



**Prof. Dr. Shaik Mohamed Zaffar Sadiq  
MOHAMED GHOUSE**

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**Personal Details**

Given Names : Shaik Mohamed Zaffar Sadiq

Surname : MOHAMED GHOUSE

Nationality : Australian

Over Seas Citizen of India (OCI) Card  
Holder.

**Career Profile**

**Prof Dr Zaffar Sadiq Mohamed-Ghouse** is an award-winning Geomatics professional with over 24 years of experience developing geospatial strategies for local-national-international government and private organisations and is also recognised as one of the spatial leaders in Australia and Globally. He has rich experience and an excellent track record of serving on Not-for-Profit Boards in Geospatial domains in Australia and Globally. Zaffar was an Executive Board Member of the World Geospatial Industry Council, and Chair of WGIC, United Nations and Related Entities. He served on the steering committee of the global Location Privacy policy, AI/ML policy and Spatial Digital Twin policy WGIC reports. He serves on the Program Board of Geospatial Knowledge Infrastructure, a UNSD global initiative. Zaffar is actively engaged with United Nations Global Geospatial Information Management (UNGGIM) - Geospatial Societies, Private Sector & Academic Network and actively participated in the UNGGIM Integrated Geospatial Information Framework (IGIF) consultation from Private Sector and Geospatial Societies perspective. Zaffar recently completed the World Bank Group (OLC) course on Strengthening Geospatial Information Management: Using the Integrated Geospatial Information Framework. He is an Australian representative on the ISO Technical Committee 211, Geographic Information and Geomatics. At the International Federation of Surveyors, FIG, Zaffar is the Australian representative for Commission 3, Spatial Information. In Australia, Zaffar has served the peak professional national body for surveying and geospatial SSSI for 10 years as Board Director and President and Chair of the Board and is also a steering committee member of the Australian Spatial and Space 2030 Roadmap committee. Zaffar regularly provides

keynote addresses on major geospatial events. Zaffar actively mentors young geospatial and mid-level professionals in Australia and overseas. He has developed several Young Leaders in Oceania through his active mentoring. He is also an active advocate of Diversity and Inclusion in the Geospatial Community.

He has expertise in strategic consulting studies, policy development, research management, client management, business development, project management, design, development and management of spatial data infrastructure, software engineering, review of data framework policies, develop spatial analyses techniques and technology, including GIS applications development for major clients in Australia, New Zealand, Malaysia, Saudi Arabia, United Arab Emirates, Indonesia and India. He has led several Multi-Million Dollar National Mapping projects for State and Federal governments in Australia, Malaysia, Saudi Arabia, United Arab Emirates and India.

Zaffar has published three books and research papers at the International and National levels focusing on GIS applications to support such areas as water resources using remote sensing, spatial data infrastructure, ethics, capacity building, data quality, groundwater management, rural administration; asset management; utilities (electrical and water); field data capture; public health management and disaster management.

Zaffar holds a pivotal role as an advisor to various National and International spatial organisations. Zaffar is also a member of several boards and technical committees in Australia and overseas. He is an Australian representative on the ISO Technical Committee 211, Geographic Information and Geomatics.

Zaffar has a track record of winning several industry awards globally and in Australia for the projects led by him. Zaffar is a recipient of the "Young Professional Award" by the Surveying Spatial Sciences Institute, Australia. He is also a recipient of the Australian Cooperative Research Centre for Spatial Information's full Doctorate Scholarship. He holds an Adjunct appointment at the Department of Infrastructure Engineering, The University of Melbourne, Australia.

## **Employment**

Zaffar is currently the Director – Advisory & Innovation at AAM, A Woolpert Company, Melbourne, Australia. He was the former Executive Director- Strategic Consulting & International Relations at Spatial Vision, Melbourne, Australia; former Director-Business, Research & International Relations with Australia's peak research body, FrontierSI

(Formerly CRCSI for Spatial Information), under the Department of Industry, Science and Innovation, Australian Government. Zaffar was a Senior Principal Consultant at GHD Pty Ltd, a lead global Engineering and Science delivery firm. Prior to GHD, Zaffar led the Spatial Engineering globally at Sinclair Knight Merz (Now Jacobs Engineering) and was in charge of the Government and Environment business portfolio globally. Zaffar served as Senior Project Associate at the Institute of Remote Sensing, Anna University, India which is a nodal agency for the Department of Space, Government of India and the State custodian of Spatial Data.

### **Fields of Special Competence**

- Geomatics Engineering
- Strategic Consulting
- Software Engineering
- Geospatial Ecosystem
- Geospatial Research & Utilisation
- Strategic Leadership
- Data Policy and Framework – Data Privacy, AI/ML
- Ethics in Geospatial
- Spatial Data Policy & Infrastructure
- Business Development
- Client Management
- Business Analysis
- International Standards
- Program and Project Management
- Surface and Groundwater Management-Decision Support Systems
- Design of Management Information System for Road Infrastructure
- GIS for Utility-Electrical and Water
- Economic studies on Value of Geospatial Information
- Design and develop Remote Sensing, GIS software tools for natural resources management; forestry, surface water; groundwater; groundwater-dependent eco-systems; rural development; disaster management; public health management; and Mobile Mapping.
- Review and report spatial data quality

### **Board Appointments (International)**

- Board Member, Open Geospatial Consortium (2022-Present)

- Vice President, Member Executive Board & Council Member, International Society of Digital Earth (2019 - Present)
- Vice-Chair and Board Member, United Nations-Global Geospatial Information Management, Asia Pacific and the Arab States – Private Sector Network (2020 - Present)
- Board Member, United Nations-Global Geospatial Information Management, Geospatial Societies (2019 - Present)
- Executive Board Member, World Geospatial Industry Council (Member of World Federation of Engineers) (2020 - 2022)

### **Board Appointments (Australia)**

- Chair of the Board, Locate Conference Australia Pty, Ltd (2021 - Present)
- Company Secretary, Surveying & Spatial Sciences Institute, Australia (2021 - Present)
- President and Chair Board of Directors, Surveying & Spatial Sciences Institute, Australia (2018 - 2020)
- Vice Chair & Board Director, Locate Conferences Australia Pty Ltd (2014 - 2021)
- Board Director - Surveying & Spatial Sciences Institute, Australia (2014- 2018)
- Board Member, Digital Earth Globe Foundation (2014 -2019)
- Chair of the Board, Locate Conference Australia Pty, Ltd (2016 - 2018)
- Board of Directors, Locate Conference Australia Pty, Ltd (2014 - 2016)
- Treasurer, Member Executive Board & Council Member, International Society of Digital earth (2016 - 2019)

### **Educational Qualification**

- **PhD (Modeling spatial variation of data quality in databases)** April 2009  
Geomatics Engineering, The University of Melbourne, Australia
- **Graduate Certificate in GIS** January 2005  
Geomatics Engineering, The University of Melbourne, Australia
- **M.S. by Research (Remote Sensing & GIS)** December 2001  
Anna University, College of Engineering, Chennai, India
- **Bachelor of Engineering (Computer Science)** January 1998  
Karnataka University, Karnataka, India.

### **Certificates:**

- **Certificate in Artificial Intelligence: Implications for Business Strategy**  
March 2021, MIT Sloan of School Management, USA

- **Certificate in Strengthening Geospatial Information Management: Using the Integrated Geospatial Information Framework**, February 2021, World Bank Group (OLC), USA
- **Certified Practitioner, Smart City Foundation**, Australian Smart City Council Academy, February 2021, Australia
- **Certificate in Executive Leadership**, February 2021, Saïd Business School, Oxford University, United Kingdom
- **Certificate in Public Policy Analysis**, October 2020, London School of Economics & Political Science, United Kingdom

## Affiliations

- **Honorary Fellow**, Surveying Spatial Sciences Institute, Australia
- **Fellow**, Royal Geographical Society, United Kingdom
- **Fellow**, Institute of Engineers, Australia
- **Life Member**, Indian National Cartographic Association, India
- **Life Member**, Indian Society of Geomatics, India
- **Life Member**, International Society of Digital Earth
- **IEEE Senior Member**, IEEE Geosciences Remote Sensing Society & Computer Science, USA - Member No 41493507 (Member Since 2002)
- **Member**, Australian Institute of Company Directors, Australia
- **Member**, ISPRS, Germany

## International Appointments

- Member, United Nations - Global Geospatial Information Management, Geospatial Societies
- Member, UN IGIF Finance Working Group, Representing the Kingdom of Saudi Arabia
- Judge, CARIGEO 2022 Student Competition 2022, supported by UNGGIM Americas
- Chair of Industry & Academia Committee, World Geospatial Industry Council (2020 – Present)
- Member, Policy Committee, World Geospatial Industry Council (2019 - Present)
- Principal Alternate representing CRC for Spatial Information, Group on Earth Observation (GEO), Geneva (2017 - 2018)
- CRCSI Representative, UNGGIM-PSN and Open Geospatial Consortium (2016 - 2018)
- Member and Editor, International Organization for Standards (ISO) Technical

Committee/211 Geographic Information/Geomatics (Australian Representative)  
2010 - Present)

- International Panel Judge, Asia Geospatial Forum Awards 2015
- Program Director for Australia and India Collaboration, CRC SI, Victorian Government
- Peer Review Editorial Board Member, GSDI Conference Book 2013.
- Peer Review Editorial Board Member, GSDI Conference Book 2012.
- Member, International Society of Photogrammetry & Remote Sensing, Comm II, WG 5, Multi-dimensional and Mobile Data Models (2009-2012)
- Technical Committee Member, Data Distribution and Archival Committee, IEEE Geosciences Remote Sensing Society.
- Program Advisory Board, Geospatial World Forum 2018, Hyderabad
- Program Advisory Board, Geospatial World Forum 2017, Hyderabad
- Program Advisory Board, Geospatial World Forum 2015 & INSPIRE-Europe, Lisbon
- Program Advisory Board, Geospatial World Forum 2014, Geneva
- Program Committee Member, Geospatial World Forum 2013, Rotterdam
- Program Committee Member, Geospatial World Forum 2012, Amsterdam
- Co-Chair Young Professionals and Organising Committee Member, IEEE IGARSS 2013, Melbourne

### **National Appointments**

- Steering Committee Member – Australia Space and Spatial 2030 Roadmap, SmartSat CRC, Australia
- Ambassador, Club Melbourne Programme (Chief Patron, Governor of Victoria) (2018-Present)
- Chair, International Society of Digital Earth, Australian Chapter (2014 – Present)
- Member, IT-004, Standards Australia, Geospatial Standards (2010- Present)
- Member, Technical Advisory Committee-Foundation Spatial Data Framework, Public Data Branch, Department of Prime Minister & Cabinet, Government of Australia (2013 - 2016)
- Member, NSW Location Leadership Group, NSW Government (2015 - 2018)
- Program Board Member of NSW SEED Portal (2016-2017)
- Chair, Surveying and Spatial Sciences Institute for Australian Capital Territory, Australia (2018)
- Chair, Surveying and Spatial Sciences Institute for New South Wales, Australia (2016 - 2018)
- Chair, Surveying and Spatial Sciences Institute for Victoria, Australia (2014 - 2016)

- Vice Chair, Surveying and Spatial Sciences Institute for Victoria, Australia (2012 - 2014)
- Advisor Industry Liaison (International), Australian Cooperative Research Centre for Spatial Information (2013 - 2015)
- Program Director for Australia and India Collaboration, CRC SI, Victorian Government (2014)

### **Academic, Research and Journal Appointments**

- Visiting Professor (Overseas), Institute of Remote Sensing, Anna University, Chennai, India (2021-Present)
- Associate Professor (Hon. Principal Fellow), Department of Infrastructure Engineering, Melbourne School of Engineering, The University of Melbourne, Australia (2018-Present)
- Editorial Board Member, International Journal for Big Earth Data, Taylor & Francis (2017 – Present)
- Steering Committee Member - Liveable City Digital Twin, Research Project, University of New South Wales (UNSW), Australia (2020 – Present)
- Adjunct Associate Professor, Built Environment-Smart Cities, University of New South Wales (UNSW), Australia (2017-2020)
- Senior Lecturer (Hon. Senior Fellow), Department of Infrastructure Engineering, Melbourne School of Engineering, The University of Melbourne, Australia (2012-2018)
- Associate, Department of Spatial Sciences, Curtin University, Australia (2015-17)
- Visiting Expert, 3D research lab, University of Technology, Malaysia (2010 - 12)
- Editorial Review Board Member, International Journal for 3-D Information Modeling, IGI Global (2012 – 2015)
- Reviewer, International Journal of Medical Informatics, Elsevier (2015-2018)

## **Awards Received**

**"Spatial Professional of the Year 2022"**, *Asia Pacific Spatial Excellence Award – Victoria*, recognizes a spatial professional who has made a significant contribution in the field and acted as a role model for others in the industry.  
*Surveying & Spatial Sciences Institute, Australia, October 2022, AUSTRALIA*

**"Thornton Smith Medal"**, **Contribution to Surveying and Geospatial Industry**,  
*The Infrastructure Engineering Department, The University of Melbourne, September 2021, AUSTRALIA.*

**"Export Award"**, **Asia Pacific Spatial Excellence Award 2020**, *Geospatial Industry Strategy for the Kingdom of Saudi Arabia for General Commission for Survey, May 2020, Virtual APSEA Ceremony, AUSTRALIA.*

**"Asia Geospatial Leadership Award 2017"** for "Research and Commercialisation",  
*Geosmart Asia 2017, MALAYSIA.*

**"President's Award-International Society for Digital Earth "** for "Organising 10<sup>th</sup> International Symposium for Digital Earth, Sydney, 2017", *ISDE 10 and Locate 17, 2017, AUSTRALIA.*

**"Global Spatial Excellence Award 2013"** for technically leading the project entitled "National Atlas of Groundwater Dependant Ecosystems", *Australian National Water Commission, Geospatial World Forum 2013, Rotterdam, THE NETHERLANDS*

**"Victorian Spatial Excellence Award 2012"** for technically leading the project entitled "National Atlas of Groundwater Dependant Ecosystems", *Australian National Water Commission, AUSTRALIA.*

**"Young Spatial Professional of the Year 2011"** at the SSSI 7th Annual Victorian Spatial Excellence Awards. This award recognizes a young spatial professional who has made a significant contribution in the field and acted as a role model for others in the industry.

**"Victorian Spatial Excellence Award 2011"** for technically leading the project entitled "Spatial Query Tool for Environmental Management", *Melbourne Water, AUSTRALIA.*

**"Victorian Spatial Excellence Award 2009"** for technically leading the project entitled "Spatial Query Tool to Estimate State wise Water Use for Key Landuse Types", *Victoria, AUSTRALIA.*

**"BEST Presentation"** for the paper entitled "Spatial Query Tool to Estimate State wise Water Use for Key Landuse Types", at *SKM Water & Environment Technology Conference, 14-15 September 2008, Forest Resort, Creswick, Victoria, AUSTRALIA.*

**"BEST PAPER AWARD"** and **"CASH AWARD"** for the paper entitled "MIS for Rural Planning", at *International Workshop on Digital Geography and Education, 1-2 February 2002, AP Geographical Society, Hyderabad, INDIA.*

**"BEST PAPER in ORAL PRESENTATION"** for the paper entitled "LANDSLIDE DISASTER MANAGEMENT AND PLANNING – A GIS BASED APPROACH WITH CASE STUDIES FROM NILGIRIS VALLEY", at *XXII INCA International Congress on Convergence of Imagery, Information & Maps at Ahmedabad, INDIA, during 30th October, 2002 to 1st*



November 2002, hosted by Space Application Centre, ISRO, Ahmedabad, Department of Space, Government of India.

**“BEST PAPER AWARD”** for the paper entitled “Web based GIS query shell for natural resources management in the Tamil Language”, National Conference on Land Care Movement, Water and Livelihood Security, organized by SOIL CONSERVATION SOCIETY OF INDIA, New Delhi, on 21-23 January 2003 at Chennai, INDIA.

## Recent Publication

- Marina Micheli, Caroline M Gevaert, Mary Carman, Max Craglia, Emily Daemen, Rania E Ibrahim, Alexander Kotsev, Zaffar Mohamed-Ghouse, Sven Schade, Ingrid Schneider, Lea A Shanley, Alessio Tartaro and Michele Vespe (2022) Artificial intelligence ethics and data governance in the geospatial domain of Digital Earth, *Big Data & Society*, 1138767, DOI: 10.1177/20539517221138767
- Zaffar Sadiq Mohamed-Ghouse, Cheryl Desha, Abbas Rajabifard, Michelle Blicavs & Graeme Martin (2021) Evaluating the role of partnerships in increasing the use of big Earth data to support the Sustainable Development Goals: an Australian perspective, *Big Earth Data*, 5:4, 527-556, DOI: 10.1080/20964471.2021.198180
- Cotzee S., Gould M., McCromack B., Mohamed-Ghouse Z.S., Scott G., Kmoch A., Alameh N., Strobl J., Wytzisk A., & Devarajan T. (2021). Towards a sustainable geospatial ecosystem beyond SDIs. Technical Report, 11th Plenary, United Nations Global Geospatial Information Management. 10.13140/RG.2.2.22555.39203
- Arnold L, Mohamed-Ghouse Z.S., Wheeler T, (2021) Role of Professional Body in Panademic. In: Rajabifard, A., Foliente, G., & Paez, D. (2021). COVID-19 Pandemic, Geospatial Information, and Community Resilience: Global Applications and Lessons (1st ed.). CRC Press. <https://doi.org/10.1201/9781003181590>
- Mohamed-Ghouse Z.S., Desha C., Perez-Mora L. (2020) Digital Earth in Australia. In: Guo H., Goodchild M., Annoni A. (eds) *Manual of Digital Earth*. Springer, Singapore. pp. 683-711. doi:10.1007/978-981-32-9915-3
- Nativi, S., Wangling, C., Liberti, A., Mazzetti, P., Mohamed-Ghouse Z.S. Proceedings of the 11th International Symposium of Digital Earth. 2020 IOP Conf. Ser.: Earth Environ. Sci. 509 011001

- Coppa, I., Woodgate, P. W., and Mohamed-Ghouse Z.S. (2018), 'Global Outlook 2018: Spatial Information Industry'. Published by the Australia and New Zealand Cooperative Research Centre for Spatial Information.
- Coppa, I., Woodgate, P. W., and Mohamed-Ghouse Z.S. (2016), 'Global Outlook 2016: Spatial Information Industry'. Published by the Australia and New Zealand Cooperative Research Centre for Spatial Information.
- Mohamed-Ghouse Z.S., 2016. Commercialisation in Geospatial Research. In: Proceedings of Geospatial World Forum, May 2016, Rotterdam, The Netherlands.
- Mohamed-Ghouse Z.S., 2015. Current trends in Geospatial, Australia & New Zealand Perspective. In: Proceedings of INSPIRE & Geospatial World Forum, May 2015, Lisbon, Portugal.
- Mohamed-Ghouse Z.S., 2014. Spatial Data Management of BioRegional Assessments Phase 1 for Coal Seam Gas –Challenges and Opportunities. In: Proceedings of Locate 14, April 2014, Canberra, Australia.
- Mohamed-Ghouse Z.S., Poon, J., 2013. Beyond spatial enablement of groundwater dependent ecosystem mapping. In: Proceedings of the IEEE IGARSS 2013 July 2013, Melbourne, Australia.
- Mohamed-Ghouse Z.S., Kelly, D., Costello, A., Edmonds, V., 2012. Artefact mobile data model to support cultural heritage data collection and interpretation. In: Proceedings of the XXII Congress of the International Society for Photogrammetry and Remote Sensing, 2012, 25 August-1 September, 2012, Melbourne, Australia.
- Delaney, P., Poon, J., Mohamed-Ghouse Z.S., Goodin, D., Wilson, K., McKinty, D., 2011. Towards a stream hierarchy and classification system for Victorian waterways. In: Proceedings of the SPATIAL SCIENCES & SURVEYING BIENNIAL CONFERENCE 2011 21-25 November 2011, Wellington, New Zealand.

- Mohamed-Ghouse, Z. S., Goodin, D., Chaplin, H., 2009. Integrated spatial data model for managing bore stratigraphy and hydrological information. In: Proceedings of SSSC 2009, Adelaide, Australia, pp. 857-862
- Mohamed-Ghouse, Z. S., Duckham, M., 2009. Integrated storage and querying of spatially varying data quality information in a relational spatial database. Transactions in GIS International Journal, 13(1), pp. 25-42
- Mohamed-Ghouse, Z. S., Williams, K., 2008. Spatial Query Tool to estimate water use for keyland use types. In: Proceedings of Map Asia 2008, Kuala Lumpur, Malaysia.
- Mohamed-Ghouse, Z. S., Duckham, M., 2007. Storing and querying spatially varying data quality information using an integrated spatial RDBMS. In: 5th International Symposium on Spatial Data Quality, ITC Enschede, The Netherlands
- Mohamed-Ghouse, Z. S., Duckham, M., Hunter, G., 2006. Modeling spatial variation in data quality using linear referencing. In: Caetano, M., Painho, M. (Eds.), 7<sup>th</sup> International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Lisbon, Portugal. pp. 225 – 235
- Hunter, G. J., Hope, S., Mohamed-Ghouse, Z. S., Boin, A., Marinelli, M., Kealy, A., Duckham, M., Corner, R. J., 2005. Next-Generation Research Issues in Spatial Data Quality. In: Proceedings of SSC 2005 Spatial Intelligence, Innovation and Praxis: The national biennial Conference of the Spatial Sciences Institute, September, 2005. Melbourne: Spatial Sciences Institute. pp. 865-872

**Expert Lectures Delivered at University of Melbourne, University of New South Wales, Griffith University, Australia & University of Technology Malaysia and Anna University, India**

- 1) Geospatial Strategy Development
- 2) Project Management in GIS
- 3) Spatial Data Infrastructure
- 4) Spatial Databases
- 5) Spatial Query Tools
- 6) Spatial Visualisation
- 7) Water Resources Management
- 8) Integrated Groundwater Data Management System

- 9) Digital Earth in Australia
- 10) Digital Twins
- 11) Building Information Modeling
- 12) Remote Sensing Applications

### **Trainings Conducted at the Institute of Remote Sensing**

Classes for Government Department Officials at IRS Training Centre and Centre for GIS Application in:

- 1) Creation of Spatial & Non-Spatial Data Base and Spatial Analysis
- 2) Customization in GIS
- 3) Project Management in GIS
- 4) Application of Remote Sensing & its Potential
- 5) GIS for Public Health & ArcGIS for Government Executives