

## Dr. STEFANO TRASATTI

### CURRICULUM VITAE

Stefano Trasatti is presently an Assistant Professor in the Department of Environmental Science and Policy at the Università degli Studi di Milano. He received a PhD in Industrial Chemistry in 1995. In the same year he was awarded the Oronzio De Nora prize in the field of electrochemistry. He worked in private companies from 1996 to 2002, where he was responsible for surface treatments (Henkel Surface Technologies) and material testing (Centro Sviluppo Materiali). He is the author of about 80 peer-reviewed papers, 70 conference proceedings, 70 technical papers and one patent in the field of corrosion engineering and applied electrochemistry. His research interests include environmental chemistry, corrosion engineering and applied electrochemistry.

#### EDUCATION

11/2002 Assistant Professor in Dept. of Physical Chemistry and Electrochemistry at the University of Milan. Responsible of the Corrosion Engineering & Applied Electrochemistry Group.

10/1995 Ph.D. studies (dissertation) in the Dept. of Physical Chemistry and Electrochemistry at the University of Milan with a graduate fellowship of the Ministero dell'Istruzione, dell'Università e della Ricerca Scientifica. Title of the Ph.D. thesis: "Cervice corrosion as the initiation step for localized corrosion of stainless steel in chloride containing cooling systems".

Advisor: Prof. G Bianchi, Prof. F.Mazza and Prof. G.Faita

07/1991 Laurea in Industrial Chemistry, Summa cum laude, in the Dept. of Physical Chemistry and Electrochemistry at the University of Milan.

Title of the thesis: "Influence of the hydrodynamic conditions on stainless steel corrosion in heat exchangers".

Advisor: Prof. F.Mazza and Prof. E.Sivieri

06/1983 Completion of the Italian Secondary Education.

#### WORK HISTORY

November 2002 - presently: Assistant Professor in the Dept. of Environmental Science and Policy at the Università degli Studi di Milano

May 2001 - October 2002: Head of Laboratory Corrosion and Electrochemistry Laboratory, Centro Sviluppo Materiali S.p.A., Rome, Italy

July 1999 - April 2001: Research fellow Corrosion and Electrochemistry Laboratory, Centro Sviluppo Materiali S.p.A., Rome, Italy

February 1997 - June 1999: Head of Laboratory Surface Treatment Laboratory, Henkel Surface Technologies, Caleppio di Settala, Milan, Italy

April 1996 - January 1997: Research fellow Surface Treatment Laboratory, Henkel Surface Technologies, Caleppio di Settala, Milan, Italy

April 1995 – March 1996: Postdoctoral position (Dornier GmbH) in the Dept. of Physical Chemistry and Electrochemistry, Università degli Studi di Milano

October 1994 – March 1995: Postdoctoral position (Enel S.p.A.) in the Dept. of Physical Chemistry and Electrochemistry, Università degli Studi di Milano

#### HONORS AND AWARDS

06/1995 Award "Dr. Ing. Oronzio de Nora" of the DeNora S.p.A., Milan, Italy

#### MEMBERSHIPS

- President of the NACE Milano Italy Section - (June 2012- June 2018)
- Vice-Chairman of the WP7 "Corrosion Education and Computer Applications" of the European Federation of Corrosion (EFC) - (2012-2015)
- Elected Member of the Research Committee of the NACE International (USA) - (1st term 2009-2011; 2nd term 2011-2013)
- Member of the Scientific Board of the - National Congress on corrosion and protection" (since 2009)

- Italian elected member of the Board of Administrators of the European Federation of Corrosion (EFC) – (1st term 2008-2010; 2nd term 2011-2013)
- Coordinator of the Working Group “Corrosion in the refinery industry” of the NACE Milano Italy Section - (2005-2012)
- Member of the NACE International - (since 2005)
- Italian Delegate of the WP15 "Corrosion in the Refinery Industry" of the European Federation of Corrosion (EFC) - (since 2003)
- Member of the Study Group on Corrosion of the Associazione Italiana di Metallurgia (AIM) - (since 2002)
- Member of the Associazione Italiana Metallurgia (AIM) - (since 1996)

#### PRINCIPAL ACHIEVEMENTS

- Member of the Scientific Committee of 5th International Colloquium on Corrosion Material and Protection (CMP 2018) – 29-1 December 2018, Monastir, Tunisia.
- Member of the Organizing and Technical Committees of the NACE Milano Italia Section Conference & Expo 2018, 27 - 29 May 2018, Genoa, Italy.
- Member of the Scientific & Steering committee of the ESSC & DUPLEX 2017, May 2017, Bergamo, Italy.
- Member of the Organizing and Technical Committees of the NACE Milano Italia Section Conference & Expo 2016, 29 - 31 May 2016, Genoa, Italy.
- Member of the Scientific Committee of the International Scientific Conference Corrosion 2014, 18 - 21 November 2014, Gliwice, Poland.
- Member of the Scientific Committee of 4th International Colloquium on Corrosion Material and Protection (CMP 2014) - 3-6 December 2014, Sousse, Tunisia.
- Member of the Organizing Committee of the European Corrosion Congress EUROCORR 2014, 8-12 September 2014, Pisa, Italy.
- Member of the Organizing Committee and of the Scientific Committee of the Giornate Nazionali di Corrosione e Protezione (Udine 2009, Roma 2011, Naples 2013, Ferrara 2015, Milano 2017).
- Organizer (Chairman) of the “2nd Workshop on Corrosion Modeling to Enable Corrosion Informed Material Selection to Life Prediction” - April 18-20th, 2010 Rome, ITALY (<http://users.unimi.it/trasatti/CMLP2010/>).
- Organizer (Chairman) on behalf of AIM of the course “Fundamentals of materials selection for the chemical industry” – 18,19 June 2009 – Milan, ITALY.
- Organizer (Chairman) of the NACE Italy Section-EFC WP15 Joint Meeting "Corrosion in the refinery industry: where are we going?" - 31 March 2006 - Venezia Tecnologie, P.to Marghera Venezia, ITALY ([www.dcfce.unimi.it/word/stefano\\_trasatti\\_meeting.pdf](http://www.dcfce.unimi.it/word/stefano_trasatti_meeting.pdf)).
- Organizer (Chairman) of the “First Workshop on Corrosion Modeling to Enable Corrosion Informed Material Selection to Life Prediction” - 29-31 July 2006 - Cernobbio Como Lake (Como) ITALY (<http://users.unimi.it/trasatti/CMLP/CMLP2006.html>).

#### EDITORIAL DUTIES

Member of the Editorial Board of the Journal: Applied Sciences (MDPI) Section: Chemistry (since November 2018).

Member of the Scientific Committee of the Journal: La Metallurgia Italiana, AIM, Italy (since January 2013).

Member of the Scientific Committee of the Journal: APCE Notizie, APCE, Italy.

#### PATENTS

Process for electrolytic pickling using nitric acid-free solutions - US Patent 6565735 Issued on May 20, 2003, No. 786848 filed on 2001-07-13

#### PUBLICATIONS (2014-2018)

1 2018

A. Colombo, L. Oldani, S. P. Trasatti (2018). Corrosion failure analysis of galvanized steel pipes in a closed water cooling system. *ENGINEERING FAILURE ANALYSIS*, vol. 84, p. 46-58, ISSN: 1350-6307, doi: 10.1016/j.engfailanal.2017.10.008

2 2018

M. Trueba, S. P. Trasatti (2018). The repassivation response from single cycle anodic polarization : The case study of a sensitized Al-Mg alloy. *ELECTROCHIMICA ACTA*, vol. 259, p. 492-499, ISSN: 0013-4686, doi: 10.1016/j.electacta.2017.10.202

3 2018

B. Salvadori, A. Cagnini, M. Galeotti, S. Porcinai, S. Goidanich, A. Vincenzo, C. Celi, P. Frediani, L. Rosi, M. Frediani, G. Giuntoli, L. Brambilla, R. Beltrami, S. Trasatti (2018). Traditional and innovative protective coatings for outdoor bronze : Application and performance comparison. *JOURNAL OF APPLIED POLYMER SCIENCE*, vol. 135, 46011, ISSN: 0021-8995, doi: 10.1002/app.46011

4 2017

Santi, Conchetto G., Trueba M., Trasatti S. P. (2017). Caratterizzazione elettrochimica di silanoli organo-funzionalizzati come precursori per trattamenti superficiali=Electrochemical characterization of organo-functionalized silanes as precursors for surface treatments. *LA METALLURGIA ITALIANA*, vol. 109, p. 19-22, ISSN: 0026-0843

5 2017

Santini M., Marzorati S., Fest-Santini S., Trasatti S., Cristiani P. (2017). Carbonate scale deactivating the biocathode in a microbial fuel cell. *JOURNAL OF POWER SOURCES*, vol. 356, p. 400-407, ISSN: 0378-7753, doi: 10.1016/j.jpowsour.2017.02.088

6 2017

E. Volpi, C. Foadelli, S. Trasatti, D. A. Koleva (2017). Development of Smart Corrosion Inhibitors for Reinforced Concrete Structures Exposed to a Microbial Environment. *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH*, vol. 56, p. 5778-5794, ISSN: 0888-5885, doi: 10.1021/acs.iecr.7b00127

7 2017

FERRI, MICHELE, M. Trueba, S. P. Trasatti, M. Cabrini, A. Lo Conte (2017). Electrochemical investigation of corrosion and repassivation of structural aluminum alloys under permanent load in bending. *CORROSION REVIEWS*, vol. 35, p. 225-239, ISSN: 0334-6005, doi: 10.1515/correv-2017-0068

8 2017

E. Volpi, M. Salgarollo, S. Trasatti, A. Palumbo, A. Casalini (2017). Evaluation of a commercial inhibitor efficiency for corrosion protection of galvanic coupling between alloys commonly used in the oil & gas industry. *LA METALLURGIA ITALIANA*, vol. 109, p. 142-145, ISSN: 0026-0843

9 2017

A. Schievano, A. Colombo, M. Grattieri, S.P. Trasatti, A. Liberale, P. Tremolada, C. Pino, P. Cristiani (2017). Floating microbial fuel cells as energy harvesters for signal transmission from natural water bodies. *JOURNAL OF POWER SOURCES*, vol. 340, p. 80-88, ISSN: 0378-7753, doi: 10.1016/j.jpowsour.2016.11.037

10 2017

Roustazadeh Sheikhyousefi P., Nasr Esfahany M., Colombo A., Franzetti A., Trasatti S.P., Cristiani P. (2017). Investigation of different configurations of microbial fuel cells for the treatment of oilfield produced water. *APPLIED ENERGY*, vol. 192, p. 457-465, ISSN: 0306-2619, doi: 10.1016/j.apenergy.2016.10.057

11 2017

Gulotta D., Mariani B., Guerrini E., Trasatti S., Letardi P., Rosetti L., Toniolo L., Goidanich S. (2017). Mi Fuma il Cervello self-portrait series of Alighiero Boetti: Evaluation of a conservation and maintenance strategy based on sacrificial coatings. *HERITAGE SCIENCE*, vol. 5, 19, ISSN: 2050-7445, doi: 10.1186/s40494-017-0132-7

12 2017

Franzetti A., Daghigho M., Parenti P., Truppi T., Bestetti G., Trasatti S. P., Cristiani P. (2017). Monod kinetics degradation of low concentration residual organics in membraneless microbial fuel cells. *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*, vol. 164, p. H3091-H3096, ISSN: 0013-4651, doi: 10.1149/2.0141703jes

13 2017

- VOLPI, ENRICO, FALCIOLA, LUIGI, TRUEBA, MONICA, TRASATTI, STEFANO PIERPAOLO MARCELLO, M. C. Sala, PINI, ELENA RENATA ELVIRA, CONTINI, ALESSANDRO (2017). Pyrrolyl-silicon compounds with different alkyl spacer lengths : synthesis, electrochemical behavior and binding properties. *SYNTHETIC METALS*, vol. 231, p. 127-136, ISSN: 0379-6779, doi: 10.1016/j.synthmet.2017.07.007  
14 2017
- A. Colombo, A. Schievano, S.P. Trasatti, R. Morrone, N. D'Antona, P. Cristiani (2017). Signal trends of microbial fuel cells fed with different food-industry residues. *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*, vol. 42, p. 1841-1852, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2016.09.069  
15 2017
- SCHIEVANO, ANDREA, COLOMBO, ALESSANDRA, A. Cossettini, GOGLIO, ANDREA, D'ARDES, VINCENZO, TRASATTI, STEFANO PIERPAOLO MARCELLO, P. Cristiani (2017). Single-chamber microbial fuel cells as on-line shock-sensors for volatile fatty acids in anaerobic digesters. *WASTE MANAGEMENT*, ISSN: 0956-053X, doi: 10.1016/j.wasman.2017.06.012  
16 2017
- M. Nicoli, M. Trueba, S. P. Trasatti, M. P. Casaletto, F. Grosjean, J. Kittel, F. Ropital (2017). Studio della corrosione ad alta temperatura di diverse leghe mediante microbilancia a cristalli e tecniche convenzionali. *LA METALLURGIA ITALIANA*, vol. 109, p. 109-112, ISSN: 0026-0843  
17 2017
- M. Dadfar, M. Salehi, M. A. Golozar, S. Trasatti, M. P. Casaletto (2017). Surface and corrosion properties of modified passive layer on 304 stainless steel as bipolar plates for PEMFCs. *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*, vol. 42, p. 25869-25876, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2017.08.169  
18 2016
- D. Buggio, M. Trueba, S.P. Trasatti (2016). Corrosion of Mg alloy in the presence of ammonium ion : evidence of hydride sub-products. *CORROSION SCIENCE*, vol. 104, p. 173-186, ISSN: 0010-938X, doi: 10.1016/j.corsci.2015.12.008  
19 2016
- M. Santambrogio, G. Perrucci, M. Trueba, S.P. Trasatti, M.P. Casaletto (2016). Effect of major degradation products of ethylene glycol aqueous solutions on steel corrosion. *ELECTROCHIMICA ACTA*, vol. 203, p. 439-450, ISSN: 0013-4686, doi: 10.1016/j.electacta.2016.03.144  
20 2016
- L.D.C. Cuttone, S.I. Cristini, M. Trueba, S.P. Trasatti (2016). Electrochemical investigation of polyaniline blends on galvanized steel. *PROGRESS IN ORGANIC COATINGS*, vol. 96, p. 65-79, ISSN: 0300-9440, doi: 10.1016/j.porgcoat.2016.02.011  
21 2016
- M. Grattieri, M. Tucci, M. Bestetti, S. Trasatti, P. Cristiani (2016). Facilitated Electron Hopping in Nanolayer Oxygen-Insensitive Glucose Biosensor for Application in a Complex Matrix. *CHEMELECTROCHEM*, ISSN: 2196-0216, doi: 10.1002/celc.201600357  
22 2016
- M. Dadfar, M. Salehi, M.A. Golozar, S. Trasatti (2016). Surface modification of 304 stainless steels to improve corrosion behavior and interfacial contact resistance of bipolar plates. *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2016.09.149  
23 2015
- C. Santoro, K. Artyushkova, I. Gajda, S. Babanova, A. Serov, P. Atanassov, J. Greenman, A. Colombo, S. Trasatti, I. Ieropoulos, P. Cristiani (2015). Cathode materials for ceramic based microbial fuel cells (MFCs). *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*, vol. 40, p. 14706-14715, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2015.07.054  
24 2015
- A. Colombo, S.P. Trasatti (2015). Corrosion of an UNS S31803 distillation column for acetic acid recovery. *ENGINEERING FAILURE ANALYSIS*, vol. 55, p. 317-326, ISSN: 1350-6307, doi: 10.1016/j.engfailanal.2015.07.017  
25 2015

- M. Trueba, S.P. Trasatti (2015). Electrochemical approach to repassivation kinetics of Al alloys : gaining insight into environmentally assisted cracking. CORROSION REVIEWS, vol. 33, p. 373-393, ISSN: 0334-6005, doi: 10.1515/corrrev-2015-0054  
26 2015
- E. Volpi, A. Olietti, M. Stefanoni, S.P. Trasatti (2015). Electrochemical characterization of mild steel in alkaline solutions simulating concrete environment. JOURNAL OF ELECTROANALYTICAL CHEMISTRY, vol. 736, p. 38-46, ISSN: 1572-6657, doi: 10.1016/j.jelechem.2014.10.023  
27 2015
- E. Martinucci, F. Pizza, D. Perrino, A. Colombo, S.P.M. Trasatti, A. Lazzarini Barnabei, A. Liberale, P. Cristiani (2015). Energy balance and microbial fuel cells experimentation at wastewater treatment plant Milano-Nosedo. INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol. 40, p. 14683-14689, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2015.08.100  
28 2015
- M. Grattieri, S. Babanova, C. Santoro, E. Guerrini, S.P. Trasatti, P. Cristiani, M. Bestetti, P. Atanassov (2015). Enzymatic Oxygen Microsensor Based on Bilirubin Oxidase Applied to Microbial Fuel Cells Analysis. ELECTROANALYSIS, vol. 27, p. 327-335, ISSN: 1040-0397, doi: 10.1002/elan.201400543  
29 2015
- E. Guerrini, M. Grattieri, A. Faggianelli, P. Cristiani, S. Trasatti (2015). PTFE effect on the electrocatalysis of the oxygen reduction reaction in membraneless microbial fuel cells. BIOELECTROCHEMISTRY, vol. 106, p. 240-247, ISSN: 1567-5394, doi: 10.1016/j.bioelechem.2015.05.008  
30 2015
- S. González-Santana, C. Morera-Boado, L.A. Montero-Cabrera, M. Trueba, S.P. Trasatti (2015). Pyrrolyl-Silicon Compounds as Precursors for Donor-Acceptor Systems Stabilized by Noncovalent Interactions. JOURNAL OF PHYSICAL CHEMISTRY. A, MOLECULES, SPECTROSCOPY, KINETICS, ENVIRONMENT, & GENERAL THEORY, vol. 119, p. 7038-7051, ISSN: 1089-5639, doi: 10.1021/acs.jpca.5b04167  
31 2015
- A. Colombo, M. Consonni, S.P. Trasatti (2015). Suscettibilità all'inesco di morfologie di corrosione localizzata dell'acciaio inossidabile duplex SAF 2205 in soluzioni neutre contenenti ioni bromuro. LA METALLURGIA ITALIANA, vol. 107, p. 5-13, ISSN: 0026-0843  
32 2014
- G. Citterio, S.P. Trasatti, M. Trueba, M. Bestetti, A. Da Forno (2014). An electrochemical impedance study of bare and anodized AZ31 Mg alloy in dilute Harrison solution. SURFACE & COATINGS TECHNOLOGY, vol. 254, p. 217-223, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2014.06.015  
33 2014
- S. Bianchi, M. Trueba, S.P. Trasatti, E. Madaschi, M.C. Sala (2014). An in-depth comprehension of the protection mechanism of Al alloys by aniline-based silane. PROGRESS IN ORGANIC COATINGS, vol. 77, p. 2054-2065, ISSN: 0300-9440, doi: 10.1016/j.porgcoat.2014.02.005  
34 2014
- E. Guerrini, S. Vallini, A. Colombo, S.P.M. Trasatti, S. Trasatti (2014). Anodic films containing zirconia nanoparticles for corrosion protection of AA1050 aluminum alloy. JOURNAL OF SOLID STATE ELECTROCHEMISTRY, vol. 18, p. 1457-1468, ISSN: 1432-8488, doi: 10.1007/s10008-013-2274-1  
35 2014
- E. Melilli, M. Trueba, S.P. Trasatti (2014). Effect of chloride concentration on the repassivation behavior of structural Al alloys. LA METALLURGIA ITALIANA, vol. 106, p. 29-33, ISSN: 0026-0843  
36 2014
- D. Cicolin, M. Trueba, S. Trasatti (2014). Effect of chloride concentration, pH and dissolved oxygen, on the repassivation of 6082-T6 Al alloy. ELECTROCHIMICA ACTA, vol. 124, p. 27-35, ISSN: 0013-4686, doi: 10.1016/j.electacta.2013.09.003  
37 2014
- E. Guerrini, P. Cristiani, M. Grattieri, C. Santoro, B. Li, S. Trasatti (2014). Electrochemical Behavior of Stainless Steel Anodes in Membraneless Microbial Fuel Cells. JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol. 161, p. H62-H67, ISSN: 0013-4651, doi: 10.1149/2.096401jes  
38 2014

- F.C. Caiazza, V. Sisti, S.P. Trasatti, S. Trasatti (2014). Electrochemical characterization of multilayer Cr/CrN-based coatings. COATINGS, vol. 4, p. 508-526, ISSN: 2079-6412, doi: 10.3390/coatings4030508  
39 2014
- F. Lanzoni, L. Cislighi, V. Sisti, S. Trasatti (2014). Influenza dei parametri del processo di nitrurazione ionica sulla resistenza a corrosione di acciai inox. LA METALLURGIA ITALIANA, vol. 2014, p. 27-33, ISSN: 0026-0843  
40 2014
- F.C. Caiazza, V. Sisti, S.P. Trasatti (2014). Multilayer coatings based on CrN/Cr for molds of plastics. LA METALLURGIA ITALIANA, vol. 106, p. 3-8, ISSN: 0026-0843  
41 2014
- C. Santoro, K. Artyushkova, S. Babanova, P. Atanassov, I. Ieropoulos, M. Grattieri, P. Cristiani, S. Trasatti, B. Li, A. J. Schuler (2014). Parameters characterization and optimization of activated carbon (AC) cathodes for microbial fuel cell application. BIORESOURCE TECHNOLOGY, vol. 163, p. 54-63, ISSN: 0960-8524, doi: 10.1016/j.biortech.2014.03.091  
42 2014
- E. Guerrini, M. Grattieri, S.P. Trasatti, M. Bestetti, P. Cristiani (2014). Performance explorations of single chamber microbial fuel cells by using various microelectrodes applied to biocathodes. INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol. 39, p. 21837-21846, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2014.06.132  
43 2014
- C. Santoro, S. Babanova, K. Artyushkova, P. Atanassov, J. Greenman, P. Cristiani, S. Trasatti, A.J. Schuler, B. Li, I. Ieropoulos (2014). The effects of wastewater types on power generation and phosphorus removal of microbial fuel cells (MFCs) with activated carbon (AC) cathodes. INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol. 39, p. 21796-21802, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2014.09.167

Milan, November 2018