Microwaves in Catalysis: Methodology and Applications
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DESCRIPTION
A comprehensive overview covering the principles and preparation of catalysts, as well as reactor technology and applications in the field of organic synthesis, energy production, and environmental catalysis.

Edited and authored by renowned and experienced scientists, this reference focuses on successful reaction procedures for applications in industry. Topics include catalyst preparation, the treatment of waste water and air, biomass and waste valorisation, hydrogen production, oil refining as well as organic synthesis in the presence of heterogeneous and homogeneous catalysts and continuous-flow reactions.

With its practical relevance and successful methodologies, this is a valuable guide for chemists at universities working in the field of catalysis, organic synthesis, pharmaceutical or green chemistry, as well as researchers and engineers in the chemical industry.

ABOUT THE AUTHOR
Satoshi Horikoshi received his PhD degree in 1999 from Meisei University, and was subsequently a postdoctoral researcher at the Frontier Research Center for the Global Environment Science (Ministry of Education, Culture, Sports, Science and Technology) until 2006. He joined Sophia University as Assistant Professor in 2006, and then moved to Tokyo University of Science as Associate Professor in 2008, after which he returned to Sophia University as Associate Professor in 2011. Currently he is Vice-President of the Japan Society of Electromagnetic Wave Energy Applications (JEMEA), and is on the Editorial Advisory Board.
of the Journal of Microwave Power and Electromagnetic Energy and other international journals. His research interests involve new material synthesis, molecular biology, formation of sustainable energy, environmental protection and CO2-fixation using microwave- and/or photo-energy. He has co-authored over 150 scientific publications and has contributed to and edited or co-edited 20 books.

Nick Serpone obtained his Ph.D. in Physical-Inorganic Chemistry at Cornell University (1964-1968; Ithaca, NY). He joined Concordia University (Montreal) in 1968 as Assistant Professor, was made Associate Professor in 1973, Professor in 1980, University Research Professor (1998-2004), and Professor Emeritus in 2000. He was Program Director at the U.S. National Science Foundation (Washington, DC, 1998-2001) and has been a Visiting Professor at the University of Pavia, Italy, since 2002 and at the Tokyo University of Science, Noda Campus (July- August 2008). His major research interests are in the photophysics and photochemistry of semiconductor metal oxides, heterogeneous photocatalysis, environmental photochemistry, photochemistry of sunscreen active agents, and application of microwaves to nanomaterials and to environmental remediation. He has co-authored over 430 articles and has co-authored, translated or co-edited 9 monographs. In July 2010, he was elected Fellow of the European Academy of Sciences (EurASc), and is currently Head of the Materials Sciences Division of EurASc.

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