
- 49. Direct Synthesis of the 1,2,3- $[C_6H_4P\cdots P\cdots P]^-$ Anion, Isoelectronic with the Indenyl Anion $[C_6H_4CH\cdots CH\cdots CH]^-$.** F. García, R. J. Less, V. Naseri, M. McPartlin, J. M. Rawson, M. Sancho Tomas, and D. S. Wright. *Chem. Commun.*, **2008**, 859-861. DOI: 10.1039/b718425e.
- 48. π -Bonding versus Oligomerisation in the Aromatic Anions $[C_6H_4N_2E]^-$ Formation of a Cyclic Tetrameric Tetraanion $[C_6H_4N_2Sb]_4^{4-}$.** F. García, R. J. Less, V. Naseri, M. McPartlin, J. M. Rawson, and D. S. Wright. *Dalton Trans.*, **2008**, 997-999. DOI: 10.1039/b718512j].

47. **Effective visible light-active B-doped TiO₂ photocatalysts compared with N-doped TiO₂ and B,N-codoped TiO₂.** S. In, A. Orlov, R. Berg, F. García, S. Pedrosa-Jimenez, M. S. Tikhov, D. S. Wright, and R. M. Lambert. *J. Am. Chem. Soc.*, **2007**, 129, 13790-13791. DOI: 10.1021/ja0749237.
46. **Syntheses and Structures of the Heterometallic Complexes [MeIn(μ -PCy)]₂(μ -PCy)]₂(Li·Et₂O)₄, [Me₂In(PhMes)₂][Li(TMEDA)]⁺ and [Me₂(PHMes)₂In]⁺[K(PMDETA)]⁺ [Cy= cyclohexyl, Mes= 2,4,6-Me₃C₆H₂], TMEDA= (Me₂NCH₂)₂, PMDETA= (Me₂NCH₂CH₂)₂NMe]. I. Fanjul, F. García, R. A. Kowenicki, M. E. G. Mosquera, M. McPartlin, and D. S. Wright. *Inorg. Chim. Acta.*, **2007**, 360, 1266-1273. DOI: 10.1016/j.ica.2005.12.029.**
45. **An Unexpected Pathway in the Cage Opening and Aggregation of P₄.** W. T. K. Chan, F. García, A. D. Hopkins, L. C. Martin, M. McPartlin, and D. S. Wright. *Angew. Chem. Int. Ed.*, **2007**, 46, 3084-3086. DOI: 10.1002/anie.200604267.
44. **Trapping of Oligomeric Cyclopentadienyl-lithium Cation and Anion Fragments by a V≡V Bonded Ligand.** C. Fernández, F. García, J.V. Morey, M. McPartlin, S. Singh, A. E. H. Wheatley, and D. S. Wright, *Angew. Chem. Int. Ed.*, **2007**, 46, 5425-5427. DOI: 10.1002/anie.200700925.
43. **Formation and Structure of the [1,2-C₆H₄P₂Sb]₂⁴⁻ Anion; Implications for an Extended Family of Isoelectronic Main Group Radicals.** F. García, R. J. Less, V. Naseri, M. McPartlin, J. M. Rawson, and D. S. Wright. *Angew. Chem. Int. Ed.*, **2007**, 46, 7827-7830. DOI: 10.1002/anie.200702603.
42. **Reactions of Sn(NMe₂)₂ with Alkali Metal Cyclohexyl Phosphides [CyPHM] (Cy = Cyclohexyl, M = alkali metal).** P. Alvarez, F. García, J. P. Hehn, F. Kraus, G. T. Lawson, N. Korber, M.E.G Mosquera, M. McPartlin, D. Moncrieff, C. M. Pask, A. D. Woods, and D. S. Wright. *Chem. Eur. J.*, **2007**, 1078-1089. DOI: 10.1002/chem.200600633.
41. **Structural and Theoretical Study of the Selectivity of [MeE(PPh)₃Li₄] as 'Inverse Ligands' Toward Coordination of Halide Ions (E = Al, Ga, In).** M. J. Duer, F. García, J. M. Goodman, J. P. Hehn, M. McPartlin, R. Stein, and D. S. Wright. *Chem. Eur. J.*, **2007**, 1251-1260. DOI: 10.1002/chem.200600781.
40. **Ansa-tris(allyl) Complexes of Alkali Metals: Tripodal Analogues of Cyclopentadienyl and Ansa-metallocene ligands.** R.A Layfield, F. García, J. Hannauer, and S. M. Humphrey. *Chem. Commun.*, **2007**, 5081-5083. DOI: 10.1039/b712285c.
39. **Pyridyl 'Ring-Flipping' in the Dimers [Me₂E(2-py)]₂ (E = Al, Ga; 2-py= 2-pyridyl).** F. García, A. D. Hopkins, R. A. Kowenicki, M. McPartlin, J. Silvia, M. C. Rogers, and D. S. Wright. *Chem. Commun.*, **2007**, 586-588. DOI: 10.1039/b613748b.
38. **Stepwise Nucleophilic Substitution of Manganocene, Syntheses and Structures of the Dimer [CpMn(hpp)]₂ and the Unusual Manganate Cage [LiMn(hpp)₃]₂ (hppH = 1,3,4,6,7,8-hexahydro-2H-pyrimido[1,2,a] pyrimiddfine).** C. Brinkmann, F. García, M. McPartlin, A. E. H. Wheatley, and D. S. Wright. *Dalton Trans.*, **2007**, 1570-1572. DOI: 10.1039/b700409e.
37. **Encapsulation of Hydride by Molecular Main Group Metal Clusters: Manipulating the Source and Coordination Sphere of the Interstitial ion.** S. R. Boss, M. P. Coles, V. Eyre-Brook, F. García, R. Haigh, P. B. Hitchcock, M. McPartlin, J. V. Morey, H. Naka, P. R. Raithby, H. A. Sparkes, C. W. Tate, and A. E. H. Wheatley. *Dalton Trans.*, **2006**, 5574.
36. **Efficient Visible Light-active N-doped TiO₂ Photocatalysts by a Reproducible and Controllable Synthetic route.** S. In, A Orlov, F. García, M. Tikhov, D. S. Wright, and R.M. Lambert. *Chem. Commun.*, **2006**, 4236-4238. DOI: 10.1039/b610316b.
35. **Efficient Synthesis of Brominated Tetrathiafulvalene (TTF) Derivatives.** Antonio Alberola, Rebecca J. Collis, Felipe García, and Ruth E. Howard. *Tetrahedron*, **2006**, 8152-8157. DOI: 10.1016/j.tet.2006.06.006.
34. **Reactions of Sn(NMe₂)₂ with Alkali Metal *tert*-Butylphosphides ('BuPHM; M = Li, Na K); Evidence for Metal-Induced Modification of the Sn(II) Phosphidene Anions.** F.

- García, J. P. Hehn, R. A. Kowenicki, M. McPartlin, A. Rothenberger, M. L. Stead, and D. S. Wright. *Organometallics*, **2006**, 3275-3281. DOI: 10.1021/om060167m.
33. **Syntheses and Structure of Heterometallic Complexes Containing Tripodal Group 13 Ligands $[RE(2\text{-py})_3]^-$ ($E = \text{Al, In}$).** F. García, A. D. Hopkins, R. A. Kowenicki, M. McPartlin, M. C. Rogers, J. S. Silva, and D. Wright. *Organometallics*, **2006**, 25, 2561-2568. DOI: 10.1021/om0600691.
 32. **Adventures in Tin(II) Phosphinidene Chemistry; Insights into the Mechanism of P-P and Sn-Sn Bond Formation.** F. García, M. L. Stead, and D. S. Wright. *J. Organomet. Chem.*, **2006**, 691, 1673-1680. DOI: 10.1016/j.jorganchem.2005.11.067.
 31. **The cationic cluster Grignard $\{[MgCl(THF)_2]_3(\mu_3\text{-C}_3\text{H}_5)_2\}^+$.** R. A. Layfield, T. H. Bullock, F. García, S. M. Humphrey and P. Schüler. *Chem. Commun.*, **2006**, 2039-2041. DOI: 10.1039/b602059c.
 30. **Targeting large phosph(III)azane macrocycles $\{[P(\mu\text{-NR})]_2(LL)\}_n$ ($n \geq 2$).** F. Dodds, F. García, R. A. Kowenicki, S. P. Parsons, M. McPartlin, and D. S. Wright, *Dalton Trans.*, **2006**, 4235-4243.
 29. **The First Complex of the Pentameric Phosphazane Macrocycle $\{[P(\mu\text{-N}^i\text{Bu})]_2(\mu\text{-NH})\}_5$ with a Neutral Guest; Synthesis and Structure of $\{[P(\mu\text{-N}^i\text{Bu})]_2(\mu\text{-NH})\}_5(\text{CH}_2\text{Cl}_2)_2$.** F. García, R. A. Kowenicki, I. Kuzu, M. McPartlin, L. Riera, and D. S. Wright. *Inorg. Chem. Commun.*, **2005**, 8, 1060-1062. DOI: 10.1016/j.inoche.2005.08.010.
 28. **Inverse Coordination of an Ionic Lattice by a Metal Host.** M. J. Duer, F. García, R. A. Kowenicki, V. Naseri, M. McPartlin, R. Stein, and D. S. Wright. *Angew. Chem., Int. Ed.*, **2005**, 44, 5729. DOI: 10.1002/anie.200501198.
 27. **Reactions of $\text{Sn}(\text{NMe}_2)_3$ with Primary Aryl Phosphines, ArPH_2 ; Influence of Donor Functionality on Structure in the Heteroleptic Cages $\{[(\text{PhP-PPh})\text{Sn}(\mu\text{-PPh})]_2(\text{Na-PMDTA})_4\}$ and $\{[\text{Sn}(\mu_3\text{-Ppy})]_3[\text{Sn}(\mu_3, \mu_1\text{-pyP-Ppy})]_3\}$.** F. García, R. A. Kowenicki, M. McPartlin, C. M. Pask, A. D. Woods, and D. S. Wright. *Organometallics*, **2004**, 24, 1813-1818. DOI: 10.1021/om049177i.
 26. **Quadruple Deprotonation of 2-Amino-Phenyl Phosphine Using a $\text{Sn}(\text{NMe}_2)_2/\text{nBuLi}$ Reagent.** F. García, S. M. Humphreys, R. A. Kowenicki, C. M. Pask, M. McPartlin, A. D. Woods, and D. S. Wright. *Angew. Chem., Int. Ed.*, **2005**, 44, 3456-3459. DOI: 10.1002/anie.200500340 (highlighted in science editor's choice, Vol 308, Number 5724, Issue of 13 May 2005).
 25. **Highly Selective Epoxidation of Styrene Using a Transition Metal-aluminium(III) Complex Containing the $[\text{MeAl}(2\text{-py})_3]^-$ anion (2-py= 2-pyridyl).** C. Soria Alvarez, F. García, A. D. Hopkins, R. A. Kowenicki, R. A. Layfield, M. McPartlin, R. Raja, M. C. Rogers, A. D. Woods, and D. S. Wright. *Chem. Commun.*, **2005**, 198-200. DOI: 10.1039/b413488e.
 24. **Synthesis and Structure of the Calixarene-like Phosphazane Macrocycle $\{[P(\mu\text{-N}^i\text{Bu})]_2\{1,5\text{-N}_2\text{C}_{10}\text{H}_6\}\}_2$.** F. Dodds, F. García, R. A. Kowenicki, M. McPartlin, and D. S. Wright. *Chem. Commun.*, **2005**, 3733-3735. DOI: 10.1039/b504686f.
 23. **The Folded Phosph(III)azane Macrocycle $\{[P(\mu\text{-N}^i\text{Bu})]_2\{1,4\text{-(NH)}_2\text{C}_6\text{H}_4\}\}_4$.** F. Dodds, F. García, R. A. Kowenicki, M. McPartlin, A. Steiner, and D. S. Wright. *Chem. Commun.*, **2005**, 5041-5043. DOI: 10.1039/b510636b.
 22. **Selection of the *cis* and *trans* Phosph(III)azane Macrocycles $\{[P(\mu\text{-N}^i\text{Bu})]_2(1\text{-Y-2-NH-C}_6\text{H}_4)\}_2$ ($Y = \text{O, S}$).** F. García, J. M. Goodman, R. A. Kowenicki, M. McPartlin, L. Riera, M. A. Silva, A. Wirsing, and D. S. Wright. *Dalton Trans.*, **2005**, 1764-1773. DOI: 10.1039/b502200b.
 21. **Triphosph(III)azanes to Diphosph(III)azanes; a Cracking Transformation.** F. García, R. A. Kowenicki, L. Riera, and D. S. Wright. *Dalton Trans.*, **2005**, 2495-2496. DOI: 10.1039/b505720e.
 20. **Selection of a Pentameric Host in the Host-Guest complexes $\{[P(\mu\text{-N}^i\text{Bu})]_2(\mu\text{-NH})\}_5\text{-I}\}[\text{Li}(\text{THF})_4]^+$ and $\{[P(\mu\text{-N}^i\text{Bu})]_2(\mu\text{-NH})\}_5\text{-HBr}\cdot\text{THF}$.** F. García, J. M. Goodman, R. A. Kowenicki, I. Kuzu, M. McPartlin, M. A. Silva, L. Riera, and D. S. Wright. *Chem. Eur. J.*, **2004**, 6066-6072. DOI: 10.1002/chem.200400320.

19. **Synthesis and Structure of $[\{\text{Sn}_2(\mu\text{-PMes})_3\}\text{K}_2\cdot 3\text{THF}]_\infty$, Exhibiting Multi-functional Coordination of $[\text{Sn}_2(\mu\text{-PMes})_3]^{2-}$ Anions to K^+ .** F. García, S. M. Humphrey, M. McPartlin, C. M. Pask, A. D. Woods, and D. S. Wright. *Organometallics*, **2004**, 23, 4821-4823. DOI: 10.1021/om0495372.
18. **Synthesis of the $[\text{MeAl}(\text{2-py})_3]^-$ Anion and its Application as a Stable and Mild Pyridyl-Transfer Reagent.** F. García, A. D. Hopkins, R. A. Kowenicky, M. McParling, M. C. Rogers, and D. S. Wright. *Organometallics*, **2004**, 23, 3884-3890. DOI: 10.1021/om049749z.
17. **Thermodynamic/Kinetic Control in the Isomerisation of the $[\text{tBuNP}(\mu\text{-N}^t\text{Bu})]_2^{2-}$ Dianion.** A. D. Bond, E. L. Doyle, F. García, D. Moncrieff, M. McPartlin, L. Riera, A. D. Woods and D. S. Wright. *Chem. Eur. J.*, **2004**, 10, 2271-2276. DOI: 10.1002/chem.200305762.
16. **A One-pot Synthesis to $[(\text{Me}_3\text{Si})_3\text{SiSb}]_4$; a Potential Precursor for Sb_4^{2-} .** F. García, A. D. Hopkins, R. A. Kowenicki, M. McPartlin, and Yolanda Tesa. *Dalton Trans.*, **2004**, 2051-2052. DOI: 10.1039/b405032k.
15. **The Formation of Dimeric Phosph(III)azane Macrocycles $[\{\text{P}(\mu\text{-N}^t\text{Bu})\}_2\text{LL}]_2$ [LL = organic spacer].** F. García, R. A. Kowenicki, I. Kuzu, L. Riera, M. McPartlin, and D. S. Wright. *Dalton Trans.*, **2004**, 2904-2909.
14. **The First Example of a Si-Bridged Tris(pyridyl) Ligand; Synthesis and Structure of $[\text{MeSi}(\text{2-C}_5\text{H}_4\text{N})_3\text{LiX}]$ (X = 0.2-Br, 0.8-Cl).** F. García, A. D. Hopkins, M. McPartlin, M. C. Rogers, and D. S. Wright. *Dalton Trans.*, **2004**, 361-362. DOI: 10.1039/b315503j.
13. **Steric Control in the Oligomerisation of Phosphazane Dimers; Towards New Phosphorus-Nitrogen Macrocycles.** E. L. Doyle, F. García, S. M. Humphrey, R. Kowenicki, L. Riera, A. D. Woods, and D. S. Wright. *Dalton Trans.*, **2004**, 807-812. DOI: 10.1039/b314790h.
12. **Selective Formation of the $[\text{PhP}(\text{H})\text{-PPh}]^-$ Anion in the Reaction of $\text{PhP}(\text{H})\text{Li}$ with MeAlCl_2 ; Synthesis and Structure of the Unusual Tetramer $[\{\text{PhP}(\text{H})\text{-PPh}\}\text{Li THF}]_4$.** F. García, S. M. Humphrey, R. A. Kowenicki, M. McPartlin, and D. S. Wright. *Dalton Trans.*, **2004**, 977-979. DOI: 10.1039/b402295e.
11. **Reductive-Elimination of Phosphide Units; The basis of a General Approach to a Range of Alloys and Material?** F. García, A. D. Hopkins, C. M. Pask, A. D. Woods and D. S. Wright. *J. Mater. Chem.*, **2004**, 3091-3100. DOI:10.1002/chin.200510271.
10. **Exo-Metal Coordination by a Tricyclic $[\{\text{P}(\mu\text{-N-2-NC}_5\text{H}_4)\}_2(\mu\text{-O})]_2$ Dimer in $[\{\text{P}(\mu\text{-N-2-NC}_5\text{H}_4)\}_2(\mu\text{-O})]_2\{\text{CuCl}(\text{C}_5\text{H}_5\text{N})_2\}_4$ {2-NC₅H₄ = 2-pyridyl, C₅H₅N= pyridine).** A. D. Bond, E. L. Doyle, F. García, R. A. Kowenicki, M. McPartlin, L. Riera and D. S. Wright, *Chem. Commun.*, **2003**, 2990-2291. DOI: 10.1039/b309842g.
9. **Primary Amido and Phosphido Complexes of Zinc: Potential Precursors to Heterometallic Arrangements.** A. Bashall, J. M. Cole, F. García, A. Primo, A. Rothenberger, M. McPartlin, and D. S. Wright, *Inorg. Chim. Acta*, **2003**, 41-48. DOI: 10.1016/S0020-1693(03)00375-X.
8. **Synthesis and structure of $[\{\text{MeAl}(\mu\text{-PMes})(\text{PMes})\}_2\text{Li}_4]^{2-}\cdot 7\text{THF}$, containing a $[\text{MeAl}(\mu\text{-PMes})(\text{PMes})]_2^{4-}$ tetraanion (Mes = 2,4,6-Me₃C₆H₂).** F. García, R. Haigh, M. McPartlin, and D. S. Wright, *Chem. Commun.*, **2003**, 2052-2053. DOI: 10.1039/b305259a.
7. **Reactions of metallated cyclohexyl phosphine (CyPHM) with $\text{As}(\text{NMe}_2)_3$; synthesis of $[(\text{CyP})_4\text{As}]^-$ anions (M = Li or Na, Cy = cyclohexyl).** A. Bashall, F. García, A. D. Hopkins, J. A. Wood, M. McPartlin, A. D. Woods, and D. S. Wright. *Dalton Trans.*, **2003**, 1143-1147. DOI: 10.1039/B211037G.
6. **Suggestion of a Twist. Mechanism in the Oligomerisation of a Dimeric Phosph(III)azane: Insights into the Selection of Adamantoid and Macrocyclic Alternatives.** A. Bashall, E. L. Doyle, F. García, G. T. Lawson, D. J. Linton, D. Moncrieff, M. McPartlin, A. D. Woods, and D. S. Wright, *Chem. Eur. J.*, **2002**, 24, 5723-5731. DOI: 10.1002/1521-3765(20021216)8:24<5723::AID-CHEM5723>3.0.CO;2-D.

5. **Formation and Decomposition of the Sb(III)/Li Cage $[\{\text{Sb}(\text{P}^t\text{Bu})_3\}_2\text{Li}_6\cdot 6\text{THF}]$.** A. Bashal, F. García, G. T. Lawson, M. McPartlin, A. Rothenberger, A. D. Woods, and D. S. Wright, *Can. J. Chem.*, **2002**, *80*, 1421-11427. DOI: 10.1139/v02-154.
4. **Templating and Selection in the Formation of Macrocycles Containing $[\{\text{P}(\mu\text{-N}^t\text{Bu})_2\}(\mu\text{-NH})]_n$ Frameworks: Observation of Halide Ion Coordination.** A. Bashal, A. D. Bond, E. L. Doyle, F. García, S. Kidd, G. T. Lawson, M. McPartlin, A. D. Woods, and D. S. Wright, *Chem. Eur. J.*, **2002**, *15*, 3377-3385. DOI: 10.1002/1521-3765(20020802)8:15<3377::AID-CHEM3377>3.0.CO;2-5.
3. **Synthesis of a Deca-lithium Cage Containing an $[(\text{RN})_2\text{As}(\mu\text{-NR})\text{As}(\text{NR})_2]^{4-}$ Tetraanion; a Homologue of Group 15 Trianions of the Type $[\text{E}(\text{NR})_3]^{3-}$.** A. D. Bond, F. García, K. Jantos, G. T. Lawson, M. McPartlin, and D. S. Wright, *Chem. Commun.*, **2002**, 1276-1277. DOI: 10.1039/b202858a.
2. **Syntheses and Structures of the Cubanes $[\text{PhOSb}(\mu_3\text{-NCy})]_4$ and $[\text{pyOBi}(\mu_3\text{-NCy})]_4$ (Cy = cyclohexyl, py = 2-pyridyl).** J. F. Bickley, A. D. Bond, F. García, K. Jantos, G. T. Lawson, M. McPartlin, A. Steiner, and D. S. Wright, *J. Chem. Soc., Dalton Trans.*, **2002**, 4629-4633. DOI: 10.1039/b208302g.
1. **Synthesis and Structure of $[\{\text{Sb}(\mu\text{-NCy})\}_2(\mu\text{-N})_3(\text{Li}\cdot\text{THF})^3\text{-(LiN=NH)}]$, Containing a Macrocyclic $[\{\text{Sb}(\mu\text{-NCy})\}_2\text{N}]^{3-}$ Trianion.** F. García, D. J. Linton, M. McPartlin, A. Rothenberger, A. E. H. Wheatley, and D. S. Wright, *Dalton Trans.*, **2002**, 481-483. DOI: 10.1039/b110984g.

Book Chapters

Published

3. **Group 2 [Be-Ba] and Group 12 [Zn-Hg].** F. García and D. S. Wright, *Organometallic Chemistry*, Vol 35, Chapter 3. The Royal Society of Chemistry, **2009**. ISBN 978-0-85404-358-3.
2. **Group 2 [Be-Ba] and Group 12 [Zn-Hg].** F. García and D. S. Wright, *Organometallic Chemistry*, Vol 34, Chapter 3. The Royal Society of Chemistry, **2008**. ISBN 978-0-85404-353-8.
1. **Group 2 [Be-Ba] and Group 12 [Zn-Hg].** F. García and D. S. Wright, *Organometallic Chemistry*, Vol 33, Chapter 3. The Royal Society of Chemistry, **2007**. ISBN 978-0-85404-348-4

In preparation

1. **Mechanochemistry.** Z. X. Ng, Y. X. Shi and F. García*. *Encyclopedia of Inorganic and Bioinorganic Chemistry (online) (eibc2709)*. *In preparation*

Books

In preparation

1. **Mechanochemistry.** E. Colacino and F. Garcia *ACS in focus*. *Invited*.
2. **Mechanochemistry and Emerging Technologies for Sustainable Chemical Manufacturing.** Eds. E. Colacino, D. Crawford and F. García. Taylor and Francis (To be published in 2023).

Research Innovation

Technology Disclosures

1. **Temperature Controllable Photomechanical Reactor (File in ref: 2018-125).** F. García, H. S. Soo, D. Tan, Z. Hong.
1. **Large-Scale Mechanochemical Synthesis Of All-Inorganic Metal Halide Perovskites (File in ref: 2018-126).** F. García, H. S. Soo, D. Tan, Z. Hong).

Teaching Executive Summary

University of Oviedo	Chemistry Teaching Lab (First year Electrical Engineering) – starting in Feb 2022
Nanyang Technological University	Taught four courses <i>CBC729 - Graduate Seminar Module</i> <i>CM8001 - Chemistry and Society</i> <i>CM9001 - Advanced Conceptual Chemistry with Laboratory</i> <i>CY1101 - Principles of Modern Chemistry</i> Have maintained teaching scores above 4.0/5.0 for the past 5 years. Won the Excellence in Teaching Award (2016). School of Physical and Mathematical Sciences (SPMS) at NTU. Both my undergraduate and graduate students have won various prizes in research competitions and at scientific meetings. Pioneered Team Based Learning (TBL) in NTU and SPMS. - I run the largest TBL course in NTU (in excess of 250 students – capped by venue). - Pioneered the usage of multimedia BLOGS (<i>WordPress blogs</i>) in SPMS - Pioneered the implementation of “<i>Conceptual multimedia video assignments</i>” - Introduced the use of virtual laboratory environments (Labster) in SPMS My teaching showcased at: - Wordpress international meeting “<i>WordCamp Singapore 2016</i>”. - NTU eLearning news (Dec 2017) - My TBL sessions have been recorded for NTU and SPMS corporate videos on Technology Enhanced learning
University of Cambridge	- Taught three different lecture courses (years 2, 3 and 4) - Demonstrator and Chief Demonstrator in all inorganic undergraduate laboratories. - Supervised all inorganic courses. - Director of studies in Chemistry. - Won the Junior Faculty Teaching Award. Chemistry Department (2010) - Became Associate Member status of the Higher Education Academy (UK).

TEACHING SUMMARY

Teaching Innovation

- **Team-Based Learning.** I have pioneered the use of TBL in the physical sciences in NTU. Currently running the largest TBL course in NTU (~300 students).
- **Technology Enhanced Learning (TEL).**
- **NTU Blogs.** Online platform to promote independent learning pedagogies.
- **Multimedia Project.** Final project to enhance soft skills (creative thinking, communication and presentation skills) in undergraduate students.
- **Virtual Laboratories (Labster).** Readily accessible and “hands-on” chemical experiments to consolidate basic chemical concepts using “on-the-go” virtual platforms.

Teaching Courses attended

- **Peer Review of Teaching for Decision Making.** Nanyang Technological University. Nov. 2016.
- **Brown Bag Seminar: Analysing Tests and Test Questions.** Nanyang Technological University. Mar. 2015.
- **Team-Based Learning Workshop 1:** Introduction to TBL. Nanyang Technological University. Mar. 2015
- **Team-Based Learning Workshop 2:** Forming High-Performance Teams. Nanyang Technological University. May 2015.
- **Team-Based Learning Workshop 3** - Team Learning Activities. Nanyang Technological University. Sep. 2015.
- **Team-Based Learning Workshop 4** - TBL Conversion: Guidelines. Nanyang Technological University. Sep. 2015.
- **Team-Based Learning Workshop 5** - TBL Conversion: Implementation. Sep. 2015.
- **Team-Based Learning Boot camp.** Nanyang Technological University. Jan. 2015.
- **NTULearn: Assignment and Assessment Tools.** Nanyang Technological University. Apr. 2015.
- **Learning Design using LAMS. Nanyang.** Nanyang Technological University. Apr. 2015.
- **Team-Based Learning.** Nanyang Technological University. Dec. 2014.
- **Advanced Learning Design.** Nanyang Technological University. Apr. 2015.
- **Foundations in University Teaching and Learning.** Nanyang Technological University. Dec. 2014.
- **Innovations In Teaching Seminar (IITS) 2014. Technology for Pedagogy.** Nanyang Technological University. Sep.-Oct. 2014.
- **How to Build Your Career Through Teaching Excellence (Seminar).** Nanyang Technological University. Nov. 2014.
- **English for faculty.** Nanyang Technological University. Jan. 2012-Jun. 2012.
- **Participative Learning: Supporting Self-directed Learning.** Nanyang Technological University. Sept. 2011.
- **Teaching associate program.** Cambridge University. Dec. 2009 - June 2010.
- **Admissions interviews in the Physical Natural Sciences and Engineering.** Cambridge University Oct. 2006.
- **Lecturing and presentation skills.** Sep. 2015. University of Cambridge. Oct. 2005.
- **Supervising Undergraduates.** University of Cambridge. Jun 2003.

Courses previously taught

University of Cambridge (2001 - 2011)

Lecture Courses	• Main Group Organometallics. 4th year undergraduate module. • Rings, Chains, and Networks. 3rd year undergraduate module
Teaching Laboratory Courses	I have acted as a demonstrator (from 2002 to 2006) and Senior Demonstrator (from 2006 to 2011). • Part IA. 1st year teaching Laboratory module. • Part IB. 2nd year teaching Laboratory module. • Part II. 3rd year teaching Laboratory module.
Supervisions (small group tutorials)	I have supervised the following courses from 2002 until 2011. As a College Lecturer (from 2006 to 2011) my tutorial contact time was in excess of 250 hours per academic year. ○ Part IA (year 1): ▪ Shapes and Structures of Molecules ▪ Reactions and Mechanisms in Organic Chemistry ▪ Kinetics of Chemical Reactions ▪ Chemistry of the Elements ○ Part IB (year 2) ▪ Coordination Chemistry ▪ Organometallic Chemistry ▪ Inorganic Rings ○ Part II (year 3): ▪ A1: Inorganic I – Structure and Bonding ▪ B1: Inorganic II – Transition Metal reactivity and Organometallic Catalysis ▪ C1: Inorganic III – Characterisation Methods ○ Part III (year 4 MSc) ▪ L7: Main Group Organometallics
Curriculum Design	Member of the Inorganic Teaching Committee. I was part of a team of four academic staff in charge of the revision and the redesign of the inorganic teaching curriculum. University of Cambridge.

Nanyang Technological University (2011 - 2021)

Lecture Courses	• CBC729 “Graduate Seminar Module”. (from 2011/12 to 2013/14, and 2020/21) – Postgraduate module. • CBC8001 “The Impact of Chemistry in Society”. (from 2011/21 to AY2020/21) – Undergraduate module. • CM9001 “Advanced Conceptual Chemistry with Laboratory”. (from 2013/14 to 2019/20) – Undergraduate module. • CY1101 “Principles of Modern Chemistry”. (from 2013/14 to 2019/20) – Undergraduate module. • CM1021 “Basic inorganic chem with lab”. (2020/2021) – Undergraduate module tutorials. • CM2021 “Inorganic & Bioinorganic Chemistry”. (2019/2020) – Undergraduate module tutorials.
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University of Oviedo (2022 - Present)

Teaching Laboratory Courses	• Chemistry Teaching Lab (First year Industrial Engineering) – starting in Feb 2022.
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Evidence of Teaching

Postgraduate Teaching Scores

CBC729: Graduate Seminar Module

- 2011-2012: Mean Teaching Score: **4.34/5.0**.
- 2012-2013: Mean Teaching Score: **4.42/5.0**.
- 2020-2021: Mean Teaching Score: **4.38/5.0**

Undergraduate Teaching Scores

CBC8001 (Class size ~ 380): Chemistry and Society.

- 2011-2012: Mean Teaching Score: **3.70/5.0**.
- 2012-2013: Mean Teaching Score: **3.87/5.0**.
- 2013-2014: Mean Teaching Score: **3.99/5.0**.
- 2014-2015: Mean Teaching Score: **4.16/5.0**.
- 2015-2016: Mean Teaching Score: **4.30/5.0**.
- 2016-2017: Mean Teaching Score: **4.35/5.0**.
- 2017-2018: Mean Teaching Score: **4.01/5.0** (urgent medical leave for half of the semester)
- 2018-2019: Mean Teaching Score: **4.46/5.0**

CBC9001/CY1101 (class size ~60): Advanced Conceptual Chemistry with Laboratory

- 2013-2014: Mean Teaching Score: **4.10/5.0**.
- 2014-2015: Mean Teaching Score: **4.22/5.0**.
- 2015-2016: Mean Teaching Score: **4.50/5.0**.
- 2016-2017: Mean Teaching Score: **4.68/5.0**.
- 2017-2018: Mean Teaching Score: **4.61/5.0**.
- 2018-2019: Mean Teaching Score: **4.02/5.0**. (cohort doubled in size)

CM1021 (class size ~30): Basic inorganic chem with lab

- 2020-2021: Mean Teaching Score: **4.28/5.0**.

CM2021 (class size ~30): Inorganic & Bioinorganic Chemistry.

- 2019-2020: Mean Teaching Score: **4.28 & 4.59/5.0**.

PhD students supervised

		Student	Period	Role	Thesis/ Project Title	Status
Current	8	Stefanie Hutsch	2022 - Present	Co-Supervisor	<i>Mechanochemical syntheses and characteriation of porous polymers and graphene nanoribbons</i>	Ongoing
	7	Gavin Hum	2019- Present	Main Supervisor	<i>Mechanochemical Synthesis of earth-abundant metal complexes for solvent-free catalysis</i>	Ongoing
Graduated	6	Ong How Chee	2017 - 2021	Main Supervisor	<i>Novel Princtonium Mitochondrial Delivery Vectors</i>	Conferred
	5	Sim Ying	2014 - 2018	Main Supervisor	<i>Syntheses and Characterisation of Functionalized</i>	Conferred

					<i>Cyclodiphosphazane-Based Frameworks</i>	
4	Wang Jingyi	2014 - 2018	Main Supervisor		<i>Syntheses and Characterisation of Metal Complexes Supported by Bis(Arylimino) Acenaphthene</i>	Conferred
3	Hu Zhang	2013 - 2017	Main Supervisor		<i>Novel Lipophilic Cations for the Delivery of Mitochondria-acting Therapeutics</i>	Conferred
2	Shi Xiaoyan	2013 - 2017	Main Supervisor		<i>Synthesis and Characterisation of Cyclodiphosphazanes and Macrocyclodiphosphazanes</i>	Conferred
1	Melissa Wu	2011 - 2015	Main Supervisor		<i>Aryl-NHC Group 13 Trimethyl Complexes: Structural, Stability and Bonding Insights</i>	Conferred

Postdoctoral researchers mentored

Previous		Name	Period	Project Title
	1	Chengfei Li	March 2019 – October 2021	<i>Mechanochemical Biomass conversion</i>
	3	Felix Leon	March 2019 – July 2021	<i>Novel Phosphazane building blocks</i>
	2	Varun Sign	Feb 2020 - June 2020	<i>Eco-Friendly Synthesis of Polycarbonate Compounds</i>
	1	Davin Tan	July 2017 – July 2018	<i>Supramolecular chemistry of phosphazane species</i>

Teaching Awards

Teaching awards	2016	Excellence in Teaching Award. School of Physical and Mathematical Sciences. Nanyang Technological University. Awarded annually by the School of Physical and Mathematical Sciences.
	2010	Junior Faculty Teaching Award. Chemistry Department. University of Cambridge. Awarded annually by the teaching committee.

Service Contributions Executive Summary

Prior to NTU	- Served on interview panels for undergraduate admissions. - Contributed to tutoring, lecturing and mentoring activities. - Acted as a director of studies for chemistry students. - Supervised, evaluated, and examined project students. - Evaluated and examined Ph.D. theses. - Served on the selection panel for Junior Research fellowships. - Actively engaged in outreach activities and University Open days. - Organising member of the 41st International Chemistry Olympiad.
At Nanyang Technological University	Undergraduate and postgraduate admissions - Conducted admissions interviews for the elite CNYang program. - Set and marked inorganic questions in examination entry papers. - Recruitment expedition to Shanghai. - Member of the selection panel for Nanyang President Graduate Scholarships. Curriculum development - Assisted with curriculum development of Inorganic courses. - Designated SPMS expert in Technology Enhanced Learning (TEL) for the design of TEL Readiness Recognition (TRR) assessment forms. Examination duties - Exam coordinator for courses CM1021, CM2021, CM3011, CM3021, CM4012, CY1101 and SM2Chem. - Examiner for final year project (FYP) posters and reports (CM4091/CM4093). - Examiner for Ph.D. qualifying examinations (QE) and internal examiner for Ph.D. theses and oral defences. Undergraduate supervision and mentoring - Professional Internship Program. - URECA (Undergraduate Research Experience in Campus) programme. - Final Year Projects (both local and international students). - Mentoring CBC undergraduate students. Outreach activities - Career advice workshop and career support to CNYang students. - NTU and SPMS open houses. - Organisation of a Mechanochemistry Workshop for seeNTU. - World Skill Expert at WorldSkills Kazan 2019 (Russia) Organisation of local and international conferences - Co-Chair of the Singapore Inorganic Chemistry Symposium (SICS). 7th Asian Silicon Symposium (ASIS). - Pacificchem 2020 (ACS). - INCOME2020 (Member of the Scientific Committee) Reviewer for scientific publishing houses Reviewer for funding bodies (EU and UK) Advisory Board of Green Chemistry Letters and Reviews. Taylor and Francis Management committee member EU funded Cooperation in Science and Technology (COST) Action “CA18112 - Mechanochemistry for Sustainable Industry” (over 110 researchers, 33 European countries and 18 international partner institutions). Mechanochemistry nomenclature group with IUPAC (8 leading experts).

SERVICE SUMMARY

Service to the Academic Community

Service to the Academic Community	2021	Advisory Board of Green Chemistry Letters and Reviews. Taylor and Francis
	2020-2021	Organising committee of Mechanochemistry and Solvent-free Synthesis – Pacifichem (ACS).
	2019	Organising committee of the 7 th Asian Silicon Symposium (ASIS). Singapore.
	2019	Women in Chemistry (Panel Discussion and Networking) by Women's Chapter of Singapore National Institute of Chemistry – Event Chair
	2018 – 2019	Awards committee member of Singapore National Institute of Chemistry
	2014 – 2019	Singapore Inorganic Chemistry Symposium – Co-Chair
	2015 – Present	Peer reviewer for the following scientific journals: - Dalton Transactions (RSC) - Inorganic Chemistry (ACS) - Beilstein Journal of Organic Chemistry - Chemical Reviews (ACS) - Chemical Science (RSC) - Materials Horizons (RSC) - ACS Omega (ACS) - Advanced Science (Wiley) - ChemistrySelect (Wiley) - Journal of Materials Science (Springer Nature) - ACS Sustainable Chemistry & Engineering (ACS) - Chem. Comm - ACS Applied Materials & Interfaces (Wiley) - Chem (Cell Press) - ChemBioChem (Wiley) - Angewandte Chemie International Edition (Wiley) - CrystEngComm (RSC) - Journal of the American Chemical Society (ACS) - Molecules (MDPI) - Organometallics (ACS) - Polyhedron (Elsevier) - Reaction Chemistry & Engineering (RSC) - The Journal of Organic Chemistry (ACS) - Molecular Pharmaceutics (ACS) - Chemistry A European Journal (Wiley) - Industrial & Engineering Chemistry Research (ACS)
Other Service to the Academic Community	2018 – Present	Peer reviewer for funding bodies - Leverhulme Trust (UK) - Swiss National Science Foundation (SNF, Switzerland) - European Research Council (ERC, EU) - Agence nationale de la recherche (ANR, France) - The Czech Science Foundation (GAČR, Czech Republic)
	2011 – Present	Reviewer for PhD theses – NTU and overseas universities
	2019 - 2023	Science Communication Manager (Action Leadership Position) for European COST action “ <i>Mechanochemistry for Sustainable Industry (Mech@SustInd)</i> ”
	2020	Member of the IUPAC Mechanochemistry Nomenclature Task Group (8 leading experts worldwide)
	2019	World Skill Expert (Singapore Team) in the Chemical Laboratory and Technology skill competition

Service to Academic Institutions

University of Cambridge (2001 - 2011)

Undergraduate and postgraduate admissions	2006 - 2011	Conducted admissions interviews for Newnham College
	2006 - 2011	Conducted admissions interviews for Trinity College
	2006 - 2011	Set and marked inorganic questions in examination entry papers.
	2014 - 2016	Member of the selection panel for Nanyang President Graduate Scholarships
	2012 - 2012	Postgraduate recruitment workshop in Shanghai and Beijing, as well as preparing and marking Technical Proficiency Test (TPT) questions in Inorganic chemistry
Curriculum development	2009-2010	Committee for curriculum development of Inorganic courses (three members).
Examination duties	2006 - 2011	Examiner Part III Project Examiner (Pannel composed of two members)
	2006 - 2011	Examine undergraduate student final year Part III projects
	2006 - 2011	Senior Demonstrator Part IA, Part IB, and Part II teaching labs
Undergraduate mentoring and supervision	2006 - 2011	Supervisor for summer projects
	2006 - 2011	Supervisor of international Erasmus Students
	2006 - 2011	Supervise undergraduate student final year Part III projects
Outreach activities	2006 - 2011	Participated in the execution of outreach and open days for undergraduate programs
	2009	Organising member of the 41st International Chemistry Olympiad – responsible for the inorganic chemistry question

Nanyang Technological University (2011 - 2021)

Undergraduate and postgraduate admissions	2015 - 2017	Conducted admissions interviews for the elite CNYang Science Degree Program
	2015 - 2017	Set and marked inorganic questions in examination entry papers.
	2014 - 2016	Member of the selection panel for Nanyang President Graduate Scholarships
	2012 - 2014	Postgraduate recruitment workshop in Shanghai and Beijing, as well as preparing and marking Technical Proficiency Test (TPT) questions in Inorganic chemistry
Examination duties	2014 - 2021	Exam coordinator for inorganic chemistry courses (CM1021, CM2021, CM3011, CM3021, CM4012, CY1101 and SM2Chem)
	2011 - 2021	Supervise and examine for CM4071/CM4073 undergraduate student final year projects (FYP and mini-FYP, respectively)
	2011 - 2021	Supervise for CM4072 - Professional Internship
	2011 - 2021	Invigilator and chief invigilator duties (2/3 per semester)
	2011 - 2021	Supervise and examine for CBC Undergraduate Research Opportunity in Chemistry and Biological Chemistry (CM9071/CM9072/CM9073)
	2011 - 2021	Examiner for NTU graduate student qualified examination (QE)
	2011 - 2021	Examiner for NTU master theses
	2011 - 2021	Examiner NTU PhD thesis (internal examiner)
	2011 - 2021	Examiner NTU PhD thesis (oral panel member)
	2011 - 2021	Participated in the execution of outreach and open house school events for undergraduate programs

Curriculum development	2019	Designated SPMS expert in Technology Enhanced Learning (TEL) for the design of TEL Readiness Recognition (TRR) assessment forms.
	2016	Curriculum development committee of Inorganic courses.
Undergraduate mentoring and supervision	2011 - 2021	Supervisor in URECA (Undergraduate Research Experience in Campus) program
	2011 - 2021	Supervisor of international exchange students (Universities of Warwick, Edinburgh, Southampton, GEM, DAAD, etc.)
	2011 - 2021	Mentoring of CBC undergraduate students (currently mentoring 26 students)
	2011 - 2021	Supervisor of Professional Internship Program NTU
Outreach activities	2019	World Skills Expert at WorldSkills Kazan 2019 (Russia) - Chemical Laboratory Technology
	2018	Expert in Technology Enhanced Learning (TEL) representing CBC in the design of the TEL Readiness Recognition forms
	2018	Organisation of a Mechanochemistry Workshop at seeNTU
	2011 - 2021	Participation in outreach and open house university events for undergraduate programs (4 times a year)