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<https://scholar.google.com.my/citations?user=e2kt9FQAAAAJ&hl=en&oi=sra>

## Academic Qualification

Doctor of Engineering (Metallurgy and Ceramics Science), Tokyo Institute of Technology, Japan, 2013.  
Master of Science (Materials Engineering), University of Science Malaysia, Malaysia, 2010.  
Bachelor of Science (Materials Engineering), Institut Teknologi Bandung, Indonesia, 2005.

## Brief Profile

After completed his undergraduate study from Materials Engineering ITB in 2005, Dr. Tedi Kurniawan was working as planning engineer at PT Indofood Bogasari Jakarta for one and a half years. In 2007, he was granted Aunseed/Net Scholarship to pursue Master Degree in Materials Engineering at USM Malaysia. Furthermore, with the support from JICA's scholarship, he continued his study in doctoral degree at the Department of Metallurgy and Ceramics Science TIT, from 2010 until 2013. During his doctoral study, he was also working as research assistant for the Energy-GCOE TIT for less than three years. After graduation, he joined Faculty of Mechanical Engineering UMP until present.

## Working Experiences

|                   |   |
|-------------------|---|
| 12/2013 . Present | Senior Lecturer - Faculty of Mechanical Engineering, UMP.           |
| 06/2010 . 03/2013 | Research Assistant - Energy-GCOE, Tokyo Institute of Technology.    |
| 10/2005 . 03/2007 | Planning Engineer . Development Engineering, PT. Indofood Bogasari. |

## Expert Area

1. High Temperature Physical Chemistry
2. Corrosion
3. Thin Films Technology

## Research Interest

1. High temperature oxidation in dry and humid condition
2. Coatings for corrosion protection
3. Dielectric for Metal Oxide Semiconductor

## Research Project / Grant

| No | Research grant | Title   | Role   | Source                                | Status   |
|----|----------------|---|--------|---------------------------------------|----------|
| 1  | RDU1403112     | ZrO <sub>2</sub> Sol-Gel Coating for the Corrosion Protection Of Aluminum                               | Leader | FRGS . Ministry of Education Malaysia | On going |
| 2  | RDU140120      | Characterization of Biodegradable Composites Based on Pineapple Leaf Fibre and Tapioca Bioplastic Resin | Member | FRGS . Ministry of Education Malaysia | On going |
| 3  | RDU140110      | Pack Cementation Coating to Improve Corrosion Resistance of High Chromium Steels for Boiler Application | Leader | UMP                                   | On going |

|   |           |   |        |                                 |           |
|---|-----------|---|--------|---------------------------------|-----------|
| 4 | RDU141103 | High Temperature Oxidation of Steel in Dry and Humid Environment            | Leader | UMP                             | On going  |
| 5 | YRG2010   | Emf Measurement of Pd-Fe Alloy at 973 K to 1123 K                           | Leader | GCOE . Tokyo Institute of Tech. | Completed |
| 6 | YRG2011   | Hydrogen Permeability of Iron Oxide at 973 K under Constant Oxygen Activity | Leader | GCOE . Tokyo Institute of Tech. | Completed |

### Professional Qualification / Membership / Affiliation / Experience

1. Sub-Committee of the Proceeding and Journal Publication, ICMER 2015. 22 Sept 2014 . Aug 2015.
2. Committee member of document preparation for MQA (Malaysian Qualifications Agency) - master degree program. Jan 2015 . Dec 2015.
3. Reviewer for conference paper in ICMER 2015. Faculty of Mechanical Engineering UMP. 28 Jan 2015.
4. Reviewer for conference paper in AIGEV 2014 . Automotive Engineering Centre, UMP. 5 Feb 2014.
5. Member of Professional Body, Japan Institute of Metal, 2012-2013

### Teaching Experience

BMM 1523 Engineering Materials  
 BMM 1553 Dynamics  
 BMM 2523 Thermodynamics 2  
 BMM 2521 Engineering Mechanics Lab 2  
 DMM 2632 Industrial Design  
 MKM 1223 Advanced Materials Processing

### Postgraduate Supervision

1. Effect of Chromium Coating on Corrosion Resistance of P91 Ferritic-Martensitic Steel in Dry and Humid Conditions. (Master by research / Farah Alia Binti Fauzan). *On going*

### Degree / Final Year Supervision

1. Effect of Heat Treatment Temperatures on the Microstructure and Mechanical Properties Changes of SS316 Stainless Steel (FYP / Muhamad Amirulshafiq Bin Mohammad Sabri). *On going*
2. Effect of deformation and heat treatment on the performance of Aluminium A141 as sacrificial anode (FYP / Muhammad Fauzan Bin Abdullah) *On going*
3. Pack Cementation Coating of P11 Ferritic Steel (FYP / Yii Sing). *On going*
4. Effect of Heat Treatment on the Corrosion Properties of Martensitic Steel (FYP / Mohamad Akram Bin Rozali). *On going*
5. Design and Fabrication of Apparatus for High Temperature Oxidation (FYP/Mohd Razlie Bin Mohd). *On going*

### List of Publications

1. Ahmed N. Oumer, Idris Mat Sahat , Muhammad Ammar Nik Muqasim, and Tedi Kurniawan. Numerical and Experimental Investigation on Tensile Properties of Natural-Sand Reinforced Polypropylene. Applied Mechanics and Materials. *(Article in Press)*
2. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. Phase Stability of Iron Oxides on Palladium-Iron Alloy at Elevated Temperature and its Application to High Temperature Oxidation. Materials Transactions, Vol.54 No.09, pp.143-150 (2013).
3. Tedi Kurniawan, Kuan Yew Cheong, Khairunisak Abdul Razak, Zainovia Lockman, Nuruddin Ahmad. Oxidation of sputtered Zr thin films on Si substrate. Journal of Materials Science: Materials Electronics, Vol.22, pp.143. 150 (2011).
4. Tedi Kurniawan, Yew Hoong Wong, Kuan Yew Cheong, Jeong Hyun Moon, Wook Bahng, Khairunnisak Abdul Razak, Zainovia Lockman, Hyeong Joon Kim, Nam Kyun Kim (2011). Effects of post-oxidation annealing temperature on ZrO<sub>2</sub> thin film deposited on 4H-SiC substrate. Materials Science in Semiconductor Processing. Vol.14, pp.13-17 (2011).

## List of Research / Project

### Current research

1. Pack Cementation Coating to Improve Corrosion Resistance of High Chromium Steels for Boiler Application
2. ZrO<sub>2</sub> Sol-Gel Coating for the Corrosion Protection Of Aluminum
3. Characterization of Biodegradable Composites Based on Pineapple Leaf Fibre and Tapioca Bioplastic Resin

### Previous Research

4. Hydrogen Flux Permeated Through Iron-Oxides at 973 K under Constant Oxygen Activity
5. Formation of Iron-Oxides on Pd-Fe Alloys by High Temperature Oxidation
6. Phase-Stability of Iron Oxides in the Pd-Fe-O System by Electro-Motive Force Measurement
7. Formation of ZrO<sub>2</sub> Thin Film by Thermal Oxidation of Sputtered Zr on Si and SiC Substrates
8. Physical and Chemical Study of Metal Coins for Bank Indonesia
9. Observation the Effect of Aging Process to the Characteristics of Ni-50.8 at%Ti Shape Memory Alloy.

## Awards / Achievements

1. Certificate of Teaching Excellence 2014. Faculty of Mechanical Engineering, UMP.
2. Best Collaboration Award+ The 4th International Forum on Multidisciplinary Education and Research for Energy Science. Honolulu, Hawaii, USA. December 17-23, 2011.
3. Doctoral Scholarship . Japan International Cooperation Agency (JICA), April 2010 . March 2013.
4. Master Scholarship . ASEAN University Network / Southeast-Asia Engineering Education Development Network (AUN/SEED-Net), July 2007 . June 2009.

## List of Course / Conference Attended

1. Tedi Kurniawan. Research Opportunities in High Temperature Oxidation in UMP and Malaysia+Invited Speaker in the 1<sup>st</sup> Asian high temperature workshop. Tokyo Institute of Technology, Japan. 22 November, 2014.
2. Ahmed N. Oumer, Idris Mat Sahat , Muhammad Ammar Nik Muqasim, and Tedi Kurniawan. Numerical and Experimental Investigation on Tensile Properties of Natural-Sand Reinforced Polypropylene. ICAMME 2014 -International Conference on Advanced Materials and Manufacturing Engineering 2014". Kuala Lumpur, Malaysia. September 23-26, 2014.
3. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. The Equilibrium Oxygen Partial Pressure between Palladium-Iron Alloy and Iron-Oxide at 973 K to 1123 K+ Japan Institute of Metal Annual Meeting 2012. Matsuyama, Ehime, Japan. September 17-19, 2012.
4. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. Phase Stability and Thickness Estimation of Iron-Oxides on Palladium-Iron Alloys+ The 5th Energy-GCOE CDP Forum - Future Social Standing of Energy Science Doctors. Meguro, Tokyo. Japan. September 6, 2012.
5. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. Formation of Wustite in High Temperature Oxidation of Pd-Fe Alloys at 1073 K+ The 4th Eneyg-GCOE CDP Forum. Meguro, Tokyo, Japan. March 5, 2012.
6. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. Emf Measurement of Pd-Fe Alloys at 973 K to 1123 K with CSZ Solid Electrolyte+ The 4th International Forum on Multidisciplinary Education and Research for Energy Science. Honolulu, Hawaii, USA. December 17-23, 2011. The same paper also presented in The Joint 4th AUN/SEED-Net Regional Conference 2011. Olongapo City, Zambales, Philippines. October 27-28, 2011.
7. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. Activity measurement of Fe in Pd-Fe Alloys at the temperature range from 973 K to 1123 K+ Gordon Research Conference in High Temperature Corrosion. New London, New Hampshire, USA. July 24-29, 2011.
8. Tedi Kurniawan, Mitsutoshi Ueda, Kenichi Kawamura, Toshio Maruyama. Hydrogen Permeability of Iron Oxides (FeO, Fe<sub>3</sub>O<sub>4</sub>, Fe<sub>2</sub>O<sub>3</sub>) at PO<sub>2</sub> Constant at 973 K+ The third International Forum on Multidisciplinary Education and Research for Energy Science. Ishigaki, Okinawa, Japan. December 10-13, 2010.
9. Tedi Kurniawan, Cheong Kuan Yew, Khairunnisak Abdul Razak, Zainovia Lockman, Ahmad Nuruddin. Effect of Sputtering Time on Physical and Electrical Properties of ZrO<sub>2</sub> Thin Films+ The 1st AUNSEED/Net Regional Conference on Materials 2009. Pulau Penang, Malaysia. February 16-17, 2009.
10. Tedi Kurniawan, Cheong Kuan Yew, Khairunnisak Abdul Razak, Zainovia Lockman, Ahmad Nuruddin. Physical characterization of ZrO<sub>2</sub> thin films formed by thermal oxidation of sputtered Zr on Si substrate+ Thin Films 2008. The 4th International Conference in Technological Advances of Thin Films and Surface Coating. Singapore, July 13-16, 2008.