

EUROPEAN  
CURRICULUM VITAE  
FORMAT



PERSONAL INFORMATION

Name	<b>STEFANO FABRIS</b>
Address	<b>VICOLO DELL'OSPITALE MILITARE 4, 34127 TRIESTE, ITALY</b>
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E-mail	<b>fabris@iom.cnr.it</b>
Nationality	Italian
Date of birth	12 MARCH 1973

WORK EXPERIENCE

- 2018-present  
• National Research Council  
• 2019-present  
National Research Council  
• 2008-2018  
• National Research Council  
• 2014-2017  
• National Research Council  
• 2004-2008  
• Istituto Nazionale di Fisica della Materia  
• 2003-2004  
• Istituto Nazionale di Fisica della Materia  
• 2000-2003  
• Max-Planck-Institut für Metallforschung
- Director of the *Istituto Officina dei Materiali (CNR-IOM)*, [www.iom.cnr.it](http://www.iom.cnr.it)  
*Area Science Park, Strada Statale 14, km 163,5, 34149 Basovizza, Italy*
- Research Director (Dirigente di Ricerca) CNR-IOM
- Research staff member (*Ricercatore III livello*) CNR-IOM DEMOCRITOS Theory Unit@SISSA  
*Scuola Internazionale Superiore di Studi Avanzati (SISSA), Via Bonomea, 265, 34136 Trieste*  
Person in charge of the CNR-IOM DEMOCRITOS Theory Unit@SISSA  
*c/o SISSA, Via Bonomea, 265, 34136 Trieste, Italy*
- Tenure-track researcher (*Ricercatore III livello*) DEMOCRITOS Simulation Center  
*c/o SISSA, Via Bonomea, 265, 34136 Trieste, Italy*
- Post doctoral research fellow DEMOCRITOS Simulation Center  
*c/o SISSA, Via Bonomea, 265, 34136 Trieste, Italy*
- Post doctoral research fellow  
*Heisenbergstraße 3, 70569 Stuttgart, Germany*

EDUCATION AND TRAINING

- 1998-2000  
• Queen's University of Belfast  
• Physics  
• Ph. D.
  - 1992-1997  
• Università degli Studi di Trieste  
• Materials'Engineering  
• 110 cum Laude
- Ph. D. student
- Regular Undergraduate Curriculum

<p><b>PERSONAL SKILLS AND COMPETENCES</b></p> <p>MOTHER TONGUE</p> <p>OTHER LANGUAGES</p> <ul style="list-style-type: none"> <li>• Reading skills</li> <li>• Writing skills</li> <li>• Verbal skills</li> </ul>	<p><b>ITALIAN</b></p> <p><b>ENGLISH</b></p> <p>PROFESSIONAL LEVEL</p> <p>PROFESSIONAL LEVEL</p> <p>PROFESSIONAL LEVEL</p>
<p><b>SCIENTIFIC PRODUCTION</b></p>	<ul style="list-style-type: none"> <li>• &gt;90 scientific papers published in international journals and refereed conference proceedings: 1 Science, 1 Nature Materials, 1 Nature Comm, 1 PNAS, 3 J Am Chem Soc, 3 Phys Rev Lett, 3 Nano Lett, 2 Angew Chem Int Ed, 1 ACS Nano, 2 J Phys Chem Lett, 16 J Phys Chem A-C, 3 J Chem Phys, 11 Phys Rev B, and others;</li> <li>• 24000+ citations, H-index 39 (source Google Scholar, December 2020);</li> <li>• 60+ invited talks at international conferences (including 2 ACS meetings, 1 MRS meeting, 1 ECOSS, ..);</li> <li>• Director/organizer of 12 scientific conferences&amp;workshops (including CECAM, Psi-K).</li> </ul>
<p><b>AWARDS AND DISTINCTIONS</b></p>	<ul style="list-style-type: none"> <li>• 2017 - <i>Abilitazione nazionale</i> as full professor in chemistry matter physics (sector 03/B1);</li> <li>• 2016 - Honorary Hans Fischer Fellow - Institute for Advanced Studies - Technische Universität München</li> <li>• 2015 - Friedrich W. Bessel <b>research award - Alexander von Humboldt foundation</b>;</li> <li>• 2015 - Chinese Academy of Science, President's International Fellowship Initiative;</li> <li>• 2014 - <i>Abilitazione nazionale</i> as associate professor in chemistry (sectors 03/B1 and 03/A2);</li> <li>• 2014 - <i>Abilitazione nazionale</i> as associate professor in theoretical condensed matter physics (sector 02/B2);</li> </ul>
<p><b>TEACHING</b></p>	<p>Keywords: Computational materials science (from electronic structure to atomistic modelling); Nanostructured materials for artificial photosynthesis, water splitting, hydrogen production/purification and fuel cells; Surface chemistry and heterogeneous catalysis; Defect chemistry of materials; Surface-supported organic and metal-organic nanostructures; Multiscale computational methods; Computational spectroscopy and microscopy.</p>
<p><b>FUNDING</b></p>	<ul style="list-style-type: none"> <li>• Principal Investigator, scientist in charge, coordinator</li> </ul> <p>10 M€ EU H2020-INFRAIA-2014/2015 - <i>Nanoscience foundries and fine analysis for Europe</i></p> <p>3.9 M€ EU FP7-NMP-2012 - <i>Design of thin-film nano catalysts for on-chip fuel cell technology.</i></p> <p>100 K€ EU FP7-PEOPLE-IRG-2008 - <i>Water splitting Catalysts for Artificial Photosynthesis.</i></p> <p>300 K€ Convenzione quadro CNR- Sincrotrone Trieste s.r.l (ELETTRA).</p> <p>40 K€ PRIN - <i>Controlling structure&amp;function of metallorganic nanostructures on metal surfaces;</i></p> <p>78 K€ FVG regional grant: <i>Nanocatalysis on carbon-based materials.</i></p> <ul style="list-style-type: none"> <li>• PI and in computational grants (last 4 years only):</li> </ul> <p>&gt;55 M hours on HPC infrastructures (PRACE - Partnership for Advanced Computing in Europe <a href="http://www.prace.eu">www.prace.eu</a> and CINECA)</p>

## RESEARCH VISITS

2015-2016 TECHNISCHE UNIVERSITÄT MÜNCHEN (*FELLOWSHIP*)

2013 NATIONAL INSTITUTE FOR MATERIALS SCIENCE, TSUKUBA, JAPAN (*INVITED*);

2011 CECAM, CENTRE EUROPÉEN DE CALCUL ATOMIQUE ET MOLÉCULAIRE, LAUSANNE, CH

(*INVITED*); 2010 MOLECULAR FOUNDRY, LAWRENCE BERKELEY NATIONAL LAB., BERKELEY, USA;

2005 MAX-PLANCK-INSTITUT FÜR FESTKÖRPERFORSCHUNG, STUTTGART, GERMANY (*TRAVEL FELLOWSHIP*);

## OTHER PROFESSIONAL ACTIVITIES

- MEMBER OF PhD AND MASTER EXAMINATION COMMITTEES FOR: HUMBOLDT UNIVERSITY, UNIVERSITY OF LYON, AARHUS UNIVERSITY; KING'S COLLEGE OF LONDON; SISSA, UNIVERSITY OF LJUBLJANA; CHARLES UNIVERSITY OF PRAGUE; UNIVERSITÀ CA' FOSCARI, UNIVERSITÀ DI TRIESTE;
- ASSOCIATE EDITOR - JOURNAL OF MATERIALS FOR RENEWABLE AND SUSTAINABLE ENERGY - SPRINGER Ed. (2012-PRESENT);
- MEMBER OF THE STEERING BOARD OF THE USERS FORUM PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE (PRACE);
- EXPERT REVIEWER FOR INTERNATIONAL FUNDING AGENCIES: EUROPEAN RESEARCH COUNCIL (ERC); US AIR FORCE OFFICE OF
- SCIENTIFIC RESEARCH (AFOSR); US DEPARTMENT OF ENERGY (DOE); SWISS NATIONAL SCIENCE FOUNDATION (SNFS);
- AUSTRIAN SCIENCE FUND (ASF); RESEARCH GRANTS COUNCIL OF HONG KONG; NATIONAL SCIENCE CENTRE – POLAND;
- EXPERT REVIEWER FOR SCIENTIFIC SUPERCOMPUTING CENTERS: PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE (PRACE), CINECA ITALIAN SUPERCOMPUTING RESOURCE ALLOCATION; SWISS CENTER FOR SCIENTIFIC COMPUTING OF THE ETH ZURICH.
- REFEREE FOR INTERNATIONAL JOURNALS: NATURE CHEMISTRY, NATURE COMMUNICATIONS, PHYSICAL REVIEW LETTERS, J. AM. CHEM. SOC., PHYSICAL REVIEW B, APPLIED PHYSICS LETTERS, ADVANCED FUNCTIONAL MATERIALS, JOURNAL OF PHYSICAL CHEMISTRY, JOURNAL OF CHEMICAL PHYSICS, PHYS. CHEM. CHEM. PHYS., SURFACE SCIENCE, CATALYSIS COMM, ...

## SELECTED PUBLICATIONS

F. ESCH, S. FABRIS, L. ZHOU, T. MONTINI, C. AFRICH, P. FORNASIERO, G. COMELLI, AND R. ROSEI

*ELECTRON LOCALIZATION DETERMINES DEFECT FORMATION ON CERIA SUBSTRATES*  
**SCIENCE** 309, 752 (2005)

M. FARNESI CAMELLONE, A. TOVT, N. TRAN, F. R. NEGREIROS, I. MATOLÍNOVÁ, J. MYSLIVEČEK, V. MATOLÍN, S. FABRIS

*CREATING SINGLE-ATOM PT-CERIA CATALYSTS BY SURFACE STEP DECORATION*  
**NATURE COMM.** 7, ARTICLE NUMBER: 10801 (2016)

Y. LYKHACH, S. M. KOZLOV, T. SKALA, A. TOVT, V. STETSOVYCH, N. TSUD, F. DVORAK, V. JOHANEK, A. NEITZEL, J. MYSLIVECEK, S. FABRIS, V. MATOLIN, K. M. NEYMAN, J. LIBUDA

*COUNTING ELECTRONS ON CATALYST NANOPARTICLES*  
**NATURE MATERIALS** 15, 284–288 (2016)

T. SUN AND S. FABRIS

*MECHANISMS FOR OXIDATIVE UNZIPPING AND CUTTING OF GRAPHENE*  
**NANO LETTERS** 12, 17 (2012)

S. FABRIS, S. DE GIRONCOLI, S. BARONI, G. VICARIO, AND G. BALDUCCI

*TAMING MULTIPLE VALENCY WITH DENSITY FUNCTIONALS: A CASE STUDY OF DEFECTIVE CERIA*  
PHYS. REV. B 71, 041102 (2005)

M. FARNESI CAMELLONE AND S. FABRIS

*REACTION MECHANISMS FOR THE CO OXIDATION ON Au/CEO<sub>2</sub> CATALYSTS*  
**J. AM. CHEM. SOC.** 131, 10473 (2009)

S. COLUSSI, A. GAYEN, M. FARNESI CAMELLONE, M. BOARO, J. LLORCA, S. FABRIS, AND A. TROVARELLI

*NANOFACETED PD-O SITES IN PD-CE SURFACE SUPERSTRUCTURES BOOST ACTIVITY IN CATALYTIC COMBUSTION OF METHANE*  
**ANGEW. CHEM. INT. ED.** 48, 8481 (2009)

R. LARCIPRETE, S. FABRIS, T. SUN, P. LACOVIG, A. BARALDI, AND S. LIZZIT

*DUAL PATH MECHANISM FOR THE THERMAL REDUCTION OF GRAPHENE OXIDE*  
**J. AM. CHEM. SOC.** 133, 17315 (2011)

M. HUANG AND S. FABRIS  
*CO ADSORPTION AND OXIDATION ON CERIA SURFACES FROM DFT+U CALCULATIONS*  
**J. PHYS. CHEM. C** 112, 8643 (2008).

*QUANTUM ESPRESSO: A MODULAR AND OPEN-SOURCE SOFTWARE PROJECT FOR QUANTUM  
SIMULATIONS OF MATERIALS*  
**J. PHYS. COND. MATT.** 21, 395502 (2009).