

IVANA VOBORNIK CURRICULUM VITAE



PERSONAL INFORMATION

Name, Surname
Address
House number, street name,
postcode, city, country
Telephone
E-mail
Civil status
Nationality
Place and Date of birth

Ivana Vobornik

Sistiana 228B, 34011 Duino-Aurisina, Italy

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ivana.vobornik@elettra.eu, vobornik@iom.cnr.it

Married, two daughters

Italian, Croatian, Bosnian

Sarajevo, 7 September 1971

WORK EXPERIENCE

Dates (from – to)
Name and address of employer
Type of business or sector
Occupation or position held

March 2020 – present

Consiglio Nazionale delle Ricerche (CNR) – Istituto Officina dei Materiali (IOM), TASC
Laboratory, Trieste, Italy

Research

Senior research scientist

Dates (from – to)
Name and address of employer
Type of business or sector
Occupation or position held

June 2005 – Feb. 2020

Consiglio Nazionale delle Ricerche (CNR) – Istituto Officina dei Materiali (IOM)

Research

Research scientist

Dates (from – to)
Name and address of employer

Dec. 2001 – June 2005

Consiglio Nazionale delle Ricerche (CNR) – Istituto Nazionale per la Fisica della Materia (INFN),
TASC Laboratory, Trieste, Italy

Research

Tenure track research scientist

Dates (from – to)
Name and address of employer
Type of business or sector
Occupation or position held

Nov. 1999 – Nov. 2001

TASC National Laboratory, Istituto Nazionale per la Fisica della Materia (INFN), Trieste, Italy

Research

Postdoctoral fellow

Dates (from – to)
Name and address of employer
Type of business or sector
Occupation or position held

Oct. 1995 – Oct. 1999

Department of Physics, Ecole Polytechnique Fédérale, Lausanne, Switzerland

Academy / research

Teaching and research assistant

EDUCATION AND TRAINING

Dates (from – to)	Oct. 1995 – Oct. 1999
Name and type of organisation providing education and training	Ecole Polytechnique Fédérale de Lausanne, Switzerland
Principal subjects occupational skills covered	Condensed matter physics / teaching and research assistant
Title of qualification awarded	PhD (Thesis title: "Investigation of the Electronic Properties and Correlation Effects in the Cuprates and in Related Transition Metal Oxides"; Thesis advisor: Prof. Giorgio Margaritondo)
Dates (from – to)	Oct. 1989 – March 1995
Name and type of organisation providing education and training	University of Sarajevo, Bosnia and Herzegovina
Principal subjects occupational skills covered	Physics
Title of qualification awarded	BS / MSc (Thesis title: "Evolution of the Magnetic Susceptibility through the Thermal Annealing of the Amorphous Metallic State"; Thesis advisor: Prof. Egvin Girt)
Dates (from – to)	Sept. 1985 – June 1989
Name and type of organisation providing education and training	Second Gymnasium, Sarajevo, Bosnia and Herzegovina
Principal subjects occupational skills covered	High school, major in mathematics
Title of qualification awarded	High school diploma

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE	CROATIAN / BOSNIAN			
OTHER LANGUAGES	ENGLISH	ITALIAN	FRENCH	GERMAN
• Reading skills	Excellent	Excellent	Basic	Basic
• Writing skills	Excellent	Excellent	Basic	Basic
• Verbal skills	Excellent	Excellent	Basic	Basic

RESEARCH ACTIVITIES

Research sectors	Physics – condensed matter, nanotechnologies, material science
Scientific Activities	Highly correlated electronic systems, low-dimensional electronic systems and emergent phenomena induced by spin-orbit coupling (topological insulators, Dirac/Weyl semimetals, transition metal dichalcogenides), graphene, transition metal oxides, superconductivity, magnetism, metal-insulator transitions; surfaces, molecular films on surfaces; intermolecular interactions and charge reorganisation on metal-molecule interfaces. Research performed in 6 international laboratories and 4 synchrotron radiation facility centers.

TECHNICAL SKILLS AND COMPETENCES	<p>Photoelectron spectroscopies with conventional and synchrotron radiation sources; ultra-high vacuum (UHV) techniques, UHV compatible surface preparation techniques and thin film deposition; Auger electron spectroscopy; low energy electron diffraction (LEED), Laue X-ray diffraction; resistivity and susceptibility measurements.</p> <p>Participation in the construction and commissioning of beamline APE at Elettra synchrotron.</p> <p>Computer knowledge: Windows and Mac-OS operating systems; computer applications for data acquisition and analysis, instrumentation control, image and word processing.</p>
ORGANISATIONAL SKILLS	<p>Member of the Institute Council at CNR-IOM (2010-2016).</p> <p>Responsible for the organization and coordination of the users and in-house research activities at beamline APE-LE - Elettra synchrotron.</p> <p>Responsible for the upgrade of APE-LE experimental station within NFFA-MIUR (Nanoscience Foundries and Fine Analysis; project coordinator: Giorgio Rossi) demonstrator phase.</p>
SELECTED PUBLICATIONS	<p>Author of more than 140 refereed papers in international scientific journals H index (November 2020) = 29 (source: Web of Science, Scopus), 33 (source: Google scholar)</p> <p>Selected publications 2015-2020:</p> <p>M. Liebmann et al., "Giant Rashba-Type Spin Splitting in Ferroelectric GeTe(111)", <i>Advanced Materials</i> (2015)</p> <p>H. M. Do N. Vasconcelos et al., "Magnetically Hard Fe₃Se₄ Embedded in Bi₂Se₃ Topological Insulator Thin Films Grown by Molecular Beam Epitaxy", <i>ACS Nano</i>, 10 (1), pp 1132–1138 (2015)</p> <p>P. Das et al., "Layer-dependent quantum cooperation of electron and hole states in the anomalous semimetal WTe₂", <i>Nature Communications</i>, Vol. 7 (2016)</p> <p>M. Caputo et al., "Manipulating the Topological Interface by Molecular Adsorbates: Adsorption of Co-Phthalocyanine on Bi₂Se₃", <i>Nano Letters</i>, Vol. 16 - N, pp. 3409-3414 (2016)</p> <p>J. Jiang et al., "Signature of type-II Weyl semimetal phase in MoTe₂", <i>Nature Communications</i> Vol. 8, Article number 13973 (2017)</p> <p>V. Sunko et al., "Maximal Rashba-like spin splitting via kinetic-energy-coupled inversion-symmetry breaking", <i>Nature</i> 549 (7673), 492 (2017)</p> <p>M. S. Bahramy et al., "Ubiquitous formation of bulk Dirac cones and topological surface states from a single orbital manifold in transition-metal dichalcogenides" <i>Nature Materials</i> 17, 23-27 (2018)</p> <p>C. Rinaldi et al., "Ferroelectric control of the spin texture in GeTe", <i>Nano letters</i> 18 (5), 2751-2758 (2018)</p> <p>B. Gosh et al., "Observation of bulk states and spin-polarized topological surface states in transition metal dichalcogenide Dirac semimetal candidate NiTe₂", <i>Physical Review B</i>, Vol. 100 - 19, 195134 (2019)</p> <p>I. Markovic et al., "Weyl-like points from band inversions of spin-polarised surface states in NbGeSb" <i>Nature Communications</i> 10 (1), 5485 (2019)</p> <p>S. Nappini et al., "Transition-Metal Dichalcogenide NiTe₂: An Ambient-Stable Material for Catalysis and Nanoelectronics" <i>Advanced Functional Materials</i>, 30 (22), (2020)</p> <p>G. Gatti et al., "Radial spin texture of the Weyl fermions in chiral tellurium" <i>Physical Review Letters</i> 125 (21) 216402 (2020)</p>

TEACHING EXPERIENCE

Co-rapporteur, PhD Thesis by Chiara Bigi, Università di Milano, Italy, 2019

Co-rapporteur, Master Thesis by Alessandro Torglia, Università di Milano, Italy, 2019

SILS Lecturer 2019 (Italian School of Synchrotron Radiation)

Co-rapporteur, Master Thesis by Andrea Nardi, Università di Milano, Italy, 2018

Co-rapporteur, Master Thesis by Chiara Bigi, Università di Milano, Italy, 2016

Co-rapporteur, Master Thesis by Bo Zhou, Università degli Studi di Trieste, Italy, 2008

Practicals Hercules 2005 and 2018 (Higher European Research Course for Users of Large Experimental Systems)

Teaching and research assistant, Ecole Polytechnique Federale de Lausanne, Switzerland, 1995-1999

EXPERT EVALUATOR ACTIVITIES (PANEL EXPERTISE)

- **Review Panel Member, Solaris Synchrotron 2020** -
- **European expert evaluator (EX2002B040002)** – FET-OPEN Actions within H2020, Vice chair 2020
- **European expert monitor (EX2002B040002)** – FET Open HiTIME, 2020 and 2019
- **European expert evaluator (EX2002B040002)** – Marie Curie Actions IXF within FP7; Marie Skłodowska-Curie Actions within H2020, 2013 -
- **European expert evaluator (EX2002B040002)** – FET-OPEN Actions within H2020
- **Expert evaluator** – JCMM Brno Ph.D. Talent 2017, 2018, 2019, 2020
- **Expert evaluator** for SoMoPro (South Moravian Programme for Distinguished Researchers within South Moravian Center for International Mobility), 2016

REFEREEING

- **External assessor** for the master thesis by Mr. Prosper Ngabonziza (2012) and Ms. Sofanho Ngankeu (2013), Faculty of Science, University of Johannesburg
- **External rapporteur** for the PhD thesis by Mr. Lukasz Walczak (2014), Dto. de Fisica de la Materia Condensada, Universidad Autonoma de Madrid
- **Referee** for several international journals: Nature Physics and Communications, ACS Nano, Nano Letters, Physical Review B and Letters, Surface Science, Physica B, Journal of Physics: Condensed Matter, New Journal of Physics, Journal of Synchrotron Radiation.

AWARDS

- **Young author poster award** for innovative contents at INFM Meeting, Genova, Italy, June 12 - 16, 2000.

CONFERENCES

- **40** conference participations, **19** seminars / invited contributions at international conferences.

ADDITIONAL INFORMATION

ResearcherID: A-7461-2011
URL: <http://www.researcherid.com/rid/A-7461-2011>
ORCID: <http://orcid.org/0000-0001-9957-3535>