

ORCID number



0000-0002-3452-6655

Metrics

articles 38
h-index 16
citations 725
conf(oral) 9
invited 3

Language

French mother tongue
English C2
Italian B2
German A2

Teaching

2025 - Practicals IUT Montpellier
2017-2018 Tutorials BSc
2015-2016 Lecturship MSc 2
2011-2014 Tutorials
Practicals
BSc 1 to 3

Mentoring

currently
1 PhD-student
past
1 PhD-student
2 postdocs
9 Interns

Admin

Since 2023 Member GDR SoPhy
Since 2020 Member GDR 2088 Biomim
2015-2016 Postdoc delegate

Expertise

Scattering: (U)SAXS, (U)SANS, SLS, DLS...
Microscopy: EM, CLSM
3D-printing: DIW, DLP
Programming: Python, Fortran, Mathematica
Others: Rheology

Instrument PI

SAXS (2016-2018)
SAXSess, Anton Paar
DLS/ζ-sizer (2016-2022)
Zetasizer ZS, Malvern
ζ-sizer (2020-2022)
ZetaProbe, Agilent Tech
3D-printer (2022 -)

Dr. Julien Schmitt

Chargé de Recherches CNRS – Section 17 – College B1

Contact: Julien.Schmitt@cnrs.fr / Julien.Schmitt@umontpellier.fr



Work Experience

Since Oct. 2022

CNRS Research Scientist at ICGM, Montpellier, France
UMR 5253, Mixt Unit between CNRS and Montpellier University
Unit Director: Eric Clot



Jan. 2019 – Oct. 2022

CNRS Research Scientist at the LSFC, Cavaillon, France
UMR 3080, Mixt Unit between CNRS and Saint-Gobain
Unit Director: Caroline Tardivat (until 02/22), Robert Germar



Nov. 2016 – Dec. 2018

Postdoctoral Research Associate, University of Bath, UK
Project: Interpenetrating Starch-Cellulose gels
Supervisors: Profs. Karen J. Edler and Janet L. Scott



Nov. 2014 – Oct. 2016

Postdoctoral Research Associate, Lund Universitet, Sweden
Project: Towards Responsive Artificial Nacres
Supervisors: Profs. Peter Schurtenberger and Viveka Alfredsson



Oct. 2011 – Sept. 2014

PhD Student, Université Paris Sud, France
Project: Synthesis of mesostructured materials
Supervisor: Dr. Marianne Impéror (CNRS)
Laboratory: Laboratoire de Physique des Solides, UMR 8502



Jan. 2011 – Apr. 2011

Intern, Université Paris Sud, France
Project: Study of micrometeorites for the Rosetta mission
Supervisor: Dr. Cecile Engrand (CNRS)
Laboratory: CSNSM, UMR 8609



May 2010 – Aug. 2010

Intern, Université Paris Sud, France
Project: Scattering of mesoporous materials
Supervisor: Dr. Marianne Impéror (CNRS)
Laboratory: Laboratoire de Physique des Solides, UMR 8502



Education

2009 - 2014

Université Paris Sud, Orsay

Oct. 2014: **PhD** in Physical/Chemistry, *félicitations du jury*
June 2011: **Master 2** "Concepts Fondamentaux de la Physique", *mention assez-bien* (eq. Honours 2.2)
June 2010: **Master 1** "Physique fondamentale", *mention bien* (eq. Honours 2.1)



2006 - 2009

Université de Versailles Saint-Quentin-en-Yvelines

June 2009: **Bachelor** in Mathematics, **Bachelor** in Physics, *mention bien* for both (eq. Honours 2.1)



Top-Five Publications

1/ Schmitt J.* et al., **Mesoporous silica formation mechanisms probed using combined Spin-Echo Modulated Small Angle Neutron Scattering (SEMSANS) and Small Angle Neutron Scattering (SANS)**, *ACS Applied Materials and Interfaces* (2020) , 12 (25), 28461-28473 (DOI: 10.1021/acsami.0c03287)

2/ Schmitt J.* et al., **Anisotropic mesoporous silica/microgel core-shell responsive particles**, *RSC Advances* (2020), 10, 25393-25401 (DOI: 10.1039/D0RA02278K)

3/ Schmitt J.* et al., **TEMPO-oxidized cellulose nanofibrils; probing the mechanisms of gelation via Small-Angle X-Ray Scattering**, *Phys. Chem. Chem. Phys.* (2018), 20, 16012-16020 (DOI: 10.1039/C8CP00355F)

4/ Coppola B et al., **Digital Light Processing stereolithography of zirconia ceramics: slurry elaboration and orientation-reliant mechanical properties**, *J. Eur. Ceram. Soc.* (2022), 42, 2974–2982 (DOI: 10.1016/j.jeurceramsoc.2022.01.024)

5/ Unnikrishnan A. et al.*, **Synthesis of a Double-Hydrophilic Block Copolymer with a Multifunctional Block: Spontaneous Formation of Polyion Complex Micelles from a Single Cationic-Anionic Copolymer**, *Macromolecules*. (2025) (DOI: 10.1021/acs.macromol.4c02884)

*corresponding author

Grants

2025-2028 co-PI	NH ₂ PIC	NextStep call– Marie Skłodowska-Curie funding <i>Project:</i> SAS studies of amine-rich mesoporous silica for CO ₂ capture <i>Funding:</i> PhD fellowship (to be recruited) <i>Partners:</i> Corine Gérardin (ICGM) and Ralf Schweins (ILL)	
2024-2025 co-PI	AMOUR	International Emerging Actions <i>Project:</i> Additive Manufacturing Of textURed ceramics via Digital Light Processing: synthesis, optimization and characterization of alumina platelets/zirconia composites and nacre-like bioinspired materials. <i>Funding:</i> 5 k€/year for travels <i>Partners:</i> Bartolomeo Coppola (PoliTO, co-PI)	
2022-2023 co-PI	FRUGAL	Plan France Relance – Action 4 <i>Project:</i> Understanding the Freezing-induced alignment of Anisotropic particles: development of an eco-friendly method to prepare artificial nacles <i>Funding:</i> 327k€ <i>Partners:</i> Sylvain Deville (ILM, co-PI)	
2021-2024 PI	POM PIC	InnovaXN call – Marie Skłodowska-Curie funding <i>Project:</i> Polyoxometalates-rich micelles: templating agents for functionalised mesoporous materials <i>Funding:</i> PhD fellowship of Ananthapadmanabhan Unnikrishnan <i>Partners:</i> Corine Gérardin (ICGM) and Ralf Schweins (ILL)	
2021 PI	Φ ₀ 2021-1 Φ ₀ 2021-2	2 grants from the Phi0 Program of Saint-Gobain Research Provence, <i>proposition d'un sujet de recherche exploratoire</i> Project 1: Synthesis of metal-oxide submicrometric sheets via thermic denitration <i>Funding 1:</i> 15k€ <i>Partner 1:</i> Helena Kaper (LSFC) Project 2: Environmentally friendly synthesis of mesostructured materials <i>Funding 2:</i> 15k€ <i>Partners 2:</i> Corine Gérardin & Gauthier Rydzek (ICGM)	
2021-2022	SaFrAM	Défi Interdisciplinaire du CNRS, appel à projet « Auto-Assemblage » <i>Project:</i> Self-Assembly via Freezing: a tool to form preparing Architected Materials <i>Funding:</i> 14k€ (year 1) and 15k€ (year 2) <i>Partners:</i> Corine Gérardin (ICGM - PI), Gauthier Rydzek (ICGM), Marianne Impéror (LPS), Martin In (LCC)	
2020 PI	Φ ₀ 2020-1 Φ ₀ 2020-2	2 grants from the Phi0 Program of Saint-Gobain Research Provence, <i>proposition d'un sujet de recherche exploratoire</i> Project 1: Complex zirconia/boehmite micro and macro-composites through 3D-printing <i>Funding 1:</i> 15k€ Project 2: Core-shell zirconia polymer particles for the formation of architected composite materials <i>Funding 2:</i> 15k€ pour un an	
2019-2020 PI	Ma CARaPaCE	Défi Interdisciplinaire du CNRS, appel à projet « Biomimétisme » <i>Project:</i> “Matériaux Composites Architecturés par Assemblage de Particules Cœur-couronne Anisotropes” <i>Funding:</i> 14k€ (year 1) and 15k€ (year 2) <i>Partners:</i> Sylvain Deville (ILM), Marianne Impéror (LPS), Viveka Alfredsson (Lund)	

PhD students and Postdoctoral Research Associates (PDRA) supervised

2025-2028 36 months	to be recruited	SAS studies of amine-rich mesoporous silica for CO ₂ capture – PhD student <i>Grant:</i> NH ₂ PIC <i>co-supervisors:</i> Corine Gérardin (ICGM, HDR); Ralf Schweins (ILL)
2023-2026 36 months	Sebastien Buys	Functional materials with hierarchical porosity made using water as a templating agent – PhD student (starting date 10/2023) <i>Grant:</i> Doctoral School Funding (Ecole doctorale sciences chimiques Balard, EDSCB) <i>co-supervisor:</i> Corine Gérardin (HDR)
2022-2023 18 months	Swapneel Thakkar	Understanding the Freezing-induced alignment of anisotropic particles: development of an eco-friendly method to prepare artificial nacles – PDRA <i>Grant:</i> FRUGAL <i>co-supervisor:</i> Sylvain Deville (ILM)
2021-2024 36 months	Ananthapadmanabhan Unnikrishnan	Polyoxometalates-rich micelles: templating agents for functionalised mesoporous materials – PhD student <i>Grant:</i> POM PIC <i>co-supervisors:</i> Corine Gérardin (ICGM, HDR); Ralf Schweins (ILL)
2021-2022 12 months	Alexey Novikov	From the synthesis of anisotropic metal-oxide bricks to their organisation into artificial nacles – PDRA <i>Funding:</i> Saint-Gobain (18 months grant) <i>co-supervisor:</i> Sylvain Deville (ILM) <i>Future:</i> Research Engineer at Saint-Gobain Research Provence (“CDI” – Permanent Position) – June 2022