

Elena Selli

Elena Selli is full Professor of Physical Chemistry at the Department of Chemistry of the University of Milan. She graduated in Chemistry *cum laude* in 1977 at the University of Pisa and at the Scuola Normale Superiore of Pisa. In 1978-1981 she was a PhD student of the Scuola Normale, for one year (1978) working at the Institut für Physikalische Chemie of the Ruhr Universität Bochum, Germany. Then she became ricercatore universitario confermato (research assistant) of Physical Chemistry at the Scuola Normale Superiore (1981-1983) and at the University of Milan (1983-1998), and associate professor of Physical Chemistry at the University of Milano (1998-2010).

She has a long experience in teaching courses of Physical Chemistry for the Bachelor degrees in Chemistry and in Industrial Chemistry; she also teaches Photochemistry to Master students. Since many years she is a member of the Board of the Doctorate School in Chemical Science and Technology; member of the Interdisciplinary Centre for Nanostructured Materials and Interfaces and responsible for its Photocatalysis research line; local delegate of the *European Chemistry Thematic Network*. For many years, she has been local coordinator of the Erasmus program for Chemistry.

She is President (2016-2018) of the Physical Chemistry Division of the Italian Chemical Society (SCI). She has been President (2012-2014) of the Italian Photochemistry Group, Italian section of the European Photochemistry Association, and the coordinator of the Photochemistry Interdivisional Group of the SCI, and still she is in its board. She is member of the American Chemical Society. She is in the Board of the *International Conference of Photochemical Conversion and Storage of Solar Energy* (2008-2014 and 2016-2022) and member of the Scientific International Committees of the *European Conference on Solar Chemistry and Photocatalysis: Environmental Applications* and of the *International Conference on Semiconductor Photochemistry*.

She has been involved in several coordinated activities, e.g. PRIN 2002, PRIN 2005, PRIN 2009, COST 540 Action, FIRB. She has been responsible for several research projects financed by Cariplo Foundation and Regione Lombardia, and in particular PI of the SmartMatLab joint project, and she is presently local leader of a PRIN 2015 project. She is very active as reviewer for the American Chemical Society, the Royal Society of Chemistry and for Elsevier journals. She has been reviewer of several international research projects. In particular, in 2012 she was Rapporteur of the *Regenerative produced fuels by light driven water splitting* of the Deutsche Forschungsgemeinschaft and more recently expert in the panels for project evaluation of the European Commission in Brussels.

For many years involved in studies on the kinetic aspects of photoinduced processes, in the last decades her interests have been mainly focused on the mechanistic aspects of photocatalysis on semiconductors for environmental and energy applications, and in particular on the effects of surface modification on the photocatalytic reaction paths and in the development of sensitive and efficient photocatalysts and devices for solar energy conversion processes, such as hydrogen production from water. She authored or co-authored more than 180 papers and presented more than 220 communications (including several invited talks and lectures) at international and national scientific conferences. Her h-index is 43 (Scopus).

Selected papers (2016-2018)

A. Polo, I. Grigioni, M.V. Dozzi, **E. Selli**

Sensitizing effects of BiVO₄ and visible light induced production of highly reductive electrons in the TiO₂/BiVO₄ heterojunction

Catalysis Today, published online (November 2018).

I. Grigioni, M. Abdellah, A.M. Corti, M.V. Dozzi, L. Hammarström, **E. Selli**

Photoinduced Charge-Transfer Dynamics in WO₃/BiVO₄ Photoanodes Probed through Midinfrared Transient Absorption Spectroscopy

Journal of the American Chemical Society, **140** (2018) 14042-14045.

M.V. Dozzi, A. Candeo, G. Marra, C. D'Andrea, G. Valentini, **E. Selli**

Effects of Photodeposited Gold vs Platinum Nanoparticles on N,F-Doped TiO₂ Photoactivity: A Time-Resolved Photoluminescence Investigation,

Journal of Physical Chemistry C, **122** (2018) 14326-14335.

- I. Grigioni, A. Corti, M.V. Dozzi, **E. Selli**
Photoactivity and Stability of $WO_3/BiVO_4$ Photoanodes: Effects of the Contact Electrolyte and of Ni/Fe Oxyhydroxide Protection
Journal of Physical Chemistry C, **122** (2018) 13969-13978.
- G.L. Chiarello, D. Ferri, **E. Selli**
In situ attenuated total reflection infrared spectroscopy study of the photocatalytic steam reforming of methanol on Pt/TiO_2
Applied Surface Science, **450** (2018) 146-154.
- M. Bernareggi, M.V. Dozzi, L.G. Bettini, A.M. Ferretti, G.L. Chiarello, **E. Selli**
Flame-Made Cu/TiO_2 and $Cu-Pt/TiO_2$ Photocatalysts for Hydrogen Production
Catalysts, **7** (2017) 301.
- A. Poma, I. Grigioni, M.V. Dozzi, S.A. Baudron, L. Carlucci, M.W. Hosseini, **E. Selli**
A Ni-2,2'-bis(dipyrrinato) complex as a potential sensitizer: synthesis and photoelectro-chemical characterization
New Journal of Chemistry, **41** (2017) 15021-15026.
- B. Randazzo, G. Chemello, I. Tortarolo, G.L. Chiarello, M. Zalas, A. Santini, M. Liberatore, M. Liberatore, **E. Selli**, I. Olivotto
A Novel Photocatalytic Purification System for Fish Culture Zebrafish
Zebrafish, **14** (2017) 411-421.
- G.L. Chiarello, M. Bernareggi, M. Pedroni, M. Magni, S. Pietralunga, A. Tagliaferri, E. Vassallo, **E. Selli**
Enhanced photopromoted electron transfer over a bilayer WO_3 n-n heterojunction prepared by RF diode sputtering
Journal of Materials Chemistry A, **5** (2017) 12977-12989.
- I. Grigioni, K.G. Stamplecoskie, D.H. Jara, M.V. Dozzi, A. Oriana, G. Cerullo, P.V. Kamat, **E. Selli**
Wavelength-Dependent Ultrafast Charge Carrier Separation in the $WO_3/BiVO_4$ Coupled System
ACS Energy Letters, **2** (2017) 1362-1367.
- G.L. Chiarello, M.V. Dozzi, **E. Selli**
 TiO_2 -based materials for photocatalytic hydrogen production
Journal of Energy Chemistry, **26** (2017) 250-258.
- M.V. Dozzi, G.L. Chiarello, M. Pedroni, S. Livraghi, E. Giamello, **E. Selli**
High photocatalytic hydrogen production on $Cu(II)$ pre-grafted Pt/TiO_2
Applied Catalysis B: Environmental, **209** (2017) 417-428.
- F. Riboni, M.V. Dozzi, M.C. Paganini, E. Giamello, **E. Selli**
Photocatalytic activity of TiO_2-WO_3 mixed oxides in formic acid oxidation
Catalysis Today, **287** (2017) 176-181.
- M.V. Dozzi, S. Brocato, G. Marra, G. Tozzola, L. Meda, **E. Selli**
Aqueous ammonia abatement on Pt- and Ru-modified TiO_2 : Selectivity effects of the metal nanoparticles deposition method
Catalysis Today, **287** (2017) 148-154.
- I. Grigioni, M.V. Dozzi, M. Bernareggi, G.L. Chiarello, **E. Selli**
Photocatalytic CO_2 reduction vs. H_2 production: the effects of surface carbon-containing impurities on the performance of TiO_2 -based photocatalysts
Catalysis Today, **281** (2017) 214-220.
- M. Maisano, M.V. Dozzi, **E. Selli**
Searching for facet-dependent photoactivity of shape-controlled anatase TiO_2
Journal of Photochemistry and Photobiology, C: Photochemistry Reviews, **28** (2016) 29-43

G.L. Chiarello, C. Tealdi, P. Mustarelli, **E. Selli**

Fabrication of Pt/Ti/TiO₂ photoelectrodes by RF-magnetron sputtering for separate hydrogen and oxygen production
Materials, **9** (2016) 279.

M. Maisano, M.V. Dozzi, M. Coduri, L. Artiglia, G. Granozzi, **E. Selli**

Unraveling the Multiple Effects Originating the Increased Oxidative Photoactivity of {001}-Facet Enriched Anatase TiO₂
ACS Applied Materials & Interfaces, **8** (2016) 9745-9754.

A. Naldoni, F. Riboni, M. Marelli, F. Bossola, G. Ulisse, A. Di Carlo, I. Piš, S. Nappini, M. Malvestuto, M.V. Dozzi, R. Psaro, **E. Selli**, V. Dal Santo

Influence of the TiO₂ Electronic Structure and of Strong Metal-Support Interaction on Plasmonic Au Photocatalysis
Catalysis Science & Technology, **6** (2016) 3220-3229.

M.V. Dozzi, S. Marzorati, M. Longhi, M. Coduri, L. Artiglia, **E. Selli**

Photocatalytic activity of TiO₂-WO₃ mixed oxides in relation to electron transfer efficiency
Applied Catalysis B: Environmental, **186** (2016) 157-165.

G.L. Chiarello, A. Zuliani, D. Ceresoli, R. Martinazzo, **E. Selli**

Exploiting the Photonic Crystal Properties of TiO₂ Nanotube Arrays To Enhance Photocatalytic Hydrogen Production
ACS Catalysis, **6** (2016) 1345-1353.

I. Tantis, M.V. Dozzi, L.G. Bettini, G.L. Chiarello, V. Dracopoulos, **E. Selli**, P. Lianos

Highly functional titania nanoparticles produced by flame spray pyrolysis. Photoelectro-chemical and solar cell applications
Applied Catalysis B: Environmental, **182** (2016) 369-374.