

CURRICULUM VITAE

Xing Yi LING

Professor, Ph.D.

School of Chemistry, Chemical Engineering and Biotechnology
Lee Kong Chian School of Medicine (Courtesy Appointment)
Nanyang Technological University (NTU), Singapore.
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Academic Qualifications

- 2008 Ph. D. in Chemistry, University of Twente, Netherlands
- 2004 Master in Engineering (Chemical), National University of Singapore, Singapore
- 2000 Bachelor of Chemical Engineering (First Class Honors), Adelaide University, Australia.

Summary of Working Experience

- 2021 Sep – Now Professor
School of Chemistry, Chemical Engineering and Biotechnology, NTU
(Previously known as: Division of Chemistry and Biological Chemistry,
School of Physical and Mathematical Sciences, NTU)
- 2022 March – Now Professor (Courtesy Appointment)
Lee Kong Chian School of Medicine, NTU, Singapore
- 2020 – 2022 Aug Associate Professor (Joint Appointment)
School of Chemical and Biomedical Engineering, NTU, Singapore
- 2018 – 2021 Head of Division
Division of Chemistry and Biological Chemistry, School of Physical and
Mathematical Sciences, NTU, Singapore
- 2016 – 2021 Associate Professor
Division of Chemistry and Biological Chemistry, School of Physical and
Mathematical Sciences, NTU, Singapore
- 2016 -2019 Assistant Chair (Faculty)
School of Physical Mathematical Sciences, NTU
- 2015 – 2017 Adjunct Appointment
Institute of Materials Research and Engineering, A*STAR, Singapore.
- 2012 – 2016 Nanyang Assistant Professor
Division of Chemistry and Biological Chemistry, NTU
- 2011 – 2012 Assistant Professor
Division of Chemistry and Biological Chemistry, NTU
- 2009 – 2011 Post-doctoral Researcher
University of California, Berkeley, USA, Advisor: Prof. Peidong Yang
- 2008 Post-doctoral Researcher
University of Twente, Netherlands, Advisor: Prof. Jurriaan Huskens

Academic Honours and Awards

Year	Academic Honor / Award
2023	National Research Foundation Investigatorship, Singapore
2022	Fellow of The Royal Society of Chemistry
2021	Mitsui Chemicals – Singapore National Institute of Chemistry Industry Award in Materials and Nano-chemistry
2021	Nanyang Award for Innovation & Entrepreneurship
2019	Asian Rising Star Lectureship, the 18th Asian Chemical Congress, Taipei, Taiwan
2016	Lectureship Awardee, Asian International Symposium, the 96 th Chemical Society Japan Annual Meeting
2016	SPMS Teaching Excellence Award, AY 2014-2015, NTU
2015	Winner for the 2015 L'ORÉAL Singapore for Women in Science National Fellowship, Singapore
2015	NTU College of Science Idea Competition awardee, NTU.
2014	Finalist for the 2014 L'ORÉAL Singapore for Women in Science National Fellowships, Singapore
2014	The Asian and Oceanian Photochemistry Association (APA) prize for Young Scientist
2012	National Research Foundation Fellowship, Singapore
2009 - 2010	Rubicon Post-doctoral Fellowship, Netherlands Organization for Scientific Research (NWO), The Netherlands.
2009	IUPAC Prize for Young Chemists Winner, The International Union of Pure and Applied Chemistry

Period of appointment	Editor
2024 Jan – Now	Editor-in-Chief, ACS Applied Materials & Interfaces (IF: 9.5)
2019 Oct – 2023	Associate Editor, Nanoscale, Royal Society of Chemistry (IF: 6.7)
2019 Oct – 2023	Associate Editor, Nanoscale Advances, Royal Society of Chemistry (IF: 4.7)
2023	Guest Editor of The International Conference on Surface Plasmon and Photonic 10 special issue Jason Valentine, Giulia Tagliabue, Jonathan Fan, Xing Yi Ling Frontiers and Applications of Plasmonics and Nanophotonics ACS Photonics, ACS Publishing
	Advisory Board
2024 – now	Inaugural Advisory Board, RSC Applied Interfaces, Royal Society of Chemistry Publications
2024 – now	Editorial Advisory Board, The Journal of Physical Chemistry A, American Chemical Society Publications (IF: 2.9)
2024 – now	Editorial Advisory Board, The Journal of Physical Chemistry B, American Chemical Society Publications (IF: 3.3)
2024 – now	Editorial Advisory Board, The Journal of Physical Chemistry C, American Chemical Society Publications (IF: 3.7)
2021 - now	International Advisory Board, Angewandte Chemie, Wiley (IF: 15.336)
2021 Jan – now	Editorial Advisory Board, Chemistry of Materials, American Chemical Society Publications (IF: 9.811)
2019 Nov – now	International Advisory Board, ChemPlusChem, Wiley (IF: 2.863)
2019 Oct – now	Advisory Board Member, Nanoscale Horizons, Royal Society of Chemistry (IF: 9.94)
2019 Oct – now	Advisory Board Member, Cell Reports Physical Science, Cell Press, Elsevier (IF: N/A)

Editorial and Advisory Board

Publications:

- Emily Xi Tan*, Shi Xuan Leong**, Wei An Liew, In Yee Phang, Jie Ying Ng, Nguan Son Tan, Yie Hou Lee[^], Xing Yi Ling ~ [^]
Forward-Predictive SERS-based Chemical Taxonomy for Untargeted Structural Elucidation of Epimeric Cerebrosides
Nature Communications, 2024, 15, 2582.
(<https://www.nature.com/articles/s41467-024-46838-z>)
IF (2022) = 17.7

2. Emily Xi Tan*, Jingxiang Tang*, Yong Xiang Leong, In Yee Phang, Yih Hong Lee, Chi Seng Pun[^], Xing Yi Ling ~ [^]
 Creating 3D Nanoparticle Structural Space via Data Augmentation to Bidirectionally Predict Nanoparticle Mixture's Purity, Size, and Shape from Extinction
 Angewandte Chemie International Edition, 2024, accepted for publication (63, e202317978)
 (<https://doi.org/10.1002/anie.202317978>)
 IF (2022) = 16.6
3. Emily Xi Tan*, Shi Xuan Leong**, Wei An Liew, In Yee Phang, Jie Ying Ng, Nguan Son Tan, Yie Hou Lee[^], Xing Yi Ling ~ [^]
 Forward-Predictive SERS-based Chemical Taxonomy for Untargeted Structural Elucidation of Epimeric Cerebrosides
 Nature Communications, 2024, 15:2582. (<https://doi.org/10.1038/s41467-024-46838-z>)
 IF (2022) = 17.7
4. Haoming Bao, Shi Xuan Leong, Jaslyn Ru Ting Chen, Zhenhai Shi, Suli Chen, Yan Lv, Tianxi Liu, In Yee Phang, Xing Yi Ling
 Advancing Energy Systems with In-situ and Operando Surface-Enhanced Raman Scattering Spectroscopy
 CCS Chemistry, 2024, in press. (<https://doi.org/10.31635/ccschem.024.202303819>)
 IF (2022) = 11.2
5. Shi Xuan Leong**, Emily Xi Tan*, Xuemei Han**, Irvan Luhung, Ngu War Aung, Lam Bang Thanh Nguyen, Si Yan Tan, Haitao Li, In Yee Phang[^], Stephan Schuster[^], **Xing Yi Ling ~ [^]**
 Surface-Enhanced Raman Scattering-Based Surface Chemotaxonomy: Combining Bacteria Extracellular Matrices and Machine Learning for Rapid and Universal Species Identification
 ACS Nano 2023, 17, 23132-23143 (DOI: 10.1021/acsnano.3c09101)
IF (2022) = 17.1
6. Shi Xuan Leong**, Ya-Chuan Kao*, Xuemei Han**, Zhong Wei Poh, Jaslyn Ru Ting Chen*, Emily Xi Tan*, Yong Xiang Leong*, Yih Hong Lee**, Wei Xuan Teo, George W. Yip[^], Yulin Lam[^], **Xing Yi Ling ~ [^]**
 Achieving Molecular Recognition of Structural Analogues in Surface-Enhanced Raman Spectroscopy: Inducing Charge and Geometry Complementarity to Mimic Molecular Docking
 Angewandte Chemie International Edition 2023, 62, e202309610 (DOI: 10.1002/anie.202309610)
 # Very Important Paper by Angew. Chem.
IF (2022) = 16.6
7. Linan Xu, Wenxing Wang, Xiaoguang Li, Hongjian Yu, Yang Zhang, Hongyang Xu, Song Lin, Xing Yi Ling, Haitao Li
 CNT-based Water-Induced Generator for Effective Self-Powered Devices via Superior Synergism Between Electrokinetic and Galvanic Effects
 Chemical Engineering Journal 2023, 477, 146940 (DOI: 10.1016/j.cej.2023.146940)
IF (2022) = 15.1
8. Yong Xiang Leong*, Emily Xi Tan*, Shi Xuan Leong*, Charlynn Sher Lin Koh*, Lam Bang Thanh Nguyen⁺, Jaslyn Ru Ting Chen*, Kelin Xia⁺, **Xing Yi Ling ~ [^]**
 Where Nanosensors Meet Machine Learning: Prospects and Challenges in Detecting Disease X
 ACS Nano 2022, 16, 13279-13293. (DOI: 10.1021/acsnano.2c05731)
IF (2022) = 17.1
9. Lam Bang Thanh Nguyen*, Yong Xiang Leong*, Charlynn Sher Lin Koh**, Shi Xuan Leong*, Siew Kheng Boong⁺, Howard Yi Fan Sim*, Gia Chuong Phan-Quang⁺, In Yee Phang⁺, **Xing Yi Ling ~ [^]**
 Inducing Ring Complexation for Efficient Capture and Detection of Small Gaseous Molecules Using SERS for Environmental Surveillance

Angewandte Chemie International Edition 2022, 61, e202207447 (DOI: 10.1002/anie.202207447)

Very Important Paper by Angew. Chem.

IF (2022) = 16.6

10. Yih Hong Lee**, Charlynn Sher Lin Koh**, **Xing Yi Ling ~ ^**
Chapter 5 - Tunable Plasmonic Metacrystals: Self-assembly, Plasmonic Properties, and Applications in Surface-enhanced Raman Scattering
In *Plasmonic Nanomaterials: Principles, Design and Bio-applications: Volume 1: Principles of Nanoplasmonics*. Yr 2022, Pg 175-232.
11. Shi Xuan Leong*, Yong Xiang Leong*, Emily Xi Tan*, Howard Yi Fan Sim*, Charlynn Sher Lin Koh*, Yih Hong Lee, Carice Chong, Li Shiuan Ng, Jaslyn Ru Ting Chen*, Carice Chong+, Desmond Wei Cheng Pang+, Lam Bang Thanh Nguyen+, Siew Kheng Boong, Xuemei Han, Ya-Chuan Kao, Yi Heng Chua, Gia Chuong Phan-Quang, In Yee Phang, Hiang Kwee Lee, Mohammad Yazid Abdad, , Nguan Soon Tan, **Xing Yi Ling ~ ^**
Noninvasive and Point-of-Care Surface-Enhanced Raman Scattering (SERS)-Based Breathalyzer for Mass Screening of Coronavirus Disease 2019 (COVID-19) under 5 min
ACS Nano **2022**,16,2629-2639. (DOI: 10.1021/acsnano.1c09371)
IF (2022) = 17.1
12. Shi Xuan Leong*, Yong Xiang Leong*, Charlynn Sher Lin Koh*, Emily Xi Tan*, Lam Bang Thanh Nguyen+, Jaslyn Ru Ting Chen*, Carice Chong+, Desmond Wei Cheng Pang+, Howard Yi Fan Sim*, Xiaochen Liang+, Nguan Soon Tan, **Xing Yi Ling ~ ^**
Emerging nanosensor platforms and machine learning strategies toward rapid, point-of-need small-molecule metabolite detection and monitoring
Chemical Science **2022**,13,11009-11029. (DOI: 10.1039/D2SC02981B)
Perspective article
IF (2022) = 8.4
13. Yong Xiang Leong*, Charlynn Sher Lin Koh**, Gia Chuong Phan-Quang**, Emily Xi Tan*, Zhao Cai Wong+, Wee Liang Yew+, Bao Ying Natalie Lim+, Xuemei Han**, **Xing Yi Ling ~ ^**
Air-stable plasmonic bubbles as a versatile three-dimensional surface-enhanced Raman scattering platform for bi-directional gas sensing
Chemical Communications **2022**, 58, 6697-6700. (DOI: 10.1039/D2CC00597B)
Themed Collection: 2022 Pioneering Investigators
IF (2022) = 4.9
14. Shi Xuan Leong*, Yong Xiang Leong*, Charlynn Sher Lin Koh*, Jaslyn Ru Ting Chen*, **Xing Yi Ling ~ ^**
Chapter 2 - Nanoplasmonic materials for surface-enhanced Raman scattering
In *Principles and Clinical Diagnostic Applications of Surface-Enhanced Raman Spectroscopy*. Yr 2022, Pg 33-79.
(<https://doi.org/10.1016/B978-0-12-821121-2.00005-6>)
15. Emily Xi Tan*, Yichao Chen+, Yih Hong Lee**, Yong Xiang Leong*, Shi Xuan Leong*, Chelsea Violita Stanley+, Chi Seng Pun+^, and **Xing Yi Ling ~ ^**
Incorporating plasmonic featurization with machine learning to achieve accurate and bidirectional prediction of nanoparticle size and size distribution
Nanoscale Horizons **2022**,7,626-633. (DOI: [10.1039/D2NH00146B](https://doi.org/10.1039/D2NH00146B))
IF (2022) = 9.7
16. Charlynn Sher Lin Koh**, Howard Yi Fan Sim**, Shi Xuan Leong*, Siew Kheng Boong, Carice Chong, **Xing Yi Ling~^**
Plasmonic Nanoparticle-Metal–Organic Framework (NP–MOF) Nanohybrid Platforms for Emerging Plasmonic Applications
ACS Materials Letters **2021**, 3, 557-573. (DOI: 10.1021/acsmaterialslett.1c00047)

IF (2022) = 11.4

17. Yong Xiang Leong*, Yih Hong Lee**, Charlynn Sher Lin Koh*, Gia Chuong Phan-Quang*, Xuemei Han**, In Yee Phang, **Xing Yi Ling ~ ^**
Surface-Enhanced Raman Scattering (SERS) Taster: A Machine-Learning-Driven Multireceptor Platform for Multiplex Profiling of Wine Flavors
Nano Letters **2021**, 21, 2642-2649. (DOI: 10.1021/acs.nanolett.1c00416)
IF (2022) = 10.8
18. Xuemei Han**, Lucas V. Besteiro, Charlynn Sher Lin Koh**, Hiang Kwee Lee*, In Yee Phang, Gia Chuong Phan-Quang*, Jing Yi Ng, Howard Yi Fan Sim*, Chee Leng Lay*, Alexander Govorov^, **Xing Yi Ling~^**
Intensifying hHeat Using MOF-Isolated Graphene for Solar-driven Seawater Desalination at 98% Solar-to-Thermal Efficiency
Advanced Functional Materials **2021**, 31, 2008904 (DOI: 10.1002/adfm.202008904)
IF (2022) = 19.0
19. Shi Xuan Leong*, Charlynn Sher Lin Koh**, Howard Yi Fan Sim**, Yih Hong Lee**, Xuemei Han**, Gia Chuong Phan-Quang*, **Xing Yi Ling~^**
Enantiospecific Molecular Fingerprinting Using Potential-Modulated Surface-Enhanced Raman Scattering to Achieve Label-Free Chiral Differentiation
ACS Nano **2021**, 15, 1817-1825 (DOI: 10.1021/acsnano.0c09670)
IF (2022) = 17.1
20. Yih Hong Lee**, Wenxiong Shi, Yijie Yang,* Ya-Chuan Kao,* Hiang Kwee Lee,** Rongrong Chu, Yee Ling Pang,* Chee Leng Lay,* Shuzhou Li, **Xing Yi Ling ~ ^**
"Modulating Orientational Order to Organize Polyhedral Nanoparticles into Plastic Crystals and Uniform Metacrystals"
Angewandte Chemie International Edition **2020**, 59, 21183-21189. (DOI: [10.1002/anie.202009941](https://doi.org/10.1002/anie.202009941))
IF (2022) = 16.6
21. Shi Xuan Leong,* Li Keng Koh,* Charlynn Sher Lin Koh,* Gia Chuong Phan-Quang,* Hiang Kwee Lee,** **Xing Yi Ling ~ ^**
"In Situ Differentiation of Multiplex Noncovalent Interactions Using SERS and Chemometrics"
ACS Applied Materials & Interfaces **2020**, 12, 33421-33427. (DOI: [10.1021/acsaami.0c08053](https://doi.org/10.1021/acsaami.0c08053))
IF (2022) = 9.5
22. Hiang Kwee Lee,* Charlynn Sher Lin Koh,* Wei-Shang Lo, Yejing Liu,* In Yee Phang, Howard Yi Fan Sim,* Yih Hong Lee,** Gia Chuong Phan-Quang,* Xuemei Han,** Chia-Kuang Tsung, **Xing Yi Ling ~ ^**
"Applying Nanoparticle@MOF Interface to Activate an Unconventional Regioselectivity of an Inert Reaction at Ambient Conditions"
Journal of the American Chemical Society **2020**, 142, 11521 - 11527. (DOI: [10.1021/jacs.0c04144](https://doi.org/10.1021/jacs.0c04144))
IF (2022) = 15.0
23. Howard Yi Fan Sim,* Jaslyn Ru Ting Chen,* Charlynn Sher Lin Koh,* Hiang Kwee Lee,* Xuemei Han,** Gia Chuong Phan-Quang,* Jing Yi Pang,* Chee Leng Lay,* Srikanth Pedireddy,* In Yee Phang, Edwin Kok Lee Yeow, **Xing Yi Ling ~ ^**
"ZIF - induced d - band Modification in Bimetallic Nanocatalyst: Achieving > 44% Efficiency in Ambient Nitrogen Reduction Reaction"
Angewandte Chemie International Edition **2020**, 132, 17145 - 17151. (DOI: [10.1002/ange.202006071](https://doi.org/10.1002/ange.202006071))
IF (2022) = 16.6

24. Haitao Li,* Charlynn Sher Lin Koh,* Yih Hong Lee,** Yihe Zhang, Gia Chuong Phan-Quang,* Chao Zhu, Zheng Liu, Zhensheng Chen, Howard Yi Fan Sim,* Chee Leng Lay,* Qi An, **Xing Yi Ling ~ ^**
 A Wearable Solar-Thermal-Pyroelectric Harvester: Achieving High Power Output using Modified rGO-PEI and Polarized PVDF"
Nano Energy **2020**, 73, 104723. ([DOI: 10.1016/j.nanoen.2020.104723](https://doi.org/10.1016/j.nanoen.2020.104723))
IF (2022) = 17.6
25. Ya-Chuan Kao,* Xuemei Han,** Yih Hong Lee,** Hiang Kwee Lee,* Gia Chuong Phan-Quang,* Chee Leng Lay,* Howard Yi Fan Sim,* Vanessa Jing Xin Phua,* Li Shiuang Ng,* Chee Wai Ku, Thiam Chye Tan, In Yee Phang, Nguan Soon Tan, **Xing Yi Ling ~ ^**
 "Multiplex Surface-Enhanced Raman Scattering Identification and Quantification of Urine Metabolites in Patient Samples within 30 min"
ACS Nano **2020**, 14, 2542 - 2522. ([DOI: 10.1021/acsnano.0c00515](https://doi.org/10.1021/acsnano.0c00515))
IF (2022) = 17.1
26. Chee Leng Lay,* Charlynn Sher Lin Koh,* Yih Hong Lee,** Gia Chuong Phan-Quang,* Howard Yi Fan Sim,* Shi Xuan Leong,* Xuemei Han,** In Yee Phang, **Xing Yi Ling ~ ^**
 "Two-Photon-Assisted Polymerization and Reduction: Emerging Formulations and Applications"
ACS Applied Materials & Interfaces **2020**. (DOI: 10.1021/acsnano.9b20911)
IF (2022) = 9.5
27. Charlynn Sher Lin Koh,* Hiang Kwee Lee,* Howard Yi Fan Sim,* Xuemei Han,** Gia Chuong Phan-Quang,* **Xing Yi Ling ~ ^**
 "Turning Water from a Hindrance to the Promotor of Preferential Electrochemical Nitrogen Reduction"
Chemistry of Materials **2020**, 32, 1674-1683 (DOI: 10.1021/acs.chemmater.9b05313)
IF (2022) = 8.6
28. Judith Langer, Dorleta Jimenez de Aberasturi, Javier Aizpurua, Ramon A. Alvarez-Puebla, Baptiste Auguie, Jeremy J. Baumberg, Guillermo C. Bazan, Steven E. J. Bell, Anja Boisen, Alexandre G. Brolo, Jaebum Choo, Dana Ciialla-May, Volker Deckert, Laura Fabris, Karen Faulds, F. Javier Garcia de Abajo, Royston Goodacre, Duncan Graham, Amanda J. Haes, Christy L. Haynes, Christian Huck, Tamitake Itoh, Mikael Käll, Janina Kneipp, Nicholas A. Kotov, Hua Kuang, Eric C. Le Ru, Hiang Kwee Lee, Jian-Feng Li, Xing Yi Ling, Stefan Maier, Thomas Mayerhoefer, Martin Moskovits, Kei Murakoshi, Jwa-Min Nam, Shuming Nie, Yukihiro Ozaki, Isabel Pastoriza-Santos, Jorge Perez-Juste, Jürgen Popp, Annemarie Pucci, Stephanie Reich, Bin Ren, George C. Schatz, Timur Shegai, Sebastian Schlücker, Tay Li-Lin, K George Thomas, Zhong-Qun Tian, Richard P. Van Duyne, Tuan Vo-Dinh, Yue Wang, Katherine A. Willets, Chuanlai Xu, Honxing Xu, Yikai Xu, Yuko S. Yamamoto, Bing Zhao, Luis M. Liz-Marzán
 "Present and Future of Surface Enhanced Raman Scattering"
ACS Nano **2020**, 14, 28 - 117. (DOI: 10.1021/acsnano.9b04224)
IF (2022) = 17.1