

GIOVANNI PEROTTO

CURRENT POSITION

Researcher

Smart Materials Group; Istituto Italiano di Tecnologia
h-index: 22: >1000 citations; >50 publications; 2 patents

ACADEMIC

ASN	Abilitazione Scientifica Nazionale 02/B1 03/B2	15/05/2019 12/12/2023
PhD	University of Padova, ITALY, Material Science and Engineering Dissertation: <i>"Two Dimensional Self Assembly Of Nanospheres, A Versatile Method For Nanofabrication"</i> Advisor: prof. G. Mattei	March 2011
MS	University of Padova, ITALY, Material Science and Engineering Graduated <u>with Honors</u> Thesis: <i>"Correlation between nucleation and energy transfer on Au nanocluster on Er doped silica"</i> Advisor: prof. G. Mattei	October 2007
BS	University of Padova, ITALY, Material Science Graduated <u>with Honors</u> Thesis: <i>"Synthesis and characterization of ultrathin epitaxial TiOx films on Pt (111)"</i> Advisor: prof. G. A. Rizzi	September 2005

RESEARCH EXPERIENCE

Researcher , Istituto Italiano di Tecnologia, Genova, Italy	2021-Current
<ul style="list-style-type: none">• Material technologies for circular economy• Design of new bioplastics composites for advanced applications• Development of protein-based materials• Multi-functional nanoparticles synthesis and surface functionalization• Student supervision• Funding acquisition	
INSTM Sustainability Board Member	2022-Current
<ul style="list-style-type: none">• Member of the Sustainability Board for the Istituto Nazionale di Scienza e Tecnologia dei Materiali• Development of the sustainability report for the institute's activities	

Postdoc Associate, Istituto Italiano di Tecnologia, Genova, Italy 2015 - 2021

Advisor: Dr. Athanassia Athanassiou

- Material science – bioplastics from vegetable waste
- Design of new bioplastics composites for advanced applications
- Regeneration of proteins for biomedical applications
- Multi-functional nanoparticles synthesis and surface functionalization
- Characterization and modeling of materials' properties
- Student supervision

Postdoc Associate, Tufts University, Medford, MA 2012 - 2015

Advisor: prof. Fiorenzo Omenetto

- Material science - Biomaterials
- Design of material properties for advanced applications
- Nanofabrication of biomaterials
- Multi-functional nanoparticles synthesis and surface functionalization
- Characterization and modeling of materials' properties
- Student supervision

Postgraduate Fellow, University of Padova 2011

Advisor: prof. Giovanni Mattei

- Development of new nanofabrication methods
- Design of plasmonic platforms for sensing and biosensing

Consulting, Pietro Fiorentini s.p.a. 12/2009 to 07/2010

Position: Material specialist

- Materials-related problem solving
- Failure Analysis
- Process Engineering
- Quality and acceptance tests design

TEACHING EXPERIENCE

University of Genova, Genova 2018-2024

- Polymers for sustainability, food packaging and biomedics (6 CFU) / SSD ING-IND 22

Institute for Advanced Architecture of Cataluña 2017-2019; 2023-

Guest Faculty, Master in Advanced Architecture

- Basics teaching of material science and engineering
- Integration of novel materials in architecture
- Supervision of students

University of Padova, Padova 2010

Assistant teacher, Department of Physics

- Laboratory of Physics I for Mechanical Engineers
- classical mechanics, error theory

- Coordinated laboratory experiments and grading with a team of 2 teaching assistants

University of Padova, Padova

2009

Assistant teacher, Department of Physics

- Solid State Physics for Material Engineering
- Basic Spectroscopy theory and of laboratory experiments
- Developing course materials, lecturing and design of experiments
- Coordinated grading with a team of 4 teaching assistants

Students Advised

Marta Fadda, PhD student	2023
Davide Sangaletti, PhD student	2023
Milad Safarpour, PhD student	2023
Dagmara Trojanowska, PhD student	2022
Benedetta Rotondo, Master student - Politecnico di Milano	2022
Cristina Oldani, Master Student - Politecnico di Milano	2021
Gaia Arrighi, Master Student – Università di Genova	2021
Federica Anselmo, Master Student – Università di Genova	2021
Giovanni Cipri, Master Thesis, Politecnico di Torino	2020
Giulio Saroglia, Master Thesis, IIT-Politecnico di Milano	2019
Cataldo Pignatelli, <i>PhD thesis</i> , IIT	2018
Chiara Setti, <i>Master Thesis</i> , IIT	2016
Michael Weinstein, <i>Master Thesis</i> , Tufts University	2015
Samuel Hansen, <i>Undergraduate Honor Thesis</i> , Tufts University	2014
Martina Righele, <i>Master Thesis</i> , University of Padova	2011
Andrea Vigolo, <i>Undergraduate Thesis</i> , University of Padova	2011
Chiara Brugnerotto, <i>Master Thesis</i> , University of Padova	2010

RESEARCH PROJECTS

COMPLETE (MSCA-ITN-2015-ETN Marie Skłodowska-Curie Innovative Training Networks (ITN-ETN), Project Number 675675) 2018-2021

Responsible for the activities carried out in IIT.
IIT's role in the project is on the development of biodegradable devices.

PROTHEIFORM – Fondazione Cariplo (project number 2018-1005) 2019-2022

Scientific responsible for the IIT unit, responsible for the dissemination of the project.
Project Budget: 282316 €
This proposal aims to develop material technologies for upcycling of keratin-rich waste into materials for packaging.

FishSkin – H2020-MSCA-RISE-2018 2020-2023

Scientific responsible for the IIT unit
This proposal aims to upgrade fish skin of the fish industry into materials fashion.

IIT role in the project will be developing new technologies for material processing and coating technologies to provide new smart functionalities to the tanned skins.

PUBLICATIONS

Journal Publications

More than 45 papers, with more than 1800 citations and h-index of 26, as reported by google scholar

Fadda M., Zych A., Carzino R., Athanassiou A., **Perotto G.**, “Hydrophobic and water resistant fish leather: a fully sustainable combination of discarded biomass and by-products of the food industry”, *Green Chemistry*, **2023**

Lenzuni M., Fiorentini F., Summa M., Bertorelli R., Suarato G., **Perotto G.**, Athanassiou A., “Electrosprayed zein nanoparticles as antibacterial and anti-thrombotic coatings for ureteral stents”, *International Journal of Biological Macromolecules*, **2023**

Honarbari A., Cataldi P., Zych A., Merino D., Paknezhad N., Ceseracciu L., **Perotto G.**, Crepaldi M., Athanassiou A., “A Green Conformable Thermoformed Printed Circuit Board Sourced from Renewable Materials”, *ACS Applied Electronic Materials*, **2023**

Santos L.B., Silva R.D., Alonso J.D., Brienzo M., Silva N.C., **Perotto G.**, Otoni C. G., De Azeredo H. M. C., “Bioplastics from orange processing byproducts by an ecoefficient hydrothermal approach”, *Food Packaging and Shelf Life*, **2023**

Bono N., Saroglia G., Marcuzzo S., Giagnorio E., Lauria G., Rosini E., De Nardo L., Athanassiou A., Candiani G., **Perotto G.**, “Silk fibroin microgels as a platform for cell microencapsulation”, *Journal of Materials Science: Materials in Medicine*, **2022**

Frantellizzi V., Verrina V., Raso C., Pontico M., Petronella F., Bertana V., Ballesio A., Marasso S.L., Miglietta S., Rosa P., Scibetta S., Petrozza V., De Feo M.S., De Vincentis G., Calogero A., Pani R., **Perotto G.**, De Sio L., “^{99m}Tc-labeled keratin gold-nanoparticles in a nephron-like microfluidic chip for photo-thermal therapy applications”, *Materials Today Advances*, **2022**

Trojanowska D. J., Suarato G., Braccia C., Armirotti A., Fiorentini F., Athanassiou A., **Perotto G.** “Wool Keratin Nanoparticle-Based Micropatterns for Cellular Guidance Applications”, *ACS Applied Nano Materials* **2022**

Gallo M., Arrighi G., Moreschi L., Del Borghi A., Athanassiou A., **Perotto G.**, “Life Cycle Assessment of a Circular Economy Process for Tray Production via Water-Based Upcycling of Vegetable Waste”, *ACS Sustainable Chemistry & Engineering*, **2022 †**

Trojanowska D.J., Suarato G., Braccia C., Armirotti A., Fiorentini F., Athanassiou A., **Perotto G.**, “Wool Keratin Nanoparticle-Based Micropatterns for Cellular Guidance Applications”, *ACS Applied Nano Materials*, **2022**

Quilez-Molina A. I., Mazzon G., Athanassiou A., **Perotto G.**, “A Novel Approach to Fabricate Edible and Heat Sealable Bio-based Films from Vegetable Biomass Rich in Pectin”, *Materials Today Communications*, **2022**

Merino D., Quilez-Molina A. I., **Perotto G.**, Bassani A., Spigno G., Athanassiou A., “A second life for fruit and vegetable waste: A review on bioplastic films and coatings for potential food protection applications”, *Green Chemistry*, **2022**

Fiorentini C., Bassani A., Duserm Garrido G., Merino D., **Perotto G.**, Athanassiou A.; Peräntie J., Halonen N., Spigno G., “High-pressure autohydrolysis process of wheat straw for cellulose recovery and subsequent use in PBAT composites preparation”, *Biocatalysis and Agricultural Biotechnology*, **2022**

Annesi F., Pane A., Pezzi L., Pagliusi P., Losso M. A., Stamile B., Quattieri A., Desiderio G., Contardi M., Athanassiou A., **Perotto G.**, De Sio L., “Biocompatible and biomimetic keratin capped Au nanoparticles enable the inactivation of mesophilic bacteria via photo-thermal therapy”, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2021**

Zych A., **Perotto G.**, Trojanowska D., Tedeschi G., Bertolacci L., Francini N., Athanassiou A., “Super Tough Polylactic Acid Plasticized with Epoxidized Soybean Oil Methyl Ester for Flexible Food Packaging”, *ACS Applied Polymer Materials*, **2021**

Kim, M., Alfano, A., **Perotto, G.**, Serri, M., Dengo, N., Mezzetti, A., Gross, S., Prato, M., Salerno, M., Rizzo, A., Sorrentino, R., Cescon, E., Meneghesso, G., Di Fonzo, F., Petrozza, A., Gatti, T., Lamberti, F. “Moisture resistance in perovskite solar cells attributed to a water-splitting layer.” *Communications Materials*, **2021**.

Guglielmelli, A., Rosa, P., Contardi, M., Prato, M., Mangino, G., Miglietta, S., Petrozza, V., Pani, R., Calogero, A., Athanassiou, A., **Perotto, G.**, De Sio, L. “Biomimetic keratin gold nanoparticle-mediated in vitro photothermal therapy on glioblastoma multiforme.” *Nanomedicine*, **2020**.

Suarato G., Contardi M., **Perotto G.**, Heredia-Guerrero J. A., Fiorentini F., Ceseracciu L., Pignatelli C., Debellis D., Bertorelli R., Athanassiou A. “From fabric to tissue: Recovered wool keratin/polyvinylpyrrolidone biocomposite fibers as artificial scaffold platform”, *Materials Science and Engineering: C*, **2020**

Perotto G., Simonutti R., Ceseracciu L., Mauri M., Besghini D., Athanassiou A., “*Water-induced plasticization in vegetable-based bioplastic films: A structural and thermo-mechanical study*”, *Polymer*, **2020**

Tessa, C., B., **Perotto, G.**, Musacchio C., Merlone, A., Athanassiou, A., Tordella, D., “Evaluation of Mater Bi and Polylactic Acid as materials for biodegradable innovative mini-radiosondes to track small scale fluctuations within clouds”, *Materials Chemistry and Physics*, **2020**

Cataldi P., Condurache O., Spirito D., Krahne R., Bayer I.S., Athanassiou A. **Perotto G.** *“Keratin-Graphene Nanocomposite: Transformation of Waste Wool in Electronic Devices”*, ACS Sustainable Chemistry & Engineering, **2019**

Perotto G., Sandri G., Pignatelli C., Milanese G., Athanassiou A. *“All-water synthesis of keratin micro-nano particles with tunable mucoadhesive properties for drug delivery”*, Journal of Materials Chemistry B, **2019 †**

van Uden S., Catto V., **Perotto G.**, Athanassiou A., Redaelli A. CL., Greco F. G., Riboldi S. A., *“Electrospun fibroin/polyurethane hybrid meshes: Manufacturing, characterization, and potentialities as substrates for haemodialysis arteriovenous grafts”* Journal of Biomedical Materials Research Part B: Applied Biomaterials, **2019**

Colusso E., Vitiello D., **Perotto G.**, Valotto G., Cattaruzza E., Martucci A., *“Functionalization of Titanates–Silk Nanocomposites via Cation Exchange for Optical Applications”* Advanced Materials Interfaces, **2018**

Cataldi P., Heredia-Guerrero J. A., Guzman-Puyol S., Ceseracciu L., La Notte L., Reale A., Ren J., Zhang Y., Liu L., Miscuglio M., Savi P., Piazza S., Duocastella M., **Perotto G.**, Athanassiou A., Bayer I. S. *“Sustainable Electronics Based on Crop Plant Extracts and Graphene: A “Bioadvantaged” Approach”* Advanced Sustainable Systems, **2018**

Cesca T., **Perotto G.**, Pellegrini G., Michieli N., Kalinic B., Mattei G., *“Rare-earth fluorescence thermometry of laser-induced plasmon heating in silver nanoparticles arrays”* Scientific Reports, **2018**

Setti S., Suarato G., **Perotto G.**, Athanassiou A., Bayer I. S., *“Investigation of in vitro hydrophilic and hydrophobic dual drug release from polymeric films produced by sodium alginate-MaterBi® drying emulsions”* European Journal of Pharmaceutics and Biopharmaceutics, **2018**

Pignatelli C.,* **Perotto G.**,* Nardini M., Cancedda R., Mastrogiacomo M., Athanassiou A. *“Electrospun silk fibroin fibers for storage and controlled release of human platelet lysate”* Acta Biomaterialia, **2018**

Perotto G., Ceseracciu L, Simonutti R, Paul UC, Guzman-Puyol S, Tran TN, Bayer IS, Athanassiou A. *“Bioplastics from vegetable waste via an eco-friendly water-based process.”* Green Chemistry. **2018**

Magrì, D., Caputo, G., **Perotto, G.**, Scarpellini, A., Colusso, E., Drago, F., Martucci, A., Athanassiou, A. and Fragouli, D., *“Titanate Fibroin Nanocomposites: A Novel Approach for the Removal of Heavy-Metal Ions from water.”* ACS applied materials & interfaces. **2017**

Genovese ME, Caputo G, Nanni G, Setti C, Bustreo M, **Perotto G**, Athanassiou A, Fragouli D. *“Light Responsive Silk Nanofibers: An Optochemical Platform for Environmental Applications.”* ACS applied materials & interfaces. **2017**

Perotto G., Zhang Y., Naskar D., Patel N., Kaplan D.L., Kundu S.C., Omenetto F.G., “*The optical properties of regenerated silk fibroin films obtained from different sources.*” Applied Physics Letters, **2017**

Palermo G, Barberi L, **Perotto G**, Caputo R, De Sio L, Umeton C, Omenetto FG., “*A conformal silk-azobenzene composite for optically switchable diffractive structures.*” ACS Applied Materials & Interfaces, **2017**

Colusso E., **Perotto G.**, Wang Y., Sturaro M., Omenetto F. G., Martucci A., “*Bio inspired stimuli-responsive multilayer film made of silk-titanates nanocomposite*” Journal of Materials Chemistry C, **2017**,

Marelli B., Patel N., Duggan T., **Perotto G.**, Shirman E., Li C., Kaplan D.L., Omenetto F. G., “*Programming function into mechanical forms by directed assembly of silk bulk materials*” Proceedings of the National Academy of Sciences, **2016**,

Tseng P. *, **Perotto G.** *, Napier B., Riahi P., Li W., Shirman E., Kaplan D. L., Omenetto F. G., “*Silk Fibroin-Carbon Nanotube Composite Electrodes for Flexible Biocatalytic Fuel Cells*” Advanced Electronic Materials **2016** (8), 1

Mitropoulos A.N., Marelli B., **Perotto G.**, Amsden J., Kaplan D. L., Omenetto F. G., “*Towards the fabrication of biohybrid silk fibroin materials: entrapment and preservation of chloroplast organelles in silk fibroin films*” RSC Advances, **2016** 6 (76)

Perotto G., Cittadin M.i, Tao H., Kim S., Yang M., Kaplan D. L., Martucci A., Omenetto F. G., “*Fabrication of Tunable, High-Refractive-Index Titanate–Silk Nanocomposites on the Micro-and Nanoscale*”, Advanced Materials, **2015** 27 (42)

Applegate M. B., **Perotto G.**, Kaplan D. L., Omenetto F. G., “*Biocompatible silk step-index optical waveguides*” Biomedical optics express, **2015** 6 (11)

Maurizio C., Cesca T., **Perotto G.**, Kalinic B., Michieli N., Scian C., Joly Y., Battaglin G., Mazzoldi P., Mattei G. “*Core–shell-like Au sub-nanometer clusters in Er-implanted silica*” Nanoscale **2015** 7 (19)

Mitropoulos A. N.* , **Perotto G.***, Kim S., Kaplan D. L., Omenetto F. G., “*Synthesis of silk fibroin micro- and nanospheres using a co-flow capillary device*”, Advanced Materials, **2014**, 26 (7)

Perotto G., Antonello A., Ferraro D., Mattei G., Martucci A. “*Patterned TiO₂ nanostructures fabricated with a novel inorganic resist*”, Materials Chemistry and Physics, **2013**, 142

Jin J., Hassanzadeh P., **Perotto G.**, Sun W., Brenckle M. A., Kaplan D., Omenetto F. G., Rolandi M., “*A Biomimetic Composite from Solution Self-Assembly of Chitin Nanofibers in a Silk Fibroin Matrix*”, Advanced Materials, **2013**, 32

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†: journal cover

Antonello A., Jia B., He Z., Buso D., **Perotto G.**, Brigo L., Brusatin G., Guglielmi M., Gu M., Martucci A., *“Optimized Electroless Silver Coating for Optical and Plasmonic Applications”*, Plasmonics, **2012**, 7

Cesca T., Maurizio C., Kalinic, B. **Perotto, G.**, Mazzoldi P., Trave E., Battaglin G., Mattei G., *“Implantation damage effects on the Er³⁺ luminescence in silica”*, Optics Express, **2012**, 20

Della Gaspera E., Guglielmi M., **Perotto G.**, Agnoli S., Granozzi G., Post M. L., Martucci A., *“CO optical sensing properties of nanocrystalline ZnO-Au films: Effect of doping with transition metal ions”*, Sensors and Actuators B-Chemical, **2012**, 161

Maurizio C., Trave E., **Perotto, G.**, Bello V., Pasqualini D., Mazzoldi P., Battaglin G., Cesca T., Scian C., Mattei G., *“Enhancement of the Er³⁺ luminescence in Er-doped silica by few-atom metal aggregates”*, Physical Review B, **2011**, 83

Perotto G., Bello V., Cesca T., Mattei G., Mazzoldi P., Pellegrini G., Scian C., *“Nanopatterning of silica with mask-assisted ion implantation”*, Nuclear Instruments & Methods in Physics Research B, **2010**, 268

Antonello A., Brusatin G., Guglielmi M., Bello V., **Perotto G.**, Mattei G., Maiwald M., Zöllmer V., Chiasera A., Ferrari M., Martucci A., *“Novel multifunctional nanocomposites from titanate nanosheets and semiconductor quantum dots,”* Optical Materials, **2010**, 33

Maurizio C., **Perotto G.**, Mattei G., Trave E., Mazzoldi P., *“Er site in Er plus Au-implanted SiO₂: Effect of annealing in reducing atmosphere”*, Nuclear Instruments & Methods in Physics Research B, **2010**, 268

Pellegrini G., **Perotto G.**, Bello V., Mattei G., Mazzoldi P., *“Plasmonic Nanoshell Antennas for Enhanced Sensing Bio-Labeling”*, AIP Conference Proceedings, **2010**, 1275

Book Chapter

Simonutti, R., **Perotto, G.**, Bertolacci, L., Athanassiou, A., *“Bioplastics from Vegetable Waste: A Versatile Platform for the Fabrication of Polymer Films”*, published in Sustainability & Green Polymer Chemistry Volume 2: Biocatalysis and Biobased Polymers, American Chemical Society, **2020**

Perotto G., Kim S., *“Silk proteins toward optical and electrical devices”*, Book Chapter on *“Silk-Based Biomaterials for Tissue Engineering, Regenerative, and Precision Medicine, 2nd edition”* in press

Patents

Omenetto F. G., **Perotto G.**, Marelli B., Kaplan D., Mitropoulos A. N., *“SYNTHESIS OF SILK FIBROIN MICRO- AND SUBMICRON SPHERES USING A CO-FLOW METHOD”* 0160215103 United States Patent Application

Perotto G., Bayer I., Athanasiou A., “PROCESSO A BASE ACQUOSA PER PRODUZIONE FILM BIOPLASTICI”, 102017000004597, Italian Patent granted

Perotto G., Fadda M., Zych A., Athanassia A. “METODO PER PRODURRE UN RIVESTIMENTO DI UN SUBSTRATO E MATERIALE COMPOSITO COMPRENDE TALE RIVESTIMENTO”, Italian Patent Application

Conference & workshops

Perotto G., “Valorization of two biomasses into high value products: waterproofing leather from salmon skin with oil-based coatings”, 2nd CONFERENCE ON GREEN CHEMISTRY AND SUSTAINABLE COATINGS, Pisa 2023.

Perotto G. Gordon Research Conference, Combining Biotechnologies, Green Chemistry and Downstream Process to Convert Biomass into Biobased Products, 2023

Perotto G., Materials from vegetable biomass as moldable biocomposites, Polymers in Salina 2022

Symposium Organizer MSE Conference 2022, Circular Materials

Perotto G., Valorization of Vegetable Biomass as Moldable Biocomposites, MRS Spring 2022

Perotto G., Biomimetic Functionalization of Gold Nanoparticles and Nanopyramids with Keratin, MRS Spring 2022

Perotto G., Keratin-based electronic devices, 2022 KPS Spring Meeting, Korean Physical Society, (*invited talk*)

Perotto G., Upscaling vegetable biopolymers with water-based methods into materials for packaging, Merck Young Chemist Symposium, Rimini, Italy, 2021 (*plenary talk*)

Perotto G., Contardi M., Guglielmelli A., Athanassiou A., De Sio L., Biomimetic functionalization of gold nanoparticles with keratin, BioMAT 2021, Virtual conference of German Society for Materials (DGM)

Perotto G., Pignatelli, C., Sandri, G., Athanassiou, A., *Keratin particles with tunable mucoadhesion properties*, Thermec 2021, 2021, Gratz, Austria (*invited talk*)

Perotto G., Cataldi, P., Spirito, D., Athanassiou, A., *Keratin-based electronic devices*, Nature Inspires Creativity Engineers, 2020, Nice, France

Perotto G., Simonutti, R., Bayer, I., Athanassiou, A., *Complete conversion of vegetable powder in moldable bioplastic films*, Nature Inspires Creativity Engineers, 2020, Nice, France

Perotto G., Cataldi, P., Bayer, I., Athanassiou, A., *Protein-based electronics*, European MRS Spring meeting, 2019, Nice, France

Perotto G., Simonutti, R., Bayer, I., Athanassiou, A., *Conversion of vegetable biomass from food processing into bioplastic films with a water based process*, European MRS Spring meeting, 2019, Nice, France

Perotto G., Pignatelli C., Nardini M., Cancedda R., Mastrogiacomo M., Athanassiou A., *Silk nano materials for controlled drug release*, 1st International Conference on Materials Mimicking, Manufacturing - BioM&M, 2018, Italy.

Perotto G., Colusso E., Magrì D., Omenetto F., Fragouli D., Martucci A., Athanassiou A., *Silk Fibroin and 2D Titanate Nanocomposites for Biopolymer-Based Optical and Environmental Devices*, MRS Boston, 2017

Perotto G., Ceseracciu L, Simonutti R., Paul U. C., Guzman-Puyol S., Tran T. N., Bayer I. S., Athanassiou A., *A water based process to convert vegetable biomass into bioplastic films*, MRS Boston 2017

Perotto G., Avellini T., Polovitsyn A., Moreels I., Pellegrini T., Athanassiou A., *Wool Keratin, multifunctional proteins for multifunctional materials*, N.I.C.E. conference, Nice (France) 19 Oct 2016

Perotto G., Pignatelli C., Nardini M., Mastrogiacomo M., Cancedda R., Athanassiou A. *Protein materials as drug delivery platforms*, UK biomedical society, London (UK) 2016

Perotto G., Pignatelli C., Polovitsyn A., Moreels I., Athanassiou A., *Wool keratin, a protein for multifunctional materials*, MSE conference, Darmstad (Germany) 27 Sept 2016

Perotto G., Kim S., Kainerstorfer J., Tao H., Yang M., Brenkcle M., Kaplan D. L., Martucci A., Omenetto F. G., *Silk-based optics, controlling the refractive index of silk fibroin*, 11th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" – NOMA June 10 - 15 2013

Perotto G., Mitropoulos A. N., Kim S., Calabrese R., Kaplan D. L., Omenetto F. G., *"Synthesis of Bioactive Silk Fibroin Nanoparticles"*, MRS, Nov. 25-30, 2012

Mitropoulos A. N., **Perotto G.**, Kaplan D. L., Omenetto F. G., *"Surface Wettability Characteristics of PDMS for formation of Silk Fibroin Nano and Micro Particles,"* MRS, Nov. 25-30, 2012

PROFESSIONAL TRAINING

European School on Nanoscience and Nanotechnology
Grenoble (FR), September 2008

European Synchrotron Radiation Facility,
Intership on X-ray absorption spectroscopy, 03/2007 – 04/2007

LANGUAGES

Italian: Native Language

English: Fluent

French: Novice

COMPUTER SKILLS

Applications: Latex, Origin Pro, Office,

Platforms: Windows

EXPERIMENTAL SKILLS

Project Management: management of project with interdisciplinary team, problem solving, coordination of research team and coordination with industrial partners, grant writing

Communication: TEDx Genova 2019 speaker, proficient in communication of scientific results to a scientific and non scientific audience.

Planning: Experienced in working on long demanding projects that require organizational and planning skills. Ability to perform well under pressure and with tight schedules.

Relationship: Talented at building effective, productive working relationships with team members. Comfortable in living and working in multilingual and multicultural environments.

Synthesis: skilled in colloidal chemistry, including synthesis of noble metal nanoparticles, oxide nanoparticles, silk fibroin particles, silk fibroin chemistry, biomaterials processing, nanocomposites

Characterization: ability in materials characterization, including UV-Visible Spectroscopy, Photoluminescence Spectroscopy, AFM, SEM, TEM, ellipsometry, X-ray Absorption Spectroscopy, XPS, electrochemistry, structure-to-property relationship.

Nanofabrication: experienced in self assembly of SiO₂, PS nanoparticles and diblock copolymer. Experienced in the synthesis of nanostructured and patterned substrates via soft lithographic, UV lithography. Microfluidic synthesis of micro- and nano- particles.

REFERENCES

Athanassia Athanassiou

Italian Institute of Technology,
Smart Materials Group
30, via Morego, Genova, GE, Italy
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Prof. Fiorenzo Omenetto,

Tufts University
Department of Biomedical Engineering
4, Colby street, Medford, MA
Email:

Prof. Alessandro Martucci
University of Padova
Department of Industrial Engineering
9, Via Marzolo, Padova, ITALY