Enrique Iglesia — Curriculum Vitae

Date of birth 27 August 1954; Havana, Cuba. **Research group:** iglesia.berkeley.edu/

Education and Degrees:
Bachelor of Science (*summa cum laude*) (1977), Princeton University
Ph.D., Stanford University (1982)

Honorary Degrees:
Technische Universität München, *doctor honoris causa* (2018).
Universidad Politecnica de Valencia, *doctor honoris causa* (2007),

Professional Appointments:
Exxon Corporate Research Laboratories, Head, Catalysis Laboratory **(**1982-1993)
University of California-Berkeley (1993-date), Professor, Chancellor Chair (1993-2012) Theodore Vermeulen Chair (2012-date); Director, Berkeley Catalysis Center (2006-2016)
E.O. Lawrence Berkeley National Laboratory, Faculty Senior Scientist (1993-2019)
Laboratory Fellow, Pacific Northwest National Laboratory (2019-date)

Prizes and Distinctions:
***Academies*:**
National Academy of Inventors (2016);
American Academy of Arts and Sciences (2015)
National Academy of Engineering (2008)
Real Academia de Ciencias, Spain (2021)

***International Awards*:**
Faraday Lectureship Prize, Royal Society of Chemistry (2023)
Fellow, Royal Society of Chemistry (2022)
Distinguished Service Award, North American Catalysis Society (2021)
E.V. Murphree Award, American Chemical Society (2020)
Michel Boudart Award, North American and European Federation of Catalysis Societies (2019)
William H. Walker Institute Award, American Institute of Chemical Engineers (2018)
Fellow, American Institute of Chemical Engineers (2014)
Honorary Fellow, Chinese Chemical Society (2013)
ENI Prize, New Frontiers in Hydrocarbons (2012)
Gabor Somorjai Award, American Chemical Society (2012)
Cross Canada Lecturer, Chemical Institute of Canada (2011)
Fracois Gault Award, European Federation of Catalysis Societies (2011)
Alpha Chi Sigma Institute Award, American Institute of Chemical Engineers (2011)
Fellow American Chemical Society (2010)
Tanabe Prize in Acid-Base Catalysis (2009)
Alexander von Humboldt Senior Scientist Award (2007)
Robert Burwell Award, North American Catalysis Society (2006)
George Olah Award, America Chemical Society (2005)
Award for Excellence in Natural Gas Conversion, NGCS Board (2004)
Richard Wilhelm Institute Award, American Institute of Chemical Engineers (2003)
Paul H. Emmett Award in Fundamental Catalysis, North American Catalysis Society (1997).

***Teaching Awards*:**
Best Teacher Award, UC-Berkeley (2006, 2010, 2015)
Donald Noyce Prize for Excellence in Teaching (highest teaching award in the Berkeley campus; 2005)
AIChE Award for Excellence in Academic Teaching (1996)**.**

Named Lectureships: Barrer Lecturer, Pennsylvania State University (2024); Katz Lecturer, University of Michigan (2023); Patten Distinguished Lecturer, University of Colorado-Boulder (2022); Overseas

Distinguished Lecturer, Peking University (2021); Holt Lecturer, Johns Hopkins (2020); BASF Lecturer, Wayne State (2020); Neil Armstrong Distinguished Visiting Fellow, Purdue (2019-2022); Inaugural Wolfgang Sachtler Lecturer, Northwestern (2017); Leland Lecturer, Rice (2017); Eastman Lecturer, U. Virginia (2016); Distinguished Lecturer, UC-Riverside (2015); Cary Lecturer, Georgia Tech (2015); Lanning Lecturer, WSU (2015); Lowrie Lecturer, OSU (2015); Wilhelm Lecturer, Princeton (2014); Kelly Lecturer, Purdue (2014); Gaden Lecturer, Columbia (2013); Dow Lecturer, Carnegie Mellon (2013); Haensel Lecturer, UOP (2013); Wohl Lecturer, U. Delaware (2012); Mason Lecturer, Stanford (2012); Sussman Lecturer, Tufts (2010); ExxonMobil Lecturer, U. Mass. (2009); Lindsay Lecturer, Texas A&M (2009); Hess Lecturer, U. Virginia (2009); Distinguished Lecturer, U. Texas-Austin (2008); Pfizer Lecturer, Purdue (2007); Sasol Lecturer, Ottawa (2006); Ipatieff Professorship, Northwestern (2005); Honorary Professor, UNL, Argentina (2005); Wilhelm Manchot Chemistry Professorship, Munich (2004); Hwa-Ying Visiting Scholar, Nanjing, Xiamen, Tsinghua (2001); Fair Lecturer, U. Oklahoma (2000); Distinguished Lecturer, U. Toronto (1999); CONICET Distinguished Lecturer (1994).

***Recent Plenary and Award Lectures of note*:** *Doctor Honoris Causa*, Technical University of Munich (2018) *"Tailoring Binding Sites and their Environments"*; Michel Boudart Award for the Advancement of Catalysis, North American Catalysis Society (2019); EuropaCat (2019); *"Tailoring Binding Sites and Their Environment"*; ENI Prize Lecture, New Frontiers in Hydrocarbons (2012) *"The Chemistry and Engineering of C_1 Molecules and the Challenges of Diverse Feedstocks without C-C bonds".*

External positions of note

Editor-in-Chief, Journal of Catalysis (1997-2010)
International Association of Catalysis Societies, Vice-President (2016-2020), President (2020-2024)
North American and Catalysis Society, Vice-President (2004-2009), President (2009-2017)
Meeting Chair, 17th International Congress on Catalysis (2020)
Division Chair, American Chemical Society, Division of Petroleum Chemistry (2002-2003)
Director, Catalysis and Reaction Engineering Division, American Institute of Chemical Engineers
Editor and Program Chair, Proceedings of the 11th International Congress on Catalysis (1996)
Co-Editor, "Encyclopedia of Catalysis" Wiley (2002); Editor, Proc. 6th Natural Gas Conversion Symp. (2001).

Advisory and consulting activities

Co-Author, National Academies Report, "Future Directions in Chemical Engineering" (2022)
Panel Co-Chair, Report on Basic Research Needs- Catalysis, U.S. Department of Energy (2018)
Advisory Board, Norwegian National Catalysis Institute (2017-date)
Member, ENI Prize Jury (2014-2021)
Fachbeirat, Fritz Haber Institute, Max Planck Gesellschaft (2005-2012)
Member, Technology Advisory Council, BP p.l.c (2007-2014)

Publications

365 refereed publications; 48 Patents; 6 edited works, 46,000+ citations; h-index 121 (Google Scholar); 105 mean citations per article; 550 scientific presentations; 100+ keynote/plenary/named lectures.

Biographical Note: Enrique Iglesia received a B.S. from Princeton University (1977, summa cum laude) and a Ph.D. from Stanford University (1982) in Chemical Engineering, with Professor Michel Boudart as his mentor and in the areas of catalysis and chemical reaction engineering. In 1993, he joined the University of California at Berkeley as Professor of Chemical Engineering, after twelve years of research and management experience at the Exxon Corporate Research Laboratories, where he ultimately led the Catalysis Research Section with stewardship responsibility for the deployment of catalytic technologies in the downstream and chemicals sectors of Exxon Corporation.

He is currently the Michel Boudart Distinguished Professor in the Davidson School of Chemical Engineering and the Presidential Fellow on Energy Transitions at Purdue University. He is also the Theodore Vermeulen Chair (emeritus) in Chemical Engineering and a Distinguished Professor of the Graduate School at the University of California at Berkeley. He has held positions as Laboratory Fellow at the Pacific Northwest National Laboratory and as Faculty Senior Scientist at the E.O. Lawrence Berkeley National Laboratory of the U.S. Department of Energy.

He holds *doctor honoris causa* degrees from the Universidad Politecnica de Valencia and the Technical University of Munich. He is a member of the National Academy of Engineering, the American Academy of Arts and Sciences, the National Academy of Inventors, and the Real Sociedad de Ciencias Exactas (Spain). He is a Fellow of the American Chemical Society (ACS), the American Institute of Chemical Engineers (AIChE), and the Royal Society of Chemistry and one of nearly 100 scientists chosen as Honorary Fellows of the Chinese Chemical Society. He has served as Editor-in-Chief of Journal of Catalysis (1997-2013) and as a member and chair of committees addressing "Basic Research Needs in Energy" and "Future Directions in Chemical Engineering", sponsored by the U.S. Department of Energy and the National Academies. He has served as Vice-President and President of the North American Catalysis Society and as Vice-President and President-Elect of the International Association of Catalysis Societies.

His research has been recognized with the George A. Olah Award in Hydrocarbon Chemistry, the Gabor Somorjai Award for Creative Research in Catalysis, and the E.V. Murphree Award for Industrial and Engineering Chemistry of the American Chemical Society. He has received the Richard H. Wilhelm Award in Chemical Reaction Engineering, the Alpha Chi Sigma Award for Outstanding Research in Chemical Engineering, and the William H. Walker Award for Excellence in Contributions to the Chemical Engineering Literature from the American Institute of Chemical Engineers. The North American Catalysis Society has recognized the scientific achievements of his research group with the Paul H. Emmett Award in Fundamental Catalysis, the Robert Burwell Lectureship, the Award for Distinguished Service in the Advancement of Catalysis, and, jointly with the European Federation of Catalysis Societies, with the Michel Boudart Award for the Advancement of Catalysis. The latter society also recognized him with the Francois Gault Lectureship, the only recipient from outside Europe in its history. His conceptual and practical contributions to catalysis were noted by the Kozo Tanabe Prize in Acid-Base Catalysis, the ENI Frontiers in Energy Prize, and the Award for Excellence in Natural Gas Conversion. He was named the V.N. Ipatieff Distinguished Professorship at Northwestern University, the Neil Armstrong Distinguished Fellow at Purdue University, and the Cross Canada Lecturer by the Chemical Institute of Canada.

His teaching awards include the Donald Sterling Noyce Prize, the highest recognition in the Berkeley campus for teaching excellence in the physical sciences, as well as the Best Teacher Award of the College of Chemistry on three separate occasions and the Award for Excellence in Teaching of the American Institute of Chemical Engineers. He has served the National Academies as member of panels for the National Research Council and of the Peer Committee and as Chair and Vice Chair of the Nominations Committee and of the Chemical Engineering Section of NAE.

He has coauthored more than 360 publications and nearly 50 U.S patents. His conceptual and practical contributions to catalysis and chemical reaction engineering address some of the most significant challenges in energy conversion and use, in the synthesis of chemicals and intermediates, and in the protection of the environment through kinetic, spectroscopic, isotopic and theoretical methods and novel catalyst architectures. His research group addresses the design, synthesis, and structural and mechanistic characterization of inorganic solids useful as catalysts for chemical reactions important in

the production, conversion, and use of energy carriers, in sustainable petrochemical syntheses, and in the protection of the environment. These studies exploit novel synthetic protocols for the synthesis of active nanostructures and of isolated single-site catalysts within microporous and mesoporous solids, as well as techniques for the characterization of the local structure and atomic connectivity in these inorganic solids, in most instances during catalytic reactions. These studies also involve steady-state and transient kinetic methods and isotopically labeled reactants and products in order to elucidate the mechanism of catalytic reactions on surfaces, at the level of primary and secondary reaction networks and of elementary surface steps using a seamless combination of systematic experimental assessments benchmarked against rigorous analysis by density functional theory and higher-level theoretical methods. The relevance of his research to the practice of catalysis is evident from his many patents, several of which have provided enabling intellectual property for processes involved in the conversion of natural gas, in applications of zeolite catalysis to petrochemicals synthesis and environmental control, and in the conversion of renewable oxygenate feedstocks to fuels and chemicals.

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