

CURRICULUM Vitae et studiorum of ELVIO CARLINO

Elvio Carlino is doctor in Physics and Research Director of the National Research Council (CNR), the largest public Italian research institution. After the degree in Physics, in 1989 he won a public competition for two-year grant for a specialisation school, ruled by Minister for the University and Research (MUR) and National Center for Research and development of Materials (CNRSM), in the field of electron microscopy and relevant application to the study of soft and hard matter. From 1990 to 1991 he was visiting scientist at TEM laboratory of the Italian Nuclear Agency (ENEA) in Rome, working in the TEM group of Marco Vittori Antisari. From 1991 to 1992, he was visiting scientist at the H. H. Wills Laboratories at the University of Bristol, working in the TEM group of John W. Steeds.

Since 1992, he attended to the realisation of the TEM laboratories at the CNRSM and, after the installation of the equipment, he was in charge for TEM facility at CNRSM up to 1997. In 1997 he became the scientific director of the "microstructural research division" of the Scientific and Technological Park of Salento, PASTIS-CNRSM, which includes, among others, electron microscopy laboratories, X-ray diffraction laboratories, secondary ion mass spectroscopy laboratories, atomic force laboratories. On January 2001 he won a public competition for a full-time permanent position of Senior Research Scientist at the TASC - National Laboratory of the National Institute for the Physics of the Matter (INFN) in Trieste, where he established a new electron microscopy facility, located within the scientific campus of the Italian synchrotron ELETTRA, and he was the facility director from 2001 to 2005. From 2005 to 2017 he was the head of the Center for Electron Microscopy of the Institute of Materials Foundry (IOM) of CNR in Trieste. In 2013 he became qualified as full university professor within the Ministero Università e Ricerca public national competition (Abilitazione Scientifica Nazionale) in experimental physics of the matter.

During his career, he performed thousands of TEM and scanning TEM (STEM) experiments to study the properties of the matter, contributing to the development of new methodologies in TEM and STEM to understand the structure, the chemistry, and the magnetic properties of the organic and inorganic matter at atomic resolution. Recently, he contributed to a new approach to tackle the electron damage in radiation sensitive specimens.

He published more than 150 papers on international scientific journals and chapters in 6 books. He received more than 50 invitations as keynote lecturer in national and international congresses and schools. He had collaboration as thesis supervisor and as lecturer with Italian and foreign universities. He was guest editor of one edition of *Micron* on TEM in semiconducting materials. He was guest editor of a special issue of *Materials* titled "Advances in Transmission Electron Microscopy for the Study of Soft and Hard Matter". He was the organizer of international schools, meetings, and conferences. He has been the principal investigator in several national and European research projects.

Since 2001 he is referee for the Italian Minister for University and Research. He has been member of national and international committees to evaluate candidates for positions of researcher and professor in national and international institutions. He is member of the ISO UNI group UNI/CT 415 and TC202. He is member of the Italian Society for Microscopy (SISM), since 1993, and of the European Microscopy Society (EMS). He was Italian delegate at the International Federation of the Microscopy Society Meeting in Brazil in 2010. He has been serving as scientific member of international review panels for transnational access to large scale infrastructure networks, funded by the European Union as ERIC-CERIC, NFFA and ESTEEM3. He is member of the Editorial Board of *Materials* MDPI for the physics section (ISSN 1996-1944, <https://www.mdpi.com/journal/materials/sectioneditors/Physics>).

<http://www.researcherid.com/rid/C-3607-2015>

<http://orcid.org/0000-0003-0285-7297>

PROFESSIONAL EMPLOYMENT

- March 1st, 2022, **CNR-IC Institute of Crystallography**
Research Director
- May 31st, 2017, to **CNR-IMM Institute for Microelectronics and Microsystems**
February 28, 2022, Research Director
- June 1, 2005 **CNR-IOM Institute of Materials Foundry** permanent position
to May 30 2017 of senior research scientist - Head of the electron microscopy
center.
- May 1, 2001 **TASC-INFM national laboratory** permanent position of senior
to May 30 2005 research scientist - Head of the electron microscopy center.
- April 1997 **PASTIS-CNRSM-ScPA** (Private company for the research and
to April 30 2001 the development of new materials.) Head of Microstructural
Research laboratory.
- April, 1992 **CNRSM-ScPA** Researcher in charge for the Transmission
to April, 1997 Electron Microscopy Laboratory in the Division of Structural
Investigation and Microanalysis
- December, 1991 **H. H. Wills Physics Laboratory - University of Bristol (U.K)**
to April, 1992 Visiting scientist - group of microstructural investigations directed
by Prof. J. W. Steeds.
- September, 1990 **ENEA-CRE**
to September, 1991 Visiting Scientist - group directed by Dr. G. Mazzone

EDUCATION

- 1988 Physics Department – University of Lecce. He became Doctor in
Physics discussing the thesis titled " Determination of GaSe
polytypism induced by different dopands". Revisers: Prof. C. De
Blasi and Prof. A. M. Mancini
- 1989 Winner of a public competition for a two-year specialisation
school grant, by Italian Minister of University and Research and
CNRSM, in the field of TEM and relevant application to the study
of the matter. On April 2nd 1992 he positively concluded the final

exam of the specialisation school and was hired as researcher at CNRSM.

- 1991 Surrey University (Guilford-UK): School on Analytical Electron Microscopy: X-ray and Energy Loss Spectroscopy in the EM and Image Analysis
- 1992 CNRSM ScPA (Brindisi-I): International School on Electron Microscopy in Materials Science
- 1994 Bristol University (Bristol-UK): Summer School on Electron Crystallography

PRIZES AND REWARDS

- 2014 Project Premiale USCEF - Update of the Spectroscopies of Center for Electron Microscopy Facility
(MIUR (Prot. 949/Ric 2012 Linea d'intervento 3 - Commissione VII Senato della Repubblica Atto n. 38 del 19 Novembre 2013).
Costs: 975.000€

Periods as Visiting Scientist

- September-
October 2022 University of Cádiz (E) - Project:
Development of atomic resolution imaging of single particle radiation sensitive materials

PUBLICATIONS ON JCR JOURNALS AND REFERRED PROCEEDINGS OF CONFERENCES

2022 Elvio Carlino
Special Issue Reprint: Advances in Transmission Electron Microscopy for the Study of Soft and Hard Matter
www.mdpi.com/books/pdfview/book/5113
ISBN 978-3-0365-3212-7 (Hbk)
ISBN 978-3-0365-3213-4 (PDF)

2021 Elvio Carlino
Editorial Special Issue: Advances in Transmission Electron Microscopy for the Study of Soft and Hard Matter
Materials 2021, **14** (7), 1711
<https://doi.org/10.3390/ma14071711>

Elvio Carlino
Guest Editor of Special Issue: Advances in Transmission Electron Microscopy for the Study of Soft and Hard Matter
Materials 2021, – ISSN 1996-1944
https://www.mdpi.com/journal/materials/special_issues/advances_TEM

2020 Elvio Carlino
In-line holography in transmission electron microscopy for the atomic resolution imaging of single particle of radiation sensitive matter
Materials 2020, **13**(6), 1413
<https://doi.org/10.3390/ma13061413>

2018 Elvio Carlino, Francesco Scattarella, Liberato De Caro, Cinzia Giannini, Dritan Siliqi, Alessandro Colombo, Davide Emilio Galli
Coherent diffraction imaging in Transmission Electron Microscopy for atomic resolution quantitative studies of the matter
Materials (2018), **11** (11), 2323
<https://doi.org/10.3390/ma11112323>

S. Mehmood, R. Ciancio, E. Carlino and A.S. Bhatti

Role of Au nanoparticles in the enhanced response of Au(NPs) decorated MWCNTs electrochemical biosensor
International Journal of Nanomedicine, **13**, 2093-2106 (2018)

Elvio Carlino
Atomic Resolution Transmission Electron Microscopy: On the way toward the ultimate spatial resolution and accuracy
Proc. Nanoinnovations 2018 – Rome

2017

Elvio Carlino, Liberato De Caro, Cinzia Giannini, Giulio Fanti
Atomic resolution studies detect new biologic evidences on the Turin Shroud
PLoS ONE **12**(6): e0180487. (2017)
<https://doi.org/10.1371/journal.pone.0180487> (Retracted)

Francesco Scattarella, Liberato De Caro, Dritan Siliqi and Elvio Carlino
Effective Pattern Intensity Artifacts Treatment for Electron Diffractive Imaging
Crystals, **7**, 186 (2017)
<https://doi.org/10.3390/cryst7070186>

Alessandro Colombo, Davide Emilio Galli, Liberato De Caro, Francesco Scattarella, and Elvio Carlino
Facing the phase problem in Coherent Diffractive Imaging via Memetic Algorithms
Scientific Report **7**, 42236 (2017)
<https://doi.org/10.1038/srep42236>

E. Carlino, L. De Caro, F. Scattarella, A. Colombo, D. E. Galli
Coherent diffraction imaging in Transmission Electron Microscopy for atomic resolution quantitative studies of the matter
Proceedings MCM13 Rovinj (Hr) 24-29 September 2017

Federica Bondino, Elena Magnano, Regina Ciancio, Carla Castellarin Cudia, Alessandro Barla, Elvio Carlino, Flora Yakhou-Harris, Nalin Rupesinghe and Cinzia Cepek
Chemically Stable Nanosized Fe nanoparticles Encapsulated Inside Vertically-Aligned Carbon Nanotubes
Phys. Chem. Chem. Phys. **19** (47) 32079-32085 (2017)
<https://doi.org/10.1039/c7cp05181f>

2016

Liberato De Caro, Francesco Scattarella, and Elvio Carlino
Determination of the projected atomic potential by deconvolution of auto-correlation function of TEM electron nano-diffraction patterns
Crystals, **6**, 141 (2016)

<https://doi.org/10.3390/cryst6110141>

L. Rebuffi, A. Troian, R. Ciancio, E. Carlino A. Amini, A. Leonardi & P. Scardi

On the reliability of powder diffraction Line Profile Analysis of plastically deformed nanocrystalline systems.

Sci. Rep. **6**, 20712 (2016)

<https://doi.org/10.1038/srep20712>

Marchiol Luca, Mattiello Alessandro, Pošćić Filip, Fellet Guido, Zavalloni Costanza, Carlino Elvio, Musetti Rita

Changes in Physiological and Agronomical Parameters of Barley (Hordeum vulgare) Exposed to Cerium and Titanium Dioxide Nanoparticles

Int. Jour. Environ. Res.&Public Health **13**, 332-350 (2016)

<https://doi.org/10.3390/ijerph13030332>

Dritan Hasa, Elvio Carlino, William Jones.

Polymer-assisted grinding (POLAG), a versatile method for polymorph control of cocrystallization

ACS Cryst. Growth Des. **16**, 1772–1779 (2016)

<https://doi.org/10.1021/acs.cgd.6b00084>

Elvio Carlino, Francesco Scattarella, Liberato De Caro, Davide Emilio Galli, Alessandro Colombo

Coherent diffraction imaging in TEM

Proceeding IFEXS 2016, Trieste 1-3 February 2016

Alessandro Colombo, Elvio Carlino, Liberato De Caro, Davide Emilio Galli, Francesco Scattarella.

A hybrid stochastic-deterministic approach for phase retrieval

Proceeding IFEXS 2016, Trieste 1-3 February 2016

2015

S. Mehmood, A. Naeem, S. Sabahat, R. Ciancio, E. Carlino M.F. Bhopal and A.S. Bhatti

Modified structural and optical characteristics of Au-NPs-MWCNTs nanohybrids

Superlattices and Microstructures **81** 248-264 (2015)

Cristy Azanza Ricardo, Fabrizio Girardi, Elisa Cappelletto, Renato D'Angelo, Regina Ciancio, Elvio Carlino, Pier Carlo Ricci, Claudia Malerba, Alberto Mittiga, Rosa Di Maggio, and Paolo Scardi.

Chloride-based route for monodisperse CZTS nanoparticles preparation

J. of Renewable and Sustainable Energy, **7**, (4) p. 043150 (2015)

<https://doi.org/10.1063/1.4929959>

Regina Ciancio, Elvio Carlino, Fabrizio Girardi, Elisa Cappelletto, Renato D'Angelo, Cristy L. Azanza Ricardo, Rosa Di Maggio, Paolo Scardi

Nanostructure of monodisperse CZTS nanoparticles fabricated by a novel hot injection-based approach

Proceedings of MCM 2015 August 23-28 2015-Eger-Hungary

2014

Elvio Carlino

“TEM for Characterization of Semiconductor Nanomaterials” in “Transmission Electron Microscopy Characterization of Nanomaterials”

Challa S. S. R. Kumar (ed.) DOI 10.1007/978-3-642-38934-4_3 3rd volume Springer Book Series, Springer Heidelberg New York Dordrecht London 2014 p. 89-148

ISBN: 978-3-642-38933-7 (Print) 978-3-642-38934-4 (Online)

Ciancio R., Orgiani P., Galindo P., Arpaia R., Bauch T., Lombardi F., Carlino E.

Anisotropic nanoscale strain in un-twinned YBa₂Cu₃O_{7-x} superconducting thin films grown on (110) MgO substrates

Proceedings 18th IMC 2014 7-12 September 2014-Prague Czech Republic p. 1611-2

ISBN 978-80-260-6720-7

Claudia Carlucci, Hua Xu, Barbara Federica Scremin, Cinzia Giannini, Davide Altamura, Elvio Carlino, Valeria Videtta, Francesca Conciauro, Giuseppe Gigli and Giuseppe Ciccarella

Selective Synthesis of TiO₂ Nanocrystals with Morphology Control with the Microwave-Solvothermal Method

CrystEngComm, **16** (9) 1817-1824 (2014), Published as advanced article

<https://doi.org/10.1039/c3ce41477a>

Claudia Carlucci, Hua Xu, Barbara Federica Scremin, Cinzia Giannini, Teresa Sibillano, Elvio Carlino, Valeria Videtta, Giuseppe Gigli, and Giuseppe Ciccarella

Controllable One-Pot Synthesis of Anatase TiO₂ Nanorods with the Microwave-Solvothermal Method

Science of Advanced Material **6** (8), 1668-1675 (2014)

Acres Robert; Feyer Vitaliy; Tsud Nataliya; Carlino Elvio; Prince Kevin

Mechanisms of Aggregation of Cysteine Functionalized Gold Nanoparticles

ACS Journal of Physical Chemistry C **118** (19) 10481-10487 (2014)

2013

Regina Ciancio, Andrea Vittadini, Annabella Selloni,

Riccardo Arpaia, Carmela Aruta, Fabio Miletto Granozio,
Umberto Scotti di Uccio, Giorgio Rossi, Elvio Carlino
*Evolution of nanostructures of anatase TiO₂ thin films
grown on (001) LaAlO₃*
Journal of Nanoparticle Research **15** (6) art n. 1735 (2013)
<https://doi.org/10.1007/s11051-013-1735-x>

Liberato De Caro, Elvio Carlino, Dritan Siliqi, and Cinzia Giannini
*Coherent Diffractive Imaging: From Nanometric Down to
Picometric Resolution*
in: V.V. Tuchin (ed.), *Handbook of Coherent-Domain Optical
Methods*, DOI:10.1007/978-1-4614-5176-1_8, Springer Science,
Business Media New York (2013)
ISBN 978-1-4614-5177-8

A. R. Kumarasinghe, L. Samaranayake, F. Bondino, E. Magnano,
N. S. Kottegoda, E. Carlino, U. N. Ratnayaka, A. de Alwis, V.
Karunaratne and G. A. J. Amaratunga
*Self-Assembled Multilayer Graphene Oxide Membrane and Carbon
Nanotubes Synthesized Using a Rare Form of Natural Graphite*
ACS Journal of Physical Chemistry C **117** (18) 9507-9519 (2013)
<https://doi.org/10.1021/jp402428j>

Francesco Pineider, César de Julián Fernández, Valeria Videtta,
Elvio Carlino, Awni al Hourani, Fabrice Wilhelm, Andrei Rogalev,
P. Davide Cozzoli, Paolo Ghigna, Claudio Sangregorio
*Spin-polarization transfer in colloidal magnetic-plasmonic Au/iron
oxide heteronanocrystals*
ACS Nano **7** (1), 857-866 (2013)
<https://doi.org/10.1021/nn305459m>

Dritan Hasa, Beatrice Perissutti, Cinzia Cepek, Sunil Bhardwaj,
Elvio Carlino, Mario Grassi, Sergio Invernizzi, Dario Voinovich
*Drug Salt Formation Via Mechanochemistry: The Case Study of
Vincamine*
Mol. Pharmaceutics, **10** (1) 211–224 (2013)
<https://doi.org/10.1021/mp300371f>

R. Ciancio, A. Vittadini, A. Selloni, C. Aruta, F. Miletto Granozio,
U. Scotti di Uccio, G. Rossi and E. Carlino
*Competing Magnéli-like phases driven by substrate-induced strain
in TiO₂ anatase thin films*
Proceedings MCM 2013 25-30 August 2013 Regensburg Germany

Hua Xu, Rosaria Anna Picca, Luisa De Marco, Claudia Carlucci,
Angela Scrascia, Paride Papadia, Barbara Federica Scremin, Elvio
Carlino, Cinzia Giannini, Cosimino Malitesta, Marco Mazzeo,
Giuseppe Gigli and Giuseppe Ciccarella

Nonhydrolytic Convenient Route to Boron Doped TiO₂ Nanocrystals

Eur. J. Inorg. Chem. 3 364-374 (2013)

<https://doi.org/10.1002/ejic.201200842>

2012

P. Torelli, M. Sperl, R. Ciancio, J. Fujii, C. Rinaldi, M. Cantoni, R. Bertacco, M. Utz, D. Bougeard, M. Soda, E. Carlino, G. Rossi, C. H. Back and G. Panaccione

Growth of ultrathin epitaxial Fe/MgO spin injector on (0,0,1) (Ga,Mn)As

Nanotechnology **23** (46) (2012) 465202

<https://doi.org/10.1088/0957-4484/23/46/465202>

Regina Ciancio and Elvio Carlino

Carmela Aruta, Davide Maccariello, Fabio Miletto Granozio and Umberto Scotti di Uccio

Nanostructure of buried interface layers in TiO₂ anatase thin films grown on LaAlO₃ and SrTiO₃ substrates

Nanoscale, **4**, (1) p. 91-94, (2012)

<https://doi.org/10.1039/c1nr11015b>

R. Ciancio, A. Vittadini, A. Selloni, C. Aruta, U. Scotti di Uccio, G. Rossi and E. Carlino

Atomic structure of interface layers and crystallographic shear planes in epitaxial anatase TiO₂ thin films

Invited paper in Proc. of XI International Conference on

Nanostructured Materials, Rhodes-Greece 26-31 August 2012

Liberato De Caro, Elvio Carlino, Fabio Alessio Vittoria, Dritan Siliqi and Cinzia Giannini

Keyhole Electron Diffractive Imaging (KEDI)

Acta Cryst. A **68** 687-702, (2012)

<https://doi.org/10.1107/S0108767312031832>

Puleng Mbuyisa, Sunil P. Bhardwaj, Federica Rigoni, Elvio Carlino, Stefania Pagliara, Luigi Sangaletti, Andrea Goldoni, Muzi Ndwandwe and Cinzia Cepek

Controlled synthesis of carbon nanostructures using aligned ZnO nanorods as templates

CARBON **50** (15) 5472–5480, (2012)

<https://doi.org/10.1016/j.carbon.2012.07.034>

R. Ciancio, E. Carlino, G. Rossi, C. Aruta, U. Scotti di Uccio, A. Vittadini, and A. Selloni

Magneli-like phases in epitaxial anatase TiO₂ thin films

Physical Review B **86** (101), 104110 (2012)
<https://doi.org/10.1103/PhysRevB.86.104110>

R. Ciancio, A. Vittadini, A. Selloni, C. Aruta, U. Scotti di Uccio,
G. Rossi, E. Carlino

*Atomic structure and crystallographic shear planes in epitaxial
TiO₂ anatase thin films*

Microscopie **2** (18) 50-56, (2012)

2011

E. Carlino, L. De Caro, C. Giannini, D. Silliqi
Coherent Diffraction imaging at sub-angstrom resolution in a Transmission electron microscope
Proc. International Conference SLO-NANO 2011 October 26-28
Ljubliana (Si)

E. Carlino, L. De Caro, C. Giannini, D. Silliqi
Electron diffractive imaging at sub-ångström resolution
Proc. 2nd Joint Congress of the Portuguese and Spanish
Microscopy Societies “Conference Microscopy at the frontiers of
Science” October 18-22 Aveiro (Portugal) p. 17

R. Ciancio, B. Davidson, A. Taurino, M. Catalano, and E. Carlino
Atomic-resolution studies of La_{0.65}Sr_{0.35}MnO₃ thin films grown on SrTiO₃ substrate
Proc. MCM2011 – September 4-9, 2011 Urbino (I) p. 13

R. Ciancio and E. Carlino, C. Aruta, D. Maccariello, F. Miletto
Granozio and U. Scotti di Uccio
Nanostructure of buried interface layers in TiO₂ anatase thin films grown on LaAlO₃ and SrTiO₃ substrates
Proc. MCM2011 – September 4-9, 2011 Urbino (I) p. 569

E. Carlino, L. De Caro, D. Silliqi, C. Giannini
Electron diffractive imaging at sub-ångström resolution
Proc. MCM2011 – September 4-9, 2011 Urbino (I) p. 571

Buonsanti Raffaella, Carlino Elvio, Giannini Cinzia, Altamura
Davide, De Marco Luisa, Giannuzzi Roberto, Manca Michele,
Gigli Giuseppe, Cozzoli Pantaleo Davide
*Hyperbranched Anatase TiO₂ Nanocrystals: Nonaqueous
Synthesis, Growth Mechanism and Exploitation in Dye-Sensitized
Solar Cells*
J. Amer. Chem. Soc. **133**, (47), 19216–19239 (2011)
<https://doi.org/10.1021/ja208418z>

2010

Liberato De Caro, Elvio Carlino, Gianvito Caputo, Pantaleo Davide
Cozzoli, Cinzia Giannini
Looking at the world with sub-atomic eyes
National Research Council (CNR) Highlights 2009/2010 p. 102

Raffaella Buonsanti, Vincenzo Grillo, Elvio Carlino, Cinzia
Giannini, Fabia Gozzo, Mar Garcia-Hernandez, Miguel Angel
Garcia, Roberto Cingolani, and P. Davide Cozzoli
*Architectural Control of Seeded Grown Iron Oxide/TiO₂ Nanorod
Heterostructures: The Role of Seeds in Topology Selection*
J. Amer. Chem. Soc. **132** (7), 2437–2464, (2010)

Diane Latawiec, Fernando Herrera, Alpan Bek, Valeria Losasso, Michela Candotti, Federico Benetti, Elvio Carlino, Agata Kranjc, Marco Lazzarino, Stefano Gustincich, Paolo Carloni, Giuseppe Legname.

Modulation of alpha-synuclein aggregation by dopamine analogs

PLoS One., **5** (2): e9234. (2010)

<https://doi.org/10.1371/journal.pone.0009234>

Liberato De Caro, Elvio Carlino, Gianvito Caputo, Pantaleo Davide Cozzoli, Cinzia Giannini

Electron diffractive imaging of oxygen atoms in nanocrystals at sub-ångström resolution

Nature Nano. **5** 360-365 (2010)

<https://doi.org/10.1038/nnano.2010.55>

E. Carlino, L. De Caro, C. Giannini, P. D. Cozzoli, G. Caputo

Detecting light atoms at sub-angstrom resolution by TEM electron diffractive imaging

Invited paper on Proc. IMC 17 international congress - Rio de Janeiro (Brazil) Ed. G. Solorzano, W. de Souza p. 344 (2010)

Giovanna Melcarne, Luisa De Marco, Elvio Carlino, Francesca Martina, Michele Manca, Roberto Cingolani, Giuseppe Gigli and Giuseppe Ciccarella,

Surfactant-free synthesis of pure anatase TiO₂ nanorods suitable for dye-sensitized solar cells

J. Mater. Chem., 2010, **20**, 7248 - 7254

Elvio Carlino

Quantitative Z-contrast atomic resolution studies of semiconductor nanostructured materials

Invited paper In *XVI International conference of Microscopy of Semiconducting Materials 2009 17-20 March 2009, Univ. of Oxford, UK* – Jour. of Phys.: Conf. Ser. **209** 012005 (2010) IoP

Publ. Eds. T Walther, P D Nellist, J L Hutchinson and A. Cullis

<https://doi.org/10.1088/1742-6596/209/1/012005>

ISSN 1742-6588

2009

Fiore Angela, Rosanna Mastria, Maria Grazia Lupo, Guglielmo Lanzani, Cinzia Giannini, Elvio Carlino, Giovanni Morello, Milena De Giorgi, Yanqin Li, Roberto Cingolani, Liberato Manna

Tetrapod-shaped colloidal nanocrystals of II-VI semiconductors prepared by seeded growth

J. Amer. Chem. Soc., 2009, **131** (6), pp 2274–2282

<https://doi.org/10.1021/ja807874e>

A. Taurino, M. Catalano, R. Krahn, E. Cociancich and E. Carlino

Setting-up a novel approach to in-situ TEM study of structure transport correlations on single nanostructures

Proc. MC 2009 microscopy conference Graz (A) 30 August- 4 September 2009

W. Grogger, F. Hofer, P. Polt (Eds) **Vol 3: Materials Science**, Verlag der TU Graz 2009

<https://doi.org/10.3217/978-3-85125-062-6-636>

ISBN 978-3-85125-062-6

Giuseppe Legname, Diane Latawiec, Fernando Herrera, Alpan Bek, Michela Candotti, Federico Benetti, Vincenzo Grillo, Elvio Carlino, Marco Lazzarino, Stefano Gustincich Paolo Carloni

Modulation of alpha-synuclein aggregation by dopamine analogs

Proc. MC 2009 microscopy conference Graz (A) 30 August- 4 September 2009

M. A. Pabst, G. Zellnig (Eds) **Vol 2: Life Sciences**, Verlag der TU Graz 2009

<https://doi.org/10.3217/978-3-85125-062-6-250>

ISBN 978-3-85125-062-6

2008

Raffaella Buonsanti, Vincenzo Grillo, Elvio Carlino, Cinzia Giannini, Tobias Kipp, Roberto Cingolani and Pantaleo Davide Cozzoli

Nonhydrolytic Synthesis of high-quality Anisotropically Shaped Brookite TiO₂ Nanocrystals

J. Amer. Chem. Soc. **130** (33) 11223-11233 (2008)

<https://doi.org/10.1021/ja803559b>

E. Carlino

Quantification of chemical distribution of guest species in a host matrix by atomic resolution STEM Z-contrast

In: "Beam injection based nanocharacterization of advanced materials"

Ed. G. Salviati, T. Sekiguchi, S. Heun, A. Gustafsson

Research Signpost 37/661 (2) Fort P. O. Trivandrum – 695 023, Kerala India (2008) p. 221-242

ISBN: 978-81-308-0226-8

V.Grillo, F.Glas and E.Carlino

Quantitative determination of the chemical composition of an alloy by High Angle Annular Dark Field imaging

Proc. EMC 2008 Aachen Sept. 1-5, 2008, Eds M. Luysberg, K. Tillmann, T. Weirich Vol 1: Instrumentation and Methods, p. 95,

https://doi.org/10.1007/978-3-540-85156-1_48

Springer Verlag Berlin Heidelberg 2008

ISBN 978-3-540-85156-1

V. Grillo, E.Carlino, F. Glas

Influence of the static displacement on atomic resolution Z contrast imaging

Phys. Rev. B **77**, 054103 (2008)

<https://doi.org/10.1103/PhysRevB.77.054103>

G. Caputo, C. Nobile, T. Kipp, L. Blasi, V. Grillo, E. Carlino, L. Manna, R. Cingolani, P. D. Cozzoli, A. Athanassiou

Reversible wettability changes in colloidal TiO₂ nanorod thin film coatings under selective UV-laser irradiation

J. Phys. Chem. C, **112** (3), 701 -714, (2008)

<https://doi.org/10.1021/jp0777061>

E Carlino, V. Grillo P. Palazzari

Accurate and Fast Multi-slice Simulations of HAADF Image Contrast by Parallel Computing

In *Microscopy of Semiconducting Materials 2007* - Springer

Proceedings in Physics” Vol 120 pp 177-180 Eds. A. Cullis, P.

Midgley - Springer Netherlands

https://doi.org/10.1007/978-1-4020-8615-1_38

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V. Grillo. E Carlino

Novel method for the measure of STEM specimen thickness by HAADF imaging

In *Microscopy of Semiconducting Materials 2007* - Springer

Proceedings in Physics” Vol 120 pp 165-168 Eds. A. Cullis, P.

Midgley Springer Netherlands

https://doi.org/10.1007/978-1-4020-8615-1_35

ISSN 0930-8989

V. Grillo, E. Carlino

On the role of specimen thickness in the chemistry quantification by HAADF

In *Microscopy of Semiconducting Materials 2007* - Springer

Proceedings in Physics” Vol 120 pp 173-176 Eds. A. Cullis, P.

Midgley

Springer Netherlands

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- 1993** Course on “Application of Transmission Electron Microscopy to the analysis of semiconductor heterostructures” for the training of the OPTEL researchers - Ostuni (I)
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- 1999** Course on theory and practice of Analytical Electron Microscopy for Regione Puglia course in " Advanced Technology for the development of new materials and their application" –Brindisi (I)
- 2000-2001** Transmission Electron Microscopy course for the XVI PhD course of University of Trieste (I)
- 2000** Course on Image formation in scanning electron microscopy for the Master "Electron Microscopy: a tool for industrial quality and environmental monitoring" of the ISUFI ((Istituto Superiore Universitario di Formazione Interdisciplinare) University of Salento Lecce (I)
- 2003-2006** Coordinator of the seminar activity of PhD students at TASC-INFN (Trieste I)

PUBLICATIONS AS EDITOR

- 2000** A. Armigliato, E. Carlino, M. Catalano, Guest-Editors of the special issue of *Micron* titled:
"Microstructural and Microanalytical Characterisation of semiconducting materials and devices" *Micron*, **31** (3) 2000
- 2019-2021** Elvio Carlino
Guest Editor of a special issue of *Materials-MDPI*, section of Structural Analysis and Characterization, titled:
Advances in Transmission Electron Microscopy for the study of Soft and Hard Matter. *ISSN 1996-1944 – Materials*, **14**, 2021
https://www.mdpi.com/journal/materials/special_issues/advances_TEM
- 2021-2022** Antonietta Taurino and Elvio Carlino
Guest editors of a special issue of *Nanomaterial-MDPI*, titled:
"Transmission Electron Microscopy for Nanomaterials Research Advances" *ISSN 2079-4991*

INVITED LECTURES

- September 12-16, 2022 Cádiz (E) Invited lecturer on: "4D STEM, new opportunities in the study of the matter" at the international electron microscopy school "20th TEM-UCA Transmission Electron Microscopy of Nanomaterials European Summer Workshop" organized by the University of Cadiz
- July 1, 2022 Webinar at the IC-CNR TU University of Dresden meeting titled: Atomic Resolution transmission electron microscopy of radiation sensitive specimens
- January 20, 2022 Bari (I): Invited seminar titled: Studying the matter by electrons in a Transmission Electron Microscope at The Institute of Crystallography of the CNR in Bari
- June 12, 2019 Rome (I): Invited Keynote lecture titled" Radiation Damage in Electron Microscopy and Low Dose Approaches" at the Nanoinnovation Conference, Rome, 11-14 June 2019; organised by Sapienza University of Rome
- March 8, 2019 Brindisi (I): Invited Keynote lecture titled" Atomic Resolution Transmission Electron Microscopy: how imaging by electrons can mimic the daily experience of human vision?
Organized by CECAD-University of Salento
- September 12, 2018 Rome (I): Invited Keynote lecture titled" Atomic Resolution Transmission Electron Microscopy: On the way toward the ultimate

- spatial resolution and accuracy” at the Nanoinnovation Conference, Rome, 11-14 September 2018; organised by Sapienza University
- April 13, 2018 Brescia (I): Invited Keynote lecture on “Recent Atomic Resolution studies on the Turin’s Shroud” invited by I&T Nardoni Institute
- November 16 2017 Lille (Fr): Invited Keynote lecture at the department of Physics of the university of Lille titled” Atomic Resolution Transmission Electron Microscopy Experiments on Single Radiation Sensitive Nanoparticles”
- September 24-29 2017 Rovinj (Hr): European Microscopy Society sponsored plenary lecture titled: “Coherent diffraction imaging in Transmission Electron Microscopy for atomic resolution quantitative studies of the matter” at the Multinational Congress on Microscopy (MCM2017) organised by ASEM, CMS, CSMS, HSM, SISIM, SSM, SDM, TEMD
- June 5-10 2016 Erice (I): Invited lectures on “Coherent Diffraction Imaging in TEM” at the International School of Solid State Physics-68th Course: The Free-Electron Laser for Ultrafast Imaging at the Nanoscale Erice-Sicily June 5-10 2016, organized by Ettore Majorana Foundation and Centre for Scientific Culture and university of Milan
- February 3 2016 Trieste (I): Invited plenary keynote lecture titled: Coherent diffraction imaging in TEM” at the Workshop on “Imaging with Femtosecond Electron and X-ray pulses (IFEXS 2016)” organized by IOM-CNR, NFFA Trieste, EPF Lausanne and LUMES
- September 28 2015 Frascati (Roma) (I): Invited plenary lecture titled “Transmission Electron Microscopy in Nanoscience: state of art and future perspectives” within the 16th International School and Workshop on Nanoscience and Nanotechnology 2015 (n&n 2015) organized by INFN at Frascati National Laboratories.
- June 17 2015 Bologna (I): Invited lecture titled” The *best TEM specimen is not an option*” Workshop on Sample Preparation for TEM/SEM: state of the art. Organized by 2M strumenti, Gatan Inc.
- September 25 2014 Tirana (SQ): Invited lecture titled “*Atomic Resolution Electron Microscopy Methods in the Study of Inorganic Matter*” within the

Workshop on Crystallography organized as key event in the XX Congress of the Carpathian Balkan Geological Association

- September 15-17 2014 Otranto (I): Invited lecture titled “*Seeing atoms in the electron STEM*” within the International School of Physics and Technology of Matter organized by the Italian National Research Council (CNR)
- July 10-13 2013 Catania (I)- 9h/6h theoretical/Experimental *lectures on atomic resolution STEM HAADF imaging* in the advanced course, organized by CNR-IMM institute, “Beyond Nano”
- April 20 2012 Perugia (I) – Invited lecture on “*Scanning Electron Microscopy: an overview on application and perspective*” in the workshop on Nanostructured Materials organized by Physics department of the University of Perugia
- October 26-28 2011 Ljubliana (Si) invited lecture on: “*Coherent Diffraction imaging at sub-ångström resolution in a Transmission electron microscope*” at the International Conference SLO-NANO Ljubliana (Si)
- October 18-22 2011 Aveiro (Portugal) Invited lecture on: “*Electron diffractive imaging at sub-ångström resolution*” at the International Conference on Microscopy at the frontiers of Science
- Sept. 4-9 2011 Urbino (I) Invited Lecture on: “*Electron diffractive imaging at sub-ångström resolution*” at the international conference MCM 2011.
- July 18-22 2011 Cadiz (E) Invited lectures on: “Coherent Electron Diffractive Imaging” at the international electron microscopy school “ 11th TEM-UCA European Summer Workshop” organized by the University of Cadiz
- September 17-24 2010 Rio de Janeiro (Brazil) Invited lecture on: ”Detecting light atoms at sub-angstrom resolution by TEM electron diffractive imaging” at world conference on electron microscopy IMC 17
- January 11 2010 Trieste (I) Invited lecture on “Coherent diffraction imaging in TEM: a strategy for imaging with spatial resolution in the range of picometer” at ELETTRA/SISSA Prion Workshop
- October 18-22 2009 Shanghai (China) – Invited lecture on “High spatial resolution Transmission Electron Microscopy studies of nanostructured hybrid materials” at the IUPAC 5th International Symposium on Fine Chemistry and Functional Polymers (FCFP-XIX)
- Bari (I) Invited lecture on “Resolving Oxygen atoms at sub-

- Sept 28th - Oct. 3rd 2009 angstrom resolution in transition metal oxide nanocrystals by diffractive imaging in a TEM” at SIF conference
- Sept 30th - Oct. 2nd 2009 Lipica (SI) Invited lecture on “Ultra-resolution of 70pm by diffraction imaging in TEM” at SHRI conference
- May 29th 2009 Lecce (I) Invited plenary seminar at Physics Dep. of University of Salento on “Transmission Electron Microscopy in fundamental and applied physics”
- August 30-
September 4 2009 Graz (A) – Invited chairman of the session on “**Analytical TEM (EELS, EFTEM, X-rays)**”. At the international Microscopy Conference 2009
- March 17-20 2009 Oxford (UK) - Invited lecturer on “Quantitative Z-contrast atomic resolution studies of semiconductor nanostructured materials” at the XVI conference of Microscopy of Semiconducting Materials
- December 11 2007 Lecce (I) – Invited lecture on “Quantitative Concentration Profile by Atomic resolution STEM-HAADF imaging” at the “Advanced school on Scanning Electron Microscopy in Materials Science” organized by SISM
- January 10 2006 Bologna (I) – Invited seminar on “Atomic resolution STEM-HAADF imaging in the study of materials” at CNR-IMM laboratory
- September 30 2005 Zakopane (PI) – Invited lecturer on “Application of atomic resolution HRTEM and STEM-HAADF imaging in the study of interfaces” at the MicroCEM conference
- June 27 2005 Portorose (Si) – Invited chairman in the “High resolution imaging and analytical electron microscopy” at the international conference MCM7th 2005
- May 13 2005 Bari (I) – Invited lecturer at CNR IPCF University of Bari on “Recent results on advanced atomic resolution TEM/STEM experiments on nano-structured materials”
- February 24 2005 Lecce (I) – invited lecturer at CNR-INFM national nanotechnology laboratory on: “Recent results on atomic resolution TEM/STEM experiments”
- October 1 2004 Lecce (I) – Invited lecturer at CNR IMM Institute on: “Recent results on interface studies by STEM HAADF imaging and related spectroscopies”

- February 2-13, 2004 Trieste (I) – Invited lecturer on: “Transmission Electron Microscopy: imaging by electron interferometry”. Winter college on interferometry and applications in modern physics. Abdus Salam International Centre for Theoretical Physics (UNESCO – IAEA)
- October 20 –24 2003 Brindisi (I) Invited lectures on Scanning Transmission Electron Microscopy. SIME-ENEA School on Transmission Electron Microscopy in Materials Science
- June 19 2003 Trieste (I) invited seminar at the SISSA on “Transmission Electron Microscopy: how to study the solid state at the highest spatial resolution”
- June 1-5 2003 PULA (KR) invited seminar at the multinational congress on electron microscopy on “high spatial resolution transmission electron microscopy studies of semiconductor heterostructures “
- December 10-11 2002 Wien (A) invited seminar at the University of Wien, Inst. f. Festkörperphysik titled “Magnetic Dichroism with polarization dependent electron spectroscopies and TEM activity at the TASC-INFM national Laboratory”
- November 26-27 2002 Paris (F) invited seminar at PICS 913, Challenge in ELNES, Ecole Centrale Paris, titled “Atomic Imaging in ADF STEM coupled with EELS”
- September 28 2001 Genova (I) - Lectures on Transmission Electron microscopy and Scanning Electron Microscopy. IX Scuola Nazionale di Scienza dei Materiali - INFN - INSTM
- June 2001 Trieste (I) - Course on transmission electron microscopy in the framework of the courses for the Phd in physics of the University of Trieste
- November 15-16 2000 Lecce (I) - Lectures on Image formation in SEM in the Master "Electron Microscopy: a tool for industrial quality and environmental monitoring" organised by ISUFI (Istituto superiore universitario di formazione interdisciplinare)
- March-June 1999 Brindisi (I) - Theoretical and practical lectures on Analytical Transmission Electron Microscopy in the Regione Puglia course named " Advanced Technology for the development of new materials and their application"; Piano Annuale di Formazione Professionale 1998/1999 Delibera del Consiglio Regionale n. 331 del 14/07/1999.

- February 17-19, 1999 Torino (I) - Invited Seminar titled "Transmission Electron Microscopy study of Semiconducting and Superconducting Materials" in the I International Workshop on Semiconducting and Superconducting Materials
- July 24, 1998 Torino (I) - Invited Seminar in the Physics Department of the Polytechnic of Torino on " Transmission Electron Microscopy study of Ion implanted induced columnar defect in HTc superconducting materials "
- October 24, 1997 Messina (I) - Invited Seminar in the training course for the Ph. D. students in Physics at the University of Messina on " Transmission Electron Microscopy: not only "microscope" but an integrated approach to the determination at high resolution of the nanostructural properties of a solid"
- March 20-25, 1994 Krakow (Pl) - Invited Seminar at the International School on " Application of Analytical Electron Microscopy in Material Science"
- July 12-15, 1993 Ostuni (I) - Invited Seminar at the training course of the researcher of the project OPTEL (for the development of materials for Optoelectronic) on "Application of Transmission Electron Microscopy to the analysis of semiconductor heterostructures"
- January 18-21, 1993 Brindisi (I) - Lecturer on Transmission Electron Microscopy in the training course for the researcher of the CNRSM SCpA
- June 8-11, 1992 Brindisi (I) - Lecturer on Transmission Electron Microscopy in the training course for the technicians of the CNRSM SCpA

Invited as Chairman at international conferences

- June 11-14 2019 Rome (I): Chairman at the international Electron Microscopy School within the Nanoinnovation Conference, Rome, 11-14 June 2019; organised by Sapienza University of Rome
- September 12 2018 Rome (I) Invited Chairman of the workshop titled "Advances in Microscopy-based Nano-characterisation Methodologies" within the framework of the workshop at Nanoinnovation 2018 in memory of Pier Giorgio Merli titled "Advanced characterisation techniques for Nano technologies and Nanosciences"

September 30, 2015 Frascati (Roma): Invited chairman of the session “Microscopy on Nanomaterials” within the 16th International School and Workshop on Nanoscience and Nanotechnology 2015 (n&n 2015) organized by INFN at Frascati National Laboratories.

October 18-22 2011 Aveiro (P) Invited Chairman at the Microscopy in Materials Science session at the 2nd Joint Congress of the Portuguese and Spanish Microscopy Societies “Conference Microscopy at the frontiers of Science”

Sept. 4-9 2011 Urbino (I) – Invited Chairman of the session on “High resolution TEM and STEM” at the international Microscopy conference MCM 2011

August 30-September 4 2009 Graz (A) – Invited chairman of the session on “**Analytical TEM (EELS, EFTEM, X-rays)**”. At the international Microscopy Conference 2009

March 17-20 2009 Oxford (UK) - Invited chairman at the XVI conference of Microscopy of Semiconducting Materials

June 27 2005 Portorose (Si) – Invited chairman in the “High resolution imaging and analytical electron microscopy” at the international conference MCM7th 2005

October 19-23 1997 Taormina (I) – Invited chairman at the SIME conference “High resolution and phase contrast”

SCHOOLS OR CONGRESSES ORGANIZED

June 11-14 2019 Rome (I): Member of the Scientific Committee and co-organizer of the international Electron Microscopy School within the Nanoinnovation Conference, Rome, 11-14 June 2019; organised by Sapienza University of Rome

September 12 2018 Rome (I) Invited Chairman of the workshop titled “Advances in Microscopy-based Nano-characterisation Methodologies” within the framework of the workshop at Nanoinnovation 2018 in memory of Pier Giorgio Merli titled “Advanced characterisation techniques for Nano technologies and Nanosciences”

October 18-22 2011 Aveiro (P) Invited Chairman at the Microscopy in Materials Science session at the 2nd Joint Congress of the Portuguese and Spanish Microscopy Societies “Conference Microscopy at the frontiers of Science”

- Sept. 4-9 2011 Urbino (I) – Invited Chairman of the session on “High resolution TEM and STEM” at the international Microscopy conference MCM 2011
- August 30-September 4 2009 Graz (A) – Invited chairman of the session on “**Analytical TEM (EELS, EFTEM, X-rays)**”. At the international Microscopy Conference 2009
- December 10th 14th 2007 Lecce (I) – director of the “Advanced school on Scanning Electron Microscopy in Materials Science” organized on the behalf of SISM
- May 31st-June 1st 2007 Trieste (I) 3rd CHIRALTEM workshop:
Bringing together two communities: magnetic dichroism by electrons and photons
President of the event organized by TASC-INFN-CNR, ELETTRA, University of TS
- Sept 28-30 2005 Zakopane (Pl) – MicroCEM conference Organized by Polish Academy of Science of Krakow - Member of the Scientific committee
- March 23-24, 1995 Lecce (I) - Memorial Workshop for Prof. C. De Blasi - titled "Microstructural and Microanalytical Characterisation Techniques in Materials Science" organised by CNRSM SCPA, CNR and University of Lecce
- Sept. 20-25, 2001 Lecce(I) - V Multinational Conference on Electron Microscopy Organised by University of Lecce, CNR and ENEA
- November 9-11, 1998 Lecce (I) - Workshop on "Microstructural and Microanalytical Characterisation of semiconducting materials and devices" Organised by PASTIS-CNRSM, CNR-IME and University of Lecce
- Sept. 14-18, 1998 Lecce (I) - Theoretical-Experimental School on Scanning Electron Microscopy in Biology and Materials Science" organised by SIME, CNR-IME and University of Lecce

PUBLIC SEARCH AS MEMBER OF THE COMMITTEE

April 2015	Antwerpen (B) External peers committee member in the promotion of Academic Staff – Department of Physics of the Faculty of Science of University of Antwerpen (Belgium)
January 2015	Trieste (I) Search IOM AR008/2014 TS for a researcher for the CNR
February 2011	Trieste (I) Search IOM/006 for a researcher for the CNR
December 2008	Trieste (I) – Search AR 19/2008 for a researcher for CNR
November 2007	Trieste (I)- Search AR 46/2007 for a researcher for CNR
December 2006	Vienna (A) – member of the evaluation committee for a position of assistant professor of the Technical University of Vienna
September 2006	Trieste (I) - search AR20/2006 INFM for researches - President of the committee
June 2004	Trieste (I) - search N 883 INFM for technicians - President of the committee
December 2002	Trieste (I) - search N 673 INFM for researchers - President of the committee
December 2002	Trieste (I) - search N 675 INFM for researchers
March 2002	Trieste (I)- search N 588 INFM for researchers
November 2001	Trieste (I) - search N 489 INFM for technicians
November 2001	Trieste (I) - search N 500r INFM for researchers

PROJECTS

- 20th April 2019 Project PON 2017-2020 BIO OPEN LAB committed to realize a new advanced large research infrastructure of electron microscopy for the study of biologic and soft matter within the University campus of UNISalento. CNR **Principal investigator**. Agreement CNR-IMM and Physics and Mathematics department of the University of Salento 13 06 2019. Costs: 4.350.000,00€
- 1 March 2014
1 March 2017 Project Premiale USCEF - Update of the Spectroscopies of Center for Electron Microscopy Facility- **Principal Investigator** (MIUR (Prot. 949/Ric 2012 Linea d'intervento 3 - Commissione VII Senato della Repubblica Atto n. 38 del 19 Novembre 2013). Principal investigator: Costs: 975.000€
- 16 February 2014
15 February 2017 Project MIUR PRIN year 2012 titled NOXSS (X-ray Single Shots of Nano Objects): an integrated experimental and theoretical approach for the structural determination of nano and micro objects (clusters, nanocrystals, biomolecules, virus, liposoms) using the ultrashort and ultrabright X-ray pulses from the European Free Electron Laser sources. **Research unit leader**. Total project funds 648.562 €. Funds for the leaded research unit 203.236 €. (MIUR prot. 2012Z3N9R9) (atto direttoriale IOM N.0004440 del 18/11/2013)-Leader of research unit made by CNR-IOM (TS), University of Perugia, Elettra-Sincrotrone Trieste SCpA, CNR-IBF (Mi)
- 1st March 2010 –
28th Feb. 2011 Regional Project funded by Regione Friuli-Venezia Giulia Bando 1022/LAVFOR/2009 D. P. Reg. n.0165/Pres. Dd 23.06.2009. Project title: Sviluppo di nuovo materiale fotovoltaico nanostrutturato. **Principal investigator** for INFIM-CNR. Funds: 48.500,00€
- 19 July 2004- 18
July 2007 6th EU WP STREP N. NEST project 2003-508971 – CHIRALTEM – Demonstration of a new physical effect and development of a new methodology to study the chiral properties of magnetic materials in a TEM. **Principal investigator** for INFIM-CNR and WP leader. Act of the General Director of INFIM n. 369/04 - 07/09/2004 Funds for the workpackage: € 180.357,00
- 01 May 2001-
10 July 2007 MUR FIRB on Nanostructured carbon - **Principal investigator** for TEM studies (National Coordinator Prof. S. Modesti) D.M. 1245 del 05/09/02- Act TASC-INFIM-CNR director: 01/05/2001 Prot n. 87/3 pos.2 del 30/04/2001 Funds for TEM workpackage: € 187.136,00

- 01 May 2001-
31 December 2007 MUR FIRB project on Nanotecnologie e nanodispositivi optoelettronici e spintronici - **Principal investigator** for TEM studies (National Coordinator Prof. F. Beltram) D.M. 1245 del 05/09/02 - Act of TASC-INFM-CNR director on 01/05/2001 Prot n. 87/3 pos.2 del 30/04/2001
Funds for TEM workpackage: € 72.000,00
- 30 April 2001-31
January 2006 MUR FIRB project on magnetism. **Principal investigator** for TEM studies (National Coordinator Prof. G. Asti) D.M. 1245 del 05/09/02- Act of TASC-INFM-CNR director on 01/05/2001 Prot n. 87/3 pos.2 del 01/05/2001
Funds for TEM workpackage: € 180.000,00
- 01 January 2006
31 December 2006 Research contract CNR-INFM and INRIM: “Studio delle proprieta’ microstrutturali di sistemi nanogranulari bulk e film sottili mediante microscopia elettronica ad alta risoluzione.
Principal investigator
Act CNR-INFM n. 26/06 del 24/03/2006
Funds: € 22.500,00.
- January 2002-
January 2004 INFIM project E5 for the quantitative study of the strain effect in TEM experiments – **Principal investigator**. Act giunta esecutiva INFIM n 1884/02 12 December 2002
Funds: € 93.000,00
- February 2000-
February 2003 Project CIPE-INFIM P5AW2-Potenziamento di strutture di ricerca per servizio e trasferimento tecnologico- **Principal investigator** for WP P5AW2A1: New facility for atomic resolution TEM/STEM study of the matter (National coordinator Prof. A Franciosi)
Act of the TASC-INFIM director Prot n. 87/2 pos. 2 30 April 2001
Funds: £ 1.743.300.000
- December 1996-
December 1999 4th EU WP Esprit project 22497 NANOLASE. **Principal investigator** for CNRSM for the TEM experiments to develop new laser structures for telecommunications and sensor application
- January 1997-
January 2000 MUR-ENEA project 1.1.85 – Realisation of TEM centre suitable to be operated by remote users- **Principal investigator** for CNRSM
Funds: £ 1.500.000.000

January 1996-
January 1999

INFM PRA project TUSBAR – Development of new tunable Shottky barriers- **Principal investigator** for CNRSM for the TEM studies

January 1995-
January 1998

MUR-ENEA project 1.3.8 – Development of hard materials based on BN- **Principal investigator** for CNRSM -
Funds: £ 1.500.000.000

Since 1995 Elvio Carlino is reviewer of Journal of Applied Physics and Applied Physics letters. He is also reviewer for many scientific journals as: Philosophical Magazine, Ultramicroscopy, Mat. Sci & Eng. B, Microchimica Acta, Micron, Microscopy Microanalysis and Microstructure, Phys. Rev. B, Phys. Rev. Lett. , Science of Advanced materials, Journal of Applied Physics, Applied physics letters, Scientific Reports, Nature Nanomaterials, Materials letters, European Physics journal, Journal of Nanoresearch. On March 2001 he was nominated by UNI as italian expert in the TC202/SG3 to elaborate a standard procedure for EELS experiments in TEM

Since 2002 he became project evaluator expert for the Italian Minister of the University and Scientific Research and for the Italian Minister of Productive Activities (delibera 1176 del 02/08/2002)

On 2004 he has been invited as project evaluator expert for the Regione Emilia Romagna

On 2004 he has been invited as project evaluator expert for Regione Veneto

On 2006 he has been invited as project evaluator expert for Regione Piemonte

On 2003 he has been invited as a member of the scientific committee of the centre of excellence named NAMAM (Nano and Microscale Characterisation and Development of Advanced Materials) funded by European Union and realized by the Polish Academy of Science in Krakow.

Since 2014 Elvio Carlino is scientific proposal evaluator for the European CERIC (Central European Research Infrastructure Consortium) distributed research infrastructure network.

Since 2016 He is member of the evaluation panel of the European network NFFA Europe.

He is scientific member of the international review panel for transnational access to the Electron Microscopy large scale infrastructure consortium ESTEEM3. He is member of the Editorial Board of Materials (ISSN 1996-1944) <https://www.mdpi.com/journal/materials/sectioneditors/Physics>

Elvio Carlino