

# HADI PURWANTO



- KULLIYAH OF ENGINEERING
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## KELAYAKAN AKADEMIK

- Doctor of Philosophy (Engineering)
- Master of Engineering
- Bachelor of Engineering (Mechanical Engineering - Metallurgy)

## TANGGUNGJAWAB MENGAJAR

ADVANCED METALLIC MATERIALS	2020/2021
ADVANCED THERMODYNAMICS OF MATERIALS	2009/2010 2010/2011 2011/2012 2012/2013
CORROSION AND DEGRADATION	2016/2017 2017/2018 2018/2019
CORROSION PROCESSES AND PROTECTION	2019/2020
Corrosion and Degradation	2019/2020 2020/2021
ENGINEERING MATERIALS	2008/2009
Extractive and Physical Metallurgy	2020/2021
FAILURE ANALYSIS OF MATERIALS	2008/2009 2009/2010
FINAL YEAR PROJECT I	2018/2019 2019/2020
FINAL YEAR PROJECT II	2019/2020
HEAT TREATMENT	2013/2014
MATERIALS CHARACTERIZATION AND NON-DESTRUCTIVE TESTING	2016/2017 2017/2018
MATERIALS ENGINEERING LAB V	2013/2014
MATERIALS LABORATORY	2008/2009
NDT AND EVALUATIONS	2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
NONDESTRUCTIVE EVALUATION OF STRUCTURES	2009/2010
NONDESTRUCTIVE TESTING OF MATERIALS	2011/2012 2012/2013 2018/2019

NONDESTRUCTIVE TESTING AND EVALUATION	2008/2009 2009/2010 2010/2011 2013/2014
PRODUCTION OF FERROUS & NON FERROUS METALS	2008/2009
PRODUCTION OF FERROUS AND NON-FERROUS	2008/2009 2010/2011 2011/2012 2012/2013
PRODUCTION OF METALS	2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019
PROJECT I	2009/2010 2010/2011 2011/2012
THERMODYNAMICS OF MATERIALS	2008/2009 2009/2010 2014/2015
WORKSHOP TECHNOLOGY	2010/2011 2011/2012 2012/2013 2015/2016 2016/2017 2017/2018 2018/2019 2019/2020 2020/2021

## PROJEK PENYELIDIKAN

### In Progress

**2019 - Present** Investigation on cement clinker production using waste heat from molten blast furnace slag

**2019 - Present** Development of high temperature corrosion protection of metallic alloys

**2019 - Present** Environmental friendly municipal solid waste (MSW) leachate treatment using hydrothermal treatment processing (HTTP)

**2016 - Present** Carbon Enrichment of EFB-Derived Biochar for Biofuel Application Via Chemical Vapor Infiltration Method

**2009 - Present** Advanced Materials and Surface Engineering (AMSERU)

**Unknown - Present** Development of high temperature corrosion protection of metallic alloys

### Completed

**2017 - 2017** Metallurgical Study of Keris and It's Preservation Technique

**2013 - 2016** Development of Carbon Infiltrated Iron Ore using Bio-tar from Sawdust Pyrolysis

**2012 - 2015** Upscaling of Zero Emission Process for Hydrogen and Alumina Productions from Waste Management

**2012 - 2016** Development process and manufacturing of modern medical implants (Maxillofacial Surgery )using rapid prototyping technology

**2011 - 2014** Utilization of Biomass Waste as Energy Source in Iron Making

**2011 - 2012** Hydrogen Production from Waste Aluminum Chip

- 2011 - 2012** Probability Safety Assessment for Nuclear Power PLant (KVC Project 2011)
- 2011 - 2012** Design and Fabrication of Emergency Air Pump for Punched Tire Motor Cycle
- 2010 - 2011** Effect of the degree of chromium carbide precipitation on the corrosion on SS304
- 2010 - 2010** Royal Selangor International SDN BHD
- 2009 - 2010** Measurement of the Degree of Chromium carbide precipitation of SS304
- 2009 - 2010** Preparation of Silica from Rice Husk Gasification

## PENERBITAN

### Article

- 2020** [New approach of Municipal Solid Waste \(MSW\) leachate treatment using hydrothermal method.](#) TEST Engineering & Management , 83 pp.1117-1121
- 2019** [Characterization of municipal solid waste in Malaysia for energy recovery.](#) IOP Conference Series: Earth and Environmental Science , 264 (1) pp.1-6
- 2018** [Effect of charcoal derived from oil palm empty fruit bunch on the sinter characteristics of low grade iron ore.](#) Journal of Cleaner Production , 200 pp.954-959
- 2018** [Innovative process to enrich carbon content of EFB-derived biochar as an alternative energy source in ironmaking.](#) Advances in Materials Science and Engineering , 2018 pp.1-7
- 2017** [Microstructural and compositional study of metal laminated composite in Malay Keris.](#) Advanced Science Letters , 23 (7) pp.6237-6241
- 2017** [Growth conditions of graphene grown in Chemical Vapour Deposition \(CVD\).](#) Sains Malaysiana , 46 (7) pp.1033-1038
- 2016** [Enhancement of oil palm empty fruit bunch char by impregnation of pyrolytic carbon from tar vapor decomposition.](#) Journal of Renewable and Sustainable Energy , 8 (1) pp.013110-1-013110-11
- 2016** [Utilization of low-grade iron ore in ammonia decomposition.](#) Procedia Chemistry , 19 pp.119-124
- 2016** [New technology for biochar production from oil palm empty fruit bunch.](#) ARPN Journal of Engineering and Applied Sciences , 11 (1) pp.368-371
- 2015** [Utilization of Malaysian low grade iron ore as medium for ammonia decomposition.](#) ARPN Journal of Engineering and Applied Sciences , 10 (22) pp.17286-17288
- 2015** [CO2 emissions for concrete bore piling construction.](#) Jurnal Teknologi , 77 (30) pp.25-34

- 2015** [Development of carbon-infiltrated bio-char from oil palm empty fruit bunch.](#) ISIJ International , 55 (2) pp.436-440
- 2014** [Effect of reduction roasting by using bio-char derived from empty fruit bunch on the magnetic properties of Malaysian iron ore.](#) International Journal of Mineral, Metallurgy and Minerals , 21 (4) pp.326-330
- 2014** [Enhancement of magnetic properties of Malaysian iron ore by reduction roasting using oil palm empty fruit bunch.](#) ISIJ International , 54 (4) pp.994-996
- 2014** [Reduction of low grade iron ore pellet using palm kernel shell.](#) Renewable Energy , 63 pp.617-623
- 2013** [Carbon doped iron ore using palm kernel shell.](#) Advanced Materials Research , 701 pp.28-31
- 2013** [Magnetization of low grade iron ore using empty fruit bunch ash.](#) Advanced Materials Research , 701 pp.141-144
- 2013** [Effect of Numbers of Fringing Electric Field \(FEF\) Fingers on the Performance of Sensor for Water Content in Soil.](#) International Journal of Materials, Mechanics and Manufacturing , 1 (1) pp.46-49
- 2013** [Reduction of iron ore/empty fruit bunch char briquette composite.](#) ISIJ International , 53 (10) pp.1749-1755
- 2013** [Carbon deposition using various solid fuels for ironmaking applications.](#) Energy & Fuels , 27 (5) pp.2687-2692
- 2012** [Reduction of briquette composite made of low grade from ore and biomass ash.](#) SEAISI Quarterly Journal , 41 (4) pp.12-16
- 2012** [Effect of Sn addition on mechanical properties of zinc-based alloy.](#) Advanced Materials Research , 576 pp.378-381
- 2012** [Effect of holding time on the corrosion potential of SS304.](#) Advanced Materials Research , 576 pp.382-385
- 2012** [Effect of adding Ag on tensile and microstructure properties of zinc alloy.](#) International Journal of Engineering and Technology , 12 (3) pp.78-84
- 2012** [Carbon deposition from biotar by fast pyrolysis using the chemical vInfiltration process within porous low-grade iron ore for iron-making.](#) Energy & Fuels , 26 (12) pp.7340-7346
- 2011** [Phase formation during reduction of iron sand with soda ash flux addition.](#) Advanced Materials Research , 264-5 pp.801-806
- 2010** [Pre-reduced iron produced from low grade ore using biomass.](#) SEAISI Quarterly Journal , 39 (2) pp.18-22
- 2010** [Process analysis of the effective utilization of molten slag heat by direct blast furnace cement production system.](#) ISIJ International , 50 (9) pp.1319-1325
- 2010** [Exergy analysis of methane steam reformer utilizing steelmaking waste heat.](#) ISIJ International , 50 (9) pp.1311-1318

- 2009 [The effect of magnetization on the leached limonitic ore.](#) Indonesian Mining Journal , 12 (2) pp.90-95
- 2009 [Biotar ironmaking using wooden biomass and nanoporous iron ore.](#) Energy & Fuels , 23 (2) pp.1128-1131
- Conference or Workshop Item**
- 2020 [Electrochemical Impedance Spectroscopy \(EIS\) study of coconut water as natural inhibitor in Malay traditional preservation of iron artefact.](#) In: **2nd Joint Conference on Green Engineering Technology & Applied Computing 2020**
- 2019 [Effects of hydrogen during annealing process of graphene synthesis via chemical vapor deposition.](#) In: **Nanotech Malaysia 2018 in conjunction with 3rd International Conference on Enabling Science and Nanotechnology (ESciNano 2018), 5th Malaysia Workshop on 2D Materials and Carbon Nanotube (2DMC 2018)**
- 2019 [Mechanism of carbon deposition within char derived from oil palm empty fruit bunch.](#) In: **International Conference on X-Rays and Related Techniques in Research and Industry 2018, ICXRI 2018**
- 2018 [Characteristics of iron ore sinter with EFB addition.](#) In: **International Conference on Innovative Technology, Engineering and Sciences 2018, iCITES 2018**
- 2018 [Effect of EFB content on reducibility of low grade iron ore composite at 1000°C - 1200°C.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering 2017, ICAMME 2017**
- 2018 [Effect of temperature on porosity of iron ore sinter with biochar derived from EFB.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering 2017 (ICAMME17)**
- 2018 [Phase change of iron ore reduction process using EFB as reducing agent at 900-1200°C.](#) In: **International Conference on Innovative Technology, Engineering and Sciences 2018, iCITES 2018**
- 2018 [Schottky's barrier height of T91/Cr2O3 heterojunction in dry and wet conditions: effects of watervapor onto accelerated high temperature oxidation.](#) In: **2018 2nd International Conference on Engineering Innovation (ICEI)**
- 2016 [Effect of pre-treatment on the quality of carbon-infiltrated bio-char.](#) In: **4th International Conference Biotechnology Engineering 2016**
- 2016 [Carbon deposition from biotar by fast pyrolysis of palm empty fruit bunch.](#) In: **5th International Conference on Recent Advances in Materials, Minerals and Environment (RAMM) & 2nd International Postgraduate Conference on Materials, Mineral and Polymer (MAMIP)**
- 2015 [Synthetic of pure alumina from aluminum scrap.](#) In: **International Conference in Advances in Manufacturing And Materials Engineering**
- 2015 [Development process for tar filtering from biomass pyrolysis.](#) In: **5th International Conference on Energy and Sustainability 2014**
- 2015 [Effect of electron beam irradiation on the morphology of alumina ceramic.](#) In: **International Conference in Advances in Manufacturing And Materials Engineering**

- 2014 [Utilization of palm oil biomass for treatment of low grade Malaysian iron ore.](#) In: **Innovation of Ironmaking Technologies and Future International Collaboration : To Overcome Energy & Resource Restrictions in Accordance with Environments**
- 2014 [Enhancement magnetic properties of Malaysian iron ore by biomass treatment.](#) In: **Workshop on Energy Conversion Materials 2014**
- 2011 [Zero emission processing of waste aluminium foil.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**
- 2011 [Thermal properties of polymer materials in laser sintering process.](#) In: **Proceedings of the Institutional of Mechanical Engineers, Part B: Journal of Mechanical Engineering Science**
- 2011 [Production of fine alumina from waste aluminum can.](#) In: **International Renewable Energy & Environment Conference (IREEC 2011)**
- 2011 [Treatment of iron ore using biomass waste for ironmaking.](#) In: **International Renewable Energy & Environment Conference (IREEC 2011)**
- 2011 [Development of zinc based alloy for solderability.](#) In: **International Conference in Mechanical & Manufacturing Engineering (ICME 2011)**
- 2011 [Effect of Ag addition on mechanical properties of zinc-based alloy.](#) In: **International Conference in Mechanical & Manufacturing Engineering (ICME 2011)**
- 2011 [Acoustical and thermal properties of lightweight coir fiber reinforced cements composites.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**

#### Book

- 2011 [Introduction to probability safety assessment of nuclear power plant.](#) IIUM Press . ISBN 9789674180546

#### Book Section

- 2011 [Preparation of rice husk for raw material of silicon.](#) In: **Advances in materials engineering** IIUM Press . ISBN 9789674181673 , pp.203-206
- 2011 [Upgrading of iron sand by magnetic concentration and reduction.](#) In: **Contemporary metallic materials** IIUM Press . ISBN 9789674181642 , pp.7-15
- 2011 [Upgrading of laterite ore by reduction and learning.](#) In: **Contemporary metallic materials** IIUM Press . ISBN 9789674181642 , pp.1-6
- 2011 [Kinetic study of reduction roasting of mixed laterite ore and coal.](#) In: **Contemporary metallic materials** IIUM Press . ISBN 9789674181642 , pp.70-74
- 2011 [Effect of stabilizer addition on crystal formation of zirconia synthesized from zircon sand.](#) In: **Contemporary metallic materials** IIUM Press . ISBN 978-967-418-164-2 , pp.20-26
- 2011 [Upgrading of iron-rich laterite ore using reverse flotation.](#) In: **Contemporary metallic materials** IIUM Press . ISBN 9789674181642 , pp.27-33

**2011** [Malaysian coir fibre for acoustical absorption cement composite panel](#). **In: Malaysia natural fibers for diversified bio-based application** IIUM Press . ISBN 9789674180218 , pp.39-48

**2011** [Development of thermoselect process in waste management system in Malaysia](#). **In: Manufacturing management from basic machining to quality product** IIUM Press . ISBN 9789674181659 , pp.119-124