

Hiroshi Kitagawa (June 28, 2019)

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Diplomas:

- March 1986 The degree of B.Sc, Faculty of Science, Kyoto University
March 1988 The degree of M.Sc. in Chemistry Master's course,
Faculty of Science, Kyoto University
March 1991 Finished Doctoral course, Faculty of Science, Kyoto University
March 1992 The degree of Doctor of Science from Kyoto University for a thesis entitled "Systematic Studies on the Mixed-Valence States of Perovskite-Type Transition-Metal Complexes $\text{Cs}_2\text{Au}_2\text{X}_6$ (X = Cl, Br, I)"

Research Activities:

- 1991-1994 Research Associate, Institute for Molecular Science
1994-2000 Research Associate, Japan Advanced Institute of Science & Technology
2000-2003 Associate Professor, Department of Chemistry, University of Tsukuba
2003-2009 Professor, Department of Chemistry, Faculty of Science, Kyushu University
2009- Professor, Division of Chemistry, Graduate School of Science, Kyoto University

Other Activities:

- 1993-1994 Visiting Researcher, Davy-Faraday Research Laboratory, Royal Institution of Great Britain
2000-2002 Visiting Associate Professor, Japan Advanced Institute of Science & Technology
2000-2003 Researcher, Precursory Research for Embryonic Science & Technology,
Japan Science and Technology Agency (JST)
2003-2005 Councilor, Japan Society of Coordination Chemistry
2005 Young Observer for IUPAC General Assembly, IUPAC
2004-2006 Associate Editor (Inorganic & Analytical Chemistry),
Chemistry Letters, The Chemical Society of Japan
2005-2012 Program Officer for the Special Coordination Funds for Promoting Science & Technology,
Japan Science and Technology Agency (JST)
2005-2008 Executive Adviser to the President, Kyushu University
2006-2008 Visiting Professor, Institute for Molecular Science (IMS)
2009- Adjunct Professor, Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University
2009- Visiting Professor, Inamori Frontier Research Center, Kyushu University
2010-2012 Vice President & Councilor, Japan Society of Coordination Chemistry
2010-2014 Science Officer, Research Promotion Bureau, Ministry of Education, Culture, Sports, Science and
Technology (MEXT), Japan
2011-2015 Organizing Committee (Chair in Inorganic & Analytical Chemistry), 2015 International Chemical
Congress of Pacific Basin Societies (Pacifichem2015)
2011-2015 Associate Editor-in-Chief, Nanosciences and Nanotechnologies: An International Journal
2011-2013 Dean of the Division of Chemistry, Graduate School of Science, Kyoto University
2012-2013 Chair of the Chemical Sciences and Society Summit (CS3)
2012- Member, Science Council of Japan
2012-2014 Editorial Board Member, Nanotechnology Reviews
2013-2015 Concurrent Professor, Nanjing University
2014- Deputy Executive Vice-President for Research, Kyoto University
2015-2017 Councilor, Japan Society of Coordination Chemistry
2015- Director, Science and Creation of Innovative Catalysts, PRESTO, JST
2015- Research Director, ACCEL "Creation of the Functional Materials on the Basis of the Inter-
Element-Fusion Strategy and Their Innovative Applications", JST
2015- International Advisory Board, European Journal of Inorganic Chemistry, Wiley
2016- Editorial Board Members, Inorganic Chemistry Frontiers, RSC
2016- Fellow of the Royal Society of Chemistry (FRSC)
2017- Deputy Executive Vice-President for Strategy Coordination, Kyoto University
2017- Vice Provost, Kyoto University
2017-2018 Division Chair, Division of Coordination Chemistry, Chemical Society of Japan.
2018- DFG Mercator Fellow, Technical University Munich, Germany
2019- Honorary Professor, Xi'an Jiaotong University

Awards:

- The Chemical Society of Japan Award for Creative Work (2010).
- Inoue Prize for Science (2011).
- Marco Polo della Scienza Italiana (2013).
- The Commendation for Science and Technology by the Minister of Education, Science & Technology (2016).
- European Advanced Materials Award (2016).
- Fellow of the Royal Society of Chemistry (FRSC) (2016).

Research Field: Solid-state Chemistry, Coordination Chemistry, Inorganic Chemistry, Nano Science.

- Low-dimensional electron systems situated on dimensional crossover region.
- Solid-state protonics using MOFs and SurMOFs, and nano-ionics using nanomaterials.
- Creation of Novel Alloy Nanoparticles on the Basis of Density-of-States Engineering by Interelement Fusion.
- Molecular conductors and conducting MOFs.

Recent Selected Publications:

- Proton Transfer in Hydrogen-Bonded Degenerate Systems of Water and Ammonia in Metal-Organic Frameworks
D. Lim, M. Sadakiyo, H. Kitagawa
Chemical Science, 10, 16-33 (2019) (Invited Review).
- Selective Control of Crystal Structure in Solid-Solution Alloy; Fcc and Hcp Phases in Au-Ru Nanoparticles.
Q. Zhang, K. Kusada, D. Wu, T. Yamamoto, T. Toriyama, S. Matsumura, S. Kawaguchi, Y. Kubota, H. Kitagawa
Nature Communications, 9, 510 (2018).
- Mixed-Valence Nickel Bis(azamacrocyclic) Compounds with Ghost-Leg-type Sheets.
R. Hashiguchi, K. Otsubo, M. Maesato, K. Sugimoto, A. Fujiwara, H. Kitagawa
Angew. Chem. Int. Ed., 56, 3838-3841 (2017).
- Inherent Closed-to-Open Switchable Property in Crystalline Networked Coordination Framework Arising from Nanometre-Sized Ultra Thin Film.
S. Sakaida, K. Otsubo, O. Sakata, C. Song, A. Fujiwara, M. Takata, H. Kitagawa
Nature Chemistry, 8, 377-383 (2016).
- Creation of Novel Solid-Solution Alloy Nanoparticles on the Basis of Density-of-States Engineering by Interelement Fusion,
H. Kobayashi, K. Kusada, H. Kitagawa,
Accounts of Chemical Research, 48, 1551-1559 (2015).
- The Role of a Three Dimensionally Ordered Defect Sub-lattice on the Acidity of a Sulfonated MOF.
J. Taylor, T. Komatsu, S. Dekura, K. Otsubo, M. Takata, H. Kitagawa
J. Am. Chem. Soc., 137, 11498-11506 (2015).
- Remarkably Enhanced Hydrogen-Storage Capacity and Speed in Pd Nanocrystals Covered with a Metal-Organic Framework,
L. Guangqin, H. Kobayashi, J. Taylor, R. Ikeda, Y. Kubota, K. Kenichi, M. Takata, T. Yamamoto, S. Toh, S. Matsumura, H. Kitagawa,
Nature Materials, 13, 802-806 (2014).
- Designer Co-ordination Polymers: Dimensional Crossover Architectures and Proton Conduction,
T. Yamada, K. Otsubo, R. Makiura, H. Kitagawa,
Chemical Society Reviews, 42, 6655-6669 (2013).
- Bottom-up Realization of A Porous Metal-Organic Nanotubular Assembly,
K. Otsubo, Y. Wakabayashi, J. Ohara, S. Yamamoto, H. Matsuzaki, H. Okamoto, K. Nitta, T. Uruga, H. Kitagawa,
Nature Materials, 10, 291-295 (2011).
- Surface Nano-Architecture of A Metal-Organic Framework,
R. Makiura, S. Motoyama, Y. Umemura, H. Yamanaka, O. Sakata, H. Kitagawa,
Nature Materials, 9, 565-571 (2010).
- Size-Controlled Stabilisation of the Superionic Phase to Room Temperature in Polymer-Coated AgI NPs,
R. Makiura, T. Yonemura, T. Yamada, M. Yamauchi, R. Ikeda, H. Kitagawa, K. Kato, M. Takata,
Nature Materials, 8, 476-480 (2009).
- Transported into Fuel Cells,
H. Kitagawa,
Nature Chemistry, 1, 689-690 (2009).
- Thermochromism in an Organic Crystal Based on the Co-Existence of σ - and π -Dimers,
Y. Morita, S. Suzuki, K. Fukui, S. Nakazawa, H. Kitagawa,
Nature Materials, 7, 41-51 (2008).