

BIOGRAPHICAL SKETCH

Yoke Khin Yap, Ph.D.

University Professor, Professor of Physics

Affiliated Professor of Materials Science and Engineering (MSE)

Affiliated Professor of Mechanical Engineering-Engineering Mechanics (MEEM)

Director, Graduate Program in Applied Physics

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A. PROFESSIONAL PREPARATION:

University of Malaya (Kuala Lumpur, Malaysia), Physics
University of Malaya (Kuala Lumpur, Malaysia), Physics
Osaka University (Osaka, Japan), Electrical Engineering
New Energy Industrial Tech Development Org./Osaka Univ.
The Japan Society for the Promotion of Science/Osaka Univ.

B.Sc. (Hon) 1992
M.Sc. 1994
Ph.D. 1999
Scientist (1999-2000)
JSPS Fellow (2000-2002)

B. APPOINTMENTS:

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| Associate Department Chair | Michigan Technological University (June 2023) |
| University Professor | Michigan Technological University (Since January 2020) |
| Professor | Michigan Technological University (Since August 2011) |
| Associate Professor | Michigan Technological University (August 2006-August 2011) |
| Assistant Professor | Michigan Technological University (January 2002-August 2006) |

C. Selected Publication:

1. J-K. Qin, P-Y. Liao, M. Si, S. Gao, G. Qiu, J. Jian, Q. Wang, S-Q. Zhang, S. Huang, A. Charnas, Y. Wang, M. Kim, W. Wu, X. Xu, H. Wang, L. Yang, Y. K. Yap, and P. Ye, "[Raman Response and Transport Properties of One-Dimensional van der Waals Tellurium Atomic Chains in Nanotubes](#)" *Nature Electronics* **3** 141-147 (2020). News coverage from [Materials Today](#), AAAS ([EurekAlert!](#), [EurekAlert-2](#), [EurekAlert-3](#)), [PhysOrg](#). [Altmetric Attention Score in the 99th percentile.](#)
2. S. Bhandari, B. Hao, K. Waters, C. H. Lee, J-C. Idrobo, D. Zhang, R. Pandey, Y. K. Yap, "[Two-Dimensional Gold Quantum Dots with Tunable Bandgaps](#)," *ACS Nano* **13**, 4347 (2019). News from [Physorg](#), [EurekAlert!](#), [Nanowerk](#), [Electropages](#), [IntelligentThings](#), etc.
3. (Frontier Review) C. H. Lee, B. Tiwari, D. Zhang, Y. K. Yap, "[Water Purification: Oil-water Separation by Nanotechnology and Environmental Concerns](#)," *Environ. Sci.: Nano* **2017**, **4**, 514-525. [Environmental Science: Nano 2017 Most Downloaded Article.](#)
4. (Review) M. Ye, D. Winslow, D. Zhang, R. Pandey, Y. K. Yap, "[Recent Advancement on the Optical Properties of Two-Dimensional Molybdenum Disulfide \(MoS₂\) Thin Films](#)," *Photonics* **2015**, **2**(1), 288-307.
5. C. H. Lee, S.Y. Qin, M. A. Savaikar, J. Wang, B. Hao, D. Zhang, D. Banyai, J. A. Jaszczak, K.W. Clark, J.-C. Idrobo, A.-P. Li, Y. K. Yap, "[Room-Temperature Tunneling Behavior of Boron Nitride Nanotubes Functionalized with Gold Quantum Dots](#)," *Advanced Materials* **25**, 2544 (2013). * News Coverage in *Phys Org*, *the Register*, *Science World Report*, *IEEE Spectrum*, and *numerous others*.
6. A. Pandey, A. Prasad, J. P. Moscatello, M. Engelhard, C. Wang, Y. K. Yap, "[Very Stable Electron Field Emission from Strontium Titanate Coated Carbon Nanotube Matrices with Low Emission Thresholds](#)," *ACS Nano* **7**, 117 (2013).
7. C. H. Lee, N. Johnson, J. Drelich, Y. K. Yap, "[The performance of superhydrophobic and superoleophilic carbon nanotube meshes in water-oil filtration](#)," *Carbon* **49**, 669 (2011)

8. (Review) Jiesheng Wang, Chee Huei Lee and Yoke Khin Yap, "Recent advancements in boron nitride nanotubes," *Nanoscale* **2**, 2028 (2010).
9. A. Kumar, P. A. Lin, A. Xue, B. Y. Hao, Y. K. Yap, R. M. Sankaran, "Formation of Nanodiamonds at Near-Ambient Conditions via Microplasmas Dissociation of Ethanol Vapor," *Nature Communications* **4**, Article number: 2618, doi:10.1038/ncomms3618. *News Coverage in numerous media.
10. A. Pandey, A. Prasad, J. Moscatello, Y. K. Yap, "[Stable Electron Field Emission from PMMA-CNT Matrices](#)," *ACS Nano* **4**, 6760 (2010).
11. J. Wang, V. Kayastha, Y. K. Yap, et. al., "Low temperature growth of boron nitride nanotubes on substrates," *Nano Letters* **5**, 2528 (2005). *Unsolicited News Coverage in *Materials Today* Vol. 9 (no 1-2), page 9, Jan-Feb 2006.
12. T. Sasaki, Y. Mori, M. Yoshimura, Y. K. Yap and T. Kamimura, "[Recent development of nonlinear optical borate crystals: key materials for generation of visible and UV light](#)," *Material Science and Engineering R* **30** (2000) 1.

D. SYNERGISTIC ACTIVITIES:

1. The creator and lead organizer of a MRS symposium series: 1) *Symposium MM: Nanotubes and Related Nanostructures* in Spring 2014; 2) *Symposium AA: Carbon Nanotubes, Graphene, and Related Nanostructures* in Fall 2011; 3) *Symposium K: Nanotubes and Related Nanostructures* in Fall 2009; and 3) *Symposium II: Nanotubes and Related Nanostructures*, in Fall 2007. More from the organizer team in 2016, 2018, etc.
2. The editor of four volumes of MRS Proceedings 1) "Nanotubes and Related Nanostructures—2014" (Vol. 1700), 2) "*Carbon Nanotubes, Graphene and Related Nanostructures*" (Vol. 1407), 3) "*Nanotubes and Related Nanostructures -2009*" (Vol. 1204), and 4) "*Nanotubes and Related Nanostructures*" (Vol. 1057).
3. The editor of a book, "*B-C-N nanotubes and related nanostructures*" (Springer 2009). Author of a series of [book and encyclopedia chapters](#).
4. Reviewer of various funding agencies (including NSF, DOE, etc, and the 2015 [DOE BES DMSE Triennial Review of the Oak Ridge National Laboratory projects](#)) and international journals (*Science, Nature Nanotech., Nano Letters, ACS Nano, Advanced Materials, JACS, Chem. Mater., Appl. Phys. Lett.,* etc.)
5. Fellowships and Honors:

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| 2020 | Distinguished Michigan Tech University Professor |
| 2018 | MTU Research Award |
| 2015- | Osaka University <i>Global Alumni Fellow</i> |
| 2014-2016 | <i>Faculty Fellow</i> in Economy Development and Technology Commercialization, MTU Office of the Vice President for Research |
| 2014- | <i>Member</i> of the MTU Research Advisory Council |
| 2012- | <i>Member</i> of the MTU Graduate Faculty Council |
| 2011 | The recipient of the MTU Bhakta Rath Research Award |
| 2010 | <i>Task force member and sub-group leader</i> of MRS to provide input to the White House OSTP for the development of a revised Plan for the National Nanotechnology Initiative. |
| 2008-2009 | The first elected <i>Chair</i> of the User Group of the DOE Center for Nanophase Materials Sciences (CNMS) at Oak Ridge National Laboratory (ORNL) |
| 2006 | <i>US representative</i> to the 2006 NSF US-China Nanotechnology workshop. |
| 2005- | <i>Board member</i> of Osaka University North America Alumni Association |
| 2005-2007 | <i>Charter member</i> of the users' executive committee of CNMS at ORNL |
| 2005 | NSF Faculty Early Career Development (<i>CAREER</i>) Award |
| 2000-2002 | <i>Fellow</i> of the Japan Society for the Promotion of Science (JSPS) |
| 1995-1999 | <i>Monbusho Scholar</i> of the Japanese Ministry of Education, Science, Sports, and Culture. |