Dr M. Hussein N. AL ASSADI — Résumé

Nationality: Australian (with work right in Japan, currently living in Saitama, Japan)
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Google Scholar • ResearchGate

Engineer, researcher and consultant in green energy and data science, with broad international experience

Specialised Fields

Renewable energies, Secondary ion batteries, Materials for energy and environmental applications; Catalysis for hydrogen production; Artificial intelligence, Data science, High-performance computing

Productivity Summary

Managed, collaborated and participated in numerous green energy and high-end materials science projects in governmental, academic and industrial settings. Outcomes include material discoveries related to catalytic hydrogen production, thermoelectric energy conversion, waste plastic management, and critical elements replacement—various projects currently at different stages of commercialisation.

More than 70 peer-reviewed articles, in leading and highly critical *American Chemical Society*, *American Physical Society*, *Royal Society for Chemistry* and *Institute of Physics* journals. More than 20 invited and contributed talks at international trade conferences (details at Publications).

Schools Attended

- **The University of New South Wales** — **Sydney, Australia**
  PhD in Materials Science and Engineering — *2011*
- **Australian School of Business** — **Sydney, Australia**
  GradCert in Research Management and Commercialisation — *2010*
- **University of Western Sydney** — **Sydney, Australia**
  UnderGradCert in Environmental Sustainability — *2005*

Professional Experience

- **Center for Emergent Matter Science, RIKEN** — **Wako, Saitama, Japan**
  Research Scientist — *2022–*
  Independent researcher working on renewable energy carriers catalysed by metallic nanoalloys
- **The University of New South Wales** — **Sydney, Australia**
  Visiting Research Fellow — *2019–2021*
  Research manager working on green and renewable energy materials
- **National Institute for Materials Science** — **Tsukuba, Ibaraki, Japan**
  Research Associate — *2016–2019*
  Independent researcher working on sodium ion batteries
- **Osaka University** — **Osaka, Japan**
  JSPS Fellow — *2013–2015*
  Independent researcher working on thermoelectric energy conversion
- **The University of New South Wales** — **Sydney, Australia**
  Research Associate — *2011–2013*
  Researcher working on recycling waste plastic materials

Competitive External Grants

- **Fellowship by The Japan Society for the Promotion of Science** for research on thermoelectric energy conversion: salary, relocation cost and $\sim$ A$ 25,000 research grant, Osaka University (2013–2015)
- **Several Rounds of High-Performance Computational Resource Allocation** for research on green and renewable energy materials $\sim$ $ 300,000 equivalent of units of service (2011–2022)

Awards

- **JSPS Fellowship**: Japan Society for Promotion of Science (2013)
- **Excellence in Tutoring and Teaching Award**: The University of New South Wales (2010)
- **Commercialisation Training Scheme (CTS) scholarship**: The University of New South Wales (2009)
- **Australian Research Council scholarships**: (2007)

Editorial Experience

- **Special Issue Guest Editor**: ACS Sustainable Chemistry & Engineering (2021–2022)
  Issue title: Emerging layered nanomaterials for (photo)(electro)catalytic green hydrogen production, to appear in November 2022.
- **Special Issue Guest Editor**: Materials Today: Proceedings (2021–2022)
  Issue title: Proceedings of the 2nd Eurasia-Nanotechnology Conference, to appear in November 2022.

Peer-Review Experience

More than 70 peer-review report submissions to:

Applied Catalysis B: Environmental, Nature Communications, Small, Applied Physics Letters, The Journal of Physical Chemistry C, Applied Surface Science, Journal of Physics: Condensed Matter, Physics Letters A, Journal of Alloys and Compounds, Physical Chemistry Chemical Physics, Journal of Solid State Chemistry, Journal of Magnetism and Magnetic Materials, ACS Applied Energy Materials, Materials Express, Key Engineering Materials, Current Physical Chemistry.

Academic Teaching Experience

- **Scientific & Technical Communication**, Tsukuba University, Japan (2017–2018)
- **Nanotechnology**, The University of New South Wales, Australia (2012)
- **Materials Science**, The University of New South Wales, Australia (2008–2011)

Professional Society Membership

Member, Institute of Electrical and Electronics Engineers (IEEE), Application for Senior Membership submitted.