



## MICHAEL S. WONG, PhD

### EDUCATION AND TRAINING

|   |                               |     |           |
|---|-------------------------------|-----|-----------|
| California Institute of Technology      | Chemical Engineering          | BS  | 1994      |
| Massachusetts Institute of Technology   | Chemical Engineering Practice | MS  | 1997      |
| Massachusetts Institute of Technology   | Chemical Engineering          | PhD | 2000      |
| University of California, Santa Barbara | Postdoctoral Research         |     | 2000-2001 |

### PROFESSIONAL APPOINTMENTS

|                                 |   |              |
|---------------------------------|---|--------------|
| Graduate Research Assistant     | Massachusetts Institute of Technology   | 1995-2000    |
| Postdoctoral Research Associate | University of California, Santa Barbara | 2000-2001    |
| Assistant Professor             | Rice University                         | 2001-2007    |
| Associate Professor             | Rice University                         | 2007-2010    |
| Professor                       | Rice University                         | 2010-present |
| Department Chair                | Rice University                         | 2014-present |

***Department Chair and Professor of Chemical and Biomolecular Engineering,***  
*Professor of Chemistry, Professor of Civil and Environmental Engineering, Professor*  
*of Materials Science and NanoEngineering*

### RESEARCH BACKGROUND AND INTERESTS

My research program broadly addresses chemical engineering problems using the tools of materials chemistry and heterogeneous catalysis. My Catalysis and Nanomaterials Laboratory has contributed designer catalysts for clean/usable water; nanoparticle-assembled microcapsules for deliverable therapies; petroleum deviscosification catalysts; a spectroscopic tool to monitor chemical reactions *in aqua*, among others.

### SELECTED HONORS AND AWARDS

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|--|------------------|
| NAE Japan-America Frontiers of Engineering (JAFOE) Symposium, Invited Participant  | 2002             |
| Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities  | 2003             |
| 3M Non-tenured Faculty Award   | 2006, 2007       |
| NAE Indo-America Frontiers of Engineering Symposium, Invited Speaker   | 2006             |
| MIT Technology Review TR35 Young Innovator Award   | 2006             |
| American Institute of Chemical Engineers (AIChE) Nanoscale Science and Engineering Forum (NSEF) Young Investigator Award | 2006             |
| GOLD 2006 Conference Best Presentation Award, for "best new idea in gold catalysis"                                      | 2006             |
| Smithsonian Magazine "37 Under 36" Young Innovator Award   | 2007             |
| Rice University Graduate Student Association Faculty Teaching/Mentoring Award (awarded annually to up to two Professors) | 2011             |
| AIChE South Texas Section Best Fundamental Paper Award   | 2009, 2012       |
| AIChE South Texas Section Best Applied Paper   | 2006, 2011, 2013 |
| Guest Professorship, Dalian Institute of Chemical Physics, Dalian, China   | 2013-2017        |
| Award for Excellence in Applied Catalysis, North American/Southwest Catalysis Society                                    | 2015             |
| Fellow of American Chemical Society  | 2018             |
| Joe W. Hightower Greater Houston Section Award, American Chemical Society  | 2018             |

## SELECTED SERVICE ACTIVITIES

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| United States Army Science Board, <b>Member</b>  | 2018-2020 |
| ACS Division of Catalysis Science & Technology (CATL), <b>Past Chair</b>   | 2018-2019 |
| Kirkpatrick Chemical Engineering Achievement Award ( <i>Chemical Engineering</i> magazine), <b>Board of Judges</b>                           | 2017      |
| AIChE Nanoscale Science and Engineering Forum (NSEF), <i>Chair, Vice Chair, Second Vice Chair, Director of Communications, Past Chair</i>    | 2011-2012 |
| Southwest Catalysis Society (SWCS), Chapter of the North American Catalysis Society (NACS), <i>Chair, Chair-elect, Secretary, Past Chair</i> | 2010-2011 |

## SELECTED OUTREACH AND MENTORSHIP ACTIVITIES

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|--|-----------|
| On-air expert on Arkema chemical accident (Hurricane Harvey) <b>KHOU, NPR</b>                                  | 2017      |
| <b>National Geographic</b> <i>Mysteries of the Unseen World 3D</i> movie, 2013 release year, <b>Consultant</b> | 2013      |
| Phi Lambda Upsilon (PLU) national honorary society, <b>Rice Chapter Councilor</b>                              | 2003-2012 |

## SELECTED EDITORIAL ACTIVITIES

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|---|--------------|
| <b>Applied Catalysis B: Environmental</b> , Elsevier, Editorial Board Member        | 2012-present |
| <b>Chemistry of Materials</b> , ACS, Editorial Advisory Board Member                | 2008-2015    |
| <b>Nanotechnology</b> , Institute of Physics Publishing, Special Issue Guest Editor | 2005         |

## SELECTED PUBLICATIONS (120+ published; *Google Scholar* total cites ~ 10K, h-index = 48)

- M. O. Nutt, J. B. Hughes and M. S. Wong, "Designing Pd-on-Au Bimetallic Nanoparticle Catalysts for Trichloroethene Hydrodechlorination," **Environ. Sci. Technol.** 39, 1346 (2005)
- J. Yu, D. Javier, M. A. Yaseen, N. Nitin, R. Richards-Kortum, B. Anvari and M. S. Wong, "Self-assembly Synthesis, Tumor Cell Targeting, and Photothermal Capabilities of Antibody-coated Indocyanine Green Nanocapsules," **J. Am. Chem. Soc.** 132, 1929 (2010)
- N. Soultanidis, W. Zhou, A. C. Psarras, A. J. Gonzalez, E. F. Iliopoulou, C. J. Kiely, I. E. Wachs, and M. S. Wong, "Relating n-Pentane Isomerization Activity to the Tungsten Surface Density of  $WO_x/ZrO_2$ ," **J. Am. Chem. Soc.** 132, 13462 (2010)
- J. C. Velázquez, S. Leekumjorn, Q. X. Nguyen, Y.-L. Fang, K. N. Heck, G. D. Hopkins, M. Reinhard, and M. S. Wong, "Chloroform Hydrodechlorination Behavior of Alumina-supported Pd and PdAu Catalysts," **AIChE J.** 59, 4474 (2013)
- M. D. Blankschien, L. A. Pretzer, R. Huschka, N. J. Halas, R. Gonzalez, and M. S. Wong, "Light-triggered biocatalysis using thermophilic enzyme-gold nanoparticle complexes," **ACS Nano** 7, 654-663 (2013)
- S. Guo, K. N. Heck, S. Kasiraju, H. Qian, Z. Zhao, L. C. Grabow, J. T. Miller, and M. S. Wong, "Insights into Nitrate Reduction over Indium-Decorated Palladium Nanoparticle Catalysts" **ACS Catal.** 8, 503 (2018)
- Y. B. Yin, S. Guo, K. N. Heck, C. A. Clark, C. L. Coonrod, and M. S. Wong,\* "Treating Water by Degrading Oxyanions Using Metallic Nanostructures" **ACS Sustainable Chem. Eng.** 6, 11160 (2018)

## PRESENTATIONS (300+ presentations, 150+ invited lectures)