

# CURRICULUM VITAE

## General Information

**Name:** Teera Butburee

**Gender:** Male

**Nationality:** Thai

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## Work experience:

**2017-current:** Researcher, National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency

**2015:** Visiting researcher, Department of Materials and London Centre for Nanotechnology, Royal School of Mines, Imperial College London, UK

**2018:** Visiting researcher, Department of Chemical Engineering, Kyoto University, Kyoto, Japan

## Education

**2011-2016:** MPhil-Ph.D. in Chemical Engineering (Nanomaterials), Nanomaterials Centre, School of Chemical Engineering and Australian Institute for Bioengineering and Nanotechnology (AIBN), The University of Queensland, Australia

**2005-2008:** Bachelor of Science (Chemistry), Khon Kaen University, Khon Kaen, Thailand (honors)

**2001-2004:** High school diploma Piyamarachalai School, Nakhon Phanom, Thailand

## Awards and Honours

1. DPST Young Scientist Award 2019
2. NANOTEC Pride 2019
3. NSTDA Hall of Fame 2019: NSTDA Recognition Award
4. Royal Thai Government Scholarship for Science and Technology (Master-Ph.D.), recruited by National Nanotechnology Centre (NANOTEC)
5. Development and Promotion of Science and Technology Talents Project Scholarship (DPST, Bachelor degree)
6. Graduate School International Travel Award for Excellent Research Project, The University of Queensland

### Current Research Interest:

- Nanoarchitectural designs of metal oxide catalysts for energy and environmental applications
- Biomass valorization
- Single Atom Catalysts
- Carbon Materials

### Expertise:

- 1) Photocatalysts and Photochemistry (for energy and environmental applications)
- 2) Artificial Photosynthesis
- 3) Electrochemistry, Photoelectrochemistry
- 4) Biorefinery
- 5) Electron microscopy & Micro-analysis (HRTEM, TEM, STEM, EDS, HAADF, SAED, FE-SEM)

**Current H-index: 13** (based on Google Scholar)

### Publications (Ranked by Journal Impact Factor)

**Only peer-reviewed & international journals included**

No.		IF
1	<b>Butburee, T.</b> ; Bai, Y.; Wang, H.; Chen, H.; Wang, Z.; Liu, G.; Zou, J.; Khemthong, P.; Max Lu, G. Q.; Wang, L. <b>2018</b> . 2D Porous TiO <sub>2</sub> Single-Crystalline Nanostructure Demonstrating High Photo-Electrochemical Water Splitting Performance. <i>Advanced Materials</i> , 1705666.	25.809
2	Peerakiatkhajohn, P.; Yun, J.-H.; Chen, H.; Lyu, M.; <b>Butburee, T.</b> ; Wang, L. <b>2016</b> . Stable Hematite Nanosheet Photoanodes for Enhanced Photoelectrochemical Water Splitting. <i>Advanced Materials</i> , 28(30), 64056410.	25.809
3	<b>Butburee, T.</b> ; Sun, Z.; Centeno, A.; Xie, F.; Zhao, Z.; Wu, D.; Peerakiatkhajohn, P.; Thaweesak, S.; Wang, H.; and Wang, L., <b>2019</b> . Improved CO <sub>2</sub> Photocatalytic Reduction Using a Novel 3-Component Heterojunction. <i>Nano Energy</i> , 62, 426-433.	15.548
4	Wang, S., Chen, H., Gao, G., <b>Butburee, T.</b> , Lyu, M., Thaweesak, S., Yun, J.H., Du, A., Liu, G. and Wang, L. <b>2016</b> . Synergistic crystal facet engineering and structural control of WO <sub>3</sub> films exhibiting unprecedented photoelectrochemical performance. <i>Nano Energy</i> , 24, 94-102.	15.548

- 5 Thaweesak, S.; Lyu, M.; Peerakiatkhajohn, P.; **Butburee, T.**; Luo, B.; Chen, H.; Wang, L. **2017**. Two-dimensional gC<sub>3</sub>N<sub>4</sub>/Ca<sub>2</sub>Nb<sub>2</sub>TaO<sub>10</sub> nanosheet composites for efficient visible light photocatalytic hydrogen evolution. *Applied Catalysis B: Environmental*, 202, 184-190. 14.229
- 6 **Butburee, T.**; Kotchasarn, P.; Hirunsit, P.; Sun, Z.; Tang, Q.; Khemthong, P.; Sangkhun, W.; Thongsuwan, W.; Wang, H. and Faungnawakij, K. **2019**. New Understanding of Crystal Control and Facet Selectivity of Titanium Dioxide Ruling Photocatalytic Performance. *Journal of Materials Chemistry A*, **7**, 8156-8166. (Front Cover) 10.733
- 7 **Butburee, T.**, Bai, Y., Pan, J., Zong, X., Sun, C., Liu, G., & Wang, L. **2014**. Step-wise controlled growth of metal@TiO<sub>2</sub> core–shells with plasmonic hot spots and their photocatalytic properties. *Journal of Materials Chemistry A*, 2(32), 12776-12784. 10.733
- 8 Peerakiatkhajohn, P., **Butburee, T.**, Yun, J.-H., Chen, H., Richards, R. M.,; Wang, L. **2015**. A hybrid photoelectrode with plasmonic Au@TiO<sub>2</sub> nanoparticles for enhanced photoelectrochemical water splitting. *Journal of Materials Chemistry A*, 3(40), 20127-20133. 10.733
- 9 Wang, Q., **Butburee, T.**, Wu, X., Chen, H., Liu, G.,; Wang, L. **2013**. Enhanced performance of dye-sensitized solar cells by doping Au nanoparticles into photoanodes: a size effect study. *Journal of Materials Chemistry A*, 1(43), 13524-13531. 10.733
- 10 Yu, H., Ye, D., **Butburee, T.**, Wang, L.; Dargusch, M. **2016**. Green Synthesis of Porous Three-Dimensional Nitrogen-Doped Graphene Foam for Electrochemical Applications. *ACS Applied Materials & Interfaces*, 8, 25052510. 8.456
- 11 Wang, Y.; Zu, M.; Li, S.; **Butburee, T.**; Wang, L.; Peng, F.; Zhang, S. **2017**. Dual modification of TiO<sub>2</sub> nanorods for selective photoelectrochemical detection of organic compounds. *Sensors and Actuators B: Chemical*, 250, 307-314. 6.393
- 12 Bai, Y., **Butburee, T.**, Yu, H., Li, Z., Amal, R., Lu, G. M., & Wang, L. **2015**. Controllable synthesis of concave cubic gold core–shell nanoparticles for plasmon-enhanced photon harvesting. *Journal of Colloid and Interface Science*, 449, 246-251. 6.361
- 13 Phonsuksawang, P.; Khajondetchairit, P.; **Butburee, T.**; Sattayaporn, S.; Chanlek, N.; Hirunsit, P.; Suthirakun, S.; Siritanon, T. **2020**. Effects of Fe doping on enhancing electrochemical properties of NiCo<sub>2</sub>S<sub>4</sub> supercapacitor electrode. *Electrochimica Acta*, 135939 5.383
- 14 Termvidchakorn, C.; Faungnawakij, K.; Kuboon, S.; **Butburee, T.**; Sano, N.; Charinpanitkul, T. **2019**. A Novel Catalyst of Ni Hybridized with Single-Walled Carbon Nanohorns for Converting Methyl Levulinate to  $\gamma$ -Valerolactone. *Applied Surface Science*, 161-168. 5.155

- 15 Wang, S.; Yun, J.-H.; Luo, B.; **Butburee, T.**; Peerakiathajohn, P.; Thaweesak, S.; Xiao, M.; Wang, L. **2017**. Recent progress on visible light responsive heterojunctions for photocatalytic applications. *Journal of Materials Science & Technology*, 33 (1), 1-22. 5.040
- 16 Xing, Z., Zong, X., **Butburee, T.**, Pan, J., Bai, Y., and Wang, L. **2016**. Nanohybrid materials of titania nanosheets and plasmonic gold nanoparticles for effective hydrogen evolution. *Applied Catalysis A: General*, 521, 96-103. 4.630
- 17 Rakmae, S.; Osakoo, N.; Pimsuta, M.; Deekamwong, K.; Keawkumay, C.; **Butburee, T.**; Faungnawakij, K.; Geantet, C.; Prayoonpokarach, S.; Wittayakun, J., **2020**. Defining nickel phosphides supported on sodium mordenite for hydrodeoxygenation of palm oil. *Fuel Processing Technology*, 198, 106236 4.507
- 18 **Butburee, T.**; Chakthranont, P.; Phawa, C.; Faungnawakij, K., **2020**, Beyond Artificial Photosynthesis: Prospects on Photobiorefinery. *ChemCatChem*, 12, 1873-1890. (Front Cover) 4.495
- 19 Phawa, C.; Prayoonpokarach, S.; Sinthiptharakoon, K.; Chakthranont, P.; Sangkhun, W.; Faungnawakij, K.; **Butburee, T.\***, **2020**, Effects of Matching Facet Pairs of TiO<sub>2</sub> on Photoelectrochemical Water Splitting Behaviors. *ChemCatChem*, 12, 2116-2124. 4.495
- 20 Zhu, X.; Luo, B.; **Butburee, T.**; Zhu, J.; Han, S.; Wang, L. **2017**, Hierarchical macro/mesoporous NiO as stable and fast-charging anode materials for lithium-ion batteries. *Microporous and Mesoporous Materials*, 238, 78-83. 4.182
- 21 Tanasaro, T.; Adpakpang, K.; Ittisanronnachai, S.; Faungnawakij, K.; **Butburee, T.**; Wannapaiboon, S.; Ogawa, M.; Bureekaew, S. **2017**. Control of Polymorphism of Metal-Organic Frameworks using Mixed-Metal Approach. *Crystal Growth & Design*, 18(1), 16-21. 4.153
- 22 Fang, C.; Kuboon, S.; Khemthong, P.; **Butburee, T.**; Chakthranont, P.; Itthibenchapong, V.; Kasamechonchung, P.; Witoon, T. and Faungnawakij, K. **2019**. Highly dispersed NiCu nanoparticles on SBA-15 for selective hydrogenation of methyl levulinate to  $\gamma$ -valerolactone. *International Journal of Hydrogen Energy*. (In Press: <https://doi.org/10.1016/j.ijhydene.2019.03.272>) 4.084
- 23 Kochaputi, N.; Kongmark, C.; Khemthong, P.; **Butburee, T.**; Kuboon, S.; Worayingyong, A. and Faungnawakij, K. **2019**. Catalytic Behaviors of Supported Cu, Ni, and Co Phosphide Catalysts for Deoxygenation of Oleic Acid. *Catalysts*, 9(9), 715 3.444
- 24 Chomkhuntod, P.; Jiamprasertboon, A.; Waehayee, A.; **Butburee, T.**; Chanlek, N.; Yong, N. & Siritanon, T. (2019). Facile molten salt synthesis of Cs–MnO<sub>2</sub> hollow microflowers for supercapacitor applications. *RSC Advances*, 9(33), 19079-19085. 3.094
- 25 Zhao, Z.; **Butburee, T.**; Lyv, M.; Peerakiathajohn, P.; Wang, S.; Wang, L.; Zheng, H. **2016**. Etching treatment of vertical WO<sub>3</sub> nanoplates as a photoanode 3.094

for enhanced photoelectrochemical performance. *RSC Advances*, 6 (72), 68204-68210.

- 26 Sangkhun, W; Wootthikanokkhan, J; Wanwong, S; Wongyao, N; **Butburee, T**; Kumnorkaew, P., The Synchronization of Electron Enricher and Electron Extractor as Ternary Composite Photoanode for Enhancement of DSSC Performance. *Journal of Nanomaterials* 2020 (In press). 2.233
- 27 Zhao, Z.; **Butburee, T**.; Peerakiathajohn, P.; Lyu, M.; Wang, S.; Wang, L.; Zheng, H. (2016), Carbon Quantum Dots sensitized Vertical WO<sub>3</sub> Nanoplates with Enhanced Photoelectrochemical Properties. *ChemistrySelect*, 1 (11), 2772-2777. 1.716
- 28 Sun, Z.; Wang, S.; Li, Q.; Lyu, M.; **Butburee, T**.; Luo, B.; Wang, H.; Fischer, J. M. T. A.; Zhang, C.; Wu, Z. (2017), Enriching CO<sub>2</sub> Activation Sites on Graphitic Carbon Nitride with Simultaneous Introduction of Electron-Transfer Promoters for Superior Photocatalytic CO<sub>2</sub>-to-Fuel Conversion. *Advanced Sustainable Systems*, 1(3-4), 1700003 S

**\*Note: IF= Impact Factor of the journal** (Thomson Reuters 2018)

S= Impact factor is suspended (A new journal issued in 2016-2019)

## References

1. Dr. Kajornsak Faungnawakij; E-mail: kajornsak@nanotec.or.th
2. Professor Lianzhou Wang; E-mail: l.wang@uq.edu.au
3. Professor Max (G.Q) Lu; E-mail:m.lu@uq.edu.au