

Professor LEE, SHUIT-TONG

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Academic Qualification

Ph.D. in Physical Chemistry, University of British Columbia, Vancouver, Canada
M.S. in Chemistry, University of Rochester, Rochester, New York, USA
B.S. in Chemistry (minor in Physics), The Chinese University of Hong Kong, Chung Chi College, Hong Kong

Teaching Area

Nanomaterial and Nanotechnology

Research Area

Functional Nanomaterials and Devices
Organic Light-emitting Diode (OLED) Display Technology
Diamond and Super-hard Thin Film Technology

Working Experience

1974 - 1976, Postdoctoral fellow, University of California, Berkeley
1976 - 1994, Research Scientist / Senior Research Scientist / Group Leader, Eastman Kodak Company
1994 - 2012, Senior Lecturer / Associate Professor / Chair Professor of Materials Science, Department of Physics & Materials Science, City University of Hong Kong
1998 - 2012, Professor, Director, Centre of Super-Diamond and Advanced Films (COSDAF), City University of Hong Kong
2008 - present, Professor, Director, Institute of Functional Nano & Soft Materials, Soochow University
2010 - present, Professor, Dean, College of Nano Science & Technology, Soochow University
2012 - present, Professor, Director, Collaborative Innovation Center of Suzhou Nano Science and Technology
2016 - present, Director, Institute of Organic Optoelectronics, Jiangsu Industrial Technology Research Institute
2021 - present, Professor, Director, Macao Institute of Materials Science and Engineering, Macau University of Science and Technology
2022 - present, Director, Department of Materials Science and Engineering, Faculty of Innovation Engineering, Macau University of Science and Technology

Academic Publication (selected)

1. W. Ma, P. Alonso-González*, S. J. Li, A. Y. Nikitin, J. Yuan, J. Martín-Sánchez, J. Taboada-Gutiérrez, I. Amenabar, P. N. Li, S. Vélez, C. Tollan, Z. G. Dai, Y. P. Zhang, S. Sriram, K. Kalantar-Zadeh, **Shuit-Tong Lee**, R. Hillenbrand*, Q. L. Bao*, In-plane anisotropic and ultra-low-loss polaritons in a natural van der Waals crystal, *Nature*, 2018, 562, 557
2. J. Liu, Y. Liu, N. Y. Liu, Y. Z. Han, X. Zhang, H. Huang, Y. Lifshitz*, **Shuit-Tong Lee***, J. Zhong, Z. H. Kang*, Metal-free efficient photocatalyst for stable visible water splitting via a two-electron pathway, *Science*, 2015, 347(6225): 970-974
3. D.D.D. Ma, C.S. Lee, F.C.K. Au, S.Y. Tong, **Shuit-Tong Lee***, Small-diameter silicon nanowire surfaces, *Science*, 2003, 299, 1874-1877 (cover paper)
4. **Shuit-Tong Lee***, Y. Lifshitz, The road to diamond wafers, *Nature*, 2003, 424, 500
5. Y. Lifshitz*, Th. Kohler, Th. Frauenheim, I. Guzmán, A. Hoffman, R.Q. Zhang, X.T. Zhou, **Shuit-Tong Lee**, The mechanism of diamond nucleation from energetic species, *Science*, 2002, 297, 1531
6. Y. Lifshitz, X. F. Duan, N. G. Shang, Q. Li, L. Wan, I. Bello, **Shuit-Tong Lee***, Epitaxial diamond polytypes on silicon, *Nature*, 2001, 412, 404
7. **Shuit-Tong Lee***, H. Y. Peng, X. T. Zhou, N. Wang, C. S. Lee, I. Bello, Y. Lifshitz, A Nucleation site and mechanism leading to epitaxial growth of diamond films, *Science*, 2000, 287, 104-106

Books (selected)

1. W.W. Chen, C.Q. Yi, C.H. Tzang, **S.T. Lee**, M.S. Yang, "Covalently Linked Deoxyribonucleic Acid with Multi-walled Carbon Nanotubes: Synthesis and Characterization" in *Carbon Nanotubes - Methods and Protocols*, (p. 19-26) edited by K. Balasubramanian; M. Burghard, Springer (2010)
2. M.F. Lo, T. W. Ng, M.K. Fung, S. L. Lai, M. Y. Chan, C. S. Lee, and **S. T. Lee**, "Implications of interfacial electronics to performance of organic photovoltaic devices" in *WOLEDs and Organic Photovoltaics - Recent Advances and Application*, edited by Yam, Vivian W. W., Springer (2010)
3. M.K. Fung, C.S. Lee, **S.T. Lee**, "Invited book chapter - Metal Interfaces in Organic Electronic Devices - New Insights to Traditional Concepts" in *Organic Electronics: Materials, Processing, Devices and Applications*, (p.181-210) edited by Franky So, CRC Press (2009)
4. M.K. Fung, C.S. Lee, **S.T. Lee**, "Chapter 5 - Metal/Polymer Interface Studies for Organic Light-Emitting Devices" (p181-214) in *Organic Light-Emitting Devices — Synthesis, Properties, and Applications*, (2006) edited by K. Müllen, U. Scherf, Publisher: Wiley-VCH Verlag GmbH & Co. KGaA.
5. **S.T. Lee**, R. Q. Zhang and Y. Lifshitz, "Chapter 10 - Oxide-assisted growth of silicon and related nanowires: growth mechanism, structure and properties", (p308-369) in "The Chemistry of Nanomaterials", (2004), edited by C.N.R. Rao, A. Müller, A.K. Cheetham, Wiley-VCH Verlag GmbH & Co. KGaA.

Patents (selected)

1. C.S. Lee, **S. T. Lee**, Y.B. Tang, M.K. Fung, and C.Y. Chan, "Composite of porous substrate and one-dimensional nanomaterial and method for preparing the same, surface-modified composite and method for preparing the same", US Patent No. 9,346,079 B2, 24 May, 2016
2. **S.T. Lee**, C.S. Lee, P.F. Wang, Z.Y. Xie, "Electroluminescence Devices Using Phenazine Dyes - Neutral Red Derivatives" US Patent application (Patent Application No. US12/336,734) – granted in Sept 2011
3. I. Bello, W.J. Zhang, **S.T. Lee**, "Cubic Boron Nitride/Diamond Composite Layers", US Patent No. 7,645,513 B2, January 12, 2010
4. **S.T. Lee**, W.J. Zhang, Y.S. Zou, I. Bello, K.L. Ma, K.M. Leung, Y.M. Chong, "Surface acoustic wave (SAW) devices based on cubic boron nitride/diamond composite structures", US Patent No. 7,579,759, 25 August 2009
5. **S.T. Lee**, C.S. Lee, B.X. Mi, P.F. Wang, "Improvement in red-emitting electrophosphorescent Devices", US Patent 7,429,662 B2, 30 September 2008

Professional Certification and Awards

1. National Natural Science Award (2nd Class Award), State Council of the People's Republic of China (Co-awarded), 2013
2. Prize for Scientific and Technological Progress, Ho Leung Ho Lee Foundation, 2008
3. National Natural Science Award (2nd Class Award), State Council of the People's Republic of China (Co-awarded), 2005
4. National Natural Science Award (2nd Class Award), State Council of the People's Republic of China, 2002
5. The Croucher Award – Senior Research Fellowship, The Croucher Foundation, Hong Kong SAR, 2002
6. Von Humboldt Senior Research Award, Alexander von Humboldt Foundation, Germany, 2001

Student Awards

N/A

Professional Society Membership

Member (Academician), Chinese Academy of Sciences (CAS)
Fellow, The Academy of Sciences for the Developing World (TWAS)