

Prof. Jean-Francois GERARD



> UMR CNRS #5223

Ingénierie des Matériaux
Polymères



PROFESSIONAL PREPARATION & APPOINTMENTS

2026 – present	Emeritus Professor, INSA Lyon, Université Lyon
1998	Professor (CEX2), Materials Science Dept., INSA Lyon
1997	Directeur de Recherche CNRS, UMR CNRS #5627/5223
1992	Habilitation à Diriger des Recherches, Université Lyon 1
1985	Chargé de Recherche CNRS, UMR CNRS #5627/5223
1985	PhD Materials Science, INSA Lyon
1981	Certificat Aptitude Administration des Entreprises, IAE Lyon
1980	MsC Macromolecular Materials & Composites, Univ. St-Etienne
1980	Engineer Diploma, INSA Lyon Physics of Materials Engineering

EXPERIENCE

Lab. Management

2002-2011	Head UMR #5627 / #UMR 5223 Laboratory 'Ingénierie des Matériaux Polymères' (Polymer Materials Institute). INSA Lyon / C. Bernard Lyon 1 University/ J. Monnet St-Etienne University
1997-2011	Head Laboratoire Matériaux Macromoléculaires INSA Lyon site URA#507/UMR#5223/UMR#5627

INSA de Lyon / Université de Lyon

2016-2017	Director SATT PULSALYS Co. Technology Transfer Co. Lyon-Saint Etienne
2011-2016	Vice-President Research, Institut National des Sciences Appliquées Lyon
2002-2006	INSA Lyon Scientific Council
1998-2006	Department Materials Science Engineering INSA Lyon Council
1995-2008	President of CNU 31-32-33 INSA Lyon Committee

National

Research management

2024-2025	Scientific Director International Research Center IRC CNRS-Sherbrooke University (Canada)
2021-2025	Program Director PEPR France 2030 'Recycling, Recyclability & Re-Use of Materials' (50 M€) National Strategy / National research program joining 75 research laboratories (TRL 0-3)
2017-2024	Adjt Directeur Scientifique Référent CNRS Région AURA (Clermont-Ferrand site)
2016-2025	Scientific Deputy Director - Institut de Chimie CNRS/CNRS Chimie
2008-2011	President Section 11 CoNRS Committee (Comité National Recherche) <i>Systèmes et matériaux supra et macromoléculaires : élaboration, propriétés, fonctions</i>
2008-2010	Member Commission MESR PEDR/PES Section 33
2004-2008	Elected member Section 11 CoNRS Committee

French Research Agency (Agence Nationale de la Recherche ANR)

2016-2017	Member CSPD Défi 3 'Industrial Renewal' Committee
2013-2015	President ANR Blanc/Intern./JC SIMI8-CES 29 Committees 'Chemistry of Solids, Colloids, Physico-Chemistry'
2007-2013	Member Steering Committee ANR 'Materials & Processes'
2007-2010	Member Sectorial Committee ANR 'Chemistry & Materials'

Scientific Learn Societies / Distinctions

2026	Prix d'Honneur CNRS
2022	Prix Cristal Collectif CNRS
2021	Grand Prix - French Polymer Society/Div. Polym.French Chemical Soc.
2017	Distinguished Senior Member of the French Chemical Society (SCF)
2012-2015	President Division 'Chemistry of Polymers & Materials' French Chemical Society (SCF) / GFP
1995-2007	President Rhône-Alpes French Polymer Group

Europe

2022-2025	Head Industry Mirror Group CNRS (Pillar II Horizon, FP10)
2015-2018	President of the European Polymer Federation EPF
2007-2026	Vice-President European Center for Nanostructured Polymers ECNP
2004-2008	Vice-Coordinator Network of Excellence NANOFUN-POLY FP7
2013-present	Member EPF (European Polymer Federation) Board (French delegate)

RESEARCH

Research interests

Seek out original scientific questions in the field of polymers within societal issues (such as those related to the environment and the necessary circularity of resources) and industrial issues.

Soft matter

Polymer networks, hydrogels, supramolecular polymers and interfaces, wettability, colloidal suspensions such as bitumens

Polymer chemistry

Synthesis of zwitterionic polyurethanes, polyaddition (epoxies, PU, phenolics, ...), radical polymerization, sol-gel chemistry of metal alkoxides combined with polymer ones, design of sustainable polymers from reactive systems (ex: phenolics), interface compatibilization in molten polymers, etc

Nanostructured polymers and nanostructuring processes

Nanocomposites, hybrid organic inorganic nanomaterials, (nano)microphase separation phenomena including RIPS – (nano)blends-, polymer confinement, nanostructuring (oxo-clusters, ionic liquids, nanoparticles, etc)

Surfaces, interfaces and interphases / Multiphase polymer materials

Polymer surfaces, superhydrophobic coatings, adhesion processes in multiphase materials, *i.e.* polymer blends, coatings, composites (particle-based, fiber-based), biomimetic approaches for polymer surface design

Polymer-based composite materials

Interfacial phenomena (fiber sizing, micromechanics), processing – reactive or non-reactive-, design of lightweight polymer composites, etc

Polymer processing

Electrospinning, rotomolding of TP and TS liners for H2 storage, 3D printing (FDM, SLA), coatings (superhydrophobic, anti-icing), recycling

Combination of high-throughput synthesis and characterization methods with artificial intelligence tools to design new polymer-based materials

Scientific Outputs

h-index (Scopus)	60
Citations (without self-citations)/ Av. cit. per item (WoS)	11,157 / 29.8
Papers published in international reviewed journals	385
Book chapters / Published extended abstracts	11/82
Invited lectures in international / national conferences	163/75
Communications in international /national conferences	495/170
Patents	26

Supervised Research

Defended PhDs / Current advised PhDs	87/3
Post-doctoral scientists	42

Research Networks

European Research Networks

NANOFUN-POLY FP7 Network of Excellence (Nanostructured and Multifunctional Polymer-Based Materials & Nanocomposites) – Vice co-ordinator (2004-2008)
European Center for Nanostructured Polymers ECNP - Vice-President (2009-2026)
Co-ordinator RTN (Research Training Network) POLYNETSET
Co-ordinator RTN (Research Training Network) NBB-HYBRIDS
COST Expert Smart Textiles (2018-2022)

Participant FP5, FP6, FP7, H2020 research projects

National Research Networks

GDR CNRS BIOMATPRO CNRS / INRA - UMR CNRS 5223 (2009-2014)
GDR CNRS 3585 'Ionic Liquids and Polymers' President of the Scientific Committee (2013-)
GDR CNRS 3661 'Nanofilled Polymers' – Member of the Scientific Committee (2014-)
PEPR 'Recyclage, Recyclabilité et Ré-Utilisation des Matières' SGPI-CNRS (2021-2029)
(Scientific Director) 40 M€
PEPR DIADEM 'Découverte accélérée de polymères haut débit et IA' (2022-)(AMETHYST PI
Project leader) 650 k€
PEPR H2 'Hydrogène décarboné' – Stockage hyperbare Type IV (INSA Lyon PI) 150 k€

Main and current international collaborations

Xiamen University, Xiamen (China)– Department of Chemistry (Prof. L. Dai)
Institute Macromolecular Chemistry (Prof. L. Matejka/Dr. J. Kotek/Dr. H. Benes) Inv. Prof.
Mc Gill University (Canada) – Chemical Engng. (Prof. M. Maric)
University Rio de Janeiro (Brazil) (Prof. B. Soares)
ICEHT FORTH Patras (Greece) – (Prof. C. Galiotis) Inv. Prof (TOK Program)
Weizmann Institute (Israel) – (Prof. Dr. H.D. Wagner)
South Western Mississippi University of Technology (USA) – (Prof. J. Otaigbe)
Université Mons-Hainaut (Belgique) – (Prof. P. Dubois)
University Minnesota, Minneapolis (USA) – (Prof. C. Macosko)
Université C. Ayad Marrakech (Maroc) – (Dr. H. Kaddami)
Institute für Polymerforschung IPF Dresden (D) – (Prof. Dr. B. Voit)
Politecnico Milano – Alessandria (I) – (Prof. G. Camino)
Université Bejaia (Algérie) – (Dr. A. Boukerrou)
University Perugia (I) – (Prof. J. Kenny)

Editorial Activities

Editor-in-Chief New Journal of Chemistry RSC
Board of Frontiers in Chemistry section Polymer Chemistry, Functional Composites,
Materials Nature Springer, Polymers, Nanocomposites, Actualité Chimique

Reviewing activities

Clay Science, Composite Interfaces, Composites Science Technology, Journal Applied
Polymer Science, Journal Materials Science, Journal of Nanostructured Polymers and
Nanocomposites, Journal of Non-Crystalline Solids, Journal Polymer Sci. Phys., Journal of
Rheology, Langmuir, Macromolecular Symposia, Macromolecules, Nature
Nanotechnology, Polymer, Polymer for Advanced Technologies, Polymer Composites,
Polymer Engineering Science Polymer and Polymer Composites, Journal of Sol-Gel Science
& Technology

Scientific Committees

National Agency for Research (ANR): President, member, and external expert of various
evaluation and prospective committees, PEPR Recyclage
Evaluation Agency of Research and High Education (AERES, HCERES): President and
member of various committees for laboratories and institutions evaluations

CAPES-COFEUCUB & FAPESP Scientific evaluation committee : evaluation of brazilian-french research projects
ELANOVA / Fondation du Caoutchouc – Board Committee scientific member
AFSSA AFSSA (Agence Française de Sécurité Sanitaire Aliments, present : AFSSET) ‘Materials for Food Contact’
HCSHSP Nanotechnologies Committee (Health Ministry)
LNE Scientific Committee (Laboratoire National d’Essais) – Packaging Division
IFP Scientific expert committee (Institut Français du Pétrole Energies Nouvelles)
CEA Scientific expert
CEA-DRT LITEN Grenoble Scientific Council (2008-2012)
Institut C. Gerhart Montpellier CNRS Scientific Committee
BARBIER-ICCF POPBA Joint Lab. Scientific Committee
LACTIPS SA Scientific Committee
POLYVIA Formation Scientific Committee (Plastic Processing Industrial Cluster)
Comité ‘Chimie & Matériaux’ Enrichissement de la Langue Française – Ministère de la Culture / Ministère de l’Economie

International expertises

European Commission

Marie-Curie (grants), RTN / ITN (research networks), Integrated Projects (FP6)

National and international expertises

Austrian Nano Initiative – Evaluation de projets et réseaux de recherche
FNRS Canada – Evaluation programmes de recherche
National Research Fund (FNR) – PEARLL Scientific Advisory Board - Luxembourg
EPFL Lausanne – Position candidacies evaluation
Czech Republic Academy of Science – IMC CSAZ evaluation, grant applications
Italian Ministry of Education – Evaluation of Department of Universities
Pakistan University Scientific Council – PhD reviews
ARC Scientific Initiatives and creation of research centers Australia
Greek Research Institutes (FORTH, CERTH)/ Ministry of Education & Research
Russian Science Foundation
Ministry of Education & Research / Republic of Serbia (2015-)
CNPq Brésil – Member National Institutes of S&T Program
Scientific Committee Key Lab. Xiamen University (RPC)
Expert scientific projects Université Libre de Bruxelles (2010)
PEARL Grant Committee (Luxembourg)
FCT Nanotech evaluation SR&TD (Portugal)
CSF ‘Chemistry & Materials’ Board Member – National Council of Industry
Vice-President & President of the Scientific Committee - AXELERA Industrial Cluster
CTI-PC Scientific & Strategic Committee ‘Plasturgie et des Composites’ industry
ACTIA Scientific Committee (Agroafood industries)
FDCA ‘Fondation du Caoutchouc’ Executive Committee (Rubber industries)
France Chimie-UIC (Union des Industries Chimiques) Groupe Académique Prospective
GT ‘Chimie Biosourcée’ Nouvelle France Industrielle (DGE/Ministry of Economy)
Réfèrent scientifique CNRS expertise collective ESCo CNRS/INRAE ‘Polymères dans l’agriculture & l’alimentation’ and ‘Terres rares’

Collaborations with Industry

Collaborative projects with companies (recent and current)

AIRBUS/EADS IW, ASTRIUM ST/SAFRAN L./ARIANE, ARKEMA, BBRAUN, CEA, CYTEC, DOW Chem. (D, NL), DOW CORNING, EIFFAGE, ELF, IVW, MERMET, MICHELIN, PLASTIC OMNIUM, OWENS-CORNING FIBERGLASS, PSA, RADIAL, RHODIA/OLVAY/SYENSQO, ROSSIGNOL, SAFRAN, SEB/TEFAL, SCHNEIDER, SOLVAY, SAINT-GOBAIN, SOPREMA, TOTAL, VENCOREX, VOLVO, WACKER Chem. (D), ...

Others

2016 - Pôle de Compétitivité AXELERA Industrial Cluster dedicated to Chemistry-Materials-Environment (about 500 companies)(Vice-President Research, President Scientific Committee)
2021 - Comité Orientation Stratégique & Scientifique CTI – Polymères & Composites (Technical Center of Plastics and Composites Industries)