

Manos Anyfantakis



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I am a passionate material scientist focusing on the broad class of soft matter. Employing self-motivation as driving force and being sheerly perseverant, I look for continuous development. My extended research experience resulted in my academic diversity, comprising a unique blend of technical skills, experiences, and a vision for the future. Being open-minded, I chose to explore numerous topics, having worked in four diverse countries and collaborating with teams around the globe. This, combined with my determination for scientific rigor, led to a broad spectrum of interests, while maintaining the desired depth. Being fan of simplicity, I devise simple yet creative concepts to address the challenges of multidisciplinary research. This “bottom-up” thinking is powerful also for teaching and communicating science; I have developed unconventional tools for conveying concepts to young scientists that are both effective and rewarding.

My curiosity-driven research focuses on the fundamental understanding of soft matter self-organization. Going beyond curiosity, I aim to develop solutions for technological and societal challenges. Along this direction, I build on the acquired knowledge and devise creative strategies that cross the boundaries between physics, chemistry, and materials science, to engineer materials with tailored properties. My vision is to create an “inventory” of eco-friendly building blocks that, combined with a toolbox of simple yet powerful strategies, would lead to sustainable materials for photonics and sensing applications.

Education

JANUARY 2010

Ph. D., Chemistry/Dept. of Chemistry, University of Crete (UoC), Greece & Max Planck Institute for Polymer Research (MPIP) Mainz, Germany

- **Ph. D. Scholarship, Program for the Reinforcement of the Research Staff (ΠΕΝΕΔ 2003)**, General Secretariat for Research & Technology of Greece
- **Ph. D. Fellowship, International Max Planck Research School for Polymer Materials**

NOVEMBER 2007

M. Sc., Applied Molecular Spectroscopy/Dept. of Chemistry, UoC, Greece

NOVEMBER 2005

B. Sc., Materials Science & Technology /Dept. of Materials Science, UoC, Greece

- Ranked 2nd out of a total of 60 students

Research Experience

JUNE 2019 – PRESENT

Principal Investigator/Dept. of Physics & Materials Science, University of Luxembourg (UL), Luxembourg

- Funded by a **CORE Junior grant** from the Luxembourg National Research Fund (FNR). Project: "CORELIGHT" (Colloidal Organization at interfaces Reconfigured by LIGHT-driven thermal Marangoni flows). Total FNR contribution: €456,000

- Other projects: Liquid crystal self-assembly of bio-derived, responsive photonic materials. Biodegradable photonic polymer films by interfacial polymerization of cyanoacrylates. Fabrication of functional liquid and solid 2D materials by the self-assembly of plasmonic nanoparticles. *Local mentor: J. Lagerwall; External mentor: J. Dhont (Forschungszentrum Jülich, Germany)*

JULY 2017 – MAY 2019

Postdoctoral Research Associate/Physics & Materials Science Research Unit, UL, Luxembourg

- Main project: Formation of photonic films by drying aqueous suspensions of cellulose nanocrystals. *Advisor: J. Lagerwall*

MARCH 2013 – MARCH 2017

Marie Curie Fellow, Postdoctoral Research Associate/Dept. of Chemistry, École Normale Supérieure Paris (ENS), France

- Funded by a **Marie Curie Intra-European Fellowship for Career Development** from the European Commission (April 2014 – April 2016). MC-IEF project: "DIOPTRA" (Digital Optofluidics for the Remote Actuation of Liquids). Total EC contribution: €194,000
- Other projects: Light-driven microfluidics. Nanoparticle deposition from evaporating colloidal suspension drops for patterning and diagnostic applications. Spontaneous and external field-directed self-assembly of particles at various interfaces. *Advisor: D. Baigl*

MARCH 2011 – FEBRUARY 2013

Postdoctoral Research Associate/Group of Physics at Interfaces, Max Planck Institute for Polymer Research (MPIP) Mainz, Germany

- Main project: Dynamic wetting of surfactant solutions. *Advisors: G. Auernhammer, H.-J. Butt*

JANUARY 2010 – APRIL 2010

Postdoctoral Research Associate/Group of Physics at Interfaces, MPIP Mainz, Germany

- Project: Interactions of visible laser light with solutions of homopolymers and diblock copolymers. *Advisors: G. Fytas, H.-J. Butt*

FEBRUARY 2009 – JANUARY 2010

Visiting Scientist (Ph. D. candidate)/Group of Physics at Interfaces, MPIP Mainz, Germany

- Project: Laser-driven polymer manipulation in transparent solutions. *Supervisor: H.-J. Butt*

NOVEMBER 2007 – JANUARY 2009

Ph. D. candidate/Institute of Electronic Structure and Lasers, Foundation for Research & Technology Hellas (FORTH), Greece

- Thesis: Writing mesoscopic structures in polymer solutions using laser beams: conditions and mechanism of the phenomenon. *Supervisors: B. Loppinet, G. Fytas*

NOVEMBER 2005 – NOVEMBER 2007

M. Sc. student/Institute of Electronic Structure and Lasers, FORTH, Greece

- Thesis: Study of the thermodynamics and phase behavior of suspensions of lamellar organosilica nanoparticles. *Supervisors: G. Fytas, D. Vlassopoulos*

JUNE 2004 – OCTOBER 2004

Undergraduate Research Intern/Institute of Electronic Structure and Lasers, FORTH, Greece

- Project: Characterization of anisotropic organosilica nanoparticles by means of static and dynamic light scattering. *Supervisors: B. Loppinet, G. Fytas*

CAREER BREAK: MAY 2010 – FEBRUARY 2011

Mandatory service in Greek Army/Member of the Office for Construction, Maintenance, Modernization of Technical Equipment. Responsible for purchases & financial administration

Track Record

PUBLICATIONS

25 publications in total /24 peer-reviewed papers, 1 conference proceedings paper

- 17 publications without my Ph. D. supervisors
- 15 publications as first author & 11 publications as corresponding author
- 3 publications as inside journal cover of *Angew. Chem. Int. Ed.*; 2 publications designated as ‘Hot’ or ‘Very Important’ papers
- 2 papers chosen as research highlights in *Nature* and *Nat. Nanotechnol.*, respectively
- 1 paper was chosen as ‘Hot Topic’ by the journal *Adv. Mater. Interfaces*
- Our latest article on photonic responsive liquid marbles:
 - has an Altmetric score of 70 (top 5% of all research outputs scored by Altmetric)
 - was covered by 9 news stories from 9 science outlets
 - was covered in an article for a broad audience, published online by Photonics Media

OTHER RESEARCH DISSEMINATION ACTIVITIES

Participation in 21 International Conferences/8 oral presentations, 13 poster presentations

- 2 invited talks (Durham CSM & SOFI CDT Symposium ‘Particles at Interfaces’; 12.2014, UK; invited by Prof. C. D. Bain. 8th International Symposium on Liquid Crystal Photonics; 03.2019, China; invited by Prof. G. Zhou)
- Our last publication on photonic responsive liquid marbles was covered by:
 - two press releases, respectively from UL and Wiley
 - my interview in the podcast “All Things Photonics” organized by Photonics Media

Participation in activities exposing science to the public/3 events with experimental demonstrations

- Experimental conference: ‘Reactive drops: light and special effects’ Espace des Sciences Pierre-Gilles de Gennes, organized by ESPCI Paris, October 2015
- Nuit des sciences 2014 co-organized by ENS Paris, June 2014
- 10th Science Market Mainz (Mainzer Wissenschaftsallianz) organized by MPIP, June 2011

Delivered 5 talks in academic institutions/invited seminars & colloquia

Univ. of Bayreuth (host: W. Köhler) • Forschungszentrum Jülich (E. Stiakakis) • Institut Charles Sadron, Strasbourg (F. Thalmann) • Institut Pierre-Gilles de Gennes, Paris (A. Yamada) • UL (J. Lagerwall)

Teaching & Mentoring Experience

SEPTEMBER 2020 – present

Supervision of Ms. X. Ma (M. Sc. student)/UL

FALL SEMESTER 2019

Development & Teaching of the Physical Chemistry of Colloids course (both theory & exercises)/Master in Physics program, UL

FALL SEMESTER 2018

Assistant in the Physical Chemistry of Colloids course/Master in Physics program, UL

APRIL 2018 – JANUARY 2019

Supervision of Mr. L. Fru-Nubea (M. Sc. student)/UL

MAY 2018 – JULY 2018

Supervision of Mr. V. Kopnar (Intern)/Indian Institute of Technology Guwahati (India) & UL

NOVEMBER 2017 – MAY 2018

Supervision of Mr. B. Dupas (M. Sc. student)/École Centrale de Lyon (France) & UL

NOVEMBER 2015 – MARCH 2017

Co-supervision of Mr. J. Vialetto (Ph. D. candidate)/Université Pierre & Marie Curie & ENS

APRIL 2016 – SEPTEMBER 2016

Supervision of Dr. T. Kurimura (Postdoc)/Kyoto University (Japan) & ENS

SEPTEMBER 2015 – MARCH 2018

Supervision of Mr. M. Hayakawa (Ph. D. candidate)/Tokyo Tech. (Japan) & ENS

JANUARY 2015 – MAY 2015

Supervision of Mr. Z. Geng (M. Sc. student, year 2)/Université Pierre & Marie Curie & ENS

OCTOBER 2014 – NOVEMBER 2014

Supervision of Ms. F. Christie (Ph. D. candidate)/Indian University of Cambridge (UK) & ENS

APRIL 2014 – AUGUST 2014

Supervision of Mr. Z. Geng (M. Sc. student, year 1)/Université Pierre & Marie Curie & ENS

FEBRUARY 2013 & NOVEMBER 2013

Supervision of Mr. A. Pamvouxoglou (Ph. D. candidate)/UoC & MPIP

WINTER SEMESTER 2009

Teaching of Physical Chemistry I (laboratory course)/B. Sc. in Chemistry program, UoC

Managerial, organization & leadership experience

JANUARY 2010 – PRESENT

Referee for 16 scientific journals/including *Nature Phys.*, *Phys. Rev. Lett.*, *Appl. Phys. Lett.*, *Adv. Mater.*, *Adv. Funct. Mater.*, *ACS Appl. Mater. Interfaces*, *Langmuir*, *Biomacromolecules*

NOVEMBER – DECEMBER 2018

Selected by the UL's Leadership Academy/training "Leadership & Self-Management, Conflict and Team Management and Project Management for Professional Research"

AUGUST 2018

Presider at a session on the symposium on Functional Materials from Biopolymer Self-Assembly & Self-Organisation/256th ACS National Meeting, Boston, USA

SPRING 2018

Organizing committee member, Functional Materials from Biopolymer Self-Assembly & Self-Organisation (256th ACS National Meeting)/organization & conference program

WINTER 2018

Member of the organizing committee of the 45th German Liquid Crystal Conference (held in Luxembourg)/responsible for finding sponsors & establishing co-operation

Suggested Referees

JAN DHONT

Professor of Physics, Heinrich Heine University, & Director of the Institute of Biomacromolecular Systems and Processes, Forschungszentrum Jülich, Germany/External Mentor under the frame of the FNR CORE Junior grant

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JAN LAGERWALL

Professor of Physics, University of Luxembourg/Host & Local Mentor under the frame of the FNR CORE Junior grant

✉ jan.lagerwall@lcsoftmatter.com

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DAMIEN BAIGL

Professor of Chemistry, École Normale Supérieure Paris (France)/Previous Postdoc Advisor & Host for Marie Curie fellowship

✉ damien.baigl@ens.fr

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BERNARD BINKS

Professor of Chemistry, University of Hull (UK)/Frequent collaborator and co-author of my most recent paper

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