

## **ALLEGATO A**

### **UNIVERSITÀ DEGLI STUDI DI MILANO**

Procedura di selezione per la chiamata a professore di I fascia da ricoprire ai sensi dell'art. 18, comma 1, della Legge n. 240/2010 per il settore concorsuale 02/PHYS-03 - Fisica sperimentale della materia e applicazioni, (settore scientifico-disciplinare PHYS-03/A - Fisica sperimentale della materia e applicazioni) presso il Dipartimento di Fisica "Aldo Pontremoli" (avviso bando pubblicato sulla G.U. n. 92 del 19.11.2024 - Codice concorso: 5639)

## **Andrea Falqui** **CURRICULUM VITAE**

### **INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)**

<b>COGNOME</b>	<b>FALQUI</b>
<b>NOME</b>	<b>ANDREA</b>

### **TITOLI**

#### **TITOLO DI STUDIO**

(indicare la Laurea conseguita inserendo tipologia e relativo punteggio, Ateneo, titolo della tesi, data di conseguimento, ecc.)

28.7.1993: Laurea in Fisica (ciclo unico), Università degli Studi di Cagliari, Italia. Titolo della tesi di laurea: "Microanalisi quantitativa. Preparazione e caratterizzazione del composto semimagnetico  $\text{MnGa}_2\text{Se}_4$ ", votazione: 110/110 e lode.

#### **TITOLO DI DOTTORE DI RICERCA O EQUIVALENTI, OVVERO, PER I SETTORI INTERESSATI, DEL DIPLOMA DI SPECIALIZZAZIONE MEDICA O EQUIVALENTE, CONSEGUITO IN ITALIA O ALL'ESTERO**

(inserire tipologia del titolo e relativo punteggio, Ateneo, titolo della tesi, data di conseguimento, ecc.)

15.2.2001: Dottorato in Fisica, XIII ciclo, Università degli studi di Cagliari, Italia. Titolo della tesi di Dottorato: "Proprietà magnetiche di materiali nanocompositi". Valutazione finale: eccellente.

#### **ALTRI TITOLI CONSEGUITI**

(inserire titolo, ente, data di conseguimento, ecc.)

- 2000 - Concorso nazionale per l'Abilitazione all'insegnamento nella Scuola Superiore per i settori di "Matematica e Fisica" e "Matematica" - voto finale 80/80
- 2017 - Abilitazione Scientifica Nazionale (ASN) al ruolo di Professore Ordinario in Fisica Sperimentale della Materia (Settore Concorsuale 02/B1)
- 2018 - Abilitazione Scientifica Nazionale (ASN) al ruolo di Professore Ordinario in Modelli e Metodologie delle per le Scienze Chimiche (Settore Concorsuale 03/A2)
- 2019 - Qualification nationale (Qualificazione nazionale) conferita dallo Stato francese al ruolo di "Professeur des Universités" (Professore Universitario), corrispondente a quella di Professore Associato e Ordinario per la Section (Sezione) 28 (Fisica della Materia Condensata)

## **ATTIVITÀ DIDATTICA**

### **INSEGNAMENTI E MODULI**

*(inserire nome dell'insegnamento / modulo / corso, periodo [gg/mm/aa inizio e fine], anno accademico, corso laurea, Ateneo, numero di ore frontali, CFU)*

Dall'Anno Scolastico 1993-1994 all'anno scolastico 1995-1996, supplente annuale nell'insegnamento di "Matematica e Fisica", Cagliari, Scuole Superiori dello Stato, cattedra di 18 ore alla settimana

Nell'Anno Scolastico 1994-1995, Commissario di Matematica e Fisica, Esami di Stato (Maturità Scientifica), Liceo Scientifico "Pacinotti", Cagliari

Nell'Anno Scolastico 1998-1999, supplente annuale nell'insegnamento di "Matematica e Fisica", Cagliari, Liceo Classico "Siotto-Pintor", Cagliari, cattedra di 5 ore alla settimana

Dall'A.A. 2002-2003 all'A.A. 2005-2006 (4 anni): Università di Cagliari, Facoltà di Farmacia, co-titolare del corso di "Chimica Fisica", Corso di Laurea (ciclo unico) in Chimica e Tecnologie Farmaceutiche, moduli di teoria cinetica dei gas e di cinetica chimica - 16 ore di lezione frontale all'anno sulle 64 totali del corso (ovvero 2 CFU sugli 8 CFU totali del corso)

Dall'A.A. 2007-2008 all'A.A. 2008-2009 (2 anni): Università di Cagliari, Facoltà di Farmacia, titolare del corso di "Chimica Fisica", Corso di Laurea (ciclo unico) in Chimica e Tecnologie Farmaceutiche - 64 ore di lezione frontale all'anno (8 CFU)

Nell'A.A. 2013-2014 (1 anno): Università di Cagliari, Facoltà di Scienze MM.FF.NN., insegnamento di "Chimica Fisica dello Stato Solido", Corso di Laurea Magistrale in Chimica, 64 ore di lezione frontale (8 CFU)

Nell'A.A. 2005-2006 e nell'A.A. 2008-2009, INSA (Institut Nationale de Sciences Appliquée) - Toulouse, Francia, professeur invité (professore invitato), corso di Fisica Generale per Ingegneria, 40 ore di lezione frontale per A.A., dispensate in lingua francese

Nell'A.A. 2006-2007 INSA (Institut Nationale de Sciences Appliquée) - Toulouse, Francia, Attaché Temporaire pour l'Enseignement et la Recherche (ATER), corsi di Fisica Generale per Ingegneria, 230 ore (60 ore di lezione frontale, 170 ore di esercitazioni in aula e in laboratorio), dispensate in lingua francese

Dall'A.A. 2015-2016 all'A.A. 2020-2021 (6 anni) - King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita. Nell'ambito del Corso "Foundations in Bioimaging", per il Master Degree in Bioscience, insegnamento del modulo "Electron Microscopy for Biosciences", 20 ore di insegnamento per A.A., dispensate in lingua inglese

Dall'A.A. 2015-2016 all'A.A. 2020-2021 (6 anni) - King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita. Nell'ambito del Corso "Advanced Imaging", per il PhD in Bioscience, insegnamento del modulo "Advanced Electron Microscopy", 10 ore di insegnamento per A.A., dispensate in lingua inglese

Dall'A.A. 2020-2021 ad oggi (4 anni): Università degli Studi di Milano, titolare del corso "Fondamenti di Microscopia elettronica e Spettroscopie Associate", Corso di Laurea Magistrale in Fisica - 48 ore per A.A. (6 CFU)

Dall'A.A. 2021-2022 ad oggi (3 anni): Università degli Studi di Milano, titolare del corso di Fisica, Corso di Laurea Triennale in Agricoltura Sostenibile - 32 ore di lezione e 32 ore di esercitazioni in aula per A.A. (6 CFU)

## **ATTIVITÀ DI DIDATTICA INTEGRATIVA E DI SERVIZIO AGLI STUDENTI**

**ATTIVITÀ DI RELATORE DI ELABORATI DI LAUREA, DI TESI DI LAUREA MAGISTRALE, DI TESI DI DOTTORATO**

## E DI TESI DI SPECIALIZZAZIONE

*(inserire numero e tipologia di elaborati seguiti, suddivisi per anno accademico, ateneo, corso laurea, ecc.)*

Università di Cagliari, A.A. 2003-2004, co-relatore di Tesi di Laurea in Chimica (ciclo unico), laureando: Davide Peddis

Università di Cagliari, A.A. 2005-2006, relatore di Tesi di Laurea in Fisica (ciclo unico), laureando: Alberto Casu

Università di Cagliari, Relatore di tesi di dottorato in Chimica, XXV Ciclo, Dottorando: Salvatore Bullita

King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita, A.A. 2016-2017, Relatore di Tesi di master's degree in Bioscience, laureando: Bader Aloufi

King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita, A.A. 2016-2017, Relatore di Tesi di master's degree in Bioscience, laureanda: Shatha Al Abbadi

Università di Milano, A.A. 2022-2023, relatore di Tesi di Laurea Magistrale in Fisica, laureando: Mattia Lizzano

## ATTIVITÀ DI TUTORATO DEGLI STUDENTI DI CORSI DI LAUREA E DI LAUREA MAGISTRALE E DI TUTORATO DI DOTTORANDI DI RICERCA

*(inserire numero e tipologia delle attività, suddivise per anno accademico, ateneo, corso laurea, ecc.)*

Negli AA.AA. 1997-1998, 1998-1999, 1999-2000. Tutor Esperto di Fisica Generale (Corsi di Fisica I e Fisica II), corsi di Laurea a Ciclo Unico in Ingegneria Elettronica e Meccanica, Università di Cagliari. 40 ore di esercitazioni in aula per A.A.

King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita, PhD in Bioscience 2014-2018, supervision del dottorando Efisio Zuddas.

## SEMINARI

*(inserire titolo del seminario, luogo, data, durata in giorni/ore, ente organizzatore, ecc.)*

12-05-2010

Italian National Institute of Health, Rome (Istituto Superiore di Sanità, Roma) - Workshop: "Contributions of microscopies to the nanotechnologies for biomedical applications: nanodrug delivery" Invited oral presentation titled: "Electron microscopy in the characterization of materials for biomedical applications."

11-05-2011/13-05-2011

Venaria Reale (Torino): "School in Scanning Electron Microscopy and X-Ray Spectroscopy applied to cultural heritage studies". Invited keynote lecture titled: "Energy-Dispersive X-ray Spectrometry (EDS) in the SEM".

04-10-2011/06-10-2011

ENEA (National Italian Atomic Agency) - Casaccia (Rome Research Center and Italian Society of Microscopical Sciences. School in Scanning Electron Microscopy for Materials Science. Invited keynote lecture titled: "Signal and detector in the SEM".

21-01-2015

Center for Electron Nanoscopy, Technical University of Denmark (DTU), Copenhagen, Denmark Invited oral presentation titled: "DNA fibers suspended over micropillars arrays and their use as templates for nanostructures growth: electron microscopy-based studies" -

15-02-2015

PhD School of Physical Sciences, University of Kent - Canterbury, United Kingdom Invited oral presentation titled: "In situ Transmission Electron Microscopy with a case-study: cation exchange reactions between nanoparticles. "

02-12-2015/04-12-2015

CNR Bari-INSTM. School of Nanomedicine - 2015.

Invited Keynote Lecture titled: "Novel methods TEM e SEM for biomaterials study."

16-09-2016

Centre Interdisciplinaire pour la Microscopie Electronique, Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland

Invited oral presentation titled: "Cation exchange at solid state between Cu<sub>2</sub>Se and CdSe nanoparticles investigated by in situ TEM."

29-11-2016

Chinese Academy of Sciences (CAS) - Ningbo, China.

Invited keynote Lecture titled: "The new youth of in situ Transmission Electron Microscopy".

30-11-2016

Chinese Academy of Sciences (CAS) - Ningbo, China.

Invited Keynote Lecture titled: "Advanced Electron Microscopy for Biological Sciences".

16-03-2018

Dipartimento di Fisica "Aldo Pontremoli", Università di Milano.

Invited keynote lecture titled: "The new youth of in situ electron microscopy"

22-6-2023/23-6-2023

Advanced (S)TEM Microscopy Workshop, Italian Institute of Technology (I.I.T) - Genoa (Italy)

Invited keynote lecture titled: "In situ TEM and STEM"

## PARTECIPAZIONE a COMMISSIONI di PhD STRANIERE

Candidato: Arnaud SERRES, Titolo della Tesi di PhD: "Synthèse de nanoparticules magnétiques par implantation ionique de manganèse dans le GaAs : étude structurale et propriétés magnétiques" PhD in Physics, Université Paul Sabatier, Toulouse, France, 2004.

Candidata: Tuyet Trang NGUYEN, Titolo della Tesi di PhD: "Utilisation de nanotubes de carbone pour la préparation de catalyseurs confinés" PhD in Organometallic and Coordination Chemistry, Institut National des Sciences Appliquées, Toulouse, France, 2013.

Candidata: Min ZENG, Titolo della Tesi di PhD: "Extending the Optical Properties of Cesium Lead Halide Perovskite Nanocrystals through Lanthanide Functionalization", PhD in Chemistry, University of Ghent, Belgium, 2020.

## ATTIVITÀ DI RICERCA SCIENTIFICA

### PUBBLICAZIONI SCIENTIFICHE

(per ciascuna pubblicazione indicare: nomi degli autori, titolo completo, casa editrice, data e luogo di pubblicazione, codice ISBN, ISSN, DOI o altro equivalente)

Identificativo Scopus: 6602849346

Numero totale di citazioni: 9002 (secondo Scopus - 2.12.2024)

H-index attuale: 55 (secondo Scopus - 2.12.2024)

PROFILO ORCID: <https://orcid.org/0000-0002-1476-7742>

### 5 CAPITOLI DI LIBRO:

L. Manna et al., Comprehensive Nanoscience and Technology, Quantum Dots: Synthesis and Characterization, Elsevier B.V., Five-Volume set, Published: NOV-2010, ISBN 13: 978-0-12-374390-9, Imprint: ACADEMIC PRESS

Marotta, R., Falqui, A., Curcio, A., Quarta, A., Pellegrino, T.

Immunocytochemistry, electron tomography, and energy dispersive X-ray spectroscopy (EDXS) on cryosections of human cancer cells doped with stimuli responsive polymeric nanogels loaded with iron oxide nanoparticles

Methods in Molecular Biology, 2013, 1025, 179-198. DOI: 10.1007/978-1-62703-462-3\_14

Giugni, A. Torre, B., Allione, M., Gentile, F., Candeloro, P., Coluccio, M.L., Perozziello, G., Limongi, T., Marini, M., Raimondo, R., Tirinato, L., Francardi, M., Das, G., Proietti Zaccaria, R., Falqui, A., Di Fabrizio, E.,

Novel plasmonic probes and smart superhydrophobic devices, New tools for forthcoming spectroscopies at the nanoscale

NATO Science for Peace and Security Series B: Physics and Biophysics, 2015, 68, p. 209.

DOI: 10.1007/978-94-017-9133-5\_8

Alberto Casu, Elisa Sogne, Alessandro Genovese, Cristiano Di Benedetto, Sergio Lentijo Mozo, Efisio Zuddas, Francesca Pagliari and Andrea Falqui

The new youth of the in situ transmission electron microscopy

in "Microscopy and Analysis", published: September 2016, edited by Stefan G. Stanciu, ISBN 978-953-51-2579-2, InTech Editions. DOI: 10.5772/63269

Alberto Casu, Samy Ould-Chick, Gavin Mountjoy, Anna Corrias, Andrea Falqui

In situ/Operando Techniques for Characterization of Supported Metal Single-Atom Catalysts

in "Supported Metal Single Atom Catalysis ", Eds. Philippe Serp, Doan Pham Minh. Wiley, New York, 2022. DOI: 10.1002/9783527830169.ch6

## 205 ARTICOLI SU RIVISTE SCIENTIFICHE INTERNAZIONALI A PEER-REVIEW:

Andrea Scolz, Elena Vezzoli, Michela Villa, Francesca Talpo, Jessica Cazzola, Francesca Raffin, Chiara Cordiglieri, Andrea Falqui, Giuseppe Pepe, Vittorio Maglione, Dario Besusso, Gerardo Biella, Chiara Zuccato

Neuroprotection by ADAM10 inhibition requires TrkB signaling in the Huntington's disease hippocampus Cellular and Molecular Life Sciences 2024, 81(1), 333. DOI: 10.1007/s00018-024-05382-1

Maura Galimberti, Maria R. Nucera, Vittoria D. Bocchi, Paola Conforti, Elena Vezzoli, Matteo Cereda, Camilla Maffezzini, Raffaele Iennaco, Andrea Scolz, Andrea Falqui, Chiara Cordiglieri, Martina Cremona, Ira Espuny-Camacho, Andrea Faedo, Dan P. Felsenfeld, Thomas F. Vogt, Valeria Ranzani, Chiara Zuccato, Dario Besusso, Elena Cattaneo

Huntington's disease cellular phenotypes are rescued non-cell autonomously by healthy cells in mosaic telencephalic organoids

Nat. Comm. 2024, 15(1), 6534. DOI: 10.1038/s41467-024-50877-x

Stefano Radice, Filippo Profumo, Francesca Borghi, Andrea Falqui, Paolo Milani

Programmable Analog Circuits with Neuromorphic Nanostructured Platinum Films

Advan. Electr. Mater., published online August 2024. DOI: 10.1002/aelm.202400434

Alba Sorroche, Irene del-Campo, Alberto Casu, Andrea Falqui, Miguel Monge, José M. López-de-Luzuriaga

Visible light enhanced catalytic activity of Aun subnanoclusters: the importance of d-sp interband transitions

Chem. Comm. 2024, 60(63), 8204-8207. DOI: 10.1039/d4cc02370f

Maria Paola Demichelis, Agustina Mariana Portu, Mario Alberto Gadan, Agostina Vitali, Valentina Forlingieri, Silva Bortolussi, Ian Postuma, Andrea Falqui, Elena Vezzoli, Chiara Milanese, Patrizia Sommi, Umberto Anselmi-Tamburini

Synthesis and Characterization of B4C-Based Multifunctional Nanoparticles for Boron Neutron Capture Therapy Applications

Appl. Nano 2024, 5(2), 33-47. DOI: 10.3390/aplnano5020004

Marco Pallavera, Tiziano Sanvito, Llorenç Cremonesi, Claudio Artoni, Andrea Falqui, Marco AC Potenza

Evidence of Sub-Micrometric Plastic Release When Heating Food Containers Based on Light Scattering Measurements

Part. Part. Syst. Charact. 2024, 2400029, DOI: 10.1002/ppsc.202400029

Alessandro D'Ambrosio, Davide Bressan, Elisa Ferracci, Francesco Carbone, Patrizia Mulè, Federico Rossi, Caterina Barbieri, Elisa Sorrenti, Gaia Fiaccadori, Thomas Detone, Elena Vezzoli, Salvatore Bianchi, Chiara Sartori, Simona Corso, Akihisa Fukuda, Giovanni Bertalot, Andrea Falqui, Mattia Barbareschi, Alessandro Romanel, Diego Pasini, Fulvio Chiacchiera

Increased genomic instability and reshaping of tissue microenvironment underlie oncogenic properties of Arid1a mutations

Science Advances 2024, 10(11), eadh4435. DOI: 10.1126/sciadv.adh443

Andrea Pinna; Giorgio Pia; Nicola Melis; Mirko Prato; Maria Giorgia Cutrufello; Elisa Sogne; Andrea Falqui; Luca Pilia.

Nanoporous Au Behavior in Methyl Orange Solutions.

Molecules 2024, 29, 1950. DOI: 10.3390/molecules29091950

Alberto Casu, Angelica Chiodoni, Yurii P. Ivanov, Giorgio Divitini, Paolo Milani, and Andrea Falqui

In Situ TEM Investigation of Thermally Induced Modifications of Cluster-assembled Gold Films

Undergoing Resistive Switching: Implications for Nanostructured Neuromorphic Devices

ACS Applied Nanomaterials 2024, 7(7), 7203-7212. DOI: 10.1021/acsanm.3c06261

Luigi Stagi, Luca Malfatti, Alessia Zollo, Stefano Livraghi, Davide Carboni, Daniele Chiriu, Riccardo Corpino, Pier Carlo Ricci, Antonio Cappai, Carlo Maria Carbonaro, Stefano Enzo, Abbas Khaleel, Abdulmuizz Adamson, Christel Gervais, Andrea Falqui, Plinio Innocenzi

Phosphorescence by Trapping Defects in Boric Acid Induced by Thermal Processing

Adv. Optical Mater. 2023, 2302682. DOI: 10.1002/adom.202302682

Giacomo Nadalini, Francesca Borghi, Tereza Košutová, Andrea Falqui, Nicola Ludwig, Paolo Milani

Engineering the structural and electrical interplay of nanostructured Au resistive switching networks by controlling the forming process

Sci. Rep. 2023, 13, 19713. DOI: 10.1038/s41598-023-46990-4

Alberto Casu, Miquel Lopez, Claudio Melis, Davide Deiana, Hongbo Li, Luciano Colombo, Andrea Falqui

Thermally Promoted Cation Exchange at the Solid State in the Transmission Electron Microscope: How It Actually Works

ACS Nano 2023, 17 (17), 17058-17069. DOI: 10.1021/acsnano.3c04516

Filippo Profumo, Francesca Borghi, Andrea Falqui, Paolo Milani

Potential and depression behaviour in a two-terminal memristor based on nanostructured bilayer ZrO<sub>x</sub>/Au films

J. Phys. D: Appl. Phys. 2023, 56, 355301. DOI: 10.1088/1361-6463/acd704

Lorenzo Migliorini, Tommaso Santaniello, Andrea Falqui, Paolo Milani

Super-Stretchable Resistive Strain Sensor Based on Ecoflex-Gold Nanocomposites

ACS Appl. Nano Mater. 2023, 6 (10), 8999-9007. DOI: 10.1021/acsanm.3c01614

Javier Quintana, Julián Crespo, Andrea Falqui, José M López-de-Luzuriaga, M Elena Olmos, María Rodríguez-Castillo, Miguel Monge

Mini AuAg Wavy Nanorods Displaying Plasmon-Induced Photothermal and Photocatalytic Properties

Adv. Photonics Res. 2023, 4, 2200246. DOI: 10.1002/adpr.202200246

Agostina Vitali; Maria Paola Demichelis; Greta Di Martino; Ian Postuma; Silva Bortolussi; Andrea Falqui; Chiara Milanese; Chiara Ferrara; Patrizia Sommi; Umberto Anselmi-Tamburini

Synthesis and Characterization of Gd-Functionalized B4C Nanoparticles for BNCT Applications

Life 2023, 13(2), 429; DOI: 10.3390/life13020429

Francesca Pagliari, Elisa Sogne, Davide Panella, Gerardo Perozziello, Carlo Liberale, Gobind Das, Alice Turdo, Simone Di Franco, Joao Seco, Andrea Falqui, Santo Gratter, Arturo Pujia, Enzo Di Fabrizio, Patrizio Candeloro, Luca Tirinato

Correlative Raman-Electron-Light (CREL) Microscopy Analysis of Lipid Droplets in Melanoma Cancer Stem Cells  
Biosensors 2022, 12(12), 1102; DOI: 10.3390/bios12121102

Paolo Barra, Gabriele Traversari, Elisa Sogne, Maria Carta, Alberto Cincotti, Andrea Falqui, Francesco Delogu  
Ultrasonic irradiation of nanoporous Au  
Materials Letters 2022, 132400, DOI: 10.1016/j.matlet.2022.132400

Valentina Migliorati; Alessandra Del Giudice; Alberto Casu; Andrea Falqui; Alessandro Podestà; Paolo Milani; Francesca Borghi  
Crystalline Structuring of Confined Ionic Liquids at Room Temperature  
J. Phys. Chem. C 2022, 126, 31, 13477-13484. DOI: 10.1021/acs.jpcc.2c04022

Claudio Melis; Giorgio Pia; Elisa Sogne; Andrea Falqui; Stefano Giordano; Francesco Delogu; Luciano Colombo  
Stiffening of nanoporous gold: experiment, simulation and theory  
The European Physical Journal Plus 2022, 137, 858. DOI: 10.1140/epjp/s13360-022-03041-7

Veronica Astro, Gustavo Ramirez-Calderon, Roberta Pennucci, Jonatan Caroli, Alfonso Saera-Vila, Kelly Cardona Londono, Chiara Forastieri, Elisabetta Fiacco, Fatima Maksoud, Maryam Alowaysi, Elisa Sogne, Andrea Falqui, Federico Gonzalez, Nuria Montserrat, Elena Battaglioli, Andrea Mattevi, Antonio Adamo  
Fine-tuned KDM1A alternative splicing regulates human cardiomyogenesis through an enzymatic-independent mechanism  
iScience 2022, 25 (7), 104665. DOI: 10.1016/j.isci.2022.104665

Giorgio Pia; Elisa Sogne; Andrea Falqui; Francesco Delogu  
Hardening of Nanoporous Au Induced by Exposure to Different Gaseous Environments  
Materials 2022, 15 (8), 2718. DOI: 10.3390/ma15082718

Alizé V. Gaumet, Francesco Caddeo, Danilo Loche, Anna Corrias, Maria F. Casula, Andrea Falqui, Alberto Casu  
Magnetic Study of CuFe<sub>2</sub>O<sub>4</sub>-SiO<sub>2</sub> Aerogel and Xerogel Nanocomposites  
Nanomaterials 2021, 11(10), 2680. DOI: <https://doi.org/10.3390/nano11102680>

Patrizia Sommi, Agostina Vitali, Stefania Coniglio, Daniele Callegari, Sofia Barbieri, Alberto Casu, Andrea Falqui, Lorenzo Vigano', Barbara Vigani, Franca Ferrari, Umberto Anselmi-Tamburini  
Microvilli Adhesion: An Alternative Route for Nanoparticle Cell Internalization  
ACS Nano 2021, 15(10), 15803-15814. DOI: 10.1021/acsnano.1c03151

Flora Cozzolino, Elena Vezzoli, Cristina Cheroni, Dario Besusso, Paola Conforti, Marta Valenza, Ilaria Iacobucci, Vittoria Monaco, Giulia Birolini, Mauro Bombaci, Andrea Falqui, Paul Saftig, Riccardo L. Rossi, Maria Monti, Elena Cattaneo, Chiara Zuccato  
ADAM10 hyperactivation acts on piccolo to deplete synaptic vesicle stores in Huntington's disease  
Human Molecular Genetics 2021, 30(13), 1175-1187. DOI: 10.1093/hmg/ddab047

Matteo Mirigliano, Bruno Paroli, Gianluca Martini, Marco Fedrizzi, Andrea Falqui, Alberto Casu, Paolo Milani  
A binary classifier based on a reconfigurable dense network of metallic nanojunctions  
Neuromorphic Computing and Engineering 2021, 1, 024007. DOI: 10.1088/2634-4386/ac29c9

Antonella Dentoni Litta, Antonio Buonerba, Alberto Casu, Andrea Falqui, Carmine Capacchione, Antonio Franconetti, Hermenegildo Garcia, Alfonso Grassi  
Highly efficient hydroamination of phenylacetylenes with anilines catalysed by gold nanoparticles embedded in nanoporous polymer matrix: Insight into the reaction mechanism by kinetic and DFT investigations  
Journal of Catalysis 2021, 400, 71-82. DOI: 10.1016/j.jcat.2021.05.024

Riccardo Montis, Luca Fusaro, Andrea Falqui, Michael B. Hursthouse, Nikolay Tumanov, Simon J. Coles, Terry L. Threlfall, Peter N. Horton, Rachid Sougrat, Anaïs Lafontaine, Gérard Coquerel, A. David Rae  
Complex structures arising from the self-assembly of a simple organic salt

Nature 2021, 590 (7845), 275-278. DOI: 10.1038/s41586-021-03194-y

Roberta Dal Magro, Agostina Vitali, Stefano Fagioli, Alberto Casu, Andrea Falqui, Beatrice Formicola, Lorenzo Talarol, Valeria Cassina, Claudia Adriana Marrano, Francesco Mantegazza, Umberto Anselmi-Tamburini, Patrizia Sommi, Francesca Re

Oxidative Stress Boosts the Uptake of Cerium Oxide Nanoparticles by Changing Brain Endothelium Microvilli Pattern

Antioxidants 2021, 10 (2), 266. DOI: 10.3390/antiox10020266

Andrea Pinna, Giorgio Pia, Maria Francesca Casula, Francesco Delogu, Elisa Sogne, Andrea Falqui, Luca Pilia

Fabrication of Nanoporous Al by Vapor-Phase Dealloying: Morphology Features, Mechanical Properties and Model Predictions

Applied Science 2021, 11 (14), 6639. DOI: 10.3390/app11146639

Francesco Caddeo, Alberto Casu, Danilo Loche, Lucy M. Morgan, Gavin Mountjoy, Colm O'Regan, Maria F. Casula, Shusaku Hayama, Anna Corrias and Andrea Falqui

Thermally stable surfactant-free ceria nanocubes in silica aerogel

J. Coll. and Interface Science 2021, 583, 376-384. DOI: 10.1016/j.jcis.2020.09.044

Giulia Birolini, Marta Valenza, Eleonora Di Paolo, Elena Vezzoli, Francesca Talpo, Claudia Maniezzi, Claudio Caccia, Valerio Leoni, Franco Taroni, Vittoria D Bocchi, Paola Conforti, Elisa Sogne, Lara Petricca, Cristina Cariulo, Margherita Verani, Andrea Caricasole, Andrea Falqui, Gerardo Biella, Elena Cattaneo

Striatal infusion of cholesterol promotes dose-dependent behavioral benefits and exerts disease-modifying effects in Huntington's disease mice

EMBO Mol Med (2020), 12:e12519, DOI: 10.15252/emmm.202012519

Alberto Casu, Mariona Dalmases, Mengxi Lin, Yan Wang, Narcís Homs, Pilar Ramírez de la Piscina, Jordi Llorca, Albert Figuerola, Andrea Falqui

Monitoring the insertion of Pt into Cu<sub>2</sub>-xSe nanocrystals: a combined structural and chemical approach for the analysis of new ternary phases

Nanoscale 2020, 12, 16627-16638. DOI: 10.1039/D0NR02726J

Antonio Buonerba, Rosita Lapenta, Anna Donniacuo, Magda Licasale, Elena Vezzoli, Stefano Milione, Carmine Capacchione, Mario Felice Tecce, Andrea Falqui, Roberto Piacentini, Claudio Grassi, Alfonso Grassi

NIR multiphoton ablation of cancer cells, fluorescence quenching and cellular uptake of dansyl-glutathione-coated gold nanoparticles

Sci. Rep. 2020, 10, 11380. DOI: 10.1038/s41598-020-68397-1

Farzad Foroutan, Benjamin Alexander Kyffin, Isaac Abrahams, Jonathan C Knowles, Elisa Sogne, Andrea Falqui, Daniela Carta

Mesoporous strontium-doped phosphate-based sol-gel glasses for biomedical applications

Frontiers in Chemistry 2020, 8, 249. DOI: 10.3389/fchem.2020.00249

Federico Bertoglio, Lorenzo De Vita, Agnese D'Agostino, Yuri Diaz Fernandez, Andrea Falqui, Alberto Casu, Daniele Merli, Chiara Milanese, Silvia Rossi, Angelo Taglietti, Livia Visai, Piersandro Pallavicini

Increased Antibacterial and Antibiofilm Properties of Silver Nanoparticles Using Silver Fluoride as Precursor

Molecules 2020, 25(15), 3494. DOI:10.3390/molecules25153494

Alberto Casu, Danilo Loche, Sergio Lentijo-Mozo and Andrea Falqui

Surface Compositional Change of Iron Oxide Porous Nanorods: A Route for Tuning their Magnetic Properties

Molecules 2020, 25(5), 1234; DOI: 10.3390/molecules25051234

M. Mirigliano; D. Decastri; A. Pullia; D. Dellasega; A. Casu; A. Falqui; P. Milani

Complex electrical spiking activity in resistive switching nanostructured Au two-terminal devices

Nanotechnology 2020, 31, 234001. DOI: 10.1088/1361-6528/ab76ec



Yuanyuan Min, Houssein Nasrallah, Didier Poinso, Pierre Lecante, Yann Tison, Hervé Martinez, Pierre Roblin, Andrea Falqui, Romuald Poteau, Iker del Rosal, Iann C. Gerber, Jean-Cyrille Hierso, M. Rosa Axet, Philippe Serp  
3D Ruthenium Nanoparticle Covalent Assemblies from Polymantane Ligands for Confined Catalysis  
Chemistry of Materials 2020, 32(6), 2365-2378. DOI: 10.1021/acs.chemmater.9b04737

Andrea Falqui, Danilo Loche, Alberto Casu  
In Situ TEM Crystallization of Amorphous Iron Particles  
Crystals 2020, 10(1), 41. DOI: 10.3390/cryst10010041

E. Vezzoli, C. Calì, M. De Roo, L. Ponzoni, E. Sogne, N. Gagnon, M. Francolini, D. Braidà, M. Sala, D. Muller, A. Falqui, P. J. Magistretti  
Ultrastructural Evidence for a Role of Astrocytes and Glycogen-Derived Lactate in Learning-Dependent Synaptic Stabilization  
Cerebral Cortex 2020, 30(4), 2114-2127. DOI: 10.1093/cercor/bhz226

Luca Tirinato, Francesca Pagliari, Simone Di Franco, Elisa Sogne, Maria Grazia Marafioti, Jeanette Jansen, Andrea Falqui, Matilde Todaro, Patrizio Candeloro, Carlo Liberale, Joao Seco, Giorgio Stassi, Enzo Di Fabrizio  
ROS and Lipid Droplet Accumulation Induced by High Glucose Exposure in Healthy Colon and Colorectal Cancer Stem Cells  
Genes and Diseases 2020, 7(4), 620-635. DOI: 10.1016/j.gendis.2019.09.010

A. Casu and A. Falqui  
Developments of cation-exchange by in situ electron microscopy  
Advances in Physics: X, 2019. 1633957; DOI: 10.1080/23746149.2019.1633957

G Marcias, MF Casula, M Uras, A Falqui, E Miozzi, E Sogne, S Pili, I Pilia, Daniele Fabbri, Federico Meloni, Marco Pau, Andrea Maurizio Sanna, Jacopo Fostinelli, Giorgio Massacci, Ernesto D'Aloja, Francesca Larese Filon, Marcello Campagna, Luigi Isaia Lecca  
Occupational Fine/Ultrafine Particles and Noise Exposure in Aircraft Personnel Operating in Airport Taxiway  
Environments 2019, 6 (3), 35; DOI: 10.3390/environments6030035

Danilo Loche, Lucy M. Morgan, Alberto Casu, Gavin Mountjoy, Colm O'Regan, Anna Corrias, and Andrea Falqui  
Determining the maximum lanthanum incorporation in the fluorite structure of La-doped ceria nanocubes for enhanced redox ability  
RSC Adv. 2019, 9, 6745-6751; DOI: 10.1039/C8RA09766F

Ilaria Caron, Elisa Battaglia, Elena Vezzoli, Francesca Talpo, Paola Conforti, Dario Besusso, Elisa Sogne, Andrea Falqui, Lara Petricca, Margherita Verani, Paola Martufi, Andrea Caricasole, Alberto Bresciani, Ottavia Cecchetti, Giulio Sancini, Olaf Riess, Hoa Nguyen, Lisa Seipold, Paul Saftig, Gerardo Biella, Elena Cattaneo, Chiara Zuccato  
Inhibiting pathologically active ADAM10 rescues synaptic and cognitive decline in Huntington's disease  
J. Clin. Invest. 2019, 129(6):2390-2403. DOI:10.1172/JCI120616.

Nadia Garino, Tania Limongi, Bianca Dumontel, Marta Canta, Luisa Racca, Marco Laurenti, Micaela Castellino, Alberto Casu, Andrea Falqui, Valentina Cauda  
A Microwave-Assisted Synthesis of Zinc Oxide Nanocrystals Finely Tuned for Biological Applications  
Nanomaterials 2019, 9, 212; doi: 10.3390/nano9020212

Sergio Lentijo-Mozo, Davide Deiana, Elisa Sogne, Alberto Casu and Andrea Falqui  
Unexpected Insights about Cation-Exchange on Metal Oxide Nanoparticles and its Effect on their Magnetic Behavior  
Chem. Mater. 2018, 30, 8099–8112; doi: 10.1021/acs.chemmater.8b04331

Giorgio Pia, Elisa Sogne, Andrea Falqui, Francesco Delogu  
Ag surface segregation in nanoporous Au catalysts during CO oxidation  
Scientific Reports 2018, 8, 15208; doi: 10.1038/s41598-018-33631-4

Alessandro Minguzzi, Linda Montagna, Andrea Falqui, Alberto Vertova, Sandra Rondinini, Paolo Ghigna  
Dynamics of oxide growth on Pt nanoparticles electrodes in the presence of competing halides by  
operando energy dispersive X-Ray absorption spectroscopy  
Electrochimica Acta 2018, 270, 378; doi: 10.1016/j.electacta.2018.03.092

Alberto Casu, Andrea Lamberti, Stefano Stassi, and Andrea Falqui  
Crystallization of TiO<sub>2</sub> Nanotubes by In Situ Heating TEM  
Nanomaterials 2018, 8(1), 40; doi: 10.3390/nano8010040

Stefano Stassi, Andrea Lamberti, Ignazio Roppolo, Alberto Casu, Stefano Bianco, Davide Scaiola,  
Andrea Falqui, Candido Fabrizio Pirri, Carlo Ricciardi  
Evolution of nanomechanical properties and crystallinity of individual titanium dioxide nanotube  
resonators  
Nanotechnology 2018, 29, 085702; DOI: 10.1088/1361-6528/aaa46c

Marta Orlando, Tiziana Ravasenga, Enrica Petrini, Andrea Falqui, Roberto Marotta, Andrea Barberis  
Correlating Fluorescence and High-Resolution Scanning Electron Microscopy (HRSEM) for the study of  
GABA A receptor clustering induced by inhibitory synaptic plasticity  
Scientific Reports 2017, 7, 13768; DOI: 10.1038/s41598-017-14210-5

Efisio Zuddas, Sergio Lentijo-Mozo, Alberto Casu, Davide Deiana, and Andrea Falqui  
Building Composite Iron-Manganese Oxide Flowerlike Nanostructures: A Detailed Magnetic Study  
J. Phys. Chem. C 2017, 121(31), 17005; DOI: 10.1021/acs.jpcc.7b04915

Luca Murru, Elena Vezzoli, Anna Longatti, Luisa Ponzoni, Andrea Falqui, Alessandra Folci, Edoardo  
Moretto, Veronica Bianchi, Daniela Braidà, Mariaelvina Sala, Patrizia D'Adamo, Silvia Bassani, Maura  
Francolini, Maria Passafaro  
Pharmacological Modulation of AMPAR Rescues Intellectual Disability-Like Phenotype in Tm4sf2-/-  
Mice  
Cerebral Cortex 2017, 27(11), 5369-5384; DOI: 10.1093/cercor/bhx221

Giacomo Dacarro, Piersandro Pallavicini, Serena Maria Bertani, Giuseppe Chirico, Laura D'Alfonso,  
Andrea Falqui, Nicoletta Marchesi, Alessia Pascale, Laura Sironi, Angelo Taglietti, Efisio Zuddas  
Synthesis of reduced-size gold nanostars and internalization in SH-SY5Y cells  
J. Colloid Interface Sci. 2017, 505, 1055; DOI: 10.1016/j.jcis.2017.06.102

Luca Tirinato, Francesca Pagliari, Tania Limongi, Monica Marini, Andrea Falqui, Joao Seco, Patrizio  
Candeloro, Carlo Liberale, Enzo Di Fabrizio  
An Overview of Lipid Droplets in Cancer and Cancer Stem Cells  
Stem Cells Int. 2017, 1656053; DOI: 10.1155/2017/1656053

Guido Mula, Tony Printemps, Christophe Licitra, Elisa Sogne, Francesco D'Acapito, Narciso  
Gambacorti, Nicola Sestu, Michele Saba, Elisa Pinna, Daniele Chiriu, Pier Carlo Ricci, Alberto Casu,  
Francesco Quochi, Andrea Mura, Giovanni Bongiovanni, and Andrea Falqui  
Doping porous silicon with erbium: pores filling as a method to limit the Er-clustering effects and  
increasing its light emission  
Scientific Reports 2017, 7, 5957; DOI: 10.1038/s41598-017-06567-4

Monica Marini, Tania Limongi, Andrea Falqui, Alessandro Genovese, Marco Allione, Manola Moretti,  
Sergei Lopatin, Luca Tirinato, Gobind Das, Bruno Torre, Andrea Giugni, Fabrizia Cesca, Fabio  
Benfenati and Enzo Di Fabrizio  
Imaging and structural studies of DNA-protein complexes and membrane ion channels  
Nanoscale 2017, 9(8), 2768; DOI: 10.1039/C6NR07958J

Sergio Lentijo Mozo, Efisio Zuddas, Alberto Casu, and Andrea Falqui  
Synthesizing iron oxide nanostructures: the polyethylenimine (PEI) role  
Crystals 2017, 7(1), 22; DOI: 10.3390/cryst7010022

Ferraro D., Tredici. I., Ghigna P., Castillio-Michel H., Falqui A., Di Benedetto C., Bini G., Ricci V.,  
Anselmi-Tamburini U. and Sommi P.

Dependence of Ce(III)/Ce(IV) Ratio on Intracellular Localization in Ceria Nanoparticles Internalized by Human Cells  
Nanoscale 2017,9, 1527; DOI: 10.1039/C6NR07701C

Tania Limongi, Lucia Lizzul, Andrea Giugni, Luca Tirinato, Francesca Pagliari, Hua Tan, Gobind Das, Manola Moretti, Monica Marini, Giovanna Brusatin, Andrea Falqui, Bruno Torre, Cristiano Di Benedetto, Enzo di Fabrizio

Laboratory injection molder for the fabrication of polymeric porous poly-epsilon-caprolactone scaffolds for preliminary mesenchymal stem cells tissue engineering applications  
Microelectronic Engineering 2017, 175, 12. DOI: 10.1016/j.mee.2016.12.014

Casu, A.; Genovese, A.; Manna, L.; Longo, P.; Buha, J.; Botton, G.A.; Lazar, S.; Upadhyay Kahaly, M.; Schwingenschloegl, U.; Prato, M.; Li, H.; Ghosh, S.; Palazon, F.; De Donato, F.; Lentijo Mozo, S.; Zuddas, E. and Falqui, A.

Cu<sub>2</sub>Se and Cu Nanocrystals as Local Sources of Copper in Thermally Activated In Situ Cation Exchange.  
ACS Nano 2016, 10 (2), 2406. DOI: 10.1021/acsnano.5b07219

V. Gombac, T. Montini, A. Falqui, D. Loche, M. Prato, A. Genovese, M. L. Mercuri, A. Serpe, P. Fornasiero, P. Deplano

From trash to resource: recovered-Pd from spent three-way catalysts as a precursor of an effective photo-catalyst for H<sub>2</sub> production.  
Green Chem., 2016,18, 2745. DOI: 10.1039/c5gc02908b

Maria F. Casula, Erika Conca, Ioanna Bakaimi, Ayyappan Sathya, Maria Elena Materia, Alberto Casu, Andrea Falqui, Elisa Sogne, Teresa Pellegrino, Antonios G. Kanaras

Manganese doped-iron oxide nanoparticle clusters and their potential as agents for magnetic resonance imaging and hyperthermia.

Phys. Chem. Chem. Phys., 2016,18, 16848. DOI: 10.1039/c6cp02094a

Enrico Binetti, Marinella Striccoli, Teresa Sibillano, Cinzia Giannini, Rosaria Brescia, Andrea Falqui, Roberto Comparelli, Michela Corricelli, Raffaele Tommasi, Angela Agostiano, M Lucia Curri.

Tuning light emission of PbS nanocrystals from infrared to visible range by cation exchange. Sci. Technol. Adv. Mater. 2015, 16, 055007. DOI: 10.1088/1468-6996/16/5/055007

Tania Limongi, Andrea Giugni, Hua Tan, Ebtihaj M Bukhari, Bruno Torre, Marco Allione, Monica Marini, Luca Tirinato, Gobind Das, Manola Moretti, Andrea Falqui, Enzo di Fabrizio

Fabrication, Mercury Intrusion Porosimetry Characterization and In Vitro Qualitative Analysis of Biocompatibility of Various Porosities Polycaprolactone Scaffolds  
J. Tissue Sci. & Eng., 2015, 6, p. 159. DOI: 10.4172/2157-7552.1000159

Bracco, S., Beretta, M., Cattaneo, A., Comotti, A., Falqui, A., Zhao, K., Rogers, C., Sozzani, P.  
Dipolar rotors orderly aligned in mesoporous fluorinated organosilica architectures

Angewandte Chemie - Int. Ed., 2015, 54 (16), p. 4773. DOI: 10.1002/anie.201412412

Kakwere, H., Leal, M.P., Materia, M.E., Curcio, A., Guardia, P., Niculaes, D., Marotta, R., Falqui, A., Pellegrino, T.

Functionalization of strongly interacting magnetic nanocubes with (thermo)responsive coating and their application in hyperthermia and heat-triggered drug delivery

ACS Applied Materials and Interfaces, 2015, 7 (19), p. 10132. DOI: 10.1021/am5088117

Falqui, A., Marini, M., Francardi, M., Di Fabrizio, E.

From single molecule to suspended DNA nanowire

Materials Today ,2015, 18 (4), p. 238. DOI: 10.1016/j.mattod.2015.03.020

Rodighiero, S., Torre, B., Sogne, E., Ruffilli, R., Cagnoli, C., Francolini, M., Di Fabrizio, E., and Falqui, A.

Correlative scanning electron and confocal microscopy imaging of labeled cells coated by indium-tin-oxide

Microscopy Research and Technique, 2015, 78 (6), p. 433. DOI: 10.1002/jemt.22492

- Miele, E., Accardo, A., Falqui, A., Marini, M., Giugni, A., Leoncini, M., De Angelis, F., Krahne, R., Di Fabrizio, E.  
Writing and functionalisation of suspended DNA nanowires on superhydrophobic pillar arrays  
Small, 2015, 11 (1), p. 134. DOI: 10.1002/sml.201401649
- Fernández-Altable, V., Dalmases, M., Falqui, A., Casu, A., Torruella, P., Estradé, S., Peiró, F., Figuerola, A.  
Au-assisted growth of anisotropic and epitaxial CdSe colloidal nanocrystals via in situ dismantling of quantum dots  
Chemistry of Materials, 2015, 27 (5), p. 1656. DOI: 10.1021/cm504433y
- Crespo, J., López-de-Luzuriaga J., Monge, M., Olmos, M., Rodríguez-Castillo M., Cormary B., Soulantica, K., Sestu, M., and Falqui, A.  
The spontaneous formation and plasmonic properties of ultrathin gold-silver nanorods and nanowires stabilized in oleic acid  
Chem. Commun., 2015, 51, p. 16691. DOI: 10.1039/c5cc05542c
- Pallavicini, P., Basile, S., Chirico, G., Dacarro, G. D'Alfonso, L., Donà, A., Patrini, M., Falqui, A., Sironi, L., Taglietti, A.  
Monolayers of gold nanostars with two near-IR LSPRs capable of additive photothermal response  
Chem. Commun., 2015, 51, p.12928. DOI: 10.1039/c5cc04144a
- Tangorra, R. R., Operamolla, A., Milano, F., Hassan Omar, O., Henrard, J., Comparelli, R., Italiano, F., Agostiano, A., De Leo, V., Marotta, R., Falqui, A., Farinola, G. M., Trotta M.  
Assembly of a photosynthetic reaction center with ABA tri-block polymersomes: highlights on protein localization  
Photochem. Photobiol. Sci., 2015, 14, p. 1844. DOI: 10.1039/c5pp00189g
- Marini, M., Falqui, A., Moretti, M., Limongi, T., Allione, M., Genovese, A., Lopatin, S., Tirinato, L., Das, G., Torre, B., Giugni, A., Gentile, F., Candeloro, P., Di Fabrizio, E.,  
The structure of DNA by direct imaging  
Science Advances, 2015, Vol. 1, no. 7, e1500734. DOI: 10.1126/sciadv.1500734
- Tirinato, L., Liberale, C., Di Franco, S., Candeloro, P., Benfante, A., La Rocca, R., Potze, L., Marotta, R., Ruffilli, R., Rajamanickam, V., Malerba, M., De Angelis, F., Falqui, A., Carbone, E., Todaro, M., J Medema, J.P., Stassi, G., Di Fabrizio E.,  
Lipid droplets: A new player in colorectal cancer stem cells unveiled by spectroscopic imaging  
Stem Cells, 2015, 33 (1), p. 35. DOI: 10.1002/stem.1837
- Casu, A., Genovese, A., Di Benedetto, C., Lentijo Mozo, S., Sogne, E., Zuddas, E., and Falqui, A.,  
A facile method to compare EFTEM maps obtained from materials changing composition over time  
Microscopy Research and Technique, 2015, 78 (12), p. 1090. DOI: 10.1002/jemt.22589
- Falqui, A., Casu, A., Genovese, A., Manna, L., Longo, P., Botton, G., Lazar, S., UpadhyayKahaly, M., Schwingenschloegl, M.,  
Thermally Driven Cation Exchange at Solid State between Cu<sub>2</sub>Se and CdSe Nanocrystals: an In-Situ TEM Study  
Microscopy and Microanalysis, 2015, 21, S3, p.947. DOI: 10.1017/S143192761500553X
- Falqui, A., Rodighiero, S., Sogne, E., Torre, B., Ruffilli, R., Francolini, M., Cagnoli, C., Di Fabrizio, E.,  
Indium-Tin-Oxide (ITO) as Stable and Effective Coating Material for Correlative Confocal and Immuno-Scanning Electron Microscopy Studies  
Microscopy and Microanalysis, 2015, 21, S3, p.1501. DOI: 10.1017/S1431927615008284
- Pallavicini, P., Cabrini, E., Casu, A., Dacarro, G., Diaz-Fernandez, Y.A., Falqui, A. Milanese, C., Vita, F.  
Silane-coated magnetic nanoparticles with surface thiol functions for conjugation with gold nano stars  
Dalton Transactions, 2015, 44 (48), p. 21088. DOI: 10.1039/c5dt02812d
- Binetti, E., Striccoli, M., Sibillano, T., Giannini, C., Brescia, R., Falqui, A., Comparelli, R., Corricelli, M., Tommasi, R., Agostiano, A., Curri M.L.,

Tuning light emission of PbS nanocrystals from infrared to visible range by cation exchange Science and Technology of Advanced Materials, 2015, 16, 055007. DOI: 10.1088/1468-6996/16/5/055007

Mula, G., Pinna, E., Falqui, A., Ruffilli, R., Palmas, S., Mascia, M.  
Electrochemical doping of mesoporous silicon with Er: The effect of the current intensity  
Applied Surface Science, 2014, 311, pp. 252-257. doi: 10.1016/j.apsusc.2014.05.050

Marotta, R., Fenu, S., Scheggi, S., Vinci, S., Rosas, M., Falqui, A., Gambarana, C., De Graziella, M.G.,  
Acquas, E.  
Acquisition and expression of conditioned taste aversion differentially affects extracellular signal  
regulated Kinase and glutamate receptor phosphorylation in rat prefrontal cortex and nucleus  
accumbens  
Frontiers in Behavioral Neuroscience, 2014, 8, art. no. 153. doi: 10.3389/fnbeh.2014.00153

Crespo, J., Falqui, A., García-Barrasa, J., López-De-Luzuriaga, J.M., Monge, M., Olmos, M.E.,  
Rodríguez-Castillo, M., Sestu, M., Soulantica, K.  
Synthesis and plasmonic properties of monodisperse Au-Ag alloy nanoparticles of different  
compositions from a single-source organometallic precursor  
Journal of Materials Chemistry C, 2014, 2 (16), 2975-2984. doi: 10.1039/C3TC32577F

Mula, G., Tiddia, M.V., Ruffilli, R., Falqui, A., Palmas, S., Mascia, M.  
Electrochemical impedance spectroscopy of oxidized porous silicon  
Thin Solid Films, April 2014, 556, 311-316. doi: 10.1016/j.tsf.2014.01.044

Bullita, S., Casu, A., Casula, M.F., Concas, G., Congiu, F., Corrias, A., Falqui, A., Loche, D., Marras, C.  
ZnFe<sub>2</sub>O<sub>4</sub> nanoparticles dispersed in a highly porous silica aerogel matrix: A magnetic study  
Physical Chemistry Chemical Physics, 2014, 16 (10), 4843-4852. Doi: 10.1039/c3cp54291b

De Leo, V., Catucci, L., Falqui, A., Marotta, R., Striccoli, M., Agostiano, A., Comparelli, R., Milano, F.  
Hybrid assemblies of fluorescent nanocrystals and membrane proteins in liposomes  
Langmuir, 2014, 30 (6), 1599-1608. doi: 10.1021/la404160b

Malfatti, L., Falcaro, P., Pinna, A., Lasio, B., Casula, M.F., Loche, D., Falqui, A., Marmiroli, B.,  
Amenitsch, H., Sanna, R., Mariani, A., Innocenzi, P.  
Exfoliated graphene into highly ordered mesoporous titania films: Highly performing nanocomposites  
from integrated processing  
ACS Applied Materials and Interfaces, 2014, 6 (2), 795-802. doi: 10.1021/am4027407

Mula, G., Loddo, L., Pinna, E., Tiddia, M., Mascia, M., Palmas, S., Ruffilli, R., Falqui, A.,  
Controlling the Er content of porous silicon using the doping current intensity  
Nanoscale Research Letters, 2014, 9:332. doi: 10.1186/1556-276X-9-332

Carta, D., Casula, M.F., Bullita, S., Falqui, A., Casu, A., Carbonaro, C.M., Corrias, A.  
Direct sol-gel synthesis of doped cubic mesoporous SBA-16 monoliths  
Microporous and Mesoporous Materials, 2014, 194, 157-166.  
doi: 10.1016/j.micromeso.2014.03.032

Fragouli, D., Torre, B., Villafiorita-Monteleone, F., Kostopoulou, A., Nanni, G., Falqui, A., Casu, A.,  
Lappas, A., Cingolani, R., Athanassiou, A.  
Nanocomposite pattern-mediated magnetic interactions for localized deposition of nanomaterials  
ACS Applied Materials and Interfaces, 2013, 5 (15), 7253-7257. doi: 10.1021/am401600f

Pallavicini, P., Donà, A., Casu, A., Chirico, G., Collini, M., Dacarro, G., Falqui, A., Milanese, C.,  
Sironi, L., Taglietti, A.  
Triton X-100 for three-plasmon gold nanostars with two photothermally active NIR (near IR) and SWIR  
(short-wavelength IR) channels  
Chemical Communications, 2013, 49 (57), 6265-6267. doi: 10.1039/c3cc42999g

Pelosi, C., Fodaro, D., Sforzini, L., Rubino, A.R., Falqui, A.  
Study of the laser cleaning on plaster sculptures. the effect of laser irradiation on the surfaces

Optics and Spectroscopy (English translation of Optika i Spektroskopiya), 2013, 114 (6), 917-928. doi: 10.1134/S0030400X13060118

Saba, A.R., Castillo, P.M., Fantechi, E., Sangregorio, C., Lascialfari, A., Sbarbati, A., Casu, A., Falqui, A., Casula, M.F.

Biomedical tools based on magnetic nanoparticles

Progress in Biomedical Optics and Imaging - Proceedings of SPIE, 2013, 8595, art. no. 85950Z

De Trizio, L., De Donato, F., Casu, A., Genovese, A., Falqui, A., Povia, M., Manna, L.

Colloidal CdSe/Cu<sub>3</sub>P/CdSe nanocrystal heterostructures and their evolution upon thermal annealing  
ACS Nano, 2013, 7 (5), 3997-4005. doi: 10.1021/nn3060219

Carta, D., Corrias, A., Falqui, A., Brescia, R., Fantechi, E., Pineider, F., Sangregorio, C.

EDS, HRTEM/STEM, and X-ray absorption spectroscopy studies of Co-substituted maghemite nanoparticles

Journal of Physical Chemistry C, 2013, 117 (18), 9496-9506. doi: 10.1021/jp401706c

Paoletta, A., Brescia, R., Prato, M., Povia, M., Marras, S., De Trizio, L., Falqui, A., Manna, L., George, C.

Colloidal synthesis of cuprite (Cu<sub>2</sub>O) octahedral nanocrystals and their electrochemical lithiation  
ACS Applied Materials and Interfaces, 2013, 5 (7), 2745-2751. DOI: 10.1021/am4004073

Carta, D., Bullita, S., Casula, M.F., Casu, A., Falqui, A., Corrias, A.

Cubic mesoporous silica (SBA-16) prepared using butanol as the Co-surfactant: A general matrix for the preparation of FeCo-SiO<sub>2</sub> nanocomposites

ChemPlusChem, 2013, 78 (4), 364-374. doi: 10.1002/cplu.201200283

Carta, D., Bullita, S., Falqui, A., Casula, M., Corrias, A., Kónya, Z.

Carbon nanotubes synthesis over FeCo-based catalysts supported on SBA-16

Nanopages, 2013, 8 (1), 1-8. doi:

R.B. Mos, T. Petrisor Jr., M.S. Gabor, A. Mancini, A. Rufoloni, G. Celentano, A. Falqui, A. Genovese, R. Ruffilli, L. Ciontea, T. Petrisor

Epitaxial growth and characterization of La<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub> multilayers on biaxially textured NiW substrate by chemical solution deposition under highly reducing conditions

Thin Solid Films, 2013, 531, 491-498. doi: 10.1016/j.tsf.2013.01.099

Pierluigi Caboni, Nadhem Aissani, Tiziana Cabras, Andrea Falqui, Roberto Marotta, Barbara Liori, Nikoletta Ntalli, Giorgia Sarais, Nicola Sasanelli, Graziella Tocco

Potent Nematicidal Activity of Phthalaldehyde, Salicylaldehyde, and Cinnamic Aldehyde against *Meloidogyne incognita*

J. Agric. Food Chem., 2013, 61 (8), 1794-1803, DOI: 10.1021/jf305164m

Francesco Gentile, Manola Moretti, Tania Limongi, Andrea Falqui, Giovanni Bertoni, Alice Scarpellini, Stefania Santoriello, Luca Maragliano, Remo Proietti Zaccaria, Enzo di Fabrizio

Direct imaging of DNA fibers: The visage of double helix

Nano Lett., 2012, 12 (12), 6453-6458, DOI: 10.1021/nl3039162

Valentina Cauda, Bruno Torre, Andrea Falqui, Giancarlo Canavese, Stefano Stassi, Thomas Bein, Marco Pizzi

Confinement in Oriented Mesopores Induces Piezoelectric Behavior of Polymeric Nanowires

Chem. Mater., 2012, 24 (21), pp. 4215-4221, DOI: 10.1021/cm302594s

Simona Petroni, Francesco Guido, Bruno Torre, Andrea Falqui, Maria Teresa Todaro, Roberto Cingolani and Massimo De Vittorio

Tactile multisensing on flexible Aluminum Nitride

Analyst, 2012, 137, 2012, 5260-5264, DOI: 10.1039/c2an36015b

Nikos Liakakos, Benoît Cormary, Xiaojian Li, Pierre Lecante, Marc Respaud, Laurent Maron, Andrea Falqui, Alessandro Genovese, Laure Vendier, Spyros Koinis, Bruno Chaudret, and Katerina Soulantika  
The Big Impact of a Small Detail: Cobalt nanocrystal polymorphism as a

case study

J. Am. Chem. Soc., 2012, 134, 17922-17931, DOI: 10.1021/ja304487b

D.Carta, G. Navarra, A. Falqui, Z. Konya, A. Corrias

Structural characterization of FeCo alloy nanoparticles embedded in SBA-16 and their catalytic application for carbon nanotubes production

RSC Advances, 2012, 2 (20), 7886-7893; DOI: 10.1039/c2ra01147f

Basiuk, E.V., Basiuk, V.A., Meza-Laguna, V., Contreras-Torres, F.F., Martínez, M., Rojas-Aguilar, A., Salerno, M., Zavala, G., Falqui, A., Brescia, R

Solvent-free covalent functionalization of multi-walled carbon nanotubes and nanodiamond with diamines: Looking for cross-linking effects

Applied Surface Science, 259, 465-476, DOI: 10.1016/j.apsusc.2012.07.068

Mula, G., Setzu, S., Manunza, G., Ruffilli, R., Falqui, A.

Characterization of Er in porous Si

Nanoscale Research Letters 2012, 7, 1-22, DOI: 10.1186/1556-276X-7-376

Alberto Casu, Elisa Cabrini, Alice Donà, Andrea Falqui, Yuri Diaz-Fernandez, Chiara Milanese, Angelo Taglietti, Piersandro Pallavicini

Controlled Synthesis of Gold Nanostars by Using a Zwitterionic Surfactant

Chemistry - A European Journal, 2012, 18(30), 9381-9390

DOI: 10.1002/chem.201201024

Guido Mula, Susanna Setzu, Gianluca Manunza, Roberta Ruffilli, Andrea Falqui

Optical, Electrochemical, and Structural Properties of Er-Doped Porous Silicon

J. Phys. Chem. C, 2012, 116 (20), 11256-11260, DOI: 10.1021/jp301851h

Davide Altamura, Liberato De Caro, Michela Corricelli, Andrea Falqui, Marinella Striccoli, Maria Lucia Curri, and Cinzia Giannini

A Meso-Crystallographic study of a 3D Self-assembled bi-modal Nanocrystal Superlattice

Crystal Growth and Design, 2012, 12(4), 1970-1976, DOI: 10.1021/cg201682s

Michela Corricelli, Francesco Enrichi, Davide Altamura, Liberato De Caro, Cinzia Giannini, Andrea Falqui, Angela Agostiano, Maria Lucia Curri, and Marinella Striccoli

Near Infrared Emission from Monomodal and Bimodal PbS Nanocrystal Superlattices

J. Phys. Chem. C, 2012, 116 (10), 6143-6152, DOI: 10.1021/jp300509f

Alberto Curcio, Roberto Marotta, Andreas Riedinger, Domenico Palumberi, Andrea Falqui and Teresa Pellegrino

Magnetic pH-responsive nanogels as multifunctional delivery tools for small interfering RNA (siRNA) molecules and iron oxide nanoparticles (IONPs)

Chem. Commun., 2012, 48, 2400-2402, DOI: 10.1039/C2CC17223B

Luca De Trizio, Albert Figuerola, Liberato Manna, Alessandro Genovese, Rosaria Brescia, Zineb Saghi, Roberto Simonutti and Andrea Falqui

Size-tunable, hexagonal plate-like Cu<sub>3</sub>P and Janus-like Cu<sub>3</sub>P-Cu nanocrystals

ACS Nano, 2012, 6 (1), 32-41, DOI: 10.1021/nn203702r

Bigall, Nadja; Curcio, Alberto; Leal, Manuel Pernia; Falqui, Andrea; Palumberi, Palumberi, Domenico; Di Corato, Riccardo; Albanesi, Ennio; Cingolani, Roberto; Pellegrino, Teresa

Magnetic Nanocarriers with Tunable pH Dependence for Controlled Loading and Release of Cationic and Anionic Payloads

Advanced Materials, 2011, vol. 23 (47), pp. 5645-+

Razzari, Luca; Toma, Andrea; Shalaby, Mostafa; Clerici, Matteo; Zaccaria, Remo Proietti; Liberale, Carlo; Marras, Sergio; Al-Naib, Ibraheem A I; Das, Gobind; De Angelis, Francesco; Peccianti, Marco; Falqui, Andrea; Ozaki, Tsuneyuki; Morandotti, Roberto; Di Fabrizio, Enzo

Extremely large extinction efficiency and field enhancement in terahertz resonant dipole nanoantennas

Optics Express, 2011, 19 (27), 26088-26094. DOI: 10.1364/OE.19.026088

Bruno Torre, Giovanni Bertoni, Despina Fragouli, Andrea Falqui, Marco Salerno, Alberto Diaspro, Roberto Cingolani, Athanassia Athanassiou  
Magnetic Force Microscopy and Energy Loss Imaging of Superparamagnetic Iron Oxide Nanoparticles  
Scientific Reports 1, 2011, Article number: 202, DOI:10.1038/srep00202

Hongbo Li, Marco Zanella, Alessandro Genovese, Mauro Povia, Andrea Falqui, Cinzia Giannini, and Liberato Manna  
Sequential Cation Exchange in Nanocrystals: Preservation of Crystal Phase and Formation of Metastable Phases  
Nano Lett., 2011, 11 (11), 4964-4970. DOI: 0.1021/nl202927a

Zineb Saghi, Daniel J. Holland, Rowan Leary, Andrea Falqui, Giovanni Bertoni, Andrew J. Sederman, Lynn F. Gladden, and Paul A. Midgley  
Three-Dimensional Morphology of Iron Oxide Nanoparticles with Reactive Concave Surfaces. A Compressed Sensing-Electron Tomography (CS-ET) Approach  
Nano Lett., 2011, 11 (11), 4666-4673. DOI: 10.1021/nl202253a

Marco Allione, Bruno Torre, Alberto Casu, Andrea Falqui, Philomena Piacenza, Ricardo Di Corato, Teresa Pellegrino, Alberto Diaspro  
Rod-shaped nanostructures based on superparamagnetic nanocrystals as viscosity sensors in liquid  
Journal of Applied Physics, 2011, 110(6), 064907.

Andreas Riedinger, Manuel Pernia Leal, Smriti Deka, Chandramohan George, Isabella Franchini, Andrea Falqui, Roberto Cingolani, Teresa Pellegrino  
"Nanohybrids" Based on pH-Responsive Hydrogels and Inorganic Nanoparticles for Drug Delivery and Sensor Applications  
Nano Letters, 2011, 11(8), 3136-3141. DOI: 10.1021/nl2011627

Luca Malfatti, Paolo Falcaro, Benedetta Marmiroli, Heinz Amenitsch, Massimo Piccinini, Andrea Falqui, Plinio Innocenzi  
Nanocomposite mesoporous ordered films for lab-on-chip intrinsic surface enhanced Raman scattering detection  
Nanoscale, 2011, 3(9), 3760-3766

George, Chandramohan; Genovese, Alessandro; Qiao, Fen; Korobchevskaya, Kseniya; Comin, Alberto; Falqui, Andrea; Marras, Sergio; Roig, Anna; Zhang, Yang; Krahne, Roman; Manna, Liberato  
Optical and electrical properties of colloidal (spherical Au)-(spinel ferrite nanorod) heterostructures.  
Nanoscale, 2011, 3(11), 4647-54

P.P. Pompa, G. Vecchio, A. Galeone, V. Brunetti, S. Sabella, G. Maiorano, A. Falqui, G. Bertoni, and R. Cingolani  
In vivo toxicity assessment of gold nanoparticles in Drosophila melanogaster  
Nano Research, 2011, 4(4), 405-413. DOI: 10.1007/s12274-011-0095-z

Dirk Dorfs, Thomas Härtling, Karol Miszta, Nadja C. Bigall, Mee Rahn Kim, Alessandro Genovese, Andrea Falqui, Mauro Povia and Liberato Manna  
Reversible Tunability of the NIR Valence Band Plasmon Resonance in Cu<sub>2</sub>-xSe Nanocrystals  
Journal of American Chemical Society, 2011, 133(29), 11175-11180. DOI: 10.1021/ja2016284

Daniela Carta, Maria F. Casula, Andrea Falqui, Salvatore Bullita, Anna Corrias  
Iron-cobalt nanocrystalline alloy supported on a cubic mesostructured silica matrix: FeCo/SBA-16 porous nanocomposites  
Journal of Nanoparticle Research, 2011, 13(8), 3489-3501.

Andrea Paoletta, Chandramohan George, Mauro Povia, Yang Zhang, Roman Krahne, Marti Gich, Alessandro Genovese, Andrea Falqui, Maria Longobardi and Liberato Manna  
Charge Transport and Electrochemical Properties of Colloidal Greigite Fe<sub>3</sub>S<sub>4</sub> Nanoplatelets  
Chemistry of Materials, 2011, 23(16), 3762-3768.

Carta D., Casula M.F., Corrias A., Falqui A.; Dombovari A., Galos A., Konya Z.



One-Step Preparation of FeCo Nanoparticles in a SBA-16 Matrix as Catalysts for Carbon Nanotubes Growth

Journal of Nanoscience and Nanotechnology, 2011, 11(8), 6735-6746, DOI: 10.1166/jnn.2011.4230

G. Morello, A. Fiore, R. Mastria, A. Falqui, A. Genovese, L. Manna, F. Della Sala, R. Cingolani and M. De Giorgi

Temperature and size dependence of the optical properties of tetrapod-shaped colloidal nanocrystals exhibiting type-II transitions

Journal of Physical Chemistry C, 2011, 115(37), 18094-18104

Michael Levy, Alessandra Quarta, Ana Espinosa, Albert Figuerola, Claire Wilhelm, Mar Garcia-Hernandez, Alessandro Genovese, Andrea Falqui, Damien Alloyeau, Raffaella Buonsanti, Pantaleo Davide Cozzoli, Miguel Angel Garcia, Florence Gazeau, Teresa Pellegrino

Correlating Magneto-Structural Properties to Hyperthermia Performance of Highly Monodisperse Iron Oxide Nanoparticles Prepared by a Seeded-Growth Route

Chemistry of Materials, 2011, 23(18), 4170-4180. DOI: 10.1021/cm201078f

Gabriele Maiorano, Loris Rizzello, Maria Ada Malvindi, Sangaru Shiv Shankar, Luigi Martiradonna, Andrea Falqui, Roberto Cingolani and Pier Paolo Pompa

Monodispersed and size-controlled multibranched gold nanoparticles with nanoscale tuning of surface morphology

Nanoscale, 2011, 3 (11)4647-54. DOI: 10.1039/C1NR10107B

L. Zadoina, K. Soulantica, S. Ferrere, B. Lonetti, M. Respaud, A. Falqui, A. Genovese, A-F. Mingotaud, B. Chaudret, Bruno, M. Mauzac

In situ synthesis of cobalt nanoparticles in functionalized liquid crystalline polymers

J. Mater. Chem., 2011, 21(19), 6988-6994.

G. Bertoni, B. Torre, D. Fragouli, A. Falqui, A. Athanassiou, R. Cingolani

Nanochains Formation of Superparamagnetic Nanoparticles

Journal of Physical Chemistry C, 2011, 115(15), 7249-7254.

Andrea Falqui, Danilo Loche, Maria F. Casula, Anna Corrias, Daniele Gozzi, Alessandro Latini

Synthesis and characterization of multi walled carbon nanotube/FeCo nanocomposites

Journal of Nanoscience and Nanotechnology, 2011, 11, 2215-2225.

Philippe Serp; Jacques Teddy; Andrea Falqui; Anna Corrias; Daniela Carta; Pierre Lecante; Iann Gerber  
Influence of particles alloying on the performances of Pt-Ru/CNT catalysts for selective hydrogenation

Journal of Catalysis, 2011, 278 (1), 59-70. DOI: 10.1016/j.jcat.2010.11.016

Michela Corricelli, Lucia Curri, Davide Altamura, Cinzia Giannini, Andrea Falqui, Alessandro Genovese  
Self-organization of mono- and bi-modal PbS nanocrystal populations in superlattices

Cryst Eng Comm, 2011, 13(12), 3988-3997

C. George, D. Dorfs, G. Bertoni, A. Falqui, T. Pellegrino, A. Roig, A. Quarta, R. Cingolani and L. Manna  
A Cast-Mold Approach to Iron Oxide-Based Nano-Containers and to Nanoparticles with a Reactive Concave Surface

Journal of the American Chemical Society, 2011, 133 (7), pp 2205-2217. DOI: 10.1021/ja108781w

P. Pallavicini, G. Chirico, M. Collini, G. Dacarro, A. Donà, L. D'Alfonso, A. Falqui, Y. Diaz-Fernandez, S. Freddi, B. Garofalo, A. Genovese, L. Sironi and A. Taglietti

Synthesis of branched Au nanoparticles with tunable near-infrared LSPR using a zwitterionic surfactant

Chem. Comm., 2011, 47, 1315-1317. DOI: 10.1039/C0CC02682D

Gianni Ciofani, Serena Danti, Delfo D'Alessandro, Leonardo Ricotti, Stefania Moscato, Giovanni Bertoni, Andrea Falqui, Stefano Berrettini, Mario Petrini, Virgilio Mattoli, and Arianna Menciassi

Enhancement of Neurite Outgrowth in Neuronal-Like Cells following Boron Nitride Nanotube-Mediated Stimulation

ACS Nano, 2010, 4 (10), pp 6267-6277. DOI: 10.1021/nn101985a

Andrea Falqui, Anna Corrias, Peng Wang, Etienne Snoeck and Gavin Mountjoy

A Transmission Electron Microscopy Study of CoFe<sub>2</sub>O<sub>4</sub> Ferrite Nanoparticles in Silica Aerogel Matrix Using HREM and STEM Imaging and EDX Spectroscopy and EELS  
Microscopy and Microanalysis, 2010, 16(2), pp 200-209

D. Carta, M. F. Casula, P. Floris, A. Falqui, G. Mountjoy, A. Boni, C. Sangregorio and A. Corrias  
Synthesis and microstructure of manganese ferrite colloidal nanocrystals  
Phys Chem Chem Phys, 2010, 12(19), pp 5074-5083. DOI: 10.1039/B922646J

Albert Figuerola, Marijn van Huis, Marco Zanella, Alessandro Genovese, Sergio Marras, Andrea Falqui, Henny W. Zandbergen, Roberto Cingolani and Liberato Manna  
Epitaxial CdSe-Au nanocrystal heterostructures by thermal annealing  
Nano Letters, 2010, 10(8), pp 3028-3036. DOI: 10.1021/nl101482q

Smriti R. Deka, Alessandra Quarta, Riccardo Di Corato, Andrea Falqui, Liberato Manna, Roberto Cingolani and Teresa Pellegrino  
Acidic pH-Responsive Nanogels as Smart Cargo Systems for the Simultaneous Loading and Release of Short Oligonucleotides and Magnetic Nanoparticles  
Langmuir, 2010, 26(12), pp 10315-10324

Davide Altamura, Michela Corricelli, Liberato De Caro, Antonietta Guagliardi, Andrea Falqui, Alessandro Genovese, Andrei Y. Nikulin, M. Lucia Curri, Marinella Striccoli and Cinzia Giannini  
Structural Investigation of Three-Dimensional Self-Assembled PbS Binary Superlattices  
Crystal Growth and Design, 2010, 10(8), pp 3770-3774

Isabella R. Franchini, Adriano Cola, Aurora Rizzo, Rosanna Mastria, Anna Persano, Roman Krahne, Alessandro Genovese, Andrea Falqui, Dmitry Baranov, Giuseppe Gigli and Liberato Manna  
Phototransport in networks of tetrapod-shaped colloidal semiconductor nanocrystals.  
Nanoscale, 2010, 2 (10), pp 2171-2179

Mirza Cokoja, Harish Parala, Alexander Birkner, Roland A. Fischer, Olivier Margeat, Diana Ciuculescu, Catherine Amiens, Bruno Chaudret, Andrea Falqui, Pierre Lecante  
Organometallic synthesis of CoAl nanoparticles and CoAl /Al nanoparticles and their behaviour upon air exposure  
European Journal of Inorganic Chemistry, 2010, pp 1599-1603

Despina Fragouli, Raffaella Buonsanti, Giovanni Bertoni, Claudio Sangregorio, Claudia Innocenti, Andrea Falqui, Dante Gatteschi, Pantaleo Davide Cozzoli, Athanassia Athanassiou and Roberto Cingolani  
Dynamical Formation of Spatially Localized Arrays of Aligned Nanowires in Plastic Films with Magnetic Anisotropy  
ACS Nano 2010, 4(4), pp 1873-1878. DOI: 10.1021/nn901597a

Andrea Falqui, Giovanni Bertoni, Alessandro Genovese, Sergio Marras, Mario Malerba, Isabella R. Franchini and Liberato Manna  
Electron Microscopy Studies of Beam-Sensitive PbTe-based nanostructures  
Microscopy Research and Technique, 2010, 73(10), pp 944-951

Dmitry Baranov, Angela Fiore, Marijn van Huis, Cinzia Giannini, Andrea Falqui, Ugo Lafont, Henny Zandbergen, Marco Zanella, Roberto Cingolani and Liberato Manna  
Assembly of Colloidal Semiconductor Nanorods in Solution by Depletion Attraction  
Nano Letters, 2010, 10(2), pp 743-749. DOI: 10.1021/nl903946n

Danilo Loche, Maria F. Casula, Andrea Falqui, Sergio Marras and Anna Corrias  
Preparation of Mn, Ni, Co Ferrite Highly Porous Silica Nanocomposite Aerogels by an Urea-Assisted Sol-Gel Procedure  
Journal of Nanoscience and Nanotechnology, 2010, 10(2), pp 1008-1016

Isabella R. Franchini, Giovanni Bertoni, Andrea Falqui, Cinzia Giannini, Lin Wang Wang and Liberato Manna  
Colloidal PbTe-Au Nanocrystal Heterostructures  
Journal of Materials Chemistry, 2010, 7, pp 1357-1366

K. Soulantica, F. Wetz, J. Maynadié, A. Falqui, R.P. Tan, T. Blon, B. Chaudret, and M. Respaud  
Magnetism of single-crystalline Co nanorods  
Applied Physics Letters, 95, 152504 (2009)

Sasanka Deka, Andrea Falqui, Giovanni Bertoni, Claudio Sangregorio, Giordano Poneti, Giovanni Morello, Milena De Giorgi, Cinzia Giannini, Roberto Cingolani, Liberato Manna and P. Davide Cozzoli  
Fluorescent Asymmetrically Cobalt-Tipped CdSe@CdS Core@Shell Nanorod Heterostructures Exhibiting Room-Temperature Ferromagnetic Behavior  
Journal of American Chemical Society, 2009, 131 (35), pp 12817-12828

Anna Corrias, Gavin Mountjoy, Danilo Loche, Victor Puentes, Andrea Falqui, Marco Zanella, Wolfgang J. Parak and Maria F. Casula  
Identifying Spinel Phases in Nearly Monodisperse Iron Oxide Colloidal Nanocrystal  
J. Phys. Chem. C, 2009, 113 (43), pp 18667-18675

Daniela Carta, Maria F. Casula, Andrea Falqui, Danilo Loche, Gavin Mountjoy, Claudio Sangregorio and Anna Corrias  
A Structural and Magnetic Investigation of the Inversion Degree in Ferrite Nanocrystals  $MFe_2O_4$  ( $M = Mn, Co, Ni$ )  
Journal of Physical-Chemistry C, 2009, 113 (20), 8606-8615. DOI: 10.1021/jp901077c

Régis Philippe, Brigitte Caussat, Andrea Falqui, Yolande Kihn, Philippe Kalck, Serge Bordère, Dominique Plee, Patrice Gaillard, Daniel Bernardg, Philippe Serp  
An original growth mode of MWCNTs on alumina supported iron catalysts  
Journal of Catalysis, 2009, 263(2), pp 345-358. DOI: 10.1016/j.jcat.2009.02.027

Daniela Carta, Maria F. Casula, Anna Corrias, Andrea Falqui, Danilo Loche, Gavin Mountjoy, and Peng Wang  
Structural and Magnetic Characterization of Co and Ni Silicate Hydroxides in Bulk and in Nanostructures within Silica Aerogels  
Chemistry of Materials, 2009, 21 (5), pp 945-953

Sasanka Deka, Alessandra Quarta, Maria Grazia Lupo, Andrea Falqui, Simona Boninelli, Cinzia Giannini, Giovanni Morello, Milena De Giorgi, Guglielmo Lanzani, Corrado Spinella, Roberto Cingolani, Teresa Pellegrino and Liberato Manna  
CdSe/CdS/ZnS double shell nanorods with high photoluminescence efficiency and their application as bio-labeling probes  
Journal of American Chemical Society, 2009, 131 (8), 2948-2958

Revathi R. Bacsá, Jeannette Dexpert-Ghys, Marc Verelst, Andrea Falqui, Bruno Machado, Wolfgang S Bacsá, Peter Chen, Shaik. M. Zakeeruddin, Michael Graetzel and Philippe Serp  
Synthesis and structure-property correlation in shape controlled ZnO nanoparticles prepared by Chemical Vapour Synthesis and their application in Dye Sensitized Solar Cells  
Advanced Functional Materials, 2009, 19, 875-886: DOI: 10.1002/adfm.200801049

Paolo Falcaro, Luca Malfatti, Tongjit Kidchob, Giacomo Giannini, Andrea Falqui, Maria F. Casula, Heinz Amenitsch, Benedetta Marmiroli, Gianluca Greci, Plinio Innocenzi  
Hierarchical porous silica films with ultra-low refractive index  
Chemistry of Materials, 2009, 21 (10), 2055-2061. DOI: 10.1021/cm802750w

Jérôme Maynadié, Asaf Salant, Andrea Falqui, Marc Respaud, Ehud Shaviv, Uri Banin, Katerina Soulantica and Bruno Chaudret  
Cobalt growth on the tips of CdSe nanorods  
Angewandte Chemie International Edition, 2009, 48 (10), 1814-1817: DOI: 10.1002/anie.200804798.

Andrea Falqui, Anna Corrias, Mhairi Gass, Gavin Mountjoy  
A transmission electron microscopy study of Fe-Co alloy nanoparticles in a silica aerogel matrix using HREM, EDX, and EELS  
Microscopy and Microanalysis, 2009, 15 (02), 114-124

M. Casavola, A. Falqui, M. A. Garcia, M. García-Hernández, C. Giannini, R. Cingolani, and P. D. Cozzoli  
Exchange-Coupled Bimagnetic Cobalt/Iron Oxide Branched Nanocrystal Heterostructures  
Nano Letters, 2009, 9 (1), pp. 366-376. DOI: 10.1021/nl803151n

L-M. Lacroix, S. Lachaize, A. Falqui, M. Respaud, and B. Chaudret  
Iron Nanoparticles Growth in Organic Super-Structures  
Journal of American Chemical Society, 2009, 131 (2), 549-557. DOI: 10.1021/ja805719c

D. Carta, M. F. Casula, A. Corrias, A. Falqui, G. Pinna, G. Navarra  
Structural and Magnetic Characterization of Synthetic Ferrihydrite Nanoparticles  
Materials Chemistry and Physics, 2009, 113, 349-355.  
DOI: 10.1016/j.matchemphys.2008.07.122

Albert Figuerola, Isabella R. Franchini, Angela Fiore, Rosanna Mastria, Andrea Falqui, Giovanni Bertoni, Sara Bals, Gustaaf Van Tendeloo, Stefan Kudera, Roberto Cingolani, and Liberato Manna  
End-to-End Assembly of Shape-Controlled Nanocrystals via a Nano-welding Approach Mediated by Gold Domains  
Advanced Materials, 2009, vol. 21 (5), pp. 550-554. DOI: 10.1002/adma.200801928

Arnaud Glaria, Myrtil L. Kahn, Andrea Falqui, Pierre Lecante, Vincent Collière, Marc Respaud, Bruno Chaudret  
An Organometallic Approach for Very Small Maghemite Nanoparticles: Synthesis, Characterization, and Magnetic Properties  
ChemPhysChem, 2008, 9 (14), 2035 - 2041

Y. Soumare, J.-Y. Piquemal, T. Maurer, F. Ott, G. Chaboussant, A. Falqui and G. Viau  
Oriented magnetic nanowires with high coercivity  
Journal of Materials Chemistry, 2008, 18 (46), pp. 5696-5702. DOI: 10.1039/B810943E

Daniele Gozzi, Alessandro Latini, Daniela Carta, Anna Corrias, Andrea Falqui, Gavin Mountjoy, Laura Lazzarini, Giancarlo Salviati, Steven Fiddy  
Lanthanide doped scandia and yttria cathodoluminescent films: a comparative study  
Chemistry of Materials, 2008, 20, 5666-5674

Marco Zanella, Andrea Falqui, Stefan Kudera, Liberato Manna, Maria F. Casula, Wolfgang J. Parak  
Growth of colloidal hybrid nanoparticles of fluorescent group II/VI particles on top of magnetic iron-platinum  
Journal of Materials Chemistry, 2008, 18, 4311 - 4317

Laura Rodríguez-Pérez, Emmanuelle Teuma, Andrea Falqui, Montserrat Gómez, Philippe Serp  
Supported Ionic Liquid Phase Catalysis on Functionalized Carbon Nanotubes  
Chemical Communications, 2008, (35), 4201-4203

L-M. Lacroix, S. Lachaize, A. Falqui, T. Blon, J. Carrey, and M. Respaud, F. Dumestre, C. Amiens, O. Margeat, and B. Chaudret, P. Lecante and E. Snoeck  
Ultrasmall iron nanoparticles: Effect of size reduction on anisotropy and magnetization  
Journal of Applied Physics 103, 07D521 (2008). DOI: 10.1063/1.2837625

A. Figuerola, A. Fiore, R. Di Corato, A. Falqui, C. Giannini, E. Micotti, A. Lascialfari, M. Corti, R. Cingolani, T. Pellegrino, P. D. Cozzoli and L. Manna  
One-pot Synthesis and Characterization of Size Controlled Bi-magnetic FePt-Iron Oxide Heterodimer Nanocrystals  
Journal of American Chemical Society, 2008, 130(4); 1477-1487

A. Casu, M. F. Casula, A. Corrias, A. Falqui, D. Loche, S. Marras and C. Sangregorio  
The influence of composition and porosity on the magnetic properties of FeCo-SiO<sub>2</sub> nanocomposite aerogels  
Physical Chemistry Chemical Physics, 2008, (7), 1043-1052

F. Wetz, K. Soulantica, A. Falqui, M. Respaud, E. Snoeck and B. Chaudret  
Hybrid Co-Au Nanorods: Controlling Au Nucleation and Location

Angewandte Chemie International Edition, 2007, vol. 46 (37), pp. 7079-7081. DOI: 10.1002/ange.200702017

D. Ciuculescu, C. Amiens, M. Respaud, A. Falqui, P. Lecante, R. Benfield, L. Jiang, K. Fauth and B. Chaudret

One-Pot Synthesis of Core-Shell FeRh Nanoparticles

Chemistry of Materials, 2007, vol. 19(19), pp. 4624-4626

A. Millan, F. Palacio, A. Falqui, E. Snoeck, V. Serin, A. Bhattacharjee, V. Ksenofontov, P. Gutlich, I. Gilbert

Maghemite polymer nanocomposites with modulated magnetic properties

Acta Materialia, 2007, vol. 55 (6), pp. 2201-2209. DOI: 10.1016/j.actamat.2006.11.020

Ciuculescu Diana; Amiens Catherine; Respaud Marc; Lecante Pierre; Falqui Andrea; Chaudret Bruno  
Synthesis and characterization of FeRh nanoparticles

Modern Physics Letters B, 2007, 21(18), 1153-1159

A. Casu, M.F. Casula, A. Corrias, A. Falqui, D. Loche, and S. Marras

Magnetic and Structural Investigation of Highly Porous CoFe<sub>2</sub>O<sub>4</sub>-SiO<sub>2</sub> Nanocomposite Aerogels

Journal of Physical Chemistry C, 2007, vol. 111, pp. 916-922

F. Wetz, K. Soulantica, M. Respaud, A. Falqui, B. Chaudret

Synthesis and magnetic properties of Co nanorod superlattices

Materials Science and Engineering C, 2007, vol. 27 (5), pp. 1162-1166.

DOI: 10.1016/j.msec.2006.09.010

Cannas C., Falqui A., Musinu A., Peddis D., Piccaluga G.

CoFe<sub>2</sub>O<sub>4</sub> nanocrystalline powders prepared by citrate-gel methods: Synthesis, structure and magnetic properties

Journal of Nanoparticles Research, 2006, vol. 8 (2), pp. 255-267.

DOI: 10.1007/s11051-005-9028-7

Casula M.F., Concas G., Congiu F., Corrias A., Falqui A. and Spano G.

Near equiatomic FeCo nanocrystalline alloy embedded in an alumina aerogel matrix: microstructural and related magnetic features

Journal of Physical Chemistry B, 2005, 109, 23888-23895

Ennas G., Falqui A., Marongiu G. and Paschina G.

Iron-Cobalt Alloy Nanoparticles Embedded in an Alumina Xerogel Matrix

Chemistry of Materials, 2005, 17, 6486-6491

Falqui A., Lampis N., Geddo-Lehmann A. and Pinna G.

Low temperature magnetic behaviour of perovskite compounds PbFe<sub>1/2</sub>Ta<sub>1/2</sub>O<sub>3</sub> and PbFe<sub>1/2</sub>Nb<sub>1/2</sub>O<sub>3</sub>

Journal of Physical Chemistry B, 2005, 109, 22967-22970. DOI: 10.1021/jp0551014

Kudera S., Carbone L., Casula M.F., Cingolani R., Falqui A., Snoeck E., Parak W. J. and Manna L.

Selective growth of PbSe on one or on both tips of colloidal semiconductor nanorods

Nano Letters, 2005, 5(3), 445-449. DOI: 10.1021/nl048060g

Ennas G., Falqui A., Marras S, Sangregorio C., Marongiu G.

Influence of Metal Content on Size, Dispersion and Magnetic Properties of Iron-Cobalt Alloy

Nanoparticles Embedded in Silica Matrix

Chemistry of Materials. 2004, 16(26), 5659-5663. DOI: 10.1021/cm048761e

Corrias A., Casula M.F., Falqui A., Paschina G.

Preparation and characterization of FeCo-Al<sub>2</sub>O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub> aerogels.

Journal of Sol-Gel Science & Technology. 2004, 31(1-3), 83-86.

Corrias A., Casula MF., Falqui A., Paschina G.

Evolution of the structure and magnetic properties of FeCo nanoparticles in an alumina aerogel matrix

Chemistry of Materials. 2004, 16(16), 3130-3138.

- Congiu F., Concas G., Ennas G., Falqui A., Fiorani D., Marongiu G., Marras S., Spano G., Testa AM. Magnetic properties of nanocrystalline CoFe<sub>2</sub>O<sub>4</sub> dispersed in amorphous silica  
Journal of Magnetism & Magnetic Materials. 2004, 272-276 (Part 2 Special Issue SI), 1561-1562.
- Bonacchi D., Caneschi A., Dornigac D., Falqui A., Gatteschi D., Rovai D., Sangregorio C., Sessoli R. Nanosized iron oxide particles entrapped in pseudo-single crystals gamma-cyclodextrin  
Chemistry of Materials. 2004, 16(10), 2016-2020.
- Bonacchi D., Caneschi A., Gatteschi D., Sangregorio C., Sessoli R., Falqui A. Synthesis and characterisation of metal oxides nanoparticles entrapped in cyclodextrin  
Journal of Physics & Chemistry of Solids. 2004, 65 (4), 719-722.
- Gilbert I., Millan A., Palacio F., Falqui A., Snoeck E., Serin V. Magnetic properties of maghemite nanoparticles in a polyvinylpyridine matrix  
Polyhedron, 2003, 22(14-17), 2457-2461.
- Casula MF., Corrias A., Falqui A., Serin V., Gatteschi D., Sangregorio C., Fernandez CD., Battaglin G. Characterization of FeCo-SiO<sub>2</sub> nanocomposite films prepared by sol-gel dip coating  
Chemistry of Materials. 2003, 15(11), 2201-2207.
- Falqui A., Serin V., Calmels L., Snoeck E., Corrias A., Ennas G. EELS investigation of FeCo/SiO<sub>2</sub> nanocomposites  
Journal of Microscopy. 2003, 210 (Part 1), 80-88.
- Ennas G., Casula MF., Falqui A., Gatteschi D., Marongiu G., Marras S., Piccaluga G. Non-stoichiometric CoFe<sub>2</sub>O<sub>4</sub> nanoparticles supported on an amorphous silica matrix  
Journal of Sol-Gel Science & Technology. 2003, 26(1-3), 463-466.
- Navarra G., Falqui A., Piccaluga G., Pinna G. The structure of a zinc metaphosphate glass. A reverse Monte Carlo study  
Physical Chemistry Chemical Physics. 2002, 4(19), 4817-4822.
- Cannas C., Casula MF., Concas G., Corrias A., Gatteschi D., Falqui A., Musinu A., Sangregorio C., Spano G. Magnetic properties of gamma-Fe<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> aerogel and xerogel nanocomposite materials  
Journal of Materials Chemistry. 2001, 11(12), 3180-3187. DOI: 10.1039/B104562H
- Ennas G., Casula MF., Falqui A., Gatteschi D., Marongiu G., Piccaluga G., Sangregorio C., Pinna G. Nanocrystalline iron-cobalt alloys supported on a silica matrix prepared by the sol-gel method  
Journal of Non-Crystalline Solids. 2001, 293, 1-9.
- Cannas C., Concas G., Falqui A., Musinu A., Spano G., Piccaluga G. Investigation of the precursors of gamma-Fe<sub>2</sub>O<sub>3</sub> in Fe<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub> nanocomposites obtained through sol-gel  
Journal of Non-Crystalline Solids, 2001, 286(1-2):64-73.
- Cannas C., Concas G., Gatteschi D., Falqui A., Musinu A., Piccaluga G., Sangregorio C., Spano G. Superparamagnetic behaviour of gamma-Fe<sub>2</sub>O<sub>3</sub> nanoparticles dispersed in a silica matrix  
Physical Chemistry Chemical Physics. 2001, 3(5), 832-838.
- Ennas G., Falqui A., Piccaluga G., Solinas S., Gatteschi D., Sangregorio C., Benedetti A. Properties of nanocrystalline nickel particles in Ni-SiO<sub>2</sub> composites  
Zeitschrift fur Naturforschung Section A-A Journal of Physical Sciences, 2000, 55(6-7), 581-588.
- Ennas G., Marongiu G., Musinu A., Falqui A., Ballirano P., Caminiti R. Characterization of nanocrystalline gamma-Fe<sub>2</sub>O<sub>3</sub> prepared by wet chemical method  
Journal of Materials Research, 1999, 14(4):1570-1575. DOI: 10.1557/JMR.1999.0210
- Balerna A., Bionducci M., Falqui A., Licheri G., Meneghini C., Navarra G., Bettinelli M. A structural study of Sr Metaphosphate glass by anomalous X-Ray scattering and EXAFS spectroscopy

## ORGANIZZAZIONE, DIREZIONE E COORDINAMENTO DI CENTRI O GRUPPI DI RICERCA NAZIONALI E INTERNAZIONALI O PARTECIPAZIONE AGLI STESSI

(per ciascuna voce inserire tipologia di progetto, titolo del progetto, anno, durata, eventuale ente finanziatore e importo del finanziamento, ruolo, gruppo di ricerca, ecc.)

Da 11.1997 a 5.2014: membro del gruppo di ricerca sulla sintesi e caratterizzazione di materiali nanostrutturati e nanocompositi, Dipartimento di Scienze Chimiche, Università di Cagliari, coordinatori: Prof. Giorgio Piccaluga, Prof.ssa Anna Corrias

Dal 6.2001 al 6.2002: membro del gruppo di ricerca "Microscopia Elettronica e Analisi Chimica", CEMES/CNRS, Toulouse, Francia.

Dal 15.2.2006 al 31.7.2007: membro del gruppo di ricerca sui nanomateriali preparati per chimica colloidale, INSA (Institut National de Sciences Appliquées), Toulouse, Francia, coordinatore: Dr. Bruno Chaudret.

Dal 1.4.2008 al 31.3.2014 (6 anni): Fondatore e Direttore del Laboratorio di Microscopia Elettronica dell'Istituto Italiano, Genova, Italia.

Dal 15.4.2014 al 1.12.2020 (6.5 anni): Principal Investigator del gruppo di ricerca NABLA, King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita.

## ATTIVITÀ QUALI LA DIREZIONE O LA PARTECIPAZIONE A COMITATI EDITORIALI DI RIVISTE SCIENTIFICHE

(per ciascuna voce inserire anno, durata, ruolo, rivista scientifica, ecc.)

Dal 2017: membro dell'editorial board di "Scientific Reports";

Dal 2015: membro dell'Editorial Board di "Frontiers in Materials";

Dal 2013 al 2016: membro dell'Editorial Board di "Microscopy Research and Technique".

## FINANZIAMENTI COMPETITIVI OTTENUTI IN QUALITÀ DI RESPONSABILE DI PROGETTO

(indicare progetto, importo, ente finanziatore, ecc.)

**FP5, European Marie Curie Individually Driven Post-Doc Fellowship**, titled: "HRTEM and EELS studies of magnetic nanocomposites", Programme 'Improving Human Potential', contract number HPMF-CT-2000-01007. Duration: 6/2001-6/2002. Total financial amount funded: 85 k€  
Ruolo di Andrea Falqui: Proposer and funded Marie Curie Post-Doc Fellow.

**Multicentric Research National Project funded by Compagnia di Sanpaolo (Bank Foundation), Call Neuroscience 2008**, title: "Molecular and morphological correlates of neuronal plasticity in rat models of learning" - Scientific Coordinator: Prof. Graziella De Montis, Università di Siena, Italy. Project duration: 2010-2012. Total financial amount funded: 160 k€  
Ruolo di Andrea Falqui: Principal Investigator (PI) and Coordinator of Local Research Unit (Istituto Italiano di Tecnologia, Genova, Italia), in charge of TEM characterization of brain tissues involved in the project.

**King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia. 7-year long funded project (2014-2019): "Advanced Electron Microscopy of bio- and nanomaterials"**. Amount of the grant currently received: 500 k\$ per year as baseline funds from 2014 to 2020, plus 750 k\$ as equipment funds, plus 350 k\$ per year (2014, 2015, 2016) as start-up funds.  
Ruolo di Andrea Falqui: Principal Investigator and Associate Professor.

**British Council/Gulf 2016 Call. Project title: "Developing new ceria-based materials to address challenges in energy and the environment"**. Project duration: 2017-2018. Total financial amount funded: 250 k\$.

Ruolo di Andrea Falqui: Co-Responsible of the funded project and responsible of the Gulf Research Unit, located in King Abdullah University of Science and Technology, Thuwal, Saudi Arabia. Dr. Falqui's unit is in charge of SEM, TEM and STEM characterization of the nanomaterials synthesized in the project framework.

#### ATTIVITÀ di REVISORE per RIVISTE SCIENTIFICHE NAZIONALI e INTERNAZIONALI a PEER-REVIEW

Reviewer per le seguenti riviste scientifiche internazionali a peer-review: «Journal of Magnetism and Magnetic Materials», «Chemistry of Materials», «Materials Letters», «Journal of Materials Science», «Journal of the American Chemical Society», «Ultramicroscopy», «Journal of Physical Chemistry C», «Physical Review Letters», «Microscopy Research and Technique», «Polymers», «Physica Status Solidi», «MatChemPhys», «Scientific Reports», «ACS Nano», «Nanoscale», «Physical Chemistry Chemical Physics», «Journal of Colloid and Interface Science», «Macromolecules», «Nature Communications», «Journal of Nanoparticles Research», «RSC Advances», «ACS Applied Materials and Interfaces», «Fundamental Research».

#### TITOLARITÀ DI BREVETTI

(per ciascun brevetto, inserire autori, titolo, tipologia [nazionale o internazionale], anno, numero brevetto, ecc.)

#### PREMI E RICONOSCIMENTI NAZIONALI E INTERNAZIONALI PER ATTIVITÀ DI RICERCA

(inserire nome e motivazione del premio, data, ente erogatore, ecc.)

#### APPARTENENZA AD ACCADEMIE SCIENTIFICHE DI RICONOSCIUTO PRESTIGIO

(inserire nome dell'Accademia, periodo, ecc.)

Dal 2008: membro della European Microscopy Society  
Dal 2014: membro della Microscopy Society of America  
Dal 2017: membro della Royal Microscopical Society

#### PARTECIPAZIONE IN QUALITÀ DI RELATORE A CONGRESSI E CONVEGNI DI INTERESSE NAZIONALE E INTERNAZIONALE

(inserire titolo congresso/convegno, data, durata in giorni/ore, ente organizzatore, ecc.)

24-06-2002/28-06-2002

JMM 2002 - Joint Microscopy Meeting of the French, Belgian, Dutch and Swiss Societies of Microscopy, EUDIL, Lille, France.

Oral presentation titled: "STEM/EELS studies of FeCo nanoparticles embedded in silica matrix."

20-06-2005/24-06-2005

34mo Congresso Nazionale della Divisione di Chimica Fisica della Società Chimica Italiana (SCI), Università di Siena.

Oral presentation titled: "Magnetic behavior of nanocomposites materials FeCo/SiO<sub>2</sub> e CoFe<sub>2</sub>O<sub>4</sub>/SiO<sub>2</sub>"

21-06-2014/26-06-2014

SCTE 2014 - 19th International Conference on Solid Compounds of Transition Elements, Genoa, Italy.

Oral presentation titled: "In situ cation exchange reactions at the solid state studied by advanced TEM and STEM"

02-08-2015/06-08-2015

M&M (Microscopy and Microanalysis) 2015 Meeting, International Conference of the Microscopy Society of America (MSA), Portland (Oregon), USA.

Oral presentation titled: "Indium-Tin-Oxide (ITO) as Stable and Effective Coating Material for Correlative Confocal and Immuno-Scanning Electron Microscopy Studies".

16-03-2017/18-03-2017



3rd Annual World Congress of Smart Materials (WCSM) 2017, Bangkok, Thailand.  
Oral presentation titled: "In situ TEM novel approach to perform cation exchange reactions between nanocrystals at solid state."

22-03-2017/24-03-2017

Analytix Conference 2017, Fukuoka, Japan.

Oral presentation titled: "Correlative scanning electron and confocal microscopy imaging of labeled cells coated by indium-tin-oxide."

03-07-2017/06-07-2017

Microscience Microscopy Congress (mmc) 2017 - Incorporating EMAG. Manchester (UK).

Oral communication titled: "3D volume reconstruction and isothermal coarsening of nanoporous gold studied by SBF and in situ heating ESEM."

10-10-2017/12-10-2017

International Congress on Engineering of Advanced Materials ICEAM 2017. Friedrich-Alexander-Universität (FAU) Erlangen-Nürnberg, Germany.

Oral presentation titled: "STEM-EDS imaging of in situ cation exchange at solid state between diverse nanoparticles populations: how it works"

26-11-2017/30-11-2017

Materials Research Society (MRS), 2017 Fall Meeting - Boston (MA) USA

Oral presentation titled: "How a Cation Exchange at Solid State between Diverse Nanoparticles Populations Occurs—New Insights by In Situ HRTEM and STEM-EDS Imaging."

9-04-2018/11-04-2018

King Abdullah University of Science and Technology (KAUST) International Research Workshop: Innovative technologies to study brain energy metabolism with high spatial and temporal resolution. Thuwal, Saudi Arabia.

Invited oral presentation titled: "Impairing long-term memory by inhibiting brain glycogenolysis: a 3D-ultrastructure study."

16-07-2018/20-07-2018

EMN (Energy Materials and Nanotechnology) Meeting on Alloys and Compounds, Berlin, Germany.

Oral presentation titled: "Magnetic behavior of colloidal nanoparticles of diverse iron oxide's phases modified by a cation-exchange approach."

9-09-2018/14-09-2018

19th International Microscopy Congress - IMC19. Sydney, Australia.

Oral presentation titled: "STEM imaging and concomitant EDS mapping of in situ cation-exchange at solid state between diverse nanoparticles populations: how it actually works."

26-11-2018/30-11-2018

Materials Research Society (MRS), 2018 Fall Meeting - Boston (MA) USA

Oral presentation titled: "Amorphous Titanium Dioxide Nanotubes by Anodic Oxidation—In Situ and Ex Situ TEM Studies of Their Thermally-Driven Crystallization Under Different Conditions."

27-05-2019/31-05-2019

European Materials Research Society (E-MRS), 2019 Spring Meeting - Nice (France)

Oral presentation titled: "Cation exchange reactions at the solid state by in situ TEM/STEM."

22-09-2019/27-09-2019

IUMRS-ICA 2019 (20th International Union of Materials Research Societies - International Conference in Asia) Perth (Australia)

i) Oral presentation titled: "Combining in situ heating environmental SEM and FIB-SEM approaches to investigate the 3D thermal evolution of nanoporous gold."

ii) Oral presentation titled: "In situ heating STEM investigation of solid-state cation-exchange reactions."

21-10-2019/22-10-2019

Workshop: Dynamic in-situ microscopy relating structure and function.

The Royal Society, London (UK)

Contribution titled: "STEM imaging and concomitant EDS mapping of in situ cation-exchange at solid state between diverse nanoparticles populations: how it actually works"

13-11-2019/15-11-2019

7th Annual Conference of AnalytiX-2019 (Europe), Berlin (Germany)

Oral presentation titled: "Evolution of 3D structure of nanoporous gold upon annealing: an in situ ESEM and Serial Block Face-SEM combined approach"

2-12-2019/6-12-2019

Materials Research Society (MRS), 2019 Fall Meeting - Boston (MA) USA

Oral presentation titled: "In Situ TEM-Based Dewetting Studies of Cluster-Assembled Au Films Produced by Supersonic Cluster Beam Deposition"

26-11-2023/1-12-2023

Materials Research Society (MRS), 2023 Fall Meeting - Boston (MA) USA

Oral presentation titled: "In Situ Heating and Biasing TEM Investigation of the Microstructural Evolution Occurring in Gold Nanogranular Films Showing Neuromorphic Behavior"

25-08-2024/30-08-2024

European Microscopy Congress (EMC) 2024, Copenhagen (Denmark)

Oral presentation titled: "In Situ TEM Biasing and Heating of Neuromorphic Gold Nanogranular Nanofilms Showing Resistive Switching"

1-12-2024/6-12-2024

Materials Research Society (MRS), 2024 Fall Meeting - Boston (MA) USA

Oral presentation titled: "Controlling Gold Atom Mobility in Nanocomposite Films Through Zirconia Co-Deposition: an In Situ TEM Investigation"

#### **ATTIVITÀ DI VALUTAZIONE NELL'AMBITO DI PROCEDURE DI SELEZIONE COMPETITIVE NAZIONALI E INTERNAZIONALI**

*(inserire ambito della procedura di selezione, ente organizzatore della selezione, anno, ecc.)*

Revisore per lo European Research Council (ERC), panel PE5.

Revisore di progetti di ricerca per la Swiss National Foundation, panel: physical sciences.

#### **ATTIVITÀ GESTIONALI, ORGANIZZATIVE, DI SERVIZIO E DI TERZA MISSIONE**

##### **INCARICHI DI GESTIONE ED IMPEGNI ASSUNTI IN ORGANI COLLEGIALI E COMMISSIONI, PRESSO RILEVANTI ENTI PUBBLICI E PRIVATI E ORGANIZZAZIONI SCIENTIFICHE E CULTURALI, OVVERO PRESSO L'ATENEIO O ALTRI ATENEI**

*(inserire tipologia di incarico/impegno, ente, data, durata, ecc.)*

2003-2015: Università di Cagliari, Membro del Collegio di Dottorato in Chimica

2022-ad oggi: Università di Milano, Membro del Collegio di Dottorato in Fisica

2015-2017: King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita. Presidente del Comitato Scientifico della Core Facility KAUST Image and Characterization.

1.2021-ad oggi: Università degli Studi di Milano, membro del Board tecnico-consultivo per la progettazione e realizzazione del nuovo Campus Universitario nell'area MIND

5.2022-ad oggi: membro del Comitato Esecutivo del CIMAINA - Centro Interdisciplinare Materiali e Interfacce Nanostrutturati, Università di Milano

#### **ATTIVITÀ DI TERZA MISSIONE**

*(inserire tipologia di incarico/impegno, ente, data, durata, ecc.)*

Settembre 2022, Rivista InFocus, Royal Microscopical Society. Un'immagine SEM del Prof. Falqui è stata scelta per la copertina principale della rivista.

Maggio 2018: King Abdullah University of Science and Technology (KAUST), Thuwal, Arabia Saudita. Nomina come "KAUST Best Teacher", conferita a sei professori in tutta l'Università.

Settembre 2014, Materials Today e Zeiss, concorso annuale per le dodici migliori immagini scientifiche: un'immagine SEM del Prof. Falqui è stata scelta e premiata con l'inserimento nel Calendario Zeiss 2015.

Data

5.12.2024

Luogo

Milano