Personal information

Surname(s) / First name(s)	**Sassi, Mauro**
Email(s)	mauro.sassi@unimib.it
Nationality(-ies)	Italian
Date of birth	23/08/1982

Work experience

Dates	08/03/2018 - current
Occupation or position held	Scientific Collaborator
Main activities and responsibilities	Activity title: "Sviluppo di surfattanti e strutture carboniose per la sintesi di semiconduttori organici per via micellare in ambiante acquoso" Supervisor: Dott. Luca Beverina.
Name and address of employer	Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali - Via G. Giusti, 9 - Firenze
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	01/03/2016 - 28/02/2018
Occupation or position held	Postdoctoral Research Fellow
Main activities and responsibilities	Activity title: "Materiali organici innovativi per stoccaggio di energia" ("New organic materials for energy storage"). Supervisor: Dott. Luca Beverina.
Name and address of employer	Università degli Studi di Milano-Bicocca - Piazza dell' Ateneo Nuovo, 1 - Milano (IT)
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	01/06/2015 - 28/02/2016
Occupation or position held	Postdoctoral Research Fellow
Main activities and responsibilities	Research activity inside ENI 2012 project, activity title: "Nuovi materiali organici per celle solari organiche a geometria invertita" ("New organic materials for inverted organic solar cells"). Supervisor: Dott. Luca Beverina.
Name and address of employer	Università degli Studi di Milano-Bicocca - Piazza dell' Ateneo Nuovo, 1 - Milano (IT)
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	22/09/2014 - 20/02/2015
Occupation or position held	Postdoctoral Research Fellow
Main activities and responsibilities	Research activity inside EElicon FP7 Project, activity title: "Determinazione dei prodotti di ossidazione di ammine terziarie a contatto con film di PEDOT ossidati" (Determination of oxidation products of tertiary amines in contact with oxidized PEDOT films"). Supervisor: Dott. Luca Beverina.
Name and address of employer	Università degli Studi di Milano-Bicocca - Piazza dell' Ateneo Nuovo, 1 - Milano (IT)
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	01/09/2012 - 31/08/2014
Occupation or position held	Postdoctoral Research Fellow

Main activities and responsibilities	Research activity inside ExPhon project (Fondazione Cariplo prize for Frontier Research), activity title: "Sintesi e caratterizzazione di materiali organici coniugati fotoreticolabili per applicazioni in dispositivi fotovoltaici" ("Synthesis and characterization of conjugated photocrosslinkable organic materials for application in photovoltaic devices"). Supervisor: Dott. Luca Beverina.
Name and address of employer	Università degli Studi di Milano-Bicocca - Piazza dell' Ateneo Nuovo, 1 - Milano (IT)
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	01/06/2011 - 31/08/2012
Occupation or position held	Postdoctoral Research Fellow
Main activities and responsibilities	Research activity inside a Toyota Motor Co. funded project, activity title: "Preparazione di monomeri elettroattivi, loro polimerizzazione e caratterizzazione elettrochimica dei polimeri ottenuti per applicazioni nell'accumulo dell'energia" ("Preparation of electroactive monomers, their polymerization and electrochemical characterization of the obtained polymers for energy storage applications"). Supervisor: Dott. Riccardo Ruffo.
Name and address of employer	Università degli Studi di Milano-Bicocca - Piazza dell' Ateneo Nuovo, 1 - Milano (IT)
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	01/02/2011 - 30/04/2011
Occupation or position held	Scientific Collaborator
Main activities and responsibilities	Research activity inside FIRB BRESPA project, activity title: "Preparazione di materiali elettrocromici organici" ("Synthesis and characterization of organic electrochromic materials").
Name and address of employer	Università degli Studi di Milano-Bicocca - Piazza dell' Ateneo Nuovo, 1 - Milano (IT)
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	03/10/2007 - 30/11/2007
Occupation or position held	Scientific Collaborator
Main activities and responsibilities	Research activity inside FIRB Bozio project, activity title: "Sintesi di materiali organici coniugati a base eterociclica" ("Synthesis of conjugated heterocycle-based organic materials").
Name and address of employer	Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali - Via G. Giusti, 9 - Firenze
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)
Dates	22/05/2007 - 30/09/2007
Occupation or position held	Scientific Collaborator
Main activities and responsibilities	Research activity inside EU FP6 project "NanoEffect", activity title: "Sintesi di Materiali Elettrocromici" ("Synthesis of electrochromic materials").
Name and address of employer	Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali - Via G. Giusti, 9 - Firenze
Host structure	Department of Material Science - University of Milano-Bicocca - via Cozzi, 55 - 20125 - Milano (IT)

Education and training

Dates	07/01/2008 - 16/09/2011
Title of qualification awarded	PhD in Material Science
Principal subjects/Occupational skills covered	Synthesis of conjugated heterocycle-based organic materials. Solution based deposition techniques. Synthesis of functionalized conjugated polymers.
Thesis title	Heterocycle-based redox active, electrochromic organic materials
Supervisor	Dr. Luca Beverina

Name and type of organization providing education and training	University of Milano-Bicocca, Department of Material Science
Dates	01/03/2010 - 08/09/2010
	Visiting PhD student at the Weizmann Institute (Rehovot, IL) in prof. Milko van der Boom research group.
Principal subjects/Occupational skills covered	Synthesis of organometallic nanoassemblies, layer-by-layer deposition and characterization of ultra-thin films
Name and type of organization providing education and training	Weizmann Institute of Science, Rehovot (IL)
Dates	15/6/2008 – 20/6/2008
	Short training period at Fraunhofer ISC -Würzburg (DE)
Principal subjects/Occupational skills covered	Techniques for the deposition of thin films of conductive polymers on transparent substrates (glass, PET)
Name and type of organization providing education and training	Fraunhofer ISC - Würzburg (DE)
Dates	24/04/2007
Title of qualification awarded	Laurea specialistica in Scienza dei Materiali (Master degree in Material Science). Degree: 110/110 *cum laude*
Principal subjects/Occupational skills covered	Synthesis of coordination compounds and ligands
Thesis title	Sintesi e caratterizzazione di complessi di lantanidi aventi quali leganti sistemi eterociclici fluorurati ("Synthesis and characterization of lanthanide complexes having fluorinated heterocyclic ligands")
Supervisor	Prof. G.A. Pagani
Name and type of organization providing education and training	University of Milano-Bicocca, Department of Material Science

Personal skills and competences

Mother tongue(s)	**Italian**
Other language(s)	English (fluent)

Publications

1. L. Beverina, M. Crippa, M. Sassi, A. Monguzzi, F. Meinardi, R. Tubino, and G. A. Pagani.
Perfluorinated nitrosopyrazolone-based erbium chelates: a new efficient solution processable nir emitter.
Chem. Commun., (34):5103–5105, 2009a.
doi: 10.1039/b906494j

2. L. Beverina, R. Ruffo, C. M. Mari, G. Pagani, M. Sassi, F. De Angelis, S. Fantacci, J.-H. Yum, M. Grätzel, and M. Nazeeruddin.
Panchromatic cross-substituted squaraines for dye-sensitized solar cell applications.
ChemSusChem, 2(7):621–624, 2009b.
doi: 10.1002/cssc.200900077

3. B. Bröker, R.-P. Blum, L. Beverina, O. T. Hofmann, M. Sassi, R. Ruffo, G. A. Pagani, G. Heimel, A. Vollmer, J. Frisch, J. P. Rabe, E. Zojer, and N. Koch.
A high molecular weight donor for electron injection interlayers on metal electrodes.
ChemPhysChem, 10(17):2947–2954, 2009.
doi: 10.1002/cphc.200900472

4. L. Motiei, M. Sassi, R. Kaminker, G. Evmenenko, P. Dutta, M. A. Iron, and M. E. van der Boom.
Synergism in multicomponent self-propagating molecular assemblies.
Langmuir, 27(4):1319–1325, 2010

5. M. Binda, A. Iacchetti, D. Natali, L. Beverina, M. Sassi, and M. Sampietro.
High detectivity squaraine-based near infrared photodetector with $\mathrm{nA/cm^2}$ dark current.
Appl. Phys. Lett., 98(7):073303–073303, 2011

6. L. Motiei, R. Kaminker, M. Sassi, and M. E. van der Boom.
Molecule and electron transfer through coordination-based molecular assemblies.
J. Am. Chem. Soc., 133(36):14264–14266, 2011

7. M. M. Salamone, F. Silvestri, M. Sassi, C. M. Mari, R. Ruffo, L. Beverina, and G. A. Pagani.
Role played by chain length and polarity of n-substitutents in electrochromic polymers from the tri-heterocyclic monomer pyrrole-thiophene-pyrrole.
Sol. Energ. Mat. Sol. C., 99:101–108, 2012

8. M. Sassi, M. M. Salamone, R. Ruffo, C. M. Mari, G. A. Pagani, and L. Beverina.
Gray to colorless switching, crosslinked electrochromic polymers with outstanding stability and transmissivity from naphthalenediimmide-functionalized edot.
Adv. Mater., 24(15):2004–2008, 2012

9. F. Rosciano, M. M. Salamone, R. Ruffo, M. Sassi, and L. Beverina.
Crosslinked electroactive polymers containing naphthalene-bisimide redox centers for energy storage.
J. Electrochem. Soc., 160(8):A1094–A1098, 2013

10. M. Sassi, M. Crippa, R. Ruffo, R. Turrisi, M. Drees, U. K. Pandey, R. Termine, A. Golemme, A. Facchetti, and L. Beverina.
Open circuit voltage tuning through molecular design in hydrazone end capped donors for bulk heterojunction solar cells.
Journal of Materials Chemistry A, 1(7):2631–2638, 2013a

11. A. Sanguineti, M. Sassi, R. Turrisi, R. Ruffo, G. Vaccaro, F. Meinardi, and L. Beverina.
High stokes shift perylene dyes for luminescent solar concentrators.
Chem. Commun., 49(16):1618–1620, 2013

12. M. Sassi, L. Mascheroni, R. Ruffo, M. M. Salamone, G. A. Pagani, C. M. Mari, G. D'Orazio, B. La Ferla, and L. Beverina.
Exomethylene-3,4-ethylenedioxythiophene (emedot): A new versatile building block for functionalized electropolymerized poly(3,4-ethylenedioxythiophenes) (pedots).
Organic Letters, 15(14):3502–3505, 2013b.
doi: 10.1021/ol401008s

13. L. Beverina and M. Sassi.
Twists and turns around a square: The many faces of squaraine chemistry.
Synlett, 25(4):477–490, 2014

14. L. Beverina, G. Pagani, and M. Sassi.
Multichromophoric electrochromic polymers. colour tuning of conjugated polymers through the side chain functionalization approach.
Chem. Commun., 50(41):5413–5430, 2014

15. D. Di Martino, L. Beverina, M. Sassi, S. Brovelli, R. Tubino, and F. Meinardi.
Straightforward fabrication of stable white leds by embedding of inorganic uv-leds into bulk polymerized polymethyl-methacrylate doped with organic dyes.
Scientific Reports, 50(41):5413–5430, 2014

16. F. Bruni, M. Sassi, M. Campione, U. Giovanella, R. Ruffo, S. Luzzati, F. Meinardi, L. Beverina, and S. Brovelli.
Post-deposition activation of latent hydrogen-bonding: A new paradigm for enhancing the performances of bulk heterojunction solar cells.
Adv. Funct. Mater., 24(47):7410–7419, Sep 2014.
doi: 10.1002/adfm.201400896

17. M. M. Salamone, M. Sassi, L. Beverina, C. M. Mari, and R. Ruffo.
Investigation of redox activity in the napthalenediimide-poly(3,4-ethylenedioxythiophene) cross-linked polymers.
Electrochimica Acta, 140:152–159, Sep 2014.
doi: 10.1016/j.electacta.2014.04.153

18. R. Turrisi, A. Sanguineti, M. Sassi, B. Savoie, A. Takai, G. E. Patriarca, M. M. Salamone, R. Ruffo, G. Vaccaro, and F. Meinardi.
Stokes shift/emission efficiency trade-off in donor–acceptor perylenemonoimides for luminescent solar concentrators.
J. Mater. Chem. A, 3(15):8045–8054, 2015.
doi: 10.1039/c5ta01134e

19. D. Galliani, L. Mascheroni, M. Sassi, R. Turrisi, R. Lorenzi, A. Scaccabarozzi, N. Stingelin, and L. Beverina.
Thermochromic latent-pigment-based time-temperature indicators for perishable goods.
Advanced Optical Materials, page n/a–n/a, Jun 2015.
doi: 10.1002/adom.201500073

20. S. Mattiello, A. Sanzone, P. Brazzo, M. Sassi, and L. Beverina.
First demonstration of the applicability of the latent pigment approach to plastic luminescent solar concentrators.
Eur. J. Org. Chem., 2015(26):5723–5729, Jul 2015.
doi: 10.1002/ejoc.201500554

21. M. Sassi, M. M. Salamone, R. Ruffo, G. E. Patriarca, C. M. Mari, G. A. Pagani, U. Posset, and L. Beverina.
State-of-the-art neutral tint multichromophoric polymers for high-contrast see-through electrochromic devices.
Advanced Functional Materials, 26(29):5240–5246, 2016b.
ISSN 1616-3028.
doi: 10.1002/adfm.201601819.
URL http://dx.doi.org/10.1002/adfm.201601819

22. R. Turrisi, L. Mascheroni, M. Sassi, M. Rooney, N. Buccheri, R. Ruffo, A. Facchetti, and L. Beverina.
Synthesis and characterization of squaraine-based photocrosslinkable resists for bulk heterojunction solar cells.
European Journal of Organic Chemistry, 2016(23):4032–4040, 2016.
doi: 10.1002/ejoc.201600552

23. S. Mattiello, A. Monguzzi, J. Pedrini, M. Sassi, C. Villa, Y. Torrente, R. Marotta, F. Meinardi, and L. Beverina.
Self-assembled dual dye-doped nanosized micelles for high-contrast up-conversion bioimaging.
Advanced Functional Materials, 26(46):8447–8454, 2016.
doi: 10.1002/adfm.201603303

24. M. Sassi, N. Buccheri, M. Rooney, C. Botta, F. Bruni, U. Giovanella, S. Brovelli, and L. Beverina.
Near-infrared roll-off-free electroluminescence from highly stable diketopyrrolopyrrole light emitting diodes.
Sci. Rep., 6:34096, Sept. 2016a.
doi: 10.1038/srep34096.
URL http://dx.doi.org/10.1038/srep34096

25. S. Mattiello, M. Rooney, A. Sanzone, P. Brazzo, M. Sassi, and L. Beverina.
Suzuki–miyaura micellar cross-coupling in water, at room temperature, and under aerobic atmosphere.
Organic letters, 19(3):654–657, 2017.
doi: 10.1021/acs.orglett.6b03817

26. I. Maqueira-Albo, G. E. Bonacchini, G. Dell'Erba, G. Pace, M. Sassi, M. Rooney, R. Resel, L. Beverina, and M. Caironi.
A latent pigment strategy for robust active layers in solution-processed, complementary organic field-effect transistors.
Journal of Materials Chemistry C, 5(44):11522–11531, 2017

27. M. Sassi, M. M. Salamone, L. Beverina, G. Longoni, C. Fontanesi, D. Vanossi, L. Cigarini, and R. Ruffo.
An integrated theoretical/experimental study of quinolinic–isoquinolinic derivatives acting as reversible electrochromes.
Materials, 10(7):802, 2017

28. G. Bianchi, R. Po, M. Sassi, L. Beverina, S. Chiaberge, S. Spera, and A. Cominetti.
Synthesis of dithienocyclohexanones (dtchs) as a family of building blocks for π-conjugated compounds in organic electronics.
ACS Omega, 2(8):4347–4355, 2017

29. L. Vaghi, A. Sanzone, M. Sassi, S. Pagani, A. Papagni, and L. Beverina.
Synthesis of fluorinated acridines via sequential micellar buchwald–hartwig amination/cyclization of aryl bromides.
Synthesis, 50(08):1621–1628, 2018

30. M. Rooney, S. Mattiello, R. Stara, A. Sanzone, P. Brazzo, M. Sassi, and L. Beverina.
Suzuki-miyaura cross-coupling of latent pigments in water/toluene emulsion under aerobic atmosphere.
Dyes and Pigments, 149:893–901, 2018

Other publications

31. M. Sassi.
Heterocycle-based redox active, electrochromic organic materials.
PhD thesis, Università degli Studi di Milano-Bicocca, 2011

32. G. A. Pagani, L. Beverina, M. Sassi, M. M. Salamone, C. M. Mari, and R. Ruffo.
Organic electrochromic materials having high transparency and high contrast in the visible range, August 2012.
WO Patent WO2013038243 (A2)

33. R. Ruffo, M. Sassi, M. M. Salamone, and L. Beverina.
Optimization of electrochromic materials by molecular design: The naphthalenediimide-functionalized edot.
Meeting Abstracts, (3):268–268, 2012b

34. R. Ruffo, L. Beverina, M. Sassi, and F. Rosciano.
New organic active materials for energy storage with high capacity and high voltage.
In *IMLB 2012 (16th International Meeting on Lithium Ion Batteries)*, 2012a

35. F. Rosciano, R. Ruffo, L. Beverina, M. Sassi, and M. M. Salamone.
Organic active materials for electrochemical energy storage, May 2014.
WO Patent WO2014067574 (A1)

36. F. Rosciano, R. Ruffo, L. Beverina, M. Sassi, M. M. Salamone, and F. Tosi.
High voltage organic materials for energy storage applications, June 2015.
WO Patent WO2015086078 (A1)

Conference presentations

1. "Electrochromism control by substituent and mixed heterocyclic type composition of polymerogenic monomers", poster presented at: Course "Chemistry and Physics of Materials for Energetics", Milano (MI), September, 2009.

2. "New polymeric active material for energy storage with improved specific capacity by embedding redox active naphthalene diimide centres in a PEDOT matrix", poster and oral presentation at: "XXIV Convegno Nazionale della Divisione di Chimica Organica (SCI)", Pavia, September, 2012.

3. "First demonstration of latent pigment approach to highly lightfast plastic luminescent solar concentrators", poster presentation at: "Chemistry, Materials & Light", Bologna, September 21-23, 2015.

4. "Colour tuning of multichromophoric conjugated polymers toward high contrast neutral tint electrochromic materials", oral presentation at: "15th RSC-SCI Joint Meeting on Heterocyclic Chemistry", Taormina, May 12-15, 2016.

5. "Multichromophoric electrochromic polymers toward high contrast neutral tint see-through electrochromic devices", oral presentation at: "12th InternationalMeeting on Electrochromism IME-12", Delft (NL), August 28- September 1st, 2016.

6. "Efficient Suzuki-Miyaura micellar Cross-Coupling in water, at room temperature and under aerobic atmosphere. Organic materials going green", oral presentation at: "XXVI Congresso Nazionale della Società Chimica Italiana", Paestum, September 10-11, 2017.

Supervison of junior scientists

Co-supervisor of more than 20 Master and Bachelor students.

Other academic activities

Reviewer for *Synthetic Metals*, *Solar Energy Materials and Solar Cells* and *Journal of Electrochemical Society*.

Autorizzo il trattamento dei dati personali contenuti nel mio Curriculum Vitae in base art. 13 del D. Lgs. 196/2003.