

Prof. Amun Amri, ST, MT, PhD

Lecturer and Researcher at the Department of Chemical Engineering, Faculty of Engineering, University of Riau, Indonesia

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PERSONAL

Place, date of birth : Bengkulu, January 31st, 1972

Address : Green Hill Residence - blok Tulip 33, Jl. Rajawali Sakti,

Panam, Pekanbaru – Riau, Indonesia 28297

Office : Laboratory of Material and Corrosion

Department of Chemical Engineering - Engineering Faculty,

University of Riau, Pekanbaru, Indonesia

EDUCATION

2010 – 2013 Doctoral degree (PhD) in Chemical and Material Engineering, School of Engineering

and Energy, Murdoch University, Australia.

Thesis: Structural, Optical and Mechanical Characterizations of

Nanostructured Copper Cobalt Oxide Coatings Synthesized

via Sol-gel Method for Solar Selective Absorber

1999 – 2002 Master degree (MT) in Chemical Engineering, Faculty of Engineering,

Universitas Gadjah Mada (UGM), Yogyakarta, Indonesia.

Thesis: Natural Zeolite Surface Modification via Impregnation by 2-

mercaptobenzotiazole for Selective Adsorption of Binary Mixture of Cd(II)

and Cr(III) in Water.

1991 - 1996 Bachelor degree (ST) in Nuclear Engineering, Faculty of Engineering,

Universitas Gadjah Mada (UGM), Yogyakarta, Indonesia.

Thesis: Silver Metallic Surface Utilization as Emitter of Self Powered Neutron

Detector (SPND).

WORKING EXPERIENCES

2016 - present	Professor at Chemical Engineering Department, Faculty of Engineering, The University of Riau, Pekanbaru, Indonesia.		
2015 - 2020	External supervisor for Master and PhD students at Murdoch University, Australia		
2009 - 2016	Associate Professor at Chemical Engineering Department, Faculty of Engineering, The University of Riau, Pekanbaru, Indonesia.		
2010 - 2012	Teaching Fellow at School of Engineering & Energy, Murdoch University, Australia.		
2008 – 2010	Coordinator of Chemical Engineering (Undergraduate) Program at Chemical Engineering Department, Faculty of Engineering, The University of Riau, Pekanbaru, Indonesia.		
2000 – 2009	Lecturer at Chemical Engineering Department, Faculty of Engineering, The University of Riau, Pekanbaru, Indonesia.		

RESEARCH ACTIVITY

Research interest : Chemical and Nanomaterials Engineering:

- Graphene / nano-graphite syinthesis and applications
- Nano-cellulose synthesis and applications

- Development of lithium ion in battery with graphene additive

- Ceramics and Geopolymer composite with graphene

- Metal oxides nanocomposites and applications

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https://sinta.kemdikbud.go.id/authors/profile/25481

SELECTED PUBLICATIONS

1. **Amun Amri**, Yola Bertilsya Hendri, Sunarno, Erman Taer, Sulistyo Saputro, Yoyok Dwi Setyo Pambudi, Zhong Tao Jiang. Novel LiFePO4/very-few-layer-graphene (LFP/VFLG) composites to improve structural and electrochemical properties of lithium-ion battery cathode. *Ceramics International*, Vol. 50(11 part B), 2024, 19806–19813.

Scopus Q1

https://www.sciencedirect.com/science/article/abs/pii/S0272884224010447?via%3Dihub

2. Zainab N. Jaf, Hussein A. Miran, M.Mahbubur Rahman, **Amun Amri** and Zhong-Tao Jiang. DFT+U investigation on high pressure properties of monoclinic CuO. *Canadian Journal of Physics*, Vol. 102(5), 2024, 271-323.

Scopus Q3

https://cdnsciencepub.com/doi/pdf/10.1139/cjp-2023-0241?download=true

3. **Amun Amri,** Aurelia Amartya, Yudistira Ilham, Sigit Sutikno, Silvia Reni Yenti, Bahruddin Ibrahim, Desi Heltina, Nicholas Mondinos, Mohammednoor Altarawneh, Zhong-Tao Jiang. The addition of low-cost few layers graphene (FLG) to improve flexural strength of coal fly ash based geopolymer. *Journal of Materials Research and Technology*, Vol. 24(2023), 8849-8855.

Scopus Q1

https://doi.org/10.1016/j.jmrt.2023.05.150

4. Nicholas Mondinos, Mohammednoor Altarawneh, **Amun Amri**, Willey Yun Hsien Liew, Gerrard Eddy Jai Poinerne and Zhong-Tao Jiang. Monatomic reactions with single vacancy monolayer h-BN: DFT studies. *RSC Advances*, 2023, 13, 30346–30357.

https://pubs.rsc.org/en/content/articlelanding/2023/ra/d3ra05108k

5. Julnaidi, **Amun Amri**, Edy Saputra, Nofrizala and Erman Taer. High well-matched energy gravimetric-volumetric symmetric super-capacitor derived from hollow paper stack-like biomass-based functional carbon. *J. Chem Technol Biotechnol*, 2023, https://doi.org/10.1002/jctb.7459

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https://onlinelibrary.wiley.com/doi/10.1002/jctb.7459?af=R

6. Naveed Hassan, Manickam Minakshi, Willey Yun Hsien Liew, **Amun Amri**, Zhong-Tao Jiang. Thermal Characterization of Binary Calcium-Lithium Chloride Salts for Thermal Energy Storage at High Temperature. *Energies*, Vol. 2023, *16*(12), 4715.

Scopus Q1

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Amun Amri, Yola Bertilsya Hendri, Edy Saputra, Chun-Yang Yin, M. Mahbubur Rahman, Manickam Minakshi, Nicholas Mondinos, Zhong-Tao Jiang. Formation kinetics of sol-gel derived LiFePO4 olivine analyzed by reliable non-isothermal approach. *Ceramics International*, Vol. 48(10) (2022), 17729-17737.
 Scopus Q1.

https://doi.org/10.1016/j.ceramint.2022.03.043

- 8. Amun Amri, M. Sugandi, Syelvia Putri Utami, M. Shalahuddin, Sulistyo Saputro, Improvements in Physical and Mechanical Properties of Asphalt by Addition of Low-cost Few-layers Graphene (FLG). Applied Materials and Technology. Vol. 4(1) (2022), 18-23 https://doi.org/10.31258/Jamt.4.1.18-23
- 9. Nicholas Mondinos, Mohammednoor Altarawneh, Amun Amri, Willey Yun Hsien Liew. Molecular interaction with defected *h*-BN. *Computational and Theoretical Chemistry*, Vo. 1217 (2022) 113911. Scopus Q3

https://www.sciencedirect.com/science/article/pii/S2210271X22003243

10. Yusnimar, Evelyn, Azka Aman, Chairul, Suci Rahmadahana, Amun Amri. Manufacturing of high brightness dissolving pulp from sansevieriatrifasciata fiber by effective sequences processes. Communications In Science And Technology, Vol. 7(1) (2022) 45-49.
Scopus O3

https://cst.kipmi.or.id/journal/article/view/681/104

11. **Amun Amri**, Sunarno, Sulistyo Saputro, Harnedi Maizir. Physicomechanical properties of lightweight geopolymer mortar with integrated graphene nanosheets. *Songklanakarin J. Sci. Technol.*, vol. 44 (2) (2022), 381-387.

Scopus Q3

http://rdo.psu.ac.th/sjst/article.php?art=2791

12. **Amun Amri**, Yola Bertilsya Hendri, Chun-Yang Yin, M. Mahbubur Rahman, Mohammednoor Altarawneh, Zhong-Tao Jiang. Very-few-layer graphene obtained from facile two-step shear exfoliation in aqueous solution. *Chemical Engineering Science*, Vol. 245 (2021) 116848

Scopus Q1

https://doi.org/10.1016/j.ces.2021.116848

13. Sunarno, Ida Zahrina, Widia Riski Nanda, **Amun Amri**. Upgrading of pyrolysis oil via catalytic copyrolysis of treated palm oil empty fruit bunch and plastic waste. **Biomass Conversion and Biorefinery**, 2022 (In Print).

Scopus Q2

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14. M.Hedayet Ullah, Hasina Akther, M.Mahbubur Rahman, M.Mahmud Hasan, **Amun Amri**. Surface modification and improvements of wicking properties and dyeability of grey jute-cotton blended fabrics using low-pressure glow discharge air plasma. *Heliyon*, Vol. 7 (2021) e07893.

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15. Fri Murdiya, Yola Bertilsya Hendri, Amir Hamzah, Neni Frimayanti, **Amun Amri**. Few Layers Wrinkled Graphene (FLwG) Obtained from Coconut Shell Based Charcoal Through High Voltage Plasma Method. *International Journal of Technology*, 2021 (In print).

Scopus Q2

 Ehsan Mohammadpour, Nik Radevski, Nicholas Mondinos, Mohammednoor Altarawneh, Manickam Minakshi, Amun Amri, Zhong-Tao Jiang. High temperature (up to 1200 C) thermalmechanical stability of Si and Ni doped CrN framework coatings. *Journal of materials research* and technology, Vol. 14 (2021), 2406-2419.

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17. Tahrima Sathy, Hatem Taha, Khalil Ibrahim, M.Mahbubur Rahman, Xiaoli Zhao, **Amun Amri**, Zhi-feng Zhou, Zhong-Tao Jiang. Structural, surface electronic bonding, optical, and mechanical features of sputtering deposited CrNiN coatings with Si and Al additives. *Materials Chemistry and Physics*, 277 (2022) 125289.

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18. Padil, Meilana Dharma Putra, Iryanti Fatyasari Nata, Doni Rahmat Wicakso, Zulfarina, Chairul Irawan, **Amun Amri**. Prospective peat swamp water as growth medium for microalgal cultivation and kinetic study. *Alexandria Engineering Journal*, Vol. 61 (2022) 2552–2562.

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19. S.M. Amir-Al Zumahi, Nourin Arobi, M Mahbubur Rahman, **Amun Amri**, Humayun Kabir, Farid Ahmed. Understanding the optical behaviours and the power conversion efficiency of novel organic dye and nanostructured TiO₂ based integrated DSSCs. *Solar Energy*, 225 (2021) 129–147.

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20. **Amun Amri**, Revika Wulandari, Selsa Idillah, Sunarno, Sulistyo Saputro, Harnedi Maizir, Johny Wahyuadi Soedarsono. Physicomechanical Properties of Lightweight Geopolymer Mortar with Integrated Graphene Nanosheets. *Songklanakarin Journal of Science and Technology*, 2021 (In print).

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Amun Amri, AA. Najib, M. Olivia, M. Altarawneh, A. Syam, MM. Rahman, S. Saputro, J. Wahyuadi, ZT. Jiang. Physicochemical properties of geopolymer composites with DFT calculations of in-situ reduction of graphene oxide, *Ceramics International*, Vol. 47(10) part. A, (2021), 13440-13445.
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22. Nourin Arobi, Khalil Ibrahim, M.Mahbubur Rahman, **Amun Amri**, Md Abul Hossain, Farid Ahmed. A holistic framework towards understanding the optical and dielectric behaviors of CH₃NH₃PbCl₃ perovskites/graphene oxide hybrid films for light absorbing active layer. *Journal of Solid State Chemistry*, vol. 298 (2021) 122137.

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23. Nusrat Jahan, M.Mahbubur Rahman, M.S. Bashar, **Amun Amri**. A holistic approach to optical characterizations of vacuum deposited Cu₂ZnSnS₄ thin film coatings for solar absorbing layers. *Journal of Alloys and Compounds*. Vol. 859 (2021), 157830.

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https://www.sciencedirect.com/science/article/abs/pii/S0925838820341943

24. Hatem Taha, David J. Henry, Chun-Yang Yin, Jean-Pierre Veder, **Amun Amri**, Zhong-Tao Jiang. Sol-gel derived ITO-based bi-layer and tri-layer thin film coatings for organic solar cells applications. *Applied Surface Science*. 530 (2020) 147164.

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25. Ahmad Fadli, **Amun Amri**, Esty Octiana Sari, Sukoco, and Deden Saprudin. Superparamagnetic Nanoparticles with Mesoporous Structure Prepared Through Hydrothermal Technique. *Materials Science Forum*. 2020. Vol. 1000, pp 203-209.

Scopus Q3

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26. Fri Murdiya, Febrizal Ujang, and **Amun Amri**. The Effect of The Magnetic Field on An Ozone Generator Fed by A Non-Sinusoidal Resonance Inverter. *International Journal on Electrical Engineering and Informatics*, 2020, Vol. 12(2), 359-372.

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27. Ahmad Fadli, **Amun Amri**, Iwantono, Arisman Adnan, Sunarno, Sukoco, Mayangsari. The Oriented Attachment Model Applied on Crystal Growth of Hydrothermal Derived Magnetite Nanoparticles. *Indones. J. Chem.*, 2020, 20 (2), 379 – 385.

Scopus Q3

https://jurnal.ugm.ac.id/ijc/article/view/42917

28. E. Taer, R Handayani, Apriwandi, R Taslim, Awitdrus, **Amun Amri**, Agustino, Iwantono. The Synthesis of Bridging Carbon Particles with Carbon Nanotubes from Areca Catechu Husk Waste As Supercapacitor Electrodes. *International Journal of Electrochemical Science*, Vol. 14(10), 2019, 9436-9448.

Scopus O3

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29. Khalil Ibrahim, M. Mahbubur Rahman, Hatem Taha, Syed Mahedi Hasan, **Amun Amri**, Humayun Kabir, Moh Altarawneh, Zhong-Tao Jiang. A first-principles study of the electronic, structural, and optical properties of CrN and Mo:CrN clusters. *Ceramics International* (in print 2019). Vol. 45, Issue 14, 2019, 17094-17102.

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https://www.sciencedirect.com/science/article/pii/S0272884219307679

31. M. Mahbubur Rahman, Khalil Ibrahim, Hatem Taha, **Amun Amri**, Xiaoli Zhao, Moh Altarawneh, Zhong-Tao Jiang. Studies of annealing impact on the morphological, opto-dielectric and mechanical behaviors of molybdenum-doped CrN coatings. *Thin Solid Films*, 677 (2019) 119–129. Scopus O2

https://www.sciencedirect.com/science/article/pii/S0040609019301592

32. Ella Awaltanova, **Amun Amri,** Nicholas Mondinos, Mohammednoor Altarawneh, Chun Yang-Yin, Zhong-Tao Jiang. Nanorose-like ZnCo2O4 Coatings via Sol-Gel: Morphology, Grain Growth and DFT Simulations. *Journal of Sol-Gel Science and Technology, Vol. 90:450–464(2019)*. Scopus Q2

https://link.springer.com/article/10.1007/s10971-019-04987-4

33. M. Mahbubur Rahman, Ella Awaltanova, **Amun Amri,** Mohammednoor Altarawneh, Xiaoli Zhao, Manickam Minakshi, Jean-Pierre Veder, Zhong-Tao Jiang. A holistic analysis of surface, chemical bonding states and mechanical properties of sol-gel synthesized CoZn-oxide coatings complemented by finite element modeling. *Ceramics International*, 45 (2019) 10882–10898

Scopus Q1

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34. <u>Amun Amri</u>, Ahmad Fadli, Zhong-Tao Jiang, Chun-Yang Yin, M. Mahbubur Rahman, Hantarto Widjaja, Syamsu Herman, Silvia Reni Yenti, M. Miftahul Munir, Gadang Priyotomo, M. Iqbal, Neni Frimayanti. Surface structural and solar absorptance features of nitrate-based copper-cobalt oxides composite coatings: Experimental studies and molecular dynamic simulation. *Ceramics International*, 44 (2018), 15274–15280.

https://www.sciencedirect.com/science/article/pii/S0272884218313178 (Elsevier; impact factor in 2018= **2.986** / **Q1**)

35. Hatem Taha, Zhong-Tao Jiang, Chun Yang Yin, David James Henry, Xiaoli Zhao, Geoffrey Trotter, and **Amun Amri**. A Novel Approach for Fabricating Transparent and Conducting SWCNTs/ITO Thin Films for Optoelectronic Applications. *J. Phys. Chem. C*, vol. 122 (5), pp. 3014-3027, 2018.

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https://pubs.acs.org/doi/abs/10.1021/acs.jpcc.7b10977
(American Chemical Society (ACS); impact factor in 2016= 4.536 / Q1)
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36. Hatem Taha, Zhong-Tao Jiang, David J. Henry, **Amun Amri**, Chun-Yang Yin, Afishah Binti Alias, Xiaoli Zhao. Improved mechanical properties of sol-gel derived ITO thin films via Ag doping. *Materials Today Comm.*, Vol. 14 (2018), pp. 210-224.

https://www.sciencedirect.com/science/article/pii/S2352492817302799 (Elsevier, Scopus Q2)

37. Fri Murdiya, Febrizal, <u>Amun Amri</u>. The performance of surface barrier discharge in magnetic field driven by half bridge series resonance converter. *Journal of Mechatronics, Electrical Power, and Vehicular Technology,* vol. 8 (2017), pp. 95-102

Sinta 1

http://www.mevjournal.com/index.php/mev/article/view/397/pdf

38. Ahmad Fadli, <u>Amun Amri</u>, Esty Octiana Sari, Iwantono, Arisman Adnan. Crystal -growth kinetics of magnetite (Fe₃O₄) nanoparticles using the ostwald ripening model. *International Journal of Technology*, vol. 8(2017), pp. 1445-1454.

Scopus Q2

http://ijtech.eng.ui.ac.id/article/view/738

39. Esty Octiana Sari, Ahmad Fadli and **AmunAmri**. The 3 hours-hydrothermal synthesis of high surface area superparamagnetic Fe₃O₄ core-shell nanoparticles. *Jurnal Sains Materi Indonesia*, Vol. 19(1), 2017, pp. 9-13.

Sinta 2

http://jurnal.batan.go.id/index.php/jsmi/article/view/4111

40. Hatem Taha, David J. Henry, Chun-Yang Yin, <u>Amun Amri</u>, Xiaoli Zhao, Syaiful Bahri, Cam Le Minh, Nguyen Ngoc Ha, M. Mahbubur Rahman, Zhong-Tao Jiang. Probing the effects of thermal treatment on the electronic structure and mechanical properties of Ti-doped ITO thin films. *Journal of Alloys and Compounds*, 721 (2017), pp.333 - 346

https://www.sciencedirect.com/science/article/pii/S0925838817319813

(Elsevier, impact factor 2017: 3,014 / Q1)

41. Hatem Taha, Zhong-Tao Jiang, David J Henry, <u>Amun Amri</u>, Chun-Yang Yin and M Mahbubur Rahman. Improving the optoelectronic properties of titanium-doped indium tin oxide thin films. *Semicond. Sci. Technol*, 32 (6), (2017), p.065011.

http://iopscience.iop.org/article/10.1088/1361-6641/aa6e3f

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42. M. Mahbubur Rahman, Hussein A. Miran, Zhong-Tao Jiang, Mohmmednoor Altarawneh, Lee Siang Chuah, Hooi-Ling Lee, **Amun Amri**, Nicholas Mondinos and Bogdan Z. Dlugogorski. Investigation of the post-annealing electromagnetic response of Cu–Co oxide coatings via optical measurement and computational modeling. *RSC Advances*, vol. 7, pp. 16826-16835, 2017.

http://pubs.rsc.org/en/content/articlelanding/2017/ra/c6ra25626k#!divAbstract

(Royal Society of Chemistry (RSC) UK, IF=3.289 / Q1)

43. H.Miran, M.M. Rahman, Z.T. Jiang, M. Altarawneh, L.S. Chuah, H.L. Lee, E. Mohammedpur, <u>A. Amri</u>, N. Mondinos, B.Z. Dlugogorski. Structural and optical characteristics of pre- and post-annealed sol-gel derived CoCu-oxide coatings. *Journal of Alloys and Compounds*, vol 701, pp. 222-235, 2017. http://www.sciencedirect.com/science/article/pii/S0925838817300993

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44. <u>Amun Amri,</u> Zhong-Tao Jiang, Chun Yang Yin, Ahmad Fadli, MM. Rahman. Structural, optical, and mechanical properties of cobalt copper oxide coatings synthesized from low concentrations of sol–gel process. *Phys. Status Solidi A*, vol. 213 (12), pp. 3205-3213, 2016. http://onlinelibrary.wiley.com/doi/10.1002/pssa.201600207/full

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45. Md. Sohrab Hossain, Humayun Kabir, Mohammad Mahbubur Rahman, Kamrul Hasan, Amun Amri, Muhammad S Bashar, Mashudur Rahman, Md. Abdul Gafur, Sariful Islam, Md. Rakibul Qadir, Farid Ahmed. Understanding the shrinkage of optical absorption edges of nanostructured Cd-Zn sulphide films for photothermal applications. Applied Surface Science, vol. 392, pp. 854-862, 2017.

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46. M. Mahbubur Rahman, Zhong-Tao Jiang, Chun-Yang Yin, <u>Amun Amri</u>, Lee Siang Chuah, Bee-Min Goh, Barry J. Wood, Nicholas Mondinos, Mohmmednoor Altarawneh, Bogdan Z. Dlugogorski. Structural

Thermal Stability of Graphene Oxide-doped Copper-cobalt Oxide Coatings as a Solar Selective Surface. *Journal of Materials Science & Technology*, vol. 32 (11), pp. 1179-1191, 2016.

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51. M.M. Rahman, Z.-T. Jiang, X. Duan, Z. Xie, C.-Y. Yin, N. Mondinos, K. Gu, K. Jack, A. Yago, and <u>A. Amri</u>, D. Habibi. Understanding local bonding structures of Ni-doped chromium nitride coatings through synchrotron radiation NEXAFS spectroscopy. *The Journal of Physical Chemistry C*, vol. 118, pp. 18573-18579, 2014.

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2. Introduction to Graphene and Its Applications. 2019.

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3. Ceramics Materials: Type, Structure, Properties and Applications. 2020.

Publisher: UNRI Press. ISBN: 9786232550551

4. Composites and Composites with Graphene. 2023.

Publisher: Deepublish. ISBN: 9786230274060

5. Sonication Technology and Applications. 2022.

Publisher: Taman Karya. ISBN: 9786233253307

6. Biomass Waste Utilization for liquid waste processing. 2023.

Publisher: Taman Karya. ISBN 9786233255271

INTERNATIONAL ACTIVITIES

Activities	Institutions involved	Year	
1. Research Colaboration and Joint Publications	Univ. Riau (Indonesia) Murdoch Univ. (Australia) United Arab Emirates Univ. (UEA) New Castle Univ. of Singapore (Singapore) Jahangirnagar Univ. (Bangladesh) Univ. Sains Malaysia (USM Malaysia) Baghdad University (Irak)	2014 - present	
2. External supervisor for Master and Phd student	Murdoch Univereity, Australia	2017-2 020	
3. Research Collaborations via KLN-Dikti scheme	Murdoch Univ. (Australia) New Castle Univ. of Singapore (Singapore)	2014 - 2016	
4. Reviewer of reputable international journals (more than 85 papers of Scopus Indexed Journals)	Elsevier, Wiley, Springer, etc.	2014 -presen t	
5. Teaching Fellow	Murdoch University, Australia	2010-2 012	

Pekanbaru, June 8th, 2024

(Prof. Amun Amri, ST, MT, PhD)