PROVVEDIMENTO DI NOMINA DELLA COMMISSIONE GIUDICATRICE

PER LA PROCEDURA AI SENSI DELL’ ART. 36 COMMA 2 LETTERA B) DEL D.LGS. n. 50/2016 CON MODALITÀ TELEMATICA SU PIATTAFORMA ASP CONSIP PER L’AFFIDAMENTO DI

UNA FORNITURA ED INSTALLAZIONE DI UN APPARATO DI SPETTROSCOPIA RAMAN DA INTERFACCiare ESTERNAMENTE A CAMERA DI DEPOSIZIONE IN ULTRA-ALTO VUOTO ATTRaverso FLANGIA IN VETRO DOTATA DI TRASLAZIONE ASSIALE (RAMAN IN SITU)

CPV 33114000-2

CIG: 8777811EC6
CUP: B91I16000030006

LA RESPONSABILE DI UNITÀ ORGANIZZATIVA

VISTO il provvedimento di decisione di contrattare prot. n. 0004331 del 28/05/2021, con il quale l’Istituto per la Microelettronica e Microsistemi (IMM CNR) Sede Secondaria di Agrate Brianza del Consiglio Nazionale delle Ricerche, ha disposto l’espletamento di una gara per l’affidamento di una fornitura di un “Apparato di spettroscopia Raman da interfacciare esternamente a camera di deposizione in ultra-alto vuoto attraverso flangia in vetro dotata di traslazione assiale (Raman in situ)”, CPV 33114000-2, con importo a base di gara € 110.000,00 IVA esclusa;

VISTO l’Art. 95 comma 6 del D.Lgs. 18 aprile 2016, n. 50 e s.m.i e dato atto che l’affidamento del singolo lotto avverrà mediante applicazione del criterio dell’offerta economicamente più vantaggiosa individuata sulla base del miglior rapporto qualità prezzo;

VISTO l’art. 77, comma 1, del D. Lgs. 50/2016 e s.m.i. e dato atto che nelle procedure di aggiudicazione di contratti di appalti o di concessioni, limitatamente ai casi di aggiudicazione con il criterio dell’offerta economicamente più vantaggiosa, la valutazione delle offerte dal punto di vista tecnico ed economico deve essere affidata ad una commissione giudicatrice, composta da esperti nello specifico settore cui afferisce l’oggetto del contratto;

VISTO il Comunicato del Presidente ANAC del 15/07/2019 di sospensione dell’operatività dell’Albo dei Commissari di gara di cui all’art. 78 del D. Lgs. 50/2016 e s.m.i., e considerato che per l’individuazione dei componenti della Commissione giudicatrice si è reso necessario valutare le professionalità rinvenibili all’interno dell’Istituto per la Microelettronica e Microsistemi (IMM CNR) Sede Secondaria di Agrate Brianza del Consiglio Nazionale delle Ricerche tra gli esperti nello specifico settore cui si riferisce l’oggetto del contratto;
CONSIDERATO che è scaduto il termine per la presentazione delle offerte, fissato alle ore 20:00 del 22/08/2021, ed è quindi possibile procedere alla nomina dei commissari nel rispetto dell’art. 77, comma 7 del D. Lgs. 50/2016 e s.m.i.;

CONSIDERATO che i commissari devono essere nominati nel rispetto delle disposizioni di cui all’art. 77, commi 4, 5 e 6, del D. Lgs. 50/2016 e s.m.i.;

PRESO ATTO della disponibilità degli interessati nel seguito indicati, dei loro curricula, nonché delle loro dichiarazioni di insussistenza di conflitto di interessi e di cause di incompatibilità, protocollo n. 0006462 del 27/08/2021, ai sensi degli artt. 42 e 77 commi 4, 5 e 6, del D. Lgs. 50/2016 e s.m.i.;

RITENUTE le competenze professionali dei soggetti individuati idonee ad effettuare la valutazione delle offerte dal punto di vista tecnico ed economico, ai sensi dell’art. 77, comma 1, del D. Lgs. 50/2016 e s.m.i.;

VALUTATA la necessità di provvedere alla nomina come indicato in oggetto;

DISPONE

- Di nominare il sottonotato personale, sulla base della valutazione delle competenze ed esperienze specifiche possedute, che non ha svolto alcun'altra funzione o incarico tecnico o amministrativo relativamente al contratto del cui affidamento si tratta, in qualità di componenti della Commissione giudicatrice della gara di cui trattasi:
  
  - Dott. Christian Martella, Ricercatore dell’Istituto per la Microelettronica e Microsistemi (IMM CNR) Sede Secondaria di Agrate Brianza del Consiglio Nazionale delle Ricerche, in qualità di Presidente;
  
  - Dott. Alessio Lamperti, Tecnologo dell’Istituto per la Microelettronica e Microsistemi (IMM CNR) Sede Secondaria di Agrate Brianza del Consiglio Nazionale delle Ricerche, in qualità di Componente;
  
  - Dott. Carlo Grazianetti, Ricercatore dell’Istituto per la Microelettronica e Microsistemi (IMM CNR) Sede Secondaria di Agrate Brianza del Consiglio Nazionale delle Ricerche, in qualità di Componente;

- di nominare, a supporto delle attività della Commissione giudicatrice, il Segretario Dott. Davide Di Maria, dipendente del Consiglio Nazionale delle Ricerche, responsabile del procedimento della gara in oggetto, il quale possiede le competenze necessarie a svolgere tale ruolo;

- di nominare, a supporto delle attività della Commissione giudicatrice ed a supporto del Segretario della Commissione, la dipendente del Consiglio Nazionale delle Ricerche, Dott.ssa Anna Maria Luisa Grazioli (matr. 27634), la quale possiede le competenze necessarie a svolgere tale ruolo;

- di allegare, quale parte integrante del presente atto, i curricula dei 3 membri della Commissione giudicatrice, come sopra individuati, per gli adempimenti di cui all’art. 29, comma 1, del D. Lgs. 50/2016 e s.m.i.;

- di prendere atto che il presente provvedimento non comporta impegno di spesa.

La Responsabile Unità Organizzativa
dell’Istituto per la Microelettronica e Microsistemi
Sede Secondaria di Agrate Brianza
Dott.ssa Graziella Tallarida

Graziella Tallarida
CURRICULUM VITAE

Name: Christian Martella

Education

July 2009: Master Degree in Physics (Final mark 110/110) Dipartimento di Fisica, Università di Pisa, dissertation title: “Analisi a campo ottico prossimo in modulazione di polarizzazione (PM-SNOM) di campioni metallici nanostrutturati”.


Research Experiences

October 2010 Experiments at the ID03 beamline of the European Synchrotron Radiation Facility- ESRF di Grenoble. Experiments on Nichel nanocluster agglomeration on flat and nanostructured SiO2 substrates

July- October 2012 Visiting Scientist at “Center of Nanometer-Scale Science and Advanced Materials (NANOSAM)” of the Jagiellonian University, Krakow (Poland). Experiments of Ion Beam nanopatterning of thin film surfaces (Au e TiO2), Surface Enhanced Raman Scattering (SERS) and Scanning Electron Microscopy (SEM) measurements

March 2012 teaching activity “Laboratorio di Nanostrutture” University of Genova, Department of Physics. DECRETO N 1 del 04/01/2012 del direttore di Dipartimento DIFI di Genova vista la richiesta, Prot. DIFI 708 del 15/12/2011


July 2016 experiments at the SISSI beam line of the ELETTRA Synchrotron Radiation Facility under approved proposal number 20160447. Study and Characterization of anisotropic MoS2 nanosheets.


March-October 2019: C.N.R.-IMM (Institute for Microelectronics and Microsystems, Agrate Brianza Unit) Researcher for the project “Xene Fabrication for a Two-Dimensional Nanotechnology Platform (XFab)” Ente/Istituzione finanziatrice H2020- European Research Council (ERC) Grant Agreement No. 772261

Since October 2019: C.N.R.-IMM (Institute for Microelectronics and Microsystems, Agrate Brianza Unit) Permanent Researcher

He is referee for IOP Publishing group, Royal Society of Chemistry, MDPI, Elsevier.
He was speaker in the following international conferences:
- 25th European Photovoltaic Solar Energy Conference and 6-10 September 2010, Valencia, Spain, pp. 3112 – 3116
- Summer School on Plasmonics #2, 3-7 October 2011, Porquerolles Island, Hyeres, France.
- 27th European Photovoltaic Solar Energy Conference and Exhibition, 24-28 September 2012, Frankfurt, Germany, pp. 2706-2709,
- Nanoscale Pattern Formation at Surfaces Conference, 26-30 May 2013, Copenhagen, Danimarca.
- Plasmonica 2013, Politecnico di Milano, 01-03 July 2013, Milano.
- FisMat 2013, Politecnico di Milano, 09-13 September 2013, Milano.
- Third Mediterranean Photonics Conference, 7-9 May 2014, Trani.
- Fotonica 2014, 12-14 May 2014, Napoli.
- GraphITA 2015, 14-18 September 2015, CNR-Bologna.
- E-MRS, 2-6 May 2016, Lille, France.
- ECNF, 19-21 October 2016, Bilbao, Spain
  (Invited) ETCMOS, 28-30 May 2017, Warsaw, Poland
- MRS Fall 2017, Boston, 2 Dicembre 2017.
- E-MRS, May 2019, Nice, France

Publications:

C. Martella et al.
- “Towards a uniform and large-scale deposition of MoS2 nanosheets via sulfurization of ultra-thin Mo-based solid films”, Nanotechnology, 27 (17), 175703 (2016)
- “Structural, chemical and optical properties of cerium dioxide film prepared by atomic layer deposition on TiN and Si substrates” Thin Solid Films, 636, 78 (2017)
- ” Designer Shape Anisotropy on Transition-Metal-Dichalcogenide Nanosheets” Advanced Materials 2018, 1705615.
- “Bonding Character and Magnetism at the Interface Between Fe and MoS2 Nanosheets” physica status solidi a, 215, 1800015, 2018
- “Light scattering properties of self-organized nanostructured substrates for thin-film solar cells” Nanotechnology 2018, 29, 355301
- “Embedding epitaxial (blue) phosphorene in between device-compatible functional layers.” Nanoscale 2019, 11, 18232–18237
- “High-Density Sb 2 Te 3 Nanopillars Arrays by Templated, Bottom-Up MOCVD Growth.” Small 2019, 15, 1901743.
CURRICULUM VITAE
EUROPEAN FORMAT

PERSONAL INFORMATION
Name, Surname
Alessio Lamperti
Home Address
Work Address
Via Madonna in campagna, 36-2 – 21052 Busto Arsizio (VA) – Italy
Via C. Olivetti, 2 – 20864 Agrate Brianza (MB) - Italy
Phone
+39 039 603 2884
Mobile
+39 328 043 3505
Fax
+39 039 688 1175
E-mail
alessio.lamperti@mdm.imm.cnr.it
PEC
alessio.lamperti@peceasy.it
Personal webpage
https://www.imm.cnr.it/users/lamperti-alessio
Nationality
Italiana
Birthplace and birthday
Busto Arsizio, 08/02/1971

PROFESSIONAL EXPERIENCE
CNR employee: ID N. 11300
From / To
December 2012 / present
Name and address of the employer
National Research Council (CNR) - Institute for Microelectronics and Microsystems (IMM), Agrate Brianza Unit, Via Olivetti 2, 20864, Agrate Brianza (MB), Italy
Sector of Activity
Public Body
Profile
Permanent Research Engineer (in Italian: Tecnologo). Technological sector: support to the research. Topic: Management of scientific instrumentation and processes. (Bando n. 364/114, Prot. AMMCNT CNR n.79896 28/12/2012; Prot. AMMCNT CNR n.8704 13/02/2013; Prot. IMM CNR n.769 31/01/2013)
Main duties and responsibilities
Main research topics:
I – Anisotropy engineering in 2D-materials (transition metal di-chalcogenides, TMDs): growth by chemical methods and characterization mainly by X-ray photoelectron spectroscopy and Raman spectroscopy; target applications in nanoelectronics, photonics, optoelectronics, catalysis.
II – Structural and chemical-physics characterization of thin films and multilayers for integration as high-capacitor in Bipolar CMOS-DMOS (BCD) technology platform by X-ray scattering, X-ray photoemission spectroscopy and ion beam techniques (XRR, XRD, XPS, ToF-SIMS).
III – (1) Ferromagnetic materials with perpendicular magnetic anisotropy (PMA) and (2) non-magnetic materials for integration as tunnel barrier in magnetic junctions and spin injections/filters; (3) diluted magnetic oxides (DMO). Study on the correlation between structural and chemical properties and magnetic and magneto-transport properties. Structural and chemical-physics characterization of thin films and multilayers by X-ray scattering (synchrotron light included), X-ray photoemission and ion beam techniques (XRR, XRD, XPS, ToF-SIMS, XRMS), such as: (1) ferromagnetic materials (Co, Fe, CoFe, CoFeB, Co/Ni); (2) non-magnetic materials (i.e. MgO, AlOx); (3) diluted magnetic oxides (Fe, Ni doped ZrO2).
IV – Study on the thermal stability in process integration for CMOS compatibility of high permittivity dielectrics or of phase change alloys, for applications as emerging non-volatile memories (TANOS, RRAM, PCM, MRAM) by X-ray scattering, X-ray photoemission and ion beam techniques (XRR, XRD, XPS, ToF-SIMS).
V – Characterization of piezoelectric materials for integration in advanced MEMS devices by X-ray scattering (mainly XRD).
The research activities are undertaken also as part of the research in the following research projects:
- Ministero Istruzione, Università e Ricerca of Italy, MIUR-PRIN aSTAR “Attosecond transient absorption and reflectivity for the study of exotic materials” (contract 2017RKWTMY) 2019-2022. – **Unit project responsible.**
- ERC CoG XFab “Xene Fabrication for a Two-Dimensional Nanotechnology Platform” (contract 772251) 2018-2023 – **Key investigator.** (Lettera incarico, Prot. IMM CNR del 30/06/2020).
- EU-H2020-ECSEL R3POWERUP “300mm Pilot Line for Smart Power and Power Discrete” (contract 737417) 2017-2021 – **Expert for WP1.**
- Research contract between CNR-IMM and ST-Microelectronics Italy 2014-present (Prot. IMM-CNR n.1192/2017 03/03/2017). – **Key person for activity on piezoelectric materials as actuators (PZT).**
- Ministero Istruzione, Università e Ricerca of Italy, MIUR-PRIN HotPlasMoS2 “Hot-electrons in self-organised plasmonic metasurfaces coupled to semiconducting MoS$_2$ nanosheets: Photon harvesting in 2D materials” (contract 2015WTW7J3) 2017-2020. – **Unit project responsible.**
- EU-H2020-ECSEL R2POWER300 “Preparing R2 extension to 300mm for BCD Smart Power” (contract 653933) 2015-2018 – **Unit project responsible; Expert for WP1 & WP3.**
- EU-FP7 MAGWIRE “Magnetic nanowires for High Density Non Volatile Memories” (contract 257707) 2011-2014. **Expert for WP1.**
- MIUR-FIRB “Oxides at the nanoscale: multifunctionality and applications” (contract RBAP115AYN) 2012-2015. **Key investigator for growth and physical characterizations.**
- Fondazione CARIPLO, Progetto OSEA “Oxides for Spin Electronic Applications” (contract 2009-2552) 2010-2013. **Key investigator for the experimental activities.**

**Main technology transfer topics**

I – Characterization of piezoelectric materials for integration in advanced MEMS devices by X-ray diffraction: from research lab to fab tool measurements on 8” wafer scale. Development, establishment and continuous monitoring of a standard protocol for measure validation for process control in fab (with ST-Microelectronics, Agrate Brianza) 2014-present

II – Characterization of coatings of metal-alloys on metal electrodes for electrochemical applications by X-rays photoelectron spectroscopy (with Industrie De Nora, Milan) 2018-present

**Scientific responsible**

**Instrumentation responsible**
- Time-of-flight Secondary Ion Mass Spectrometer (ToF-SIMS) ION-TOF IV upgraded (15-12-2020 – present) [Advanced independent user] Development and definition of measurements parameters depending on the type of measurement and material under investigation. Static and dynamic mode. Spectroscopy, imaging and depth profiling.
- Ultraviolet-Visible-Near-infrared spectrophotometer (UV-VIS-NIR) Agilent Cary 5000 (01-10-2020 – present) Continuous monitoring of instrument performance; technical maintenance with support from instrument manufacturer; training to users, including PhD and Master students; scheduling of the instrument usage; writing of procedures and guidelines documents as first aid to the users.
- Facility for the synthesis by chemical vapor deposition (CVD) of transition metal dichalcogenides at low dimensionality (2D) on large scale (CVD Planartech) (01-04-2018 – present). Definition and validation of growth processes, continuous monitoring of instrument performance; technical maintenance with support from instrument manufacturer; training to users, including PhD
and Master students; scheduling of the instrument usage; writing of procedures and guidelines documents as first aid to the users.
- Fourier transformed infrared spectrometer (FTIR) Bruker IFS 66v (01-01-2016 – present).
  Continuous monitoring of instrument performance; technical maintenance with support from instrument manufacturer; training to users, including PhD and Master students; scheduling of the instrument usage; writing of procedures and guidelines documents as first aid to the users.
- X-ray photoelectron spectroscopy (XPS) PHI ESCA 5600 (01-12-2012 – present).
  Continuous monitoring of instrument performance; technical maintenance with support from instrument manufacturer; training to users, including PhD and Master students (including data collection, treatment and analysis); scheduling of the instrument usage; writing of procedures and guidelines documents as first aid to the users. Performing advanced measurements and data analysis to support research (non-conductive samples, angle resolved XPS).
- Optical Laboratory (visible and UV-Raman and FTIR spectroscopies)
  Co-responsibility (with 1 Senior researcher and 1 Researcher) of the lab management.

<table>
<thead>
<tr>
<th>From / To</th>
<th>National Research Council (CNR) - Institute for Microelectronics and Microsystems (IMM), Agrate Brianza Unit, Via Olivetti 2, 20864, Agrate Brianza (MB), Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and address of the employer</td>
<td>February 2020 / present</td>
</tr>
<tr>
<td>Sector of Activity</td>
<td>Public Body</td>
</tr>
<tr>
<td>Profile</td>
<td>Local contact for the Lombardy Region Cluster on Sustainable and Social Communities (SCC) (<a href="https://www.clusterscclombardia.it/">https://www.clusterscclombardia.it/</a>)</td>
</tr>
<tr>
<td>Main duties and responsibilities</td>
<td>Continuous monitoring of calls and actions of interest for the cluster. Participation to different working tables on the thematics of interest in the cluster.</td>
</tr>
<tr>
<td>From / To</td>
<td>July 2009 / present</td>
</tr>
<tr>
<td>Name and address of the employer</td>
<td>National Research Council (CNR) - Institute for Microelectronics and Microsystems (IMM), Agrate Brianza Unit, Via Olivetti 2, 20864, Agrate Brianza (MB), Italy</td>
</tr>
<tr>
<td>Sector of Activity</td>
<td>Public Body</td>
</tr>
<tr>
<td>Profile</td>
<td>Local community contact and questionnaire responsible for QuESTIO and Open Innovation research and innovation platform of Lombardy Region. (Identified via username and password credentials on the Open Innovation web portal: <a href="http://www.openinnovation.regione.lombardia.it/">www.openinnovation.regione.lombardia.it/</a>)</td>
</tr>
<tr>
<td>Main duties and responsibilities</td>
<td>Continuous monitoring of calls and actions promoted by Research and Innovation Department of Lombardy Region. Annual review and compilation of the CRTT data in the QuESTIO database.</td>
</tr>
<tr>
<td>From / To</td>
<td>March 2018 / present</td>
</tr>
<tr>
<td>Name and address of the employer</td>
<td>National Research Council (CNR) - Institute for Microelectronics and Microsystems (IMM), Agrate Brianza Unit, Via Olivetti 2, 20864, Agrate Brianza (MB), Italy</td>
</tr>
<tr>
<td>Sector of Activity</td>
<td>Public Body</td>
</tr>
<tr>
<td>Profile</td>
<td>Local contact (Referente) for the technology areas of the IMM Institute. (Lettera di incarico Direttore IMM, prot. IMM-CNR n. 1191 del 14/03/18).</td>
</tr>
<tr>
<td>Main duties and responsibilities</td>
<td>The main scope of the local contact network of the technological areas is the integration of the instrumentation, processess and facilities of the Institute and to coordinate the strategies of technological development. Main duties are: survey of the facility/instruments; integration of the net of instruments/facility/technique and tools of analysis; identification of the areas of technological developments (processes, apparatus, techniques of analysis,……); coordination for relevant and key acquisitions; contributing to the scientific planning of the Institute.</td>
</tr>
<tr>
<td>From / To</td>
<td>July 2008 / December 2012</td>
</tr>
</tbody>
</table>
Name and address of the employer: National Research Council (CNR) - Institute for Microelectronics and Microsystems (IMM), Agrate Brianza Unit, Via Olivetti 2, 20864, Agrate Brianza (MB), Italy

Sector of Activity: Public Body

Profile: Research Scientist (fixed term contract) (Prot. AMMCNT CNR n.29776 08/05/2012; Prot. AMMCNT CNR n.45551 13/06/2011; Prot. INFM CNR n.936 29/01/2009; Prot. INFM CNR n.10993 26/06/2008)

Main duties and responsibilities:

- From / To: June 2007 / July 2008
- Research Project: EU-FP7 MAGWIRE (contract 257707) 2011-2014: Structural and chemical-physics characterization of thin films and multilayers of ferromagnetic materials (i.e. Co, Fe, CoFe, CoFeB, CoNi) with perpendicular magnetic anisotropy and non-magnetic materials (i.e. MgO, AlO\(_x\)) as tunnel barriers mainly by X-ray scattering techniques (synchrotron light included) and ion beam techniques (XRR, XRD, ToF-SIMS, XRMS).
- Study on the possible correlations between structural and chemical properties and magnetic and magneto-transport properties. Study on the thermal stability in integration processes CMOS compatible.
ALESSIO LAMPERTI

From / To
October 2006 / January 2007

Name and address of the employer
Ruhr Universität Bochum, Experimental Physics IV – Condensed Matter Physics, D-44780 Bochum, Germany.

Sector of Activity
Public Research and Educational Body

Profile
EU Marie Curie Post-Doc Fellow

Main duties and responsibilities

QUALIFICATIONS


2003 – Professional Practice Examination and Engineering Licence - Qualified Engineer (in Italian: Esame di Stato per l’esercizio della professione di Ingegnere); Politecnico di Milano (II Session 2002); mark 90/100.

EDUCATION AND TRAINING

From / To
February 2002 / March 2005

Name and type of education or training institution
Politecnico di Milano, Ph.D. (Dottorato di Ricerca) in Radiation Science e Technology. The research activity has been mainly held at the Scanning Ion Lab, The Enrico Fermi Institute, University of Chicago (Chicago, IL, USA) with short visits at the laboratory of chemical-physics analysis at the Istituto Trentino di Cultura (ITC-IRST) [now FBK] in Trento (Italy).

Main subjects and professional skills learned
Ph.D. Thesis on “FIB-SIMS, analytical technique for the study of nanoscale materials”. Analysis of nanostructures, thin films and biological tissues by nano-focused secondary ion mass spectrometry (2D surface chemical maps, compositional depth profiles). Analysis of metal-ceramic multilayers of thin films by dynamic SIMS profilometry.

Certificate o degree gained

Level of national or international classification
Ph. D., mark Excellent (cum laude) (EQF Lev.8)

List of marked exams
Methods for the Characterization of Materials - Materials of Tomorrow (held at The University of Chicago) - Energetic Beams in Surface Physics and Technology - Applications of Scattering Techniques - Radiation Sources for Medical Applications - Radiation Transport with Montecarlo methods (with Lab) - Safety Analysis of Plants with Montecarlo methods (with Lab).

From / To
September 1990 / December 2001

Name and type of education or training institution
Politecnico di Milano, Faculty of Engineering, Master Degree (Laurea) in Nuclear Engineering
Main subjects and professional skills learned

- Master Thesis on “Structural and mechanical properties of Diamond Like-Carbon films synthesized by CH₂ and CF₄ precursors grown by plasma assisted chemical vapor deposition”.

Certificate or degree gained

- Master in Nuclear Engineering (Laurea)

Level of national or international classification

- Master Degree, mark: 91/100 (EQF Lev.7).

List of marked exams


TRAINING HIGH-EDU SCHOOLS

2016, May 12 – PoliFab, Workshop on neuromorphic computing systems, Milan, Italy (Prot. IMM CNR n. 2084 20/04/2016)

2016, Apr 22 – PoliFab, Workshop on spintronics, Milan, Italy (Prot. IMM CNR n. 2085 20/04/2016)

2009, June 15-20 – CNR Management and Results Exploitation in Research Course, Genova, Italy - Course contents: general management, proposal management, research policy, problem solving, public awareness.

2006, July 11-15 – Ultrasmooth Summer School, Durham, United Kingdom - School contents on Spintronics and related materials. Session dedicated to Intellectual property and patenting issues within the framework of EU funded projects.

2006, February 25-March 26 – Higher European Research Course for Users of Large Experimental Systems, HERCULES 2006, Grenoble, France – 1-month school providing training for students, postdoctoral and senior scientists from European and non-European universities and laboratories, in the field of Neutron and Synchrotron Radiation for condensed matter studies (Biology, Chemistry, Physics, Materials Science, Geosciences, Industrial applications). It included lectures, practicals, tutorials, and visits of Large Facilities: ESRF, ILL in Grenoble and ELETTRA in Trieste.


TRAINING ON SOFT-SKILLS (WITH CERTIFICATION)


2021, March 11 – webinar (1 hour) – Consortium GARR – Open Research Europe: the new platform for publishing from European Commission (Open Research Europe: la nuova piattaforma di pubblicazione della Commissione Europea) – Certificate of participation (attestato di partecipazione)
2021, February 23 – webinar (1.5 hours) – Unità Formazione e Welfare CNR – Publishing Open Access at CNR (Pubblicare Open Access al CNR) – Certificate of frequency with final test (attestato di frequenza con verifica di apprendimento, Rep. n. 001940/2021)

2020, December 01-22 – webinar series (50 hours) – Valore P.A. Edition 2019 – Scuola Nazionale dell’Amministrazione (SNA), – La comunicazione efficace. Principali temi affrontati: complessità della comunicazione nei sistemi organizzativi, strumenti di comunicazione interpersonale; la comprensione della diversità e dei modelli del mondo; tecniche dell’ascolto attivo; linguaggio non verbale; comunicazione digitale nelle sue varie piattaforme. (Level II A) – Certificate of frequency (attestato di frequenza)


2020, October 5, 7, 8 – webinar series (6 hours) – Unità Formazione e Welfare CNR – Towards Horizon Europe: origin and context, missions & partnerships and deepening (Verso Horizon Europe: genesi e contesto, missions & partnerships e approfondimenti) – Certificate of frequency with final test (attestato di frequenza con verifica di apprendimento, Rep. n. 009296/2020)


2018, July – CALAM Centro di Formazione Professionale, Lodi (MI) – Training on STEM Teaching Lab - HANDS ON MIND: tecnologie e tecniche di didattica digitale collaborative – Certificate of frequency (certificato di frequenza)

2018, March June – Valore P.A. Edition 2017 – Scuola Internazionale Superiore di Studi Avanzati (SISSA) and Scuola di Formazione e Perfezionamento per la P.A. (EBIT), Milan, Italy – Conflict Management: conoscere le dinamiche di gruppo per una ottimale gestione dei conflitti attraverso la negoziazione e la cooperazione (Level II A) – Certificate of participation with final exam (attestato di partecipazione e profitto)

2009, June 15-20 – CNR Management and Results Exploitation in Research Course, Genova, Italy - Course contents: general management, proposal management, research policy, problem solving, public awareness – Certificate of participation (attestato di partecipazione)

**TEACHING**

**Lessons at Ph.D. Courses**


2011, November – Structural and Compositional Analyses Course, Doctoral School in Materials Engineering, Milano, Italy - SIMS Fundamentals and Applications.


2007, December – Structural and Compositional Analyses Course, Doctoral School in Materials Engineering, Milano, Italy - Spettrometria di massa degli ioni secondario: SIMS and NanoSIMS.


2005, October – Applications of Scattering Techniques Course, Doctoral School in Radiation Science and Technology, Milano, Italy - X-Ray Reflectivity: theory, experiments and simulations.

2004, November – Structural and Compositional Analyses Course, Doctoral School in Materials Engineering, Milano, Italy - Basics of Secondary Ion Mass Spectrometry (SIMS): theory and
applications.

2004, February – Chemical and Compositional Analyses Course, Doctoral School for Materials Engineering, Milano, Italy - High lateral resolved SIMS.


Lessons at Master Classes
2007, Jan-Mar – "New Skills in Physics" Laboratory demonstrator to Physics Undergraduate Students at University of Durham, Durham, United Kingdom.
2006, Jan-Mar – "New Skills in Physics" Laboratory demonstrator to Physics Undergraduate Students at University of Durham, Durham, United Kingdom.
2005, Oct – “XRR Theory, experiments and simulations” lecture in the framework of the course “Plasma Physics and Technology” to final year students at Politecnico di Milano, Milan, Italy.

Teaching in Professional High Schools
From 2010: Fixed term contract Teacher (in Italian: rapporto occasionale) at ASLAM – Cooperativa Sociale, at Magenta (MI) & S. Macario (VA) locations, Italy, High School of Professional Education, course in Mechanical Operator, Thermohydraulic Operator, course in Technician of Energy Plants, course in Refrigerator Technician (Lombardia Plus), course in Technician of Mechatronics (IFTS).

Final Examination in Professional High Schools (in Italian: DDIF - Prove di Accertamento finale)

Seminars
2019, July – Politecnico di Milano, Department of Energy, NanoLab Talk Series
Extended MoS$_2$ monolayer growth using chemical vapor deposition on flat and patterned substrates
2007, January – Experimental Physics IV, Condensed Matter Physics, Bochum, Germany
Interface stability in magnetic heterostructures with oxide interlayers.
2003, January – Istituto Trentino di Cultura – Istituto per la Ricerca Scientifica e Tecnologica, Trento, Italy
FIB-SIMS: “chemical” analysis at nano scale.

Thesis Supervision
2020, July – Master Thesis in Materials Engineering and Nanotechnology, Politecnico di Milano, Milano, Italy (Supervisor)
“Study on 2D MoTe$_2$ from mechanical exfoliation and CVD growth”
2019, July – Master Thesis in Materials Engineering and Nanotechnology, Politecnico di Milano, Milano, Italy (Supervisor)
“Large area growth of MoS$_2$ nanosheets by chemical vapor deposition”
2010, April – Master Thesis in Nuclear Engineering, Politecnico di Milano, Milano, Italy (Correlatore) “Sulla struttura di film di Zirconia stabilizzata irraggiati in regime di collisioni inelastiche”.

**Board Membership**

**Tutoring**

2006-2007, University of Durham, Durham, United Kingdom
Pastoral tutor service to undergraduate students at Grey College, University of Durham.

2000-2002, Politecnico di Milano, Milano, Italy
Supervision, coordination and support of tutor activities to undergraduate students.

1998-2000, Politecnico di Milano, Milano, Italy
Tutor in General Mathematics, Physics and Chemistry to freshman (1st year undergraduate) students.

**Editorial member of scientific publications**

2020, June, Member of the editorial board of MDPI Coatings.

**Recruiting evaluation**

2020, Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando N. AR IMM011/2020/MB (Prot. CNR-AMMCEN n. 0012814 15/02/2020).

2019, Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando N. BS IMM004/2019/MB (Prot. IMM CNR n. 4598 08/08/2019).

2019, Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando N. AR IMM013/2019/MB (Prot. IMM CNR n. 3336 11/06/2019).

2019, Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. 380.2 IMM RIC (Prot. IMM CNR n. 167 16/01/2019).

2018, Substitute Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. 380.1 IMM RIC (Prot. IMM CNR n. 5928 12/12/2018).

2018, Substitute member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. AR IMM007/2018/MB (Prot. IMM CNR n. 5832 20/11/2018)

2017, Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. 04/2017 ADR ISC RMSAP (Prot. CNR AMMCEN n. 21001 27/03/2017).

2015, Substitute member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. AR IMM002/2015/MB (Prot. IMM CNR n. 1575 09/03/2015).

2014, Member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. IMM/05/2014/MB (Prot. IMM CNR n. 7133 22/09/2014).

2013, Substitute member of the board of evaluators (in Italian Commissione esaminatrice) related to recruitment Bando n. IMM/03/2013/MB (Prot. IMM CNR n. 7656 01/10/2013).

**Technical commissions**

2017, Member of the board of evaluators (in Italian Commissione giudicatrice) related to negotiation n. CIG 7251615DFE (Prot. IMM CNR n. 5558 30/10/2017).

**Project evaluation**


2017 – NFFA-Trieste Continuous Call - External Independent Reviewer.


2016 – COST Call OC-2016-1 External Independent Reviewer and Rapporteur.


**Scientific Reviewer (peer-review process)**

From 2003: Scientific Reviewer (peer-review process) for the following publishers/journals:


ACS: Chemistry of Materials, Applied Materials and Interfaces, Crystal Growth and Design, Omega, Journal of Advanced Oxidation Technologies

**Conference, Symposia, Workshop Organization**


2007 – Workshop on Smoothing and Characterization of Magnetic Films for Advanced Devices, July 4 - 6, 2007, Faculty of Physics and Applied Computer Science, AGH - University of Science and Technology Krakow, Poland. Scientific Program Committee member.

**Research Project Planning and Management**

2009 - Contribution to the preparation of the project “Oxides for Spin Electronic Applications” (OSEA) submitted under the CARIPLO Foundation call on Advanced Materials 2009 – Project duration: 30 months – Granted – Starting date 01 April 2010.

2008 - Contribution to the preparation and to the project management of the national project “Spin Polarized Advanced Materials for Magnetic Memories” (SPAM3) submitted under the CARIPLO Foundation call on Advanced Materials 2008 – Project duration: 24 months – Granted – Starting date 01 February 2009.

**Administrative**

2013-2015 – Responsible for Procedures (in Italian Responsabile del Procedimento, RUP) for the fulfillments required by the Italian Public Authority for the Public Contracts. (Prot. IMM CNR 560 23/01/2013)

10/06/2013 IMM Bologna (Italy) – Formation day on RUP role and responsibilities (Teacher Avv. Vittorio Miniero) (Prot. IMM CNR 4743 10/06/2013).

**Research at Large Facilities**

- **Synchrotron light sources**
  
  Each of the following proposal has been subjected to peer-review, selection and ranking to be approved and assigned to beamtime.

  20/02/2017-23/02/2017 HZB BESSY, UE46_PGM-1/High-Field Diffractometer beamline, Proposal number 16204394-ST/R: Magnetism in Fe doped Zirconia thin films.

  09/01/2017-15/01/2017 HZB BESSY, UE46_PGM-1/High-Field Diffractometer beamline, Proposal number 16204394-ST/R: Magnetism in Fe doped Zirconia thin films.

  15/10/2013-25/10/2013 ELETTRA, VUV Photoemission Beam line, Proposal number 20130063: Band structure identification in hexagonal silicon nanosheets on MoS2.


  08/06/2011-13/06/2011 ESRF, Beam line BM-28, Experiment Number SI-2237: X-ray reflectivity measurements to study the interface stability in MgO-based magnetic tunnel junctions upon in-situ annealing.

  02/03/2011-07/03/2011 ESRF, Beam line BM-28, Experiment Number MA-1203: Phase identification and quantification in Er-doped HfO2 and La-doped ZrO2 thin films by high resolution grazing incidence X-ray diffraction

23/04/2010-27/04/2010 ESRF, Beam line BM-2, Experiment Number MA-1052: Phase identification in pure and rare earths (La, Er) doped ZrO\textsubscript{2} and HfO\textsubscript{2} thin films by high resolution grazing incidence X-ray diffraction.

13/02/2007-19/02/2007 ESRF, Beam line BM-2, Experiment Number 02 02 685: Structural and chemical characterisation at the interfaces in metal/nitride multilayers by Diffraction Anomalous Fine Structure (DAFS).

25/01/2007-30/01/2007 ESRF, Beam line BM-28, Experiment Number SI 1440: Strain dependence in Fe/Cr/Fe at varying temperature and in magnetic field with Grazing Incidence X-ray Diffraction (GIXRD).


08/03/2006-13/03/2006 ESRF, Beam line BM-28, Experiment Number SI 1349: Variable Energy Reflectivity from magnetic tunnel junctions.

04/12/2005-11/12/2005 SRS Daresbury, Station 2.3 Experiment Number 44217: X-ray reflectivity under annealing of CoFeB/MgO based magnetic tunnel junctions.

20/09/2005-27/09/2005 SRS Daresbury, Station 2.3 Experiment Number 44215: X-ray reflectivity under annealing of CoFeB/AlO\textsubscript{x} based magnetic tunnel junctions.

06/07/2005-11/07/2005 ESRF, Beam line ID-31, Experiment Number ME 1153: Strain and the nucleation of the monoclinic phase in the near-surface region of yttria-stabilized zirconia.

Neutron sources
16/05/2011-18/05/2011 ILL, Instrument: D17, Experiment Number 5-23-622: Identification of hydrogenated phases at Fe/MgO and Fe\textsubscript{3}O\textsubscript{4}/MgO thin films by neutron reflectivity.


**LANGUAGE PROFICIENCY**

<table>
<thead>
<tr>
<th>Understanding</th>
<th>Speaking</th>
<th>Writing</th>
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<tbody>
<tr>
<td>Listening</td>
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According to the Common European Framework of Reference for Languages

**PERSONAL SKILLS**

Excellent communication skills gained at: (i) the professional activity in many international working groups and meetings in Agrate Brianza (MB), Durham (UK), Chicago (USA), Bochum (Germany); (ii) the participation at scientific symposia and conferences and research program meetings at national and international level.

Excellent management and planning skills in the preparation of presentations and in the coordinations of the activities gained at: (i) the professional activity in many international working groups and meetings in Agrate Brianza (MB), Durham (UK), Chicago (USA), Bochum (Germany); (ii) the participation at meeting of European collaborative projects; (iii) the organization and participation at scientific symposia and meetings; (iv) the organization and participation at research program meetings at national and international level.

Ability to work autonomously and responsibility in the techniques for scientific investigations in the fields and topics mentioned above, including the capability to perform instrument maintenance. Knowledge of the good skills of working in a clean room environment.

**IT skills:** Software programs for simulation, data fitting, data refinement; SRIM (Range of Ion Implantation) - Bede REFS (X-Ray Reflectivity) - MAUD (X-Ray Reflectivity and Diffraction) - Polar (Polarised Neutron Reflectivity) - FullProf (X-Ray Diffraction Rietveld refinement), Software programs for data analysis: Indx – Celref – Easyplot – Peakfit – Miceral Origin – Kaleidagraph. OS: DOS, MS-Windows, Linux (Ubuntu); MS-Office, Adobe Illustrator, Adobe Photoshop, Jasc; Paint Shop Pro, ImageJ, OpenShot or equivalents (es. Inkscape, Gimp2). Good knowledge of
Networking.

**Other skills:** Photography (analog and digital), Video editing

### PERSONAL INTERESTS

**Reading:** in particular books on Historical Romance and Essay, Detective Story, Mystery and Fantasy

**Sports:** watching many sports disciplines, in particular Volleyball, Soccer, Motors, Fencing, Handball. I am active supporter of the female Volleyball team in my city.

**Animals:** I own a dog and I participate in educational and apprentice dog classes. I am also interested in studies on canine breed origins, character and behavior, in particular of Pyrenean Shepherd breed.

### BIBLIOMETRIC IDENTIFIERS

**ORCID ID:** orcid.org/0000-0003-2061-2963

**ResearcherID:** B-5637-2015

**Scopus Author ID:** 56273561100

**Google Scholar ID:** yncGdt0AAAAJ

- **ISI Web of Science (05 Jul 2021) – Publications:** 132 – Citations: 1431 – H-index: 20
- **Scopus (05 Jul 2021) – Publications:** 133 – Citations: 1514 – H-index: 21
- **Google Scholar (05 Jul 2021) – Articles:** 170 – Citations: 1989 – H-index: 25 – i10-index: 60

See Annex I “List of publications”

See Annex II “List of conference contributions”

Dated 05 July 2021

Signed Alessio Lamperti

Dichiaro che le informazioni riportate nel presente Curriculum Vitae sono esatte e veritiere.


Autorizzo il trattamento dei miei dati personali, ai sensi e per gli effetti dell’art.13 del Decreto Legislativo 30 giugno 2003, n.196 “Codice in materia di protezione dei dati personali”, e dell’art. 13 del GDPR (Regolamento UE 2016/679).

Dated 05 July 2021

Signed Alessio Lamperti
CARLO GRAZIANETTI

Curriculum vitae

POSIZIONE ATTUALE

30 Settembre 2019 – in corso

Ricercatore III livello (TI) presso CNR IMM unità di Agrate Brianza.

POSIZIONI PRECEDENTI

1 Febbraio 2019 – 29 Settembre 2019

Ricercatore III livello (TD) presso CNR IMM unità di Agrate Brianza (Bando N. 380.1 IMM RIC).

27 Gennaio 2014 – 31 Gennaio 2019

Assegnista di Ricerca presso CNR IMM unità di Agrate Brianza (Bando N. AR IMM028/2013/MB Prot. 10064 - 9/12/2013)

EDUCAZIONE

2014  Ph.D. in Nanostructures and Nanotechnologies presso Dipartimento di Scienza dei Materiali dell’Università di Milano Bicocca (XXVI ciclo)

Titolo della tesi: “Scanning tunneling microscopy investigation of III-V compound semiconductors and novel 2D nanolattices”

Tutor: Prof. Marco Fanciulli
Co-tutor: Dr. Alessandro Molle

2009  Laurea Magistrale in Ingegneria Fisica presso Politecnico di Milano

Titolo della tesi: “Microscopia a scansione a effetto tunnel di film sottili di CoO cresciuti su Fe(001)”

Tutor: Prof. Alberto Brambilla

2007  Laurea Magistrale in Ingegneria Fisica presso Politecnico di Milano

Titolo della tesi: “Annullamento della resistività nei materiali superconduttori ed effetto del campo magnetico”

Tutor: Prof. Ermanno Pinotti

INDICI BIBLIOMETRICI

ISI WOS (2021): h-index=17 Cit.=2492

Scopus (2021): h-index=17 Cit.=2620

Google Scholar (2021): h-index=17 Cit.=3101

ELENCO DI 10 PUBBLICAZIONI SCELTE (* = corresponding author)


BREVETTI


ATTIVITÀ EDITORIALI

Co-editor del libro monografico “Xenes: 2D Synthetic Materials Beyond Graphene” (Elsevier) (uscita prevista nel 2022);

Guest-editor della special issue “Synthesis and Advanced Characterization of Low-dimensional and Quantum Materials” all’interno del giornale Materials (MDPI).
PROGETTI


INVITI A CONFERENZE NAZIONALI ED INTERNAZIONALI


Borgo Ticino (No), 24 Agosto 2021

Carlo Grazianetti, Ph.D.