

Nazim Muradov

Professor, University of Central Florida, Florida Solar Energy Center (since 1990).
Ph.D. in Kinetics and Catalysis and D.Sc. in Physical Chemistry.
MS in Petrochemical Engineering, Azerbaijan State Oil and Industry University.

Full member of the *Academy of Science, Engineering and Medicine of Florida*.

Fellow of the *National Academy of Inventors* (USA).

Fellow of the *International Association for Hydrogen Energy* (IAHE).

2024 Highly Ranked Scholar (top 0.05% of all scholars worldwide, ScholarGPS)

World's Top 2% Scientists (Stanford University and Elsevier).

Member of the Board of Directors of the *International Association for Hydrogen Energy*.

Member of the Board of Trustees and Scientific Council of the *Institute for Advanced Studies "IMDEA Energía"* (Madrid, Spain, 2010-2022).

Editor Emeritus of the *International Journal of Hydrogen Energy*.

Member of the International Editorial Board of the *Nature & Science*.

Member of the International Editorial Board of the *Processes of Petrochemistry and Oil Refining*.

Main areas of research: thermocatalytic and photocatalytic hydrogen production technologies, solar-driven water-splitting cycles, hydrogen sensors, emission-free fuel reformers, advanced biofuels, nanostructured carbon materials, and solar detoxification of pollutants.

Authored two books, nine book chapters, an encyclopedia article, and over a hundred scientific papers, many recognized as high-impact contributions, receiving distinctions such as "*Fast Moving Front Paper*" by Thomson Reuters, "*Top 25 Hottest Articles*" by Science Direct, "*Key Scientific Article*" by Renewable Energy Global Innovations, "*Most Downloaded Papers*" by IJHE, among others. In the 1990s, introduced a novel concept of CO₂-free hydrogen production via direct methane decomposition (DMD), earning an international (USA, France, Australia) recognition as the "*father of DMD*" (e.g., IJHE, 2022, p.25831). Recently, this technology was formally recognized in the European Union regulatory language as a compliant "low-carbon" route, paving the way for its broad industrial deployment.

Holds **44 U.S. patents and 6 foreign patents**, several of which have been licensed and commercialized by industry. Co-inventor (with NASA collaborators) of a novel hydrogen sensor successfully flight-tested during the NASA *Space Shuttle Endeavour* mission and subsequently developed into a commercial product. For this

achievement, the team was honored with an international *R&D 100 Award*, which recognizes the most groundbreaking technologies of the year.

Presented papers at more than a hundred national and international meetings, including several keynote presentations and plenary lectures. He was invited to give seminars at MIT (USA), Vrije University (Amsterdam, the Netherlands), Ray Juan Carlos University (Madrid, Spain), Tokyo Science University (Japan), Aramco (Saudi Arabia), among others.

Awards and Honors: *Jules Verne Award (IAHE), Excellence in Research Award (UCF), Progress Medal (Azerbaijan), R&D 100 Award, Research Incentive Award, Jubilee Medal (Azerbaijan), Jubilee Medal (RF), Best Paper Award (China), Honorary Professorship (ASOI University), nomination for NASA's Blue Marble Award, Distinguished Researcher of the Year Award (UCF).*