

BIOGRAPHICAL SKETCH

Yoke Khin Yap, Ph.D.

University Professor, Professor of Physics

Director, Graduate Program in Applied Physics

Associate Department Chair of Physics

Affiliated Professor of Materials Science and Engineering (MSE)

Affiliated Professor of Mechanical Engineering-Engineering Mechanics (MEEM)

<https://www.mtu.edu/physics/department/faculty/yap/>

Department of Physics
Michigan Technological University
118 Fisher Hall, 1400 Townsend Drive
Houghton, MI 49931-1295, USA

Phone: (906) 487 2900
Fax: (906) 487 2933
Email: ykyap@mtu.edu
<http://phy.sites.mtu.edu/yap/>

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:

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:

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.