Ady Suwardi

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Academic Mentors:
Prof. Judith Driscoll FREng FRS, University of Cambridge, U.K. (jld35@cam.ac.uk)
Prof. Jianwei Xu, A*STAR, Singapore (xu_jianwei@isce2.a-star.edu.sg)



Overview

Ady Suwardi is a Vice-chancellor Assistant Professor at the Electronic Engineering department in The Chinese University of Hong Kong (CUHK). He received his PhD in Materials Science from University of Cambridge, U.K. in 2018, and B.Eng from NTU, Singapore in 2012. His research cuts across inorganic and ionic thermoelectric materials and devices, water evaporation, and their synergies for energy harvesting. He has published a number of papers as corresponding/first authored papers in top journals such as *Nature Electronics, Advanced Materials, Advanced Functional Materials, ACS Energy Letters, ACS Nano, Materials Horizons,* and *Nano Energy* with *h*-index of 43. So far, he has also secured >5 competitive grants, and has given >15 invited talks. For his research works, he was awarded Vebleo Fellow 2025, **MIT TR35 Asia Pacific 2024**, Nanoscale Emerging Investigator 2022, Journal of Materials Chemistry A Emerging Investigator 2022, and winner of EU-ASEAN Youth Sustainable Project Competition 2022. In terms of academic services, he currently serves as editorial board in *Materials Today Energy*. He has also refereed for >300 articles in >80 peer-reviewed journals including *Science, Nature Energy, Nature Sustainability, Joule*, and *Nature Communications*. He is also the recipient of outstanding reviewer award from Journal of Materials Chemistry A in 2020 and 2023. Beyond academics, he is also a recipient of 2 Singapore National Awards from the Prime Minister Office and Government Gazette for his technical contributions during the COVID-19.

Academic Qualifications

❖ **University of Cambridge, United Kingdom**
Ph.D. in *Materials Science* Oct 2018
Advisor: Prof. Judith MacManus Driscoll FREng FRS (Cambridge, U.K.)
Examiners: Prof. Zoe Barber (Cambridge, U.K.) and Prof. Joe Briscoe (QMUL, U.K).

❖ **Nanyang Technological University (NTU)**
B.Eng in *Materials Engineering* (*First Class Honours*) July 2012
Double minor in *Physics* and *Environmental Management*
Mentors: Prof. Hng Huey Hoon and Prof. Lam Yeng Ming.

Employment History

❖ **The Chinese University of Hong Kong (CUHK), Electronic Engineering**
Vice-Chancellor Assistant Professor Mar 2024 – Present

❖ **National University of Singapore (NUS), Materials Science and Engineering**
Adjunct Assistant Professor May 2021 – Apr 2025

❖ **Institute of Materials Research and Engineering (IMRE), A*STAR**
Senior Scientist, Group Leader (PI) 2018 – 2024

Academic Awards & Highlights

- Vebleo Fellow 2025.
- **MIT Technology Review Innovators Under 35 Asia Pacific 2024.**
- International Conference on Low-Energy Digital Devices and Computing (ICLED) Young Scientist Award 2024.
- Featured in Journal of Materials Chemistry A, B and C 10th Anniversary Community Spotlight: Outstanding Reviewers, 2023.
- SNIC (Singapore National Institute of Chemistry) - Lee Soo Ying Early Career Research Award 2023.
- COVID-19 Resilience Medal, Singapore 2023.
- *Nanoscale* Emerging Investigator Award 2022.
- *Journal of Materials Chemistry A* Emerging Investigator Award 2022.
- EU-ASEAN Youth Sustainable Project Competition Award 2022.
- The Commendation Medal (COVID 19) from Prime Minister Office (PMO), Singapore, 2022
- Ministry of Trade and Industry (MTI) Borderless Silver Award, 2021
- A*STAR Graduate Scholarship (overseas) 2013-2017.
- President Research Scholarship 2011.
- SembCorp Undergraduate Scholarship 2008 – 2012.
- Ian Ferguson Innovation Award 2011.
- Gold Medalist of IOAA (International Olympiad on Astronomy and Astrophysics) 2008.

Academic Services

- Guest editor for themed collection "**Thermoelectric Energy Conversion**" at *Journal of Materials Chemistry A* and *Nanoscale* 2025.
- Outstanding Reviewer Award from *Journal of Materials Chemistry A* 2024.
- Grant reviewer for EURIZON Fellowship Programme.
- Special issue on "Thermoelectrics and Energy Harvesting Materials" in ChemNanoMat 2023.
- Youth Editorial Board of *The Innovation Materials* 2023 - present.
- Editorial Board Member of *Materials Today Energy* 2024 – present.
- Early Career Researcher (ECR) Editorial Board of *Materials Today Energy* 2021- 2024.
- Youth Editorial Board of *Soft Science* 2021 - present.
- *Materials Today Energy* top reviewer 2022.
- Outstanding Reviewer Award from *Journal of Materials Chemistry A* 2020.
- Active peer reviewer (> 200 articles in >50 journals) including *Science, Nature Energy, Joule, Nature Communication, Advanced Energy Materials*, *Advanced Functional Materials, Angewandte Chemie, Chemical Engineering Journal, Journal of Materials Chemistry A, etc.*

Research Grants

Hong Kong

- **CUHK Vice-Chancellor Early Career Professorship Startup Fund** 2024 - 2027
- **Lead PI: *internal grant* - CUHK Direct Fund**, 2024 - 2026
- **Lead PI: *internal grant* - CUHK Shun Hing Institute of Advanced Engineering**, 2024 – 2026
- **Co-PI: The Joint Laboratory of High-Density Electronic Packaging Materials and Devices – RGC/CAS**, HK$ 3.75 million, Period: 01 Jan 2025- 31 Dec 2029.

Singapore

- **Lead PI** of 2023 **multi-national competitive research program** (with Singapore, Thailand, and Myanmar team) east-Asia Joint Research Program for program "NEST-Novel Energy Scavenging Technology" worth S$ 297,050.00 – Singapore portion (Period: 01 Feb 2023 – 31 Jan 2026).
- **Lead PI** of 2022 Singapore Aerospace Program for project "Thermoelectrics for Commercial Aircraft Applications" worth S$ 312,108.00 (Period: 01 Feb 2022 - 31 Jan 2024). Letter of award available upon request.
- **Lead PI** of 2021 A*STAR Career Development Fund (CDF) for project "Brain-inspired Vision Sensors" worth S$ 232,000.00 (Period: 01 Apr 2021 – 31 Mar 2024). Letter of award available upon request.
- **Co-PI** of ID 2023 HTCO 2nd Seed Fund "AeroShield - Simulations-Assisted Development of A Novel Biosafety Air Curtain for Aerosol-Generating Dental Procedures" worth S$ 250,000.00 (period: 01 Jan 2023 – 30 June 2024).

- **Co-PI** of 2023 Young Individual Research Grant (YIRG) for project "Vat Photopolymerization of Hierarchical Porous Complex Thermoelectrics for IoT applications" worth S$ 325,000.00 (Period: 01 Apr 2023 – 31 Mar 2026).

Conferences and Invited Talks

- **Symposium Organizer** EMP23, Singapore, 17th – 20th Aug, 2023. (Symposium D13 - *Advanced Thermal Management Materials*) for **3rd WMC, 9th WMS & IUMRS-ICA2025** Guilin, China, from 14th -17th October 2025.
- **Invited talk** for 2025 Annual Conference of Taiwan Thermoelectric Society (TTES) Taipei, Taiwan, 29th – 30th August 2025.
- **Invited talk** for SICC-12, Singapore, 09th – 13th Dec, 2024.
- **Invited talk** for ISAMMA 2024, Dong Hoi, Vietnam, 04th – 07th Aug, 2024.
- **Invited talk and Young Scientist Award** for ICLED 2024, Singapore, 01st – 04th Aug, 2024.
- **Invited talk** for IUMRS-ICA 2023, Kyoto, Japan, 11th – 16th Dec, 2023.
- **Invited talk** for PACIRIM15 & CICC-13 Conference, Shenzhen, China, 05th – 09th Nov, 2023.
- **Symposium Organizer** EMP23, Singapore, 17th – 20th Aug, 2023.
- **Invited talk** for Materials Today Conference 2023, Singapore, 2nd – 5th Aug, 2023.
- **Invited talk** for ECOMAT Conference 2023 Symposium D, 20th – 24th June, 2023
- **Invited** delegate for ASEAN-EU Youth Conference on Sustainable Urban Development, Bangkok, Thailand, 31th Mar – 01st Apr, 2023.
- **Invited** for Global Young Scientists Summit (GYSS) Singapore, 17th – 20th Jan, 2023.
- **Invited** for Global Young Scientists Summit (GYSS) Singapore, 17th – 21th Jan, 2022.
- **Plenary talk at ICIMD** (International Conference on Intelligent Materials Design), Dalian University of Technology, China, 24th – 26th June, 2022
- **Invited Talk and Session Chair** for ICEM (International Conference on Energy Materials), Xiamen University Malaysia, 16th – 19th April, 2021.
- **Invited Talk and Session Chair** for VCT (Virtual International Conference of Thermoelectrics), online, 21th – 23th July, 2020.
- Oral presentation in ChnmSG5 Conference by SNIC Singapore, 28th July 2023.
- Oral Presentation in 41st RSC Solid State Chemistry Group Christmas Meeting, Cambridge, U.K., 19th – 20th Dec 2022.
- Oral presentation in IMRC Mexico, 14th-19th August, 2022.
- Oral presentation in MRS Fall Meeting, Boston, December 2019.
- Oral presentation and poster in 10th ICMAT, Singapore, June 2019.
- Oral presentation and poster in 9th ICMAT, Singapore, June 2017.
- Best poster award in ISAF Conference Darmstadt, Germany, August 2016.
- Poster presentation in 5th M3 meeting, Singapore, August 2015.
- Poster presentation in ICMR mini school & workshop at UCSB, August 2014.

Technology Disclosures and Patents

Singapore

- A. Suwardi, C.K.I. Tan, "Small exhaust fan for surgical mask breathing comfort" *Singapore patent* no. 10202111160T on 07 October 2021.
- TD 2022055: Method of Turning Waste Silicon into Thermoelectrics
- TD 2020093: Self-powered cooling system for indoor agriculture/greenhouse.
- TD 2021058: A self-powered thermoelectric system for LED cooling.
- TD 2021034: Particle filtration system for cleaner air.
- TD 2021035: Design and method of homemade fan-fitted air purifier from common household materials.
- TD 2021036: Technology and method to detect, quantify, and analyze aerosol transmission.

Teaching

- 2024/2025: ELEG 5753 Solar Cells and Beyond for Low-carbon Energy
- 2024/2025: ENGG2740B Differential Equations for Engineers
- 2025/2026: ELEG 5753 Solar Cells and Beyond for Low-carbon Energy
- 2025/2026: ENGG 1310 Engineering Physics: Electromagnetics, Optics and Modern Physics
- 2025/2025: MASE 1001 Introduction to Materials Science and Engineering I

Talent Development / Mentoring

Hong Kong

- Xiang Liang (PhD student, Aug 2025 – present)
- Kaiyao Wu (PhD student, Aug 2025 – present)
- Qi Qian (Postdoc, Jan 2025 – present)
- Zichen Gong (PhD student, Aug 2024 – present)
- M.Sc. students (9 students, Aug 2024 – May 2025)

Singapore

- Group leader leading a team of 2 research fellows (Dr. Danwei Zhang, Dr. Xian Yi Tan) and 1 research officer (Ms. Solco Samantha Faye Duran), 2 PhD students 6 MSc students (Guo Jingchun, Xie Mingkun, Zhao Jingtian, Zhang Lingwei, Zhang Qianying, and Anna Ramesh Babu Nagarajan), and high school intern (Mr. Ivan Joel You Wen Jie, NUS High School) 2022 - present.
- PhD supervisor for Kivanc Saglik (NTU, Singapore) and Sophie Guillemot (University of Manchester, U.K.). 2022 – present.
- Supervisor for Ong Kai (SIT intern), Natalie (A*STAR intern), Sia Seng Ann (NTU intern) 2021-2023.
- IMRE host for Ning Jia and Jinfeng Dong (visiting scientists from NTU MSE) 2021 - 2023.
- IMRE host for Lan Yang, Chu Zhang, and Yong Wang (visiting Ph.D. students from NTU MSE) 2019-2021.
- IMRE host for Dr. Zhao Yunshan (visiting scientists from NTU MSE) 2019-2020.
- IMRE host for Dr. Hu Lei (visiting scientists from NTU MSE) 2018-2019.
- Supervisor for Yap Shou Xuan (FYP student from NUS with Prof. Ariando) 2018-2019.
- IMRE host for Khang Ngoc Dinh (visiting Ph.D. student from NTU MSE) 2018-2020.
- Supervisor for Michael Darmawan (FYP student from NTU) 2019.
- Supervisor for Marcella Marissa (FYP student from NTU) 2018.
- Supervisor for Amol Paranjape (intern from Cornell University) 2018.

Science Outreach Activities

- Research mentor for 2023 Singapore Science and Engineering Festival (SSEF) Student (Ivan You – Gold Medal), 2023 National Science Talent Search (Ivan You – Silver award), and **2023 International Science and Engineering Festival (ISEF)** student (Ivan You, Bronze medal)
- Invited speakers (3 sessions) for AGA (A*STAR Graduate Academy) webinars to secondary school students 2021.
- Panelist for Singapore Science and Engineering Fair (SSEF) 2020.
- Judge for Science Buskers Audition 2019.
- Judge for Raffles Symposium 2019.
- Demonstrator for One-North Science Festival lab tours and workshops 2018.
- University of Cambridge Annual Science Festival 2015.
- Supervisor for Scientists-in-school program 2013.
- MSE Eduweek Speaker 2012.
- Organizer of Astro Challenge astronomy competition for JC students 2011.
- Organizer of MSE Challenge competition for Singapore JC students 2010.
- Vice-President for NTU Astronomical Society 2009-2010.

Referees

- **Prof. Judith Driscoll FREng FRS**, Professor, University of Cambridge, U.K. (jld35@cam.ac.uk)
- **Prof. Jianwei Xu**, Deputy Executive Director, ISCE2, A*STAR, Singapore. (xu_jianwei@isce2.a-star.edu.sg)
- **Prof. Qingyu Yan (Alex)**, Professor, MSE, NTU, Singapore (Alexyan@ntu.edu.sg)

- **Prof. Hongjin Fan**, Professor, Editor-in-Chief *Materials Today Energy*, NTU, Singapore (fanhj@ntu.edu.sg)
- **Prof. Gang Zhang**, Principal Scientist, IHPC, A*STAR, Singapore (zhangg@ihpc.a-star.edu.sg)

Annex – Publications (non-chronological)

#: First (co-first) author ; ✉: corresponding author. More information in Google Scholar.

Leading – authored

1. H.K. Ng#, D. Xiang#, **A. Suwardi#**, G. Hu, K. Yang, Y. Zhao, T. Liu, Z. Cao, H. Liu, S. Li, J. Cao. "Improving carrier mobility in two-dimensional semiconductors with rippled materials". *Nature Electronics*. 2022 Jun 9:1-8.

* *Highlighted by Tech Xplore, EurekAlert, Phys Org.*

2. J. Cao, Y. Sim, X.Y.Tan, J. Zheng, S.W. Chien, N. Jia, K. Chen, Y.B. Tay, J.F. Dong, L. Yang, **A. Suwardi✉.** "Upcycling silicon photovoltaic waste into thermoelectrics". *Advanced Materials*. 2022 May;34(19):2110518.

* *Highlighted by Nature, PV Magazine, Interesting Engineering, Nanowerk, Eurekalert, Straits Times, and Lianhe Zaobao, RIE Magazine by Singapore National Research Foundation (NRF) p25-27.*

3. **A. Suwardi**, F. Wang, K. Xue, M. Y. Han, P. Teo, P. Wang, S. Wang, Y. Liu, E. Ye, et.al. "Machine learning-driven biomaterials evolution". *Advanced Materials*, 2021, 2102703.

4. Jing Cao✉, Jinfeng Dong, Jing Wu, and **Ady Suwardi✉**. "Evapolectrics: Direct Harvesting of Electricity from Evaporation Using Thermoelectrics." *ACS Nano* (2025), DOI: 10.1021/acsnano.5c10693.

5. Zichen Gong, **Ady Suwardi✉**, Jing Cao✉. "Electricity Generation From Ambient Water Evaporation in the Absence of Sunlight via PVA-Based Porous Hydrogels." *Advanced Functional Materials* (2025): 2423371. * *Highlighted by advanced science news*

6. D. Zhang, X.J.G. Lim, X. Li, K. Saglik, S.F.D. Solco, X.Y. Tan, Y. Leow, W. Zhai, C.K.I. Tan, J. Xu, **A. Suwardi✉.** "3D-Printed Porous Thermoelectrics for In Situ Energy Harvesting". *ACS Energy Letters 8 (2022): 332-338.*

7. D. Zhang, W. Y. S. Lim, S. F. D. Solco, X. J. Loh and **A. Suwardi✉**, "Additive manufacturing of thermoelectrics: emerging trends and outlook". *ACS Energy Letters*, (2022), 7, 720-735.

8. D. Zhang, N. Y. Q. Ngoh, S. F. D. Solco, X. Li, and **A. Suwardi✉**, "Lattice Architectures for Thermoelectric Energy Harvesting." *ACS Energy Letters* 9 (2024): 2240-2247.

9. Gong Zichen, **Ady Suwardi✉**, Cao Jing✉. "Electricity Generation From Ambient Water Evaporation in the Absence of Sunlight via PVA-Based Porous Hydrogels." *Advanced Functional Materials* (2025): 2423371

10. Zhang, D., Ramiah, J., Cagirici, M., Saglik, K., Solco, S. F. D., Cao, J., ... & **A. Suwardi✉**. "Thermoelectric nanowires for dense 3D printed architectures". *Materials Horizons*, 2024.

11. J. Cao, J. Dong, K. Saglik,..,J. Xu, J. Wu, F. Wei, Q. Yan, **A. Suwardi✉.** "Non-equilibrium strategy for enhancing thermoelectric properties and improving stability of AgSbTe2". *Nano Energy* 2023: 108118.

12. J. Cao, X.Y. Tan, N. Jia, J. Zheng, S.W. Chien, H.K. Ng, C.K.I. Tan, H. Liu, Q. Zhu, S. Wang, G. Zhang, **A. Suwardi✉.** "Designing good compatibility factor in segmented Bi0. 5Sb1. 5Te3–GeTe thermoelectrics for high power conversion efficiency". *Nano Energy*. 2022 Jun 1;96:107147.

13. J. Zheng, S.F.D. Solco, C.J.E. Wong, S.A. Sia, X.Y. Tan, J. Cao, .. **A. Suwardi✉.** "Integrating recyclable polymers into thermoelectric devices for green electronics". *Journal of Materials Chemistry A*, 2022, 10, 19787-19796.
* *selected for the prestigious 2022 Journal of Materials Chemistry A Emerging Investigator issue.*
# *selected for 2023 Journal of Materials Chemistry A Lunar New Year collection.*

14. N. Jia, J. Cao, X. Y. Tan, J. Zheng, S. W. Chien, L. Yang, K. Chen, H. K. Ng, S. S. F. Duran and **A. Suwardi✉.** "Suppressing Ge-vacancies to achieve high single-leg efficiency in GeTe with an ultra-high room temperature power factor". *Journal of Materials Chemistry A*, 2021, 9, 23335-23344.
* *selected for back cover of the issue.*
# *2021 JMCA most popular articles (**50 out of ~2500**)*

15. B Zhu, Y Luo, H Wu, D Sun, L Liu, S Shu, ZZ Luo, Q. Zhang, **A. Suwardi✉**,Y. Zheng✉. "Enhanced thermoelectric performance in Bi 0.5 Sb 1.5 Te 3/SiC composites prepared by low-temperature liquid phase sintering". *Journal of Materials Chemistry A.* 2023, 11(16):8912-21.

16. Saglik, K., Dong, J., Zhang, D., Hsu, T. Z., Duran, S. S. F., Cao, J., ... & **A. Suwardi✉.** (2024). "Unlocking the potential of Cu3SbSe3: Ultralow thermal conductivity and enhanced thermoelectric performance." *Journal of Solid State Chemistry*, 333, 124642.

17. T. Mori✉, **A. Suwardi✉**., & S.A.Yamini✉, (2024). "Thermoelectrics and Energy-Harvesting Materials". *ChemNanoMat*, 10(1), e202300253.

18. Zhang, D., Xie, M., Safanama, D., Saglik, K., Tan, X.Y., Solco, S.F.D., Cao, J., Tan, C.K.I., Liu, H., Wang, S. and. **A.Suwardi✉**, 2023. "Sb Alloying for Engineering High-Thermoelectric zT of CuGaTe2". *Advanced Energy and Sustainability Research*, p.2300069.

19. Mah, J.J., Wang, C.G., Surat'man, N., Solco, S.F.D., **Suwardi, A✉**., Wang, S., Loh, X.J. and Li, Z., 2023. "Metal-Free Synthesis of Biobased Polyisoxazolines toward Sustainable Circular Materials". *ACS Applied Polymer Materials*.

20. J. Cao, X.Y.Tan, J. Dong, H. Liu, Y. Zheng, Q. Zhu, J. Xu, G. Zhang, J. Wu, **A. Suwardi✉**. *Materials Today Physics*. 2023, 1, 34:101071. * *Invited paper*

21. N. Jia, J. Cao, X. Y. Tan, J. Dong, H. Liu, C. K. I. Tan, J. Xu, Q. Yan, X. J. Loh and **A.Suwardi✉**, *Materials Today Physics*, 2021, 21, 100519.

22. Zhang D, Duran SS, Lim WY, Tan CK, Cheong WC, **Suwardi. A✉**, Loh XJ. *Materials Today Advances*. 2022 Mar 1;13:100211.

23. J. Cao, J. Zheng, H. Liu, C. K. I. Tan, X. Wang, W. Wang, Q. Zhu, Z. Li, G. Zhang and **A.Suwardi✉**, *Materials Today Energy*, 2022, 100964.

24. J. Cao, X. Y. Tan, N. Jia, D. Lan, S. F. D. Solco, K. Chen, S. W. Chien, H. Liu, C. K. I. Tan and **A.Suwardi✉**, *Nanoscale*, 2022, 14, 410-418.

25. Zhu B, Su X, Shu S, Luo Y, Tan XY, Sun J, Sun D, Zhang H, Zhang Q, **Suwardi A✉**, Zheng Y. *ACS Applied Energy Materials*. 2022 Jan 31;5(2):2002-10.

26. SFD Solco, XY Tan, D Zhang, J Cao, X Wang, Q Zhu, .. , **A. Suwardi✉.** *Journal of Materials Science* 2022: 1-10.

27. J. Cao, S. W. Chien, X. Y. Tan, C. K. I. Tan, Q. Zhu, J. Wu, X. Wang, Y. Zhao, L. Yang and **A.Suwardi✉**, *ChemNanoMat*, 2021, 7, 476-482.

28. W. Y. S. Lim, D. Zhang, S. S. F. Duran, X. Y. Tan, C. K. I. Tan, J. Xu and **A.Suwardi✉**, *Frontiers in Physics*, 2021, 683.

29. W. Y. S. Lim, D. Zhang, S. S. F. Duran, X. Y. Tan, C. K. I. Tan, J. Xu and **A.Suwardi**✉, *Frontiers in Materials*, 2021, 476.

30. SSF Duran, D Zhang, WYS Lim, J Cao, H Liu, Q Zhu, .. , **A.Suwardi**✉, *Crystals* 12, no. 3. 2022: 307.

31. D. Zhang, S.A. Sia, S.F.D. Solco, J. Xu, **A.Suwardi**✉**,** *Soft Science,* 2023; 3:1. http://dx.doi.org/10.20517/ss.2022.29

32. Duran SS, Lim WY, Cao J, Zhu Q, Tan CK, Liu H, **A. Suwardi**✉. Sulfide and Selenide Based Materials for Emerging Applications. 2022 Jan 1:267-93.

33. **A. Suwardi**, J. Cao, L. Hu, F. Wei, J. Wu, Y. Zhao, S. H. Lim, L. Yang, X. Y. Tan and S. W. Chien, *Journal of Materials Chemistry A*, 2020, 8, 18880-18890.

34. **A. Suwardi**, D. Bash, H. K. Ng, J. R. Gomez, D. M. Repaka, P. Kumar and K. Hippalgaonkar, *Journal of Materials Chemistry A*, 2019, 7, 23762-23769.

35. **A. Suwardi**, J. Cao, Y. Zhao, J. Wu, S. Chien, X. Tan, L. Hu, X. Wang, W. Wang and D. Li, *Materials Today Physics*, 2020, 14, 100239.

36. **A. Suwardi**[#], C. C. Ooi[#], D. Daniel, C. K. I. Tan, H. Li, O. Y. Z. Liang, Y. K. Tang, J. Y. Chee, A. Sadovoy and S.-Y. Jiang, *Research*, 2021, 2021.
** Highlighted by A*STAR research magazine and Straits Times.*

37. Xue K[#], Wang F[#], **Suwardi A[#]**, Han MY, Teo P, Wang P, Wang S, Ye E, Li Z, Loh XJ. *Materials Today Bio*. 2021 Sep 1;12:100165.

38. **A. Suwardi**, L. Hu, X. Wang, X. Y. Tan, D. V. M. Repaka, L.-M. Wong, X. Ni, W. H. Liew, S. H. Lim and Q. Yan, *ACS applied materials & interfaces*, 2020, 12, 9150-9157.

39. **A. Suwardi**, B. Prasad, S. Lee, E.-M. Choi, P. Lu, W. Zhang, L. Li, M. Blamire, Q. Jia and H. Wang, *Nanoscale*, 2016, 8, 8083-8090.

40. **A. Suwardi**, S. H. Lim, Y. Zheng, X. Wang, S. W. Chien, X. Y. Tan, Q. Zhu, L. M. N. Wong, J. Cao and W. Wang, *Journal of Materials Chemistry C*, 2020, 8, 16940-16948.

41. Recatala-Gomez J[#], **Suwardi A[#]**, Nandhakumar I, Abutaha A, Hippalgaonkar K. *ACS Applied Energy Materials.* 2020 Jan 29;3(3):2240-57.

42. Zheng J[#], **Suwardi A[#]**, Wong CJ, Loh XJ, Li Z. *Nanoscale Advances*. 2021.

43. Repaka DV[#], **Suwardi A[#]**, Kumar P. In Energy Saving Coating Materials 2020 Jan 1 (pp. 183-196). Elsevier.

44. Chua MH[#], **Suwardi A[#]**, Xu J. Flexible Thermoelectric Polymers and Systems. 2022 Feb 14:81-116.

Co – authored Publications

45. Liu H, Dong Y, Galib M, Cai Z, Stan L, Zhang L, **A. Suwardi**, Wu J, Cao J, Tan CK, Sankaranarayanan SK. *Advanced Materials*. 2022 Jul 7:2203209. ** Highlighted by Nature Review Materials.*

46. F. Yang, J. Wu, **A. Suwardi**, Y. Zhao, B. Liang, J. Jiang, J. Xu, D. Chi, K. Hippalgaonkar and J. Lu, *Advanced Materials*, 2021, 33, 2004786. ** Selected for inside front cover of the issue*

47. Guan, M., Xie, Y., Zhang, Y., Gu, Z., Qiu, L., He, Z., Ye, B., Suwardi, A., Dai, Z., Li, G. and Hu, G., 2023. *Advanced Materials*, p.2210611.

48. L. Hu, Y. Luo, Y. W. Fang, .., **A. Suwardi**, H. Xie, J. Liu, J. Dong, A. Sanson and M. Giarola, *Advanced Energy Materials*, 2021, 11, 2100661.

49. Dong J, **Suwardi A**, Tan XY, Jia N, Saglik K, Ji R, Wang X, Zhu Q, Xu J, Yan Q. Challenges and opportunities in low-dimensional thermoelectric nanomaterials. *Materials Today*. 2023 May 25.

50. Liu T, Xiang D, Ng HK, Han Z, Hippalgaonkar K, **A. Suwardi**, Martin J, Garaj S, Wu J. *Advanced Science*. 2022 May 1:2200816. * *Selected as Front Cover*

51. L. Hu, Y.-W. Fang, F. Qin, … **A. Suwardi**, X. Zhao, Y. Luo, D. V. M. Repaka, W. Luo, A. Suwardi and T. Soldi, *Nature communications*, 2021, 12, 1-10.

52. Wang N, Zhang W, Li Z, Wang S, **Suwardi A**, Ye E, Li B, Liu Y, Wu Z, Dong Y, Loh XJ. *Nano Energy*. 2022 Aug 28:107748.

53. Dong, Jinfeng, Yilin Jiang, Jiawei Liu, Jun Pei, Xian Yi Tan, Haihua Hu, **Suwardi A** et al. *Nano Energy* 103 (2022): 107809.

54. Deng T, Recatala-Gomez J, Ohnishi M, Repaka DM, Kumar P, **Suwardi A**, Abutaha A, Nandhakumar I, Biswas K, Sullivan MB, Wu G. *Materials Horizons.* 2021;8(9):2463-74.

55. Pei, Qing-Xiang, Jun-Yan Guo, **Suwardi A**, and Gang Zhang. *Materials Today Physics* 30 (2023): 100953.

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