

## CV of Francesco Meinardi

### Academic career:

FM is Full Professor of Physics of Matter at the Department of Materials Science of the Milano-Bicocca state-University. After his degree in Physics at the University of Milano, he earned in 1995 a post-degree specialization in "Material Science and Technology". Then, he received several post-Doc research fellows by, among the others, Alenia Space (1996-1997) and by the National Institute for the Physics of Matter (1998). In 1999 he obtained the position of Assistant Professor in Experimental Physics at the Milano-Bicocca University and in 2005 that of Associate Professor of Physics of Matter.

### Research activity:

FM research activity is focused on the photophysics and electronic properties of organic and hybrid materials. Main research topics deals with: cooperative effects in organic semiconductors, photophysics of conjugated oligomers, host-guest compound, organolanthanides complexes, colloidal nanoparticles and photon managing processes for solar applications. During his research activity, he worked also on inorganic materials for optoelectronic (silica-based glasses, and scintillating glasses/crystals) and microelectronic (titanium disilicide). The main recent achievements concern the up-conversion of the solar radiation by using properly designed plastic multicomponent systems, and the development of a new generation of luminescent solar concentrators for building integrated photovoltaic systems.

### Open Innovation and entrepreneurial activity

In 2016, with the support of a pool investors, FM founded the company Glass to Power and becomes its chairman. At the end of 2021 the company employs 13 people and has already raised over 3.5 million Euros in funding from private investors as well as about 1.5 million from projects funded by public bodies.

### Research Projects:

FM was a member/coordinator of more than 20 national and European projects. In the last few years he was the principal investigator of two national projects supported by the Cariplo Foundation, and of a bilateral Italian-Belgium research project. In the same period, he obtained direct funding for applied research both from industrial companies (> 300 KEuro) and from Italian foundations (> 50 KEuro).

### Teaching:

FM currently is currently teaching the course of "Light – Matter interactions" and "Complements of Atomic and Molecular Physics". Other courses taught by FM in recent years include: "Molecular Electronics and Photonics", "Optical Properties of Materials", "Photophysics of Vision", "Spectroscopy", and "Experimental Physics".

### Institutional Roles:

In 2020 FM obtained the organization of the 3rd International Symposium on Singlet Fission and Photon Fusion (postponed to 2022) and in 2007 the fourth edition of the "European conference on organic electronic and related phenomena". From 2000 to 2004 and from 2004 to 2008 he was voted to the board of the Materials Science Department. He is a referee of many scientific journals including, among the others, PRL, Adv. Mater., J. Mater Chem., and of the different journals of the

Nature Publishing Group. He also acted as evaluator for national (CNR, ANVUR) and international funding agencies (Nederland, Croatia, Rumania, Poland).

#### Bibliometric Indexes (from Google Scholar):

Published papers on international journals with referee: more than 210

Citations. Google Scholar: 8500 (7500 excluding self-citations);

H-Index. Google Scholar: 51

#### Awards:

The research and industrial activity of FM won remarkable awards including: NextEnergy (finalist, 2018), Marzotto Venture Award (2017), Sette Green Award – RCS Editorial Group (2016), Innovation Research Grant (2016).

#### Granted Patents and patent applications:

FM holds 7 families of patent applications most of which have been extended internationally.

Among the others:

- Colourless luminescent solar concentrator, free from heavy metals, based on at least ternary chalcogenide semiconductor nanocrystals. PCT/IB2016/000032 (Brovelli S, Meinardi F, Carulli F)
- Luminescent solar concentrators comprising semiconductor nanocrystals. PCT/US14/60303 (Brovelli S, Meinardi F, Klimov VI)
- Composizione per l'up-conversion di fotoni. MI2014A001235 (Meinardi F, Pedrini J, Monguzzi AM, Salvalaggio M)

#### Selected Publications

1. Ferreira, R. A.S.; Correia, S. F.H.; Monguzzi, A.; Xiaogang Liu; Meinardi, F.; Spectral converters for photovoltaics – What's ahead. *Materials Today* **2020**, *33* 105
2. Meinardi, F, Ballabio, M, Nobuhiro Yanai, Nobuo Kimizuka, Bianchi, A, Mauri, M, Simonutti, R, Ronchi, A, Campione, M, Monguzzi, A. Quasi-thresholdless Photon Upconversion in Metal–Organic Framework Nanocrystals. *Nano letters* **2019**, *19* 2169-2177
3. Meinardi, F, Bruni, F, Brovelli, S. Luminescent solar concentrators for building-integrated photovoltaics. *Nature Reviews Materials* **2017**, *2*, 17072
4. Meinardi, F, Ehrenberg, S, Dharmo, L, Carulli, F, Mauri, M, Bruni, F, Simonutti, R, Kortshagen, U, Brovelli, S. Highly efficient luminescent solar concentrators based on earth-abundant indirect-bandgap silicon quantum dots. *Nature Photonics* **2017**, *11*, 177
5. Santiago-Gonzalez, B; Monguzzi, A; Azpiroz, JM; Prato, M; Erratico, S; Campione, M; Lorenzi, R; Pedrini, J; Santambrogio, C; Torrente, Y; De Angelis, F; Meinardi, F; Brovelli, S; Permanent excimer superstructures by supramolecular networking of metal quantum clusters. *Science* **2016**, *353* 571