

# Franco SCANDOLA

## Short CV

**Born:** October 30, 1942 in Bologna, Italy.

**University Education:** Laurea in Chemistry, cum laude, University of Bologna, 1964.

**Past Positions:** Fellow of the C.N.R. (Italian National Research Council) at the "Centro di Fotochimica C.N.R.", University of Ferrara, 1964-1980.

**Present Position:** (1980-2012) Professor of Chemistry

### Teaching Activities:

- Inorganic Chemistry
- Photochemistry

### Professional Activities:

- Chairman of the "Gruppo Interdivisionale di Fotochimica" of the Italian Chemical Society, (1994-2000).
- Chairman of the Italian section of the European Photochemistry Association) (1994-2000)
- Representative of the University of Ferrara in the "Consorzio Interuniversitario di Scienza e Tecnologia dei Materiali" (1994-2001)
- Coordinator of EC GROWTH 2001 project "From Molecular Wires to Functional Materials" (2003-2005)
- Member of the International Organizing Committee of the International Conference on Photochemical Conversion and Storage of Solar Energy (2001-2006)
- Member of review panels. Journals: *JACS*, *J. Phys. Chem.*, *Inorg. Chem.*, *Chem. Eur. J.*, *Angew. Chem.*, *Nature Chem.*, *Chem. Commun.*.. Funding agencies: NSF, DOE, MURST, CNR.
- Chair of the XXIII IUPAC Symposium on Photochemistry, 2010

### Research Interests:

- Photochemistry of coordination compounds
- Intermolecular excited-state processes: energy, electron, and proton transfer
- Supramolecular photochemistry
- Artificial photosynthesis
- Photochemical molecular devices
- Time-resolved spectroscopy

### Publications:

- Co-author of a book a book: V. Balzani and F. Scandola, *Supramolecular Photochemistry*, Horwood, 1991
- Author of over 170 scientific papers and chapters in international journals and volumes. H-index, 43.

**Lectures:** Over 70 plenary and invited lectures at international meetings; seminars at various European and North American Universities.

## Recent Papers:

**A. Sartorel, M. Bonchio, S. Campagna, F. Scandola** “Tetrametallic Molecular Catalysts for Photochemical Water Oxidation” *Chem. Soc. Rev.*, **2013**, DOI: 10.1039/C2CS35287G.

**M. Natali, S. Berardi, A. Sartorel, M. Bonchio, S. Campagna, F. Scandola** “Is  $[\text{Co}_4(\text{H}_2\text{O})_2(\alpha\text{-PW}_9\text{O}_{34})_2]^{10-}$  a Genuine Molecular Catalyst in Photochemical Water Oxidation? Answers from Time-Resolved Hole Scavenging Experiments”, *Chem. Commun.* **2012**, *48*, 8808-8810

**S. Berardi, G. La Ganga, M. Natali, I. Bazzan, F. Puntoriero, A. Sartorel, F. Scandola, S. Campagna, M. Bonchio** “Photocatalytic water oxidation: tuning light-induced electron transfer by molecular  $\text{Co}_4\text{O}_4$  cores” *J. Am. Chem. Soc.* **2012**, *134*, 11104-1107.

**M. Berberich, M. Natali, P. Spenst, C. Chiorboli, F. Scandola, F. Würthner** “Non-destructive Photoluminescence Read-out by Intramolecular Electron Transfer in a Perylene Bisimide-Diarylethene Dyad”, *Chem. Eur. J.*, **2012**, *18*, 13651-13664.

**M. Natali, M. Orlandi, S. Berardi, S. Campagna, M. Bonchio, A. Sartorel, F. Scandola** “Photoinduced Water Oxidation by a Tetra-ruthenium Polyoxometalate Catalyst. Ion-pairing and Primary Processes with  $\text{Ru}(\text{bpy})_3^{2+}$  Photosensitizer” *Inorg. Chem.* **2012**, *51*, 7324–7331.

**M. Indelli, M. Orlandi, C. Chiorboli, M. Ravaglia, F. Scandola, F. Lafolet, S. Welter, L. De Cola** “Electron Transfer Across Modular Oligo-p-phenylene Bridges in  $\text{Ru}(\text{bpy})_2(\text{bpy-ph}_n\text{-DQ})^{4+}$  ( $n = 1-5$ ) Dyads. Unusual Effects of Bridge Elongation”, *J. Phys. Chem. A*, **2012**, *116*, 119-131

**G. La Ganga, F. Puntoriero, S. Campagna, I. Bazzan, S. Berardi, M. Bonchio, A. Sartorel, M. Natali, F. Scandola** “Light-driven water oxidation with a molecular tetra-cobalt(III) cubane cluster” *Faraday Discuss.* **2012**, *155*, 177–190

**M. Carraro, A. Sartorel, F. M. Toma, F. Puntoriero, F. Scandola, S. Campagna, M. Prato, M. Bonchio** “Artificial Photosynthesis Challenges: Water Oxidation at Nanostructured Interfaces” *Top. Curr. Chem.* **2011**, *303*, 120-151

**F. Puntoriero, A. Sartorel, M. Orlandi, G. La Ganga, S. Serroni, M. Bonchio, F. Scandola, S. Campagna** “Photoinduced Water Oxidation Using Dendrimeric  $\text{Ru}(\text{II})$  Complexes as Photosensitizers” *Coord. Chem. Rev.* **2011**, *255*, 2594–2601

**E. Iengo, D. G. Pantoş, J. K. M. Sanders, M. Orlandi, C. Chiorboli, S. Fracasso, F. Scandola** “A Fully Self-Assembled Non-symmetric Triad for Photoinduced Charge Separation” *Chem. Sci.* **2011**, *2*, 676-685.

**E. Iengo, T. Gatti, E. Zangrando, M. T. Indelli, F. Scandola, E. Alessio** “Concerted Motions in Supramolecular Systems: Metal-Mediated Assemblies of Porphyrins that Behave like Nanometric Step-Machines” *Chem. Commun.* **2011**, *47*, 1616–1618.

**J. Boixel, E. Blart, Y. Pellegrin, F. Odobel, N. Perin, C. Chiorboli, S. Fracasso, M. Ravaglia, F. Scandola** “Hole-Transfer Dyads and Triads Based on Perylene Monoimide, Quaterthiophene, and Extended Tetrathiafulvalene” *Chem. Eur. J.*, **2010**, *16*, 9140 – 9153.

**M. T. Indelli, C. Chiorboli, F. Scandola, E. Iengo, P. Osswald, F. Würthner** “Photoinduced Processes in Self-Assembled Porphyrin/Perylene Bismide Metallosupramolecular Boxes” *J. Phys. Chem. B*, **2010**, *114*, 14495–14504.

**M. T. Indelli, C. Chiorboli, M. Ghirotti, M. Orlandi, F. Scandola, H. J. Kim, H-J. Kim** “Photoinduced Electron Transfer in Ruthenium(II)/Tin(IV) Multiporphyrin Arrays”, *J. Phys. Chem. B*, **2010**, *114*, 14273–14282.

**M. Orlandi, R. Argazzi, A. Sartorel, M. Carraro, G. Scorrano, M. Bonchio, F. Scandola** “Ruthenium Polyoxometalate Water Splitting Catalyst: Very Fast Hole Scavenging from Photogenerated Oxidants” *Chem. Commun.*, **2010**, *46*, 3152-3154.

**M-P. Santoni, E. A. Medlycott, G. S. Hanan, B. Hasenknopf, A. Proust, F. Nastasi, S. Campagna, C. Chiorboli, R. Argazzi, F. Scandola** “Photoinduced energy transfer in a rod-like dinuclear Ru(II) complex containing bis-pyridyl-1,3,5-triazine ligands” *Dalton Trans.* **2009**, 3964-3970

**N. Tuccitto, I. Delfanti, E. Anastasi, V. Torrisi, F. Scandola, C. Chiorboli, V. Stepanenko, F. Würthner, A. Licciardello** “Supramolecular Self-Assembled Multilayers of Terpyridine-functionalized Perylene Bisimide Metal Complexes” *Phys. Chem. Chem. Phys.*, **2009**, *11*, 4033–4038

**M. Casanova, E. Zangrando, E. Iengo, E. Alessio, M. T Indelli, F. Scandola, M. Orlandi** “Structural and Photophysical Characterization of Multichromophoric Pyridylporphyrin-Rhenium(I) Conjugates”, *Inorg. Chem.*, **2008**, *47*, 10407–10418.

**M. Berberich, A-M. Krause, M. Orlandi, Franco Scandola, F. Würthner** “Toward Fluorescent Memories with Nondestructive Readout: Photoswitching of Fluorescence by Intramolecular Electron Transfer in a Diarylethene-Perylene Bisimide Photochromic System”, *Angew. Chem. Int. Ed.* **2008**, *47*, 6616-6619.

**M. T. Indelli, S. Carli, M. Ghirotti, C. Chiorboli, M. Ravaglia, F. Scandola** “Triplet Pathways in Diarylethene Photochromism. Photophysical and Computational Study of Dyads Containing Ruthenium(II) Polypyridine and 1,2-bis(2-methylbenzothiophene-3-yl)maleimide Units” *J. Am. Chem. Soc.* **2008**, *130*, 7286-7299.

**M. Ghirotti, C. Chiorboli, C.C. You, F. Würthner, F. Scandola** "Photoinduced Energy and Electron Transfer Processes in Porphyrin-Perylene Bisimide Symmetric Triads” *J. Phys. Chem. A* **2008**, *112*, 3376-3385

**M. I. J. Polson, F. Scandola, P. J. Steel** “4-[4-(Methylsulfanyl)phenyl]-6-phenyl-2,2'-bipyridine” *Acta Cryst.* **2008**, *E64*, 279.