



KYLE E
CORDOVA

CURRICULUM VITAE

Executive Director of Scientific Research

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Royal Scientific Society,
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PROFESSIONAL EXPERIENCE

08/2019 – Present

Executive Director of Scientific Research / Senior Assistant to HRH Princess Sumaya bint El Hassan for Scientific Affairs

Research for Development Pillar

Royal Scientific Society, Amman, Jordan

Website: rss.jo

Duties: Design, implement, and foster all research and development activities at the Royal Scientific Society. Promote outreach and engagement with the scientific research community in the Hashemite Kingdom of Jordan. Ensure research agenda is successful and visible to the global scientific community.

05/2021 – Present

Adjunct Professor

Department of Chemistry, Faculty of Science

Universiti Putra Malaysia, Selangor, Malaysia

Website: science.upm.edu.my

03/2016 – 05/2021

Scientific Consultant

Saudi Aramco CO₂ Capture and Utilization Chair

King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

Website: www3.kfupm.edu.sa/CCS/

Duties: Provide scientific consulting to the research team at King Fahd University of Petroleum and Minerals in Saudi Arabia. Independently oversee the lab functions and endeavor to raise the profile of the research being performed (research topics focus on carbon capture and utilization).

10/2016 – 06/2019

Associate Director

Berkeley Global Science Institute, College of Chemistry

University of California, Berkeley, California

Website: www.globalscience.berkeley.edu

Duties: Responsible for designing, implementing, and managing all Global Science centers and programs in the United States and abroad. Promote outreach and engagement with directors, faculties, researchers, and dignitaries and facilitate communication and collaboration throughout the Global Science network created by the BGSi. Ensure research agendas of all Global Science centers are successful and visible to the global scientific community.

- 01/2014 – 06/2019 **Research Associate**
Yaghi Laboratory, Department of Chemistry
University of California, Berkeley, California
Website: www.yaghi.berkeley.edu
Duties: Develop, plan, and direct the technical work of researchers associated with the Berkeley Global Science Institute. Assist in the preparation of manuscripts for publication in peer-reviewed scientific journals. Prepare grant proposals for funding, white papers for collaborative project proposals, and other related managerial funding items.
- 01/2014 – 10/2016 **Global Science Coordinator**
Berkeley Global Science Institute, College of Chemistry
University of California, Berkeley, California
Website: www.globalscience.berkeley.edu
Duties: Coordinate activities as they relate to the Berkeley Global Science Institute. Ensure research agenda and programs performed at various Centers of Global Science are successful. Endeavor to raise the profile of the Berkeley Global Science Institute through organizing periodic workshops, symposia, and conferences.
- 01/2014 – 01/2016 **Director of Research**
Center for Molecular and NanoArchitecture
Vietnam National University, Ho Chi Minh City, Ho Chi Minh City, Vietnam
Website: www.mandar.edu.vn
Duties: Primary research director onsite, providing research management/guidance to Ph.D. students and affiliate researchers at the Center for Molecular and NanoArchitecture (MANAR) in Viet Nam. Independently manage all lab functions and travel periodically between the US and Viet Nam to ensure research agenda and center's programs are successful.
- 08/2012 – 01/2014 **Adjunct Faculty, Chemistry and Metro Academy Lecturer**
Department of Chemistry and Biochemistry
San Francisco State University, San Francisco, California
Focus: Instruction and mentoring of undergraduate students from diverse socioeconomic and ethnic backgrounds. Invited Metro Academy Lecturer: Service included additional support for at-risk students who are first generation, low income, and/or minority college students. Professional development for this position included 40 hours of intensive faculty seminars and/or workshops. Please see teaching record for a comprehensive list of courses taught.
- 01/2013 – 01/2014 **Adjunct Faculty**
Department of Chemistry and Biochemistry
University of San Francisco, San Francisco, California
Focus: Instruction and mentoring of undergraduate students in the Department of Chemistry and Biochemistry. Student evaluations of my course(s) and teaching effectiveness were among the highest in the department. Please see teaching record for a comprehensive list of courses taught.

PROFESSIONAL PREPARATION

Master of Science, Inorganic Chemistry

University of California, Los Angeles

Advisor: Professor Omar M. Yaghi

Bachelor of Arts, Chemistry

University of San Diego

Advisor: Professor Christopher J.A. Daley

RESEARCH PUBLICATIONS (*, CORRESPONDING AUTHOR); (COUNTRY WHERE RESEARCH PERFORMED)

52. Xu, T.; Zhou, B.; Tao, Y.; Shi, Z.-L.; Jiang, W.; Abdellatif, M.; **Cordova, K. E.**; Zhang, Y.-B. Functionality-Induced Locking of Zeolitic Imidazolate Frameworks. *Chem. Mater.*, **2023**, Accepted. (China – Jordan)
51. Abubakar, A.; Abdulmalek, E.; Ibrahim, W. N. W.; **Cordova, K. E.***; Abdul Rahman, M. B. ZIF-90 Nanoparticles Modified with a Homing Peptide for Targeted Delivery of Cisplatin. *Front. Chem.*, **2022**, *10*, 1076350. (Malaysia – Jordan)
50. Nguyen, H. L.; Matheu, R.; Diercks, C. S.; Doan, T. L. H.; **Cordova, K. E.** Postsynthetic Metalation of a New Metal-Organic Framework to Improve Methane Working Capacity. *ACS Mater. Lett.*, **2022**, *4*, 2375. (Jordan – Vietnam – United States)
49. **Cordova, K. E.*** Introducing... *Angew. Chem. Int. Ed.*, **2022**, e202210614. (Jordan)
48. Almassad, H. A.; Abaza, R. I.; Siwwan, L.; Al-Maythaly, B.; **Cordova, K. E.*** Environmentally Adaptive MOF-based Device Enables Continuous Self-Optimizing Atmospheric Water Harvesting. *Nature Commun.*, **2022**, *13*, 4873. ****Highlighted by Nature Middle East, ChemistryViews, Jordan Times, Al Jazeera, Jordan TV, and Al Mamlaka TV (Jordan)**
47. Zha, X.; Li, X.; Al-Zahrani, A.; Liu, S.; Liang, C.-C.; Al-Ghourani, A.; Abdellatif, M.; Nguyen, H. L.; Al-Maythaly, B.; Shi, Z.; **Cordova, K. E.***; Zhang, Y.-B. Zeolite NPO-Type Azolate Frameworks. *Angew. Chem. Int. Ed.*, **2022**, e202207467. ****Highlighted on the Cover (China – Jordan – Saudi Arabia – United States)**
46. Daud, A. D.; Lim, H. N.; Ibrahim, I.; Endot, N. A.; Growthaman, N. S. K.; Jiang, Z. T.; **Cordova, K. E.** An Effective Metal-Organic Framework-Based Electrochemical Non-Enzymatic Glucose Sensor. *J. Electroanal. Chem.*, **2022**, *921*, 116676. (Malaysia – Jordan)
45. Abdul Kamal, N. A. M.; Abdulmalek, E.; Fakurazi, S.; **Cordova, K. E.**; Abdul Rahman, M. B. Dissolution and Biological Assessment of Cancer-Targeting Nano-ZIF-8 in Zebrafish Embryos. *ACS Biomater. Sci. Eng.*, **2022**, *8*, 2445. (Malaysia – Jordan)
44. Assen, A. H.; Adil, K.; **Cordova, K. E.***; Belmabkhout, Y. The Chemistry of Metal-Organic Frameworks with Face-Centered Cubic Topology. *Coord. Chem. Rev.*, **2022**, *468*, 214644. (Jordan – Morocco – France – Ethiopia)
43. Yao, X.; **Cordova, K. E.**; Zhang, Y.-B. Flexible Metal-Organic Frameworks En Route to Energy-Efficient Carbon Capture. *Small Structures*, **2022**, 2100209. (China – Jordan)
42. Tan, J.; Tao, Y.; Zhang, X.; Wang, Q.; Zeng, T.; Shi, Z.; **Cordova, K. E.**; Lee, Y.; Liu, H.; Zhang, Y.-B. Control over Interpenetration for Boosting Methane Storage Capacity in Metal-Organic Frameworks. *J. Mater. Chem. A*, **2021**, *9*, 24857. ****Highlighted on the Back Cover (China – Jordan)**
41. Salmeia, K. A.; Dolabella, S.; Parida, D.; Frankcombe, T. J.; Afaneh, A. T.; **Cordova, K. E.**; Al-Maythaly, B.; Zhao, S.; Civioc, R.; Marashdeh, A.; Spingler, B.; Frison, R.; Neels, A. Robust Barium Phosphonate Metal-Organic Frameworks Synthesized under Aqueous Conditions. *ACS Mater. Lett.*, **2021**, *3*, 1010. (Jordan – Switzerland – Australia)
40. bint El Hassan, S.; **Cordova, K.E.***; Rabadi, G.; Abu Elhaija, W. The (Un)Sustainability of Higher Education Institutions in Jordan. *Front. Sustain.*, **2021**, *2*, 653992. ****Invited Contribution to Special Issue 'Re-Purposing Universities for Sustainable Human Progress' (Jordan)**
39. Abdul Kamal, N. A. M.; Abdulmalek, E.; Fakurazi, S.; **Cordova, K. E.***; Abdul Rahman, M. B. Autonomous Homing and Penetration of a Tumor Cell by a Peptide-Coated Reticular Nanoparticle for Delivery of an Anti-Tumor Agent. *Dalton Trans.*, **2020**, *50*, 2375. ****Highlighted on the Front Cover and Designated a HOT Article representing top 10% of research published (Malaysia – Jordan)**
38. Abdelnaby, M. M.; **Cordova, K. E.**; Abdulazeez, I.; Alloush, A. M.; Al-Maythaly, B. A.; Mankour, Y.; Alhooshani, K.; Saleh, T. A.; Al Hamouz, O. C. S. Novel Porous Organic Polymer for the Concurrent and Selective Removal of Hydrogen Sulfide and Carbon Dioxide from Natural Gas Streams. *ACS Appl. Mater. Interfaces*, **2020**, *12*, 47984. (Saudi Arabia – Jordan)
37. Helal, A.; **Cordova, K. E.**; Arafat, Md. E.; Usman, M.; Yamani, Z. H. Defect-Engineering UiO-66 to be a Highly Efficient, Selective, Recyclable Catalyst for CO₂ Fixation in the Synthesis of Bioactive Oxazolidinones. *Inorg. Chem. Front.*, **2020**, *7*, 3571. (Saudi Arabia – Jordan)
36. Alloush, A. M.; Abdelnaby, M. M.; **Cordova, K. E.**; Qasem, N. A. A.; Al-Maythaly, B. A.; Jalilov, A.; Mankour, Y.; Al Hamouz, O. C. S. Selectively Capturing Carbon Dioxide from Mixed Gas Streams using a New Microporous Organic Copolymer. *Microporous Mesoporous Mater.*, **2020**, *305*, 110391. (Saudi Arabia – Jordan)
35. bint El Hassan, S. Arab Women in Science, *Science*, **2020**, *368*, 113. ****Invited Editorial Written in Collaboration with Mr. Conor de Lion for HRH Princess Sumaya bint El Hassan. (Jordan)**

34. Tuan Kob, T. N. A.; Ismail, M. F.; Abdul Rahman, M. B.; **Cordova, K. E.**; Mohammad Latif, M. A. Unraveling the Structural Dynamics of an Enzyme Encapsulated within a Metal-Organic Framework, *J. Phys. Chem. B*, **2020**, *124*, 3678-3685. (Malaysia – United States)
33. Abdelnaby, M. M.; Qasem, N. A. A.; Al-Maythaly, B. A.; **Cordova, K. E.**; Al Hamouz, O. C. S. A Microporous Organic Copolymer for Selective CO₂ Capture under Humid Conditions, *ACS Sustainable Chem. Eng.*, **2019**, *7*, 13941-13948. (Saudi Arabia – United States)
32. Helal, A.; Nguyen, H. L.; Al-Ahmed, A.; **Cordova, K. E.**; Yamani, Z. H. An Ultrasensitive and Selective Metal-Organic Framework Chemosensor for Palladium Detection in Water, *Inorg. Chem.*, **2019**, *58*, 1738-1741. (Saudi Arabia – United States)
31. **Cordova, K. E.** and Yaghi, O. M. Building a Global Culture of Science – The Vietnam Experience, *Angew. Chem. Int. Ed.*, **2019**, *58*, 1552-1560. (Vietnam – United States)
30. Nguyen, H. L.; Vu, T. T.; Nguyen, D.-K.; Trickett, C. A.; Doan, T. L. H.; Diercks, C. S.; Nguyen, V. Q.; **Cordova, K. E.** A Complex Metal-Organic Framework Catalyst for Microwave-Assisted Radical Polymerization, *Nature Commun. Chem.*, **2018**, *1*, 70. (Vietnam – United States)
29. Lyle, S. J.; Flaig, R. F.; **Cordova, K. E.**; Yaghi, O. M. Laboratory Research Experience with Reticular Chemistry. *J. Chem. Educ.*, **2018**, *95*, 1512-1519. ****Highlighted on the Front Cover.** (United States)
28. Abdelnaby, M. M.; Alloush, A. M.; Qasem, N. A. A.; Al-Maythaly, B. A.; Mansour, R. B.; **Cordova, K. E.**; Al-Hamouz, O. C. S. Carbon Dioxide Capture in the Presence of Water by an Amine-Based Crosslinked Porous Polymer. *J. Mater. Chem. A*, **2018**, *6*, 6455-6462. (Saudi Arabia – United States)
27. Tu, T. T.; Nguyen, M. V.; Nguyen, H. L.; Yulianto, B.; **Cordova, K. E.**; Demir, S. Designing Bipyridine-Functionalized Zirconium Metal-Organic Frameworks as a Platform for Clean Energy and Other Emerging Applications. *Coord. Chem. Rev*, **2018**, *364*, 33-50. (Vietnam – Indonesia – Turkey – United States)
26. Diercks, C. S.; Liu, Y.; **Cordova, K. E.**; Yaghi, O. M. The Role of Reticular Chemistry in the Design of CO₂ Reduction Catalysts. *Nature Mater.*, **2018**, *17*, 301-307. (United States)
25. Nguyen, P. T. K.; Nguyen, H. T. D.; Nguyen, H. N.; Trickett, C. A.; Ton, Q. T.; Gutiérrez-Puebla, E.; Angeles Monge, M.; **Cordova, K. E.**; Gándara, F. New Metal-Organic Frameworks for Chemical Fixation of CO₂. *ACS Appl. Mater. Interfaces*, **2018**, *10*, 733-744. (Vietnam – United States – Spain)
24. Trickett, C. A.; Helal, A.; Al-Maythaly, B. A.; Yamani, Z. H.; **Cordova, K. E.**; Yaghi, O. M. The Chemistry of Metal-Organic Frameworks for CO₂ Capture, Regeneration, and Conversion. *Nature Rev. Mater.*, **2017**, *2*, 17045. ****Highlighted on the Front Cover.** (Saudi Arabia – United States)
23. **Cordova, K. E.** and Yaghi, O. M. The 'Folklore' and Reality of Reticular Chemistry. *Mater. Chem. Front.*, **2017**, *1*, 1304-1309. ****Invited Perspective.** (United States)
22. Helal, A.; Yamani, Z. H.; **Cordova, K. E.**; Yaghi, O. M. Multivariate Metal-Organic Frameworks. *Natl. Sci. Rev.*, **2017**, *4*, 296-298. ****Invited Perspective.** (Saudi Arabia – United States)
21. Al-Maythaly, B. A.; Alloush, A. M.; Faizan, M.; Dafallah, H.; Elgzoly, M. A. A.; Seliman, A. A. A.; Al-Ahmed, A.; Yamani, Z. H.; Habib, M. A.; **Cordova, K. E.**; Yaghi, O. M. Tuning the Interplay between Selectivity and Permeability of ZIF-7 Mixed Matrix Membranes. *ACS Appl. Mater. Interfaces*, **2017**, *9*, 33401-33407. ****Highlighted in ACS Applied Materials and Interfaces Virtual Forum in honor of Prof. Joseph Hupp's 60th Birthday. **Highlighted on the Cover.** (Saudi Arabia – United States)
20. Nguyen, B. T.; Nguyen, H. L.; Nguyen, T. C.; **Cordova, K. E.**; Furukawa, H. High Methanol Uptake Capacity in Two New Series of Metal-Organic Frameworks: Promising Materials for Adsorption-Driven Heat Pump Applications. *Chem. Mater.*, **2016**, *28*, 6243-6249. ****Highlighted in Chemistry Views, "Methanol and MOFs for Heat Pumps,"** DOI: 10.1002/chemv.201600077. (Vietnam)
19. Nguyen, N. T. T.; Lo, T. N. H.; Kim, J.; Nguyen, H. T. D.; Le, T. B.; **Cordova, K. E.***; Furukawa, H.; Yaghi, O. M. Mixed-Metal Zeolitic Imidazolate Frameworks and their Selective Capture of Wet Carbon Dioxide. *Inorg. Chem.*, **2016**, *55*, 6201-6207. (Vietnam – Republic of Korea)
18. Nguyen, H. L.; Gándara, F.; Furukawa, H.; Doan, T. L. H.; **Cordova, K. E.**; Yaghi, O. M. A Titanium-Organic Framework as an Exemplar of Combining the Chemistry of Metal- and Covalent-Organic Frameworks. *J. Am. Chem. Soc.*, **2016**, *138*, 4330-4333. (Vietnam – United States)

17. Huh, D. N.; Czer, E. T.; **Cordova, K. E.**; Chow, W. I.; Moore, C. E.; Rheingold, A. L.; Daley, C. J. A. Metal Nitrosyl Chemistry: Interesting Oxidation and Nitrosylation of a Metal-Bound Ligand Framework in a Diamido-Bis(Phosphine) Ruthenium(II) Complex. *Inorg. Chem. Acta*, **2016**, *450*, 236-242. (United States)
16. Tu, T. T.; Phan, N. Q.; Vu, T. T.; Nguyen, H. L.; **Cordova, K. E.***; Furukawa, H. High Proton Conductivity at Low Relative Humidity in an Anionic Fe-Based Metal-Organic Framework. *J. Mat. Chem. A*, **2016**, *4*, 3638-3641. ***Designated HOT paper in the themed collection, 2016 J. Mater. Chem. A Hot Papers.* (Vietnam)
15. Nguyen, N. T. T.; Furukawa, H.; Gándara, F.; Trickett, C. A.; Jeong, H.-M.; **Cordova, K. E.**; Yaghi, O. M. Three-Dimensional Metal-Catecholate Frameworks and their Ultrahigh Proton Conductivity. *J. Am. Chem. Soc.*, **2015**, *137*, 15394-15397. (Vietnam – United States)
14. Nguyen, P. T. K.; Nguyen, H. T. D.; Pham, H. Q.; Kim, J.; **Cordova, K. E.***; Furukawa, H. Synthesis and Selective CO₂ Capture Properties of a Series of Hexatopic Linker-Based Metal-Organic Frameworks. *Inorg. Chem.*, **2015**, *54*, 10065-10072. (Vietnam – Republic of Korea)
13. Hoang, L. T. M.; Ngo, L. H.; Nguyen, H. L.; Nguyen, H. T. H.; Nguyen, C. K.; Nguyen, B. T.; Ton, Q. T.; Nguyen, H. K. D.; **Cordova, K. E.***; Truong, T. Azobenzene-Containing Metal-Organic Framework as an Efficient Heterogeneous Catalyst for Direct Amidation of Benzoic Acids: Synthesis of Bioactive Compounds. *Chem. Commun.*, **2015**, *51*, 17132-17135. ***Highlighted in Synfacts* (Uozumi, Y.; Baek, H. *Synfacts*, **2016**, *12*, 0218). (Vietnam)
12. Doan, T. L. H.; Nguyen, H. L.; Pham, H. Q.; Pham-Tran, N.-N.; Le, T. N.; **Cordova, K. E.*** Tailoring the Optical Absorption of Water Stable Zr(IV)- and Hf(IV)-Based Metal-Organic Framework Photocatalysts. *Chem. Asian J.*, **2015**, *10*, 2660-2668. (Vietnam)
11. **Cordova, K. E.**; Furukawa, H.; Yaghi, O. M. The Development of Global Science. *ACS Cent. Sci.*, **2015**, *1*, 18-23. (United States)
10. Zhang, Y.-B.; Furukawa, H.; Ko, N.; Nie, W.; Park, H. J.; Okajima, S.; **Cordova, K. E.**; Deng, H.; Kim, J.; Yaghi, O. M. Introduction of Functionality, Selection of Topology, and Enhancement of Gas Adsorption in Multivariate Metal-Organic Framework-177. *J. Am. Chem. Soc.*, **2015**, *137*, 2641-2650. (United States – Republic of Korea – China)
9. Ko, N.; Choi, P. G.; Hong, J.; Yeo, M.; Sung, S.; **Cordova, K. E.**; Park, H. J.; Yang, J. K.; Kim, J. Tailoring the Water Adsorption Properties of MIL-101 Metal-Organic Frameworks by Partial Functionalization. *J. Mat. Chem. A*, **2015**, *3*, 2057-2064. ***Designated HOT paper in the themed collection, 2015 J. Mat. Chem. A Hot Papers.* (Republic of Korea)
8. Ko, N.; Hong, J.; Sung, S.; **Cordova, K. E.**; Park, H. J.; Yang, J. K.; Kim, J. Significant Enhancement of Water Vapour Uptake at Low Pressure by Amine Functionalization of UiO-67. *Dalton Trans.*, **2015**, *44*, 2047-2051. (Republic of Korea)
7. Nguyen, N. T. T.; Furukawa, H.; Gándara, F.; Nguyen, H. T.; **Cordova, K. E.**, Yaghi, O. M. Selective Capture of Carbon Dioxide under Humid Conditions by Hydrophobic Chabazite-Type Zeolitic Imidazolate Frameworks. *Angew. Chem. Int. Ed.*, **2014**, *53*, 10645-10648. ***Highlighted on the Back Cover.* (Vietnam – United States)
6. Wang, L. J.; Deng, H.; Furukawa, H.; Gándara, F.; **Cordova, K. E.**; Peri, D.; Yaghi, O. M. Synthesis and Characterization of Metal-Organic Framework-74 Containing 2, 4, 6, 8, and 10 Different Metals. *Inorg. Chem.*, **2014**, *53*, 5881-5883. (United States)
5. Furukawa, H.; **Cordova, K. E.**; O'Keeffe, M.; Yaghi, O. M. The Chemistry and Applications of Metal-Organic Frameworks. *Science*, **2013**, *341*, 1230444. (United States)
4. Deng, H.; Grunder, S.; **Cordova, K. E.**; Valente, C.; Furukawa, H.; Hmadeh, M.; Gándara, F.; Whalley, A. C.; Liu, Z.; Asahina, S.; Kazumori, H.; O'Keeffe, M.; Terasaki, O.; Stoddart, J. F.; Yaghi, O. M. Large Pore Apertures in a Series of Metal-Organic Frameworks. *Science*, **2012**, *336*, 1018-1023. ***Highlighted in Chemical and Engineering News.* (United States and Japan)
3. Gough, R. V.; Turley, J. J.; Ferrell, G. R.; **Cordova, K. E.**; Wood, S. E.; De Haan, D. O.; McKay, C. P.; Toon, O. B.; Tolbert, M. A. Can Rapid Loss and High Variability of Martian Methane be Explained by Surface H₂O₂? *Planet. Space Sci.*, **2011**, *59*, 238-246. (United States)
2. Swanson, R. A.; Haywood, R. S.; Gibbons, J. B.; **Cordova, K. E.**; Patrick, B. O.; Moore, C.; Rheingold, A. L.; Daley, C. J. Diamidato-bis(diphenylphosphino) platinum(II) complexes: Synthesis, characterization, and reactivity in the presence of acid. *Inorg. Chim. Acta*, **2011**, *368*, 74-83. (United States)
1. De Haan, D. O.; Corrigan, A. L.; Smith, K. W.; Stroik, D. R.; Turley, J. J.; Lee, F. E.; Tolbert, M. A.; Jimenez, J. L.; **Cordova, K. E.**, Ferrell, G. R. Secondary Organic Aerosol-Forming Reactions of Glyoxal with Amino Acids. *Environ. Sci. Technol.*, **2009**, *43*, 2818-2824. (United States)

BOOKS & BOOK CHAPTERS (COUNTRY WHERE RESEARCH PERFORMED)

2. *Reticular Chemistry and Applications: Metal-Organic Frameworks*, First Edition; Belmabkhout, Y. and **Cordova, K. E.**, Eds; Walter de Gruyter GmbH, Berlin/Boston, 2023. ISBN: 9781501524707 (Jordan – Morocco)
1. Al-Shammari, A.; Jiang, Z.; **Cordova, K. E.** Metal-Organic Frameworks as Emerging Photocatalysts. In *Semiconductor Photocatalysis – Materials, Mechanisms, and Applications*; Cao, W., Ed.; InTech, 2016, DOI: 10.5772/63489. (Saudi Arabia)

LECTURES, PRESENTATIONS, SPEECHES

- 2022 World Science Forum, Cape Town, South Africa (Invited Moderator for a Thematic Session Panel Discussion)
- 2022 Monsoon School, 3rd Malaysia Metal-Organic Framework Workshop, Universiti Putra Malaysia, Malaysia (Nine-Part Lecture Series)
- 2022 Mohammed VI Polytechnic University, Morocco (Invited Lecture)
- 2022 EDAMA Association for Energy, Water and Environment, Jordan (Invited Lecture)
- 2022 Solutions for Carbon Mitigation, King Fahd University of Petroleum and Minerals Symposium, Saudi Arabia (Invited Lecture)
- 2022 Institute of Pharmaceutical Science, King's College London, United Kingdom (Invited Lecture)
- 2022 Department of Chemistry, Massachusetts Institute of Technology, Cambridge, USA (Invited Lecture)
- 2022 Qatar Environment and Energy Research Institute, Hamad bin Khalifa University, Qatar (Invited Lecture)
- 2022 Advanced Materials Congress, International Association of Advanced Materials, United Arab Emirates (Invited Lecture)
- 2021 XXII Simposio Nacional de Quimica Organica, Sustainable Science in Organic Chemistry, Argentina (Invited Lecture)
- 2021 12th International Fundamental Science Congress, Malaysia (Invited Lecture)
- 2021 Egyptian Drug Discovery Journal Club, Egypt (Invited Lecture)
- 2021 From Coordination Polymers to Metal-Organic Frameworks: The Chemistry and Application of Scaffolding Materials Symposium at IUPAC CCCE 2021 – 48th World Chemistry Congress & 104th Canadian Chemistry Conference and Exhibition, Montreal, Canada (Oral Presentation)
- 2021 CHEM3201 Advanced Inorganic Chemistry, Universiti Putra Malaysia, Seri Kembangan, Malaysia (Invited Lecture)
- 2021 Frontiers of Science in Jordan – Al Balqa University Edition, Amman, Jordan (Opening Speech)
- 2021 Chemical Data Analysis Workshop, Universiti Teknologi Malaysia, Skudai, Malaysia (Invited Lecture)
- 2021 Jordan-Nano Symposium, Nanotechnology Center, University of Jordan, Amman, Jordan
- 2021 Reticular Chemistry for Sustainable and Clean Energy Applications, nanoGe Spring Meeting 2021, Virtual, Spain (Invited Chair)
- 2020 Department of Chemistry, Universiti Putra Malaysia, Seri Kembangan, Malaysia (Invited Lecture)
- 2020 International Institute for Applied Systems Analysis – Royal Scientific Society Joint Webinar on Water (Invited Lecture)
- 2020 University of Jordan, 8th Pharmacy Students Research Training Program, Amman, Jordan (Invited Lecture)
- 2020 Phi Science Institute's Research & Innovation Summit 2020 (PRIS'20), Virtual (Invited Lecture)
- 2020 Phi Science Institute, Amman, Jordan (Invited Six-Part Workshop)
- 2019 Arab League Educational, Cultural and Scientific Organization, Amman, Jordan (Invited Lecture and Panelist)

- 2019 Deanship of Scientific Research, Princess Sumaya University for Technology, Amman, Jordan (Invited Lecture)
- 2019 World Science Forum, Budapest, Hungary (Invited Panelist for Special Session Panel Discussion)
- 2019 Department of Chemistry, University of Petra, Amman, Jordan (Invited Lecture)
- 2019 Phi Science Institute's Research & Innovation Summit 2019 (PRIS'19), Dead Sea, Jordan (Panelist)
- 2019 Phi Science Institute's Research & Innovation Summit 2019 (PRIS'19), Dead Sea, Jordan (Invited Lecture)
- 2019 United Arab Emirates University, Al-Ain, United Arab Emirates (Seven-Part Workshop)
- 2019 United Arab Emirates University, Al-Ain, United Arab Emirates (University Lecture)
- 2018 United Arab Emirates University, Al-Ain, United Arab Emirates (University Lecture)
- 2018 Universiti Putra Malaysia, Seri Kembangan, Malaysia (Distinguished Lecture & Collaboration Series 3.0)
- 2018 Universiti Putra Malaysia, Seri Kembangan, Malaysia (Five-Part Workshop)
- 2018 The Berkeley Lecture, University of California, Berkeley, Berkeley, USA (Invited Lecture)
- 2018 National Autonomous University of Mexico, Mexico City, Mexico (University Lecture)
- 2018 National Autonomous University of Mexico, Mexico City, Mexico (Seven-Part Workshop)
- 2018 ShanghaiTech University, Shanghai, China (Invited Lecture)
- 2018 King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia (Invited Lecture)
- 2017 Saudi Arabian International Chemical Sciences Chapter of American Chemical Society (SAICSC-ACS), King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia (Invited Lecture)
- 2017 Institut Teknologi Bandung, Bandung, Indonesia (Five-Part Workshop)
- 2017 World Science Forum, Dead Sea, Jordan (Invited Moderator for a Special Session Panel Discussion)
- 2017 Universiti Putra Malaysia, Seri Kembangan, Malaysia (Distinguished Lecture & Collaboration Series 3.0)
- 2017 Huazhong University of Science & Technology – Berkeley Science Forum, University of California, Berkeley, Berkeley, USA (Invited Lecture)
- 2017 Laboratory Research Experience Program, University of California, Berkeley, Berkeley, USA (Invited Lecture)
- 2017 Royal Scientific Society, Amman, Jordan (Invited Lecture)
- 2017 2nd Steering Committee Meeting for the World Science Forum 2017, Amman, Jordan (Banquet Speech)
- 2016 Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain (Invited Lecture)
- 2016 5th International Conference on Metal-Organic Frameworks and Open Framework Compounds (MOF2016), Long Beach, CA, USA (Poster Presentation)
- 2016 Center of Research Excellence in NanoTechnology (CENT), King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia (Invited Lecture)
- 2016 Vietnam Academy of Science and Technology (VAST), Ho Chi Minh City, Vietnam (Invited Lecture)
- 2016 Department of Chemical Engineering, Can Tho University, Can Tho, Vietnam (Invited Lecture)
- 2016 7th International Workshop on Advanced Materials Science and Nanotechnology (IWAMSN2014), Hanoi, Vietnam (Invited Lecture)
- 2014 4th International Conference on Metal-Organic Frameworks and Open Framework Compounds (MOF2014), Kobe, Japan (Poster Presentation)
- 2009 University of California, San Diego Summer Research Conference, La Jolla, CA, USA
- 2009 Sci-Mix Session of the American Chemical Society National Meeting, Washington, D.C., USA (Poster Presentation)

- 2009 2009 American Chemical Society National Meeting, Washington, D.C., USA (Poster Presentation)
- 2007 National Cancer Institute's Continuing Umbrella of Research Experience (CURE), Duarte, CA, USA (Poster Presentation)

FELLOWSHIPS, AWARDS, HONORS

15. Universiti Putra Malaysia Outstanding Achievement Award for Best Scientific Publication in 2021 (Abdul Kamal, Abdul Kamal, N. A. M et al. Dalton Trans., 2021, 50, 2375), 2022
14. International Association of Advanced Materials Young Scientist Medal, 2022
13. Semi-Finalist (Top 8), Stars of Science TV Program, 2022
12. Winner, Queen Rania National Entrepreneurship Competition, 2021
11. Winner, UNICEF WASH Hub Entrepreneurship Competition, 2021
10. Finalist, UK Royal Academy of Engineering Pitching Competition, 2021
9. International Union of Pure and Applied Chemistry (IUPAC) U.S. Young Observer, US National Academies of Sciences, Engineering, and Medicine, 2021
8. Leaders in Innovation Fellow, Newton Fund, UK Royal Academy of Engineering, 2021
7. 2019 World Science Forum Panelist ('Aren't We Wasting Time? Creating a Cooperative Funding Framework for More Responsive Research for Development'), 2019
6. 2017 World Science Forum Panel Moderator ('Emerging Scholars: Establishing the Cycle of Innovation'), 2017
5. Vietnam National University – Ho Chi Minh Outstanding Achievement Award for best scientific publication in 2013 – 2014 (Nguyen, N. T. T. et al, *Angew. Chem. Int. Ed.*, **2014**, 53, 10645-10648), 2014
4. Ronald E. McNair Scholar, 2009-2010
3. Ronald E. McNair Post-Baccalaureate Scholarship Recipient, 2009-2010
2. National Cancer Institute CURE Scholar, 2007
1. University of San Diego Presidential Scholar, 2006

PROFESSIONAL ACTIVITIES

11. International Organizing Committee, 1st Mediterranean Conference on Porous Materials, Crete, Greece, 2022 – PRESENT
10. Member, National Task Force on Climate Change, Higher Council for Science and Technology, Amman, Jordan, 2021 – 2022
9. Associated Member of the European Organization for Nuclear Research (CERN), Geneva, Switzerland, 2020 – PRESENT
8. Selection Panel, "UK – Jordan El Hassan bin Talal Research Chair in Sustainability", British Academy, United Kingdom, 2020
7. Scientific Committee, "Phi Science Institute's Research & Innovation Summit 2019 (PRIS'19)", Royal Scientific Society, Amman, Jordan, 2019 - PRESENT
6. Executive Organizing Committee, "Frontiers in Chemical Research," National Autonomous University of Mexico, Mexico City, Mexico, 2019
5. International Advisory Committee, "2nd Symposium on Organic and Inorganic Chemistry, Southern Africa," University of Botswana, Gaborone, Botswana, 2018

4. Visiting Professor, Research Center for Nanosciences and Nanotechnology, Institut Teknologi Bandung, Indonesia, 2017
3. Sub-Committee on Emerging Scholars/Young Scientists, "World Science Forum 2017," Amman, Jordan, 2017
2. Invited Participant (on behalf of Prof. Omar M. Yaghi), 2nd Steering Committee, "World Science Forum 2017," Royal Scientific Society, Amman, Jordan, December 2016
1. Executive Organizing Committee, "150 Years of Beautiful Structures and Defects," Ho Chi Minh City, Vietnam, November 2014

SYNERGISTIC ACTIVITIES

13. 2020: Invited Judge, Phi Science Institute's Applied and Innovative Research (PAIR) Program Competition, Amman, Jordan
12. 2019: Research Advisor, Laboratories for Materials Innovation, United Arab Emirates University, Al Ain, United Arab Emirates
11. 2016 – 2019: Researcher, Center of Excellence for Nanomaterials for Clean Energy Applications, King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia
10. 2017 – 2019: Research Advisor, Foundry of Reticular Materials for Sustainability, University of Putra Malaysia, Putrajaya, Malaysia
9. 2018: Invited Member of the Global Energy Prize Pool of International Experts (Russian Federation)
8. 2018: Invited External Reviewer for Deutsche Forschungsgemeinschaft (German Research Foundation)
7. 2017: Invited External Reviewer (International Experienced Researcher) for Revision Proposal for Chemistry M.S. and Ph.D. Programs at the Department of Chemistry, King Fahd University of Petroleum and Minerals, Saudi Arabia
6. 2014 – Present: Technical Reviewer for *ACS Catalysis*, *ACS Applied Materials & Interfaces*, *Chemistry - A European Journal*, *ACS Sustainable Chemistry & Engineering*, *Applied Energy*, *CrystEngComm*, *Crystal Growth & Design*, *ChemPlusChem*, *Israel Journal of Chemistry*, *Macromolecular Chemistry & Physics*, *New Journal of Chemistry*, *Journal of Mathematical and Fundamental Sciences*, *Journal of CO₂ Utilization*, *Inorganica Chimica Acta*, and *RSC Advances*
5. 2017 – 2018: Principle Director and Coordinator of the Global Frontiers in Science and Technology Executive Education Program in the College of Chemistry at UC Berkeley.
4. 2016: Invited Proposal Evaluator (Foreign Expert) for Poland National Science Center
3. 2016 – 2019: Principle Director and Coordinator of the Berkeley Emerging Research Scholars: Laboratory Research Experience Program: globalscience.berkeley.edu/lre
2. Berkeley Global Science Institute Website Designer and Developer: www.globalscience.berkeley.edu
1. Reticular Chemistry Structure Resource Website Designer: www.rcsr.net

FUNDED RESEARCH PROGRAMS

20. 2022 (Jordan): Crystallographic Analysis of Porous Frameworks (Long-Term)
89,788 US Dollars, Synchrotron-Light for Experimental Science and Applications in the Middle East
19. 2021 (Jordan - Malaysia): Characterization of Defects and Impurities in Green Synthesis of TiO₂ using Variable Temperature X-ray Powder Diffraction
53,873 US Dollars, Synchrotron-Light for Experimental Science and Applications in the Middle East
18. 2021 (Jordan): Crystallographic Analysis of Porous Frameworks (Continuation)
17. 2021-2022 (Jordan): AquaPoro
20,000 US Dollars, Queen Rania National Entrepreneurship Competition

16. 2021–2022 (Jordan): AquaPoro
20,000 US Dollars, UNICEF WASH Hub Entrepreneurship Competition
15. 2021 – 2023 (Jordan): Designing Novel Metal–Organic Frameworks for Gas Separation and Heterogeneous Catalysis Applications
135,000 US Dollars, Ministry of Higher Education and Scientific Research, Government of Jordan
14. 2021 – 2023 (Jordan): Superprotonic Conductivity in Metal–Organic Frameworks for Proton–Exchange Membrane Fuel Cells
26,000 US Dollars, MIT – Abdul Hameed Shoman Foundation Scientific Research Seed Fund, MIT International Science and Technology Initiatives (MISTI)
13. 2021 – 2023 (Jordan): Smart Nanomaterials for Protection and Remote–Controlled Delivery of Active Ingredients in Skin Care Products
111,000 US Dollars, Engineering X Transforming Systems through Partnership, UK Royal Academy of Engineering
12. 2021 – 2025 (Jordan): El Hassan bin Talal Research Chair for Sustainability
1,380,000 US Dollars, UK British Academy
11. 2020 – 2025 (Jordan): Establishment of the Research for Development Pillar
352,514 US Dollars *Annually*, Royal Scientific Society
10. 2021 – 2024 (Jordan): A First Step Valorization of Waste Atmospheric Carbon Dioxide via its Sustainable Capture
150,000 US Dollars, Alliance of International Science Organizations
9. 2021 (Jordan): Crystallographic Analysis of Porous Frameworks
89,788 US Dollars, Synchrotron–Light for Experimental Science and Applications in the Middle East
8. 2018 – 2021 (Malaysia): Sustainable Metal–Organic Frameworks (MOFs) as Nanohubs for Controlled Release of Fungicide Formulations for Combating Fungal Diseases in Agricultural Commodities
122,564 US Dollars, Malaysian Go–Fund, International Collaboration Fund
7. 2018 – 2020 (Saudi Arabia): ‘Materials on Demand’: New, Tailorable Solutions for Industrially Relevant Gas Separations
3,500,000 US Dollars, Saudi Aramco
6. 2018 – 2020 (Saudi Arabia): Tuning the Gas Separation Selectivity of ZIF–90–Polymer Mixed Matrix Membrane through Post–Synthetic Functionalization
75,000 US Dollars, King Fahd University of Petroleum and Minerals
5. 2018 – 2020 (United Arab Emirates): Laboratories for Materials Innovation
600,000 US Dollars, United Arab Emirates University
4. 2018 – 2019 (Malaysia): Reticular Synthesis of New Metal–Organic Frameworks (MOFs) as Nanocatalysts in Asymmetric Organic Reactions
52,000 US Dollars, Universiti Putra Malaysia
3. 2016 (United States): Kavli Futures Symposium on Fostering Global Nanoscience
75,000 US Dollars, The Kavli Foundation
2. 2015–2017 (Vietnam / Spain): Providing Advanced Crystallographic Knowledge to Vietnamese Scientists through Structural Characterization of Ultra–Highly Porous Metal–Organic Frameworks
28,000 US Dollars, CSIC Programme for Scientific Cooperation with Developing Countries
1. 2015 – 2016 (Vietnam): Design of Highly Functional Metal–Organic Frameworks as Platforms for the Transformation of Methane to Methanol
100,000 US Dollars, U.S. Office of Naval Research Global