

# SHAH KWOK WEI (Dr)

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PhD (NUS), BEng (Tokyo U)



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## **CURRICULUM VITAE**

### **ACADEMIC QUALIFICATIONS:**

- Ph.D. (National University of Singapore) (2011)
- Bachelor Electrical Engineering (Tokyo University) (2002)

### **EMPLOYMENT RECORDS:**

- Assistant Professor, NUS (2015 to present)
- Assistant Director, Building Energy Efficiency Hub, NUS (2015)
- Deputy Head @ IMRE, A\*STAR (2015)
- Scientist II @ IMRE, A\*STAR (2014 - 2015)
- Scientist I @ IMRE, A\*STAR (2012 – 2014)
- Senior Engineer, JTC Corporation (2002 – 2007)

### **ADMINISTRATIVE LEADERSHIP:**

- Deputy Program Director for B.Sc. (PFM) (2016 to present)

### **PROFESSIONAL/CONSULTING ACTIVITIES:**

- Invited member of the SPRING's Technical Committee for Surface Coatings (2014 – 2017)
- Invited member of Singapore Green Building Council SGBC's Technical Committee Task Force for Facade and Roofing (2013 - 2015)
- Invited member of the Scientific Committee for Singapore Junior Chemistry Olympiad (2012 – 2013)
- Invited member of the SPRING's Technical Review Committee for Singapore's Code of Practice CP 31 (now SS 535 - Mains Failure Standby Generating Systems) and CP 16 (now SS 551 - Earthing). (Code of Practice CP is now replaced by Singapore Standards SS)
- Invited Reviewer for high-impact peer-reviewed Journal "Energy and Buildings" (2015 - 2016)
- Invited Ambassador under BCA Industry Ambassadors Programme (2016 - 2019)
- Invited as Overseas Distinguished Visiting Professor at Tianjin Univ. of Technology (2016 - 2017)
- Invited member of Real Estate and Housing Developers' Association (REDHA Malaysia) GreenRE Technical Taskforce Committee and Representative for "Passive Cooling for Green Building Design in the Tropics" (2016 - 2018).
- Invited Reviewer for MOE research grants

#### UNDERGRADUATE TEACHING:

- PF2105 Research Methods
- PF4103/PF4501 Total Building Performance

#### GRADUATE TEACHING:

- BPS5223 Building Energy Performance - Passive Systems
- BPS5228 Advanced Building Materials and Structures

#### RESEARCH INTERESTS:

- Nanotechnology and Nanomaterials for green building applications and energy efficiency

#### SELECTED PUBLICATIONS:

- "Aqueous Route to Facile and Functional Silica Coating of Metal Nanoparticles at Room Temperature" Shah Kwok Wei et. al. (Nanoscale 2014, 6, 19, 11273, DOI:10.1039/C4NR03306J, Impact Factor=6.739)
- "Optimized Production of Copper Nanostructures with High Yields for Efficient Use as Thermal Conductivity-Enhancing PCM Dopant" Shah Kwok Wei et. al. (Co-first Author) (Journal of Materials Chemistry A, 2014, Vol. 2, Pg. 3417-3423, DOI: 10.1039/C3TA14550F, Impact Factor=6.626)
- "Synthesis and multiple reuse of eccentric Au@TiO<sub>2</sub> nanostructures as catalysts" ZW Seh, SH Liu, SY Zhang, Shah Kwok Wei and MY Han (Chemical Communications, 2011, 47, 6689, Impact Factor=6.718)
- "Anisotropic Growth of Titania onto Various Gold Nanostructures: Synthesis, Theoretical Understanding, and Optimization for Catalysis". Seh ZW, Liu SH, Zhang SY, Bharathi M. S., Ramanarayan H., Low M., Shah Kwok Wei, Zhang Y.W., Han MY (Angewandte Chemie 2011, 123, 10322, Impact Factor=13.734)
- "Rapid Copper Metallization of Textile Materials: a Controlled Two-Step Route to Achieve User-Defined Patterns under Ambient Conditions", Zhang SY, Guan G, Jiang S, Guo H, Xia J, Regulacio MD, Wu M, Shah Kwok Wei, Dong Z, Zhang J, Han MY. (ACS Appl Mater Interfaces. 2015 Sep 30;7(38):21545-51. doi: 10.1021/acsami.5b06807. Epub 2015 Sep 18, Impact Factor=6.7)

#### SELECTED PATENTS FILED:

- "*Photocatalytic Self-Cleaning and UV-IR-Filtering Nanocoatings for Glass Façade Panels and Window Systems*". Inventors are (1) SHAH Kwok Wei (2) ZHU Qiang (3) HAN Ming Yong (4) TANG Tao (5) LOW Ying Ying Lesley (6) YOW Kenneth Li Hsien (7) YOW Cheng Hoe. This SG patent application has been filed on 24 Dec 2015.
- "*Method for Ultra-fast Electroless Copper Plating with Patterns and Electroless Copper Plating Solutions for making the same*" Zhang Shuang-Yuan, Shah Kwok Wei, Guo Hong Chen, Michelle Dela Cruz Regulacio, Zhang Jie, Han Ming Yong Han Ming Yong.
- "*Novel cementitious composite material using high thermal-conductive nanowires-doped microencapsulated PCM in concrete with multi-functional (heat absorptive and heat insulative) thermal properties for solar-heat reduction*". Inventors are (1) SHAH Kwok Wei (2) TANG Tao (3) ZHU Qiang (4) HAN Ming Yong (5) LOW Ying Ying Lesley (6) SUN Lai Fong (Sun Fong Trading Pte Ltd). This SG patent application has been filed on 28 April 2016. ref: 2015011.

## **HONORS AND AWARDS**

- JTC Corporation Overseas Scholarship Award to (Tokyo University, Japan)
- ASTAR PhD Graduate Scholarship Award to (National University of Singapore)
- Double Award Winner @ Startup Asia 2014 (Most Attractive for Investment & Promising Idea Award)
- Double Top-5 Winner @ “The IET Innovations Awards 2014” UK London (Built-Env. & Startup Category)
- Winner of Institution of Engineers (IES) SG, “IES Prestigious Engineering Achievement Awards 2015”
- Winner of BCA-SGBC Green Building Individual Awards “Young Green Innovator of the Year 2015”