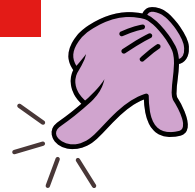
List of Supervisors interested in hosting a MSCA-PF-2025 fellow



If you wish to apply:

https://framaforms.org/application-for-msca-postdoctoral-fellowship-at-the-insa-group-2025-1746608184

INSA Group – May 2025

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SUMMARY OF RESEARCH TOPICS

CHEMISTRY, BIO-CHEMISTRY & MICROBIOLOGY

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
LYON	**Mathieu Gautier** https://cv.hal.science/mathieugautier	**DEEP** Déchets Eaux Environnement Pollution Waste Water Environment Pollution	https://deep.insa-lyon.fr/en/	environmental chemistry ; urban geochemistry ; fate of pollutants in urban environment ; contaminants ; trace metals ; PFAS ; sediment ; solid deposits ; water ; run off ; wastewater ; colloids ; particule organic matter ; urban critical zone ; waste valorization ; constructed wetland ; nutriment fate ; porous media : geochemical modelization ; biotic and abiotic parameters ; lab scale ; pilot scale ; real scale.	
LYON	**Florence Popowycz** https://www.icbms.fr/fr/membre/44-florence-popowycz.html	**ICBMS** Institut de Chimie et Biochimie Moléculaires et Supramoléculaires The Institute of Molecular and Supramolecular Chemistry and Biochemistry	https://www.icbms.fr/en/	synthetic tools, molecular architectures, homogeneous catalysis, carbohydrate chemistry, heterocyclic chemistry, biobased and sustainable chemistry, synthetic methodology and catalysis, life sciences	The team develops research projects aiming at designing innovative synthetic tools and molecular architectures, based on expertise in homogeneous catalysis, carbohydrate chemistry and heterocyclic chemistry. Projects are conducted within national and international academic or industrial collaborations and partnerships with applications to : - biobased and sustainable chemistry - synthetic methodology and catalysis - the interface of life sciences.
LYON	**Sylvie Moebs-Sanchez** https://www.linkedin.com/in/sylvie-moebs-sanchez-3696209b/	**ICBMS** Institut de Chimie et de Biochimie Moléculaire et Supramoléculaire The Institute of Molecular and Supramolecular Chemistry and Biochemistry	https://www.icbms.fr/en/	organic synthetic methodology, upgrading of biomass, original spirocycles, potential bioactive molecules, Piancatelli reaction, polyols, heterocyclic chemistry	

CHEMISTRY, BIO-CHEMISTRY & MICROBIOLOGY

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
LYON	**Aurélia Charlot**	**IMP** Ingénierie des Matériaux Polymères Polymer Material Engineering	https://imp-umr5223.cnrs.fr/	Polysaccharides, chemical modifications of polysaccharides, ecoconception, green chemistry, multicomponent reactions, Passerini and Ugi reactions, synthesis of biohybrid grafted copolymers, grafting onto, ionic liquids, deep eutectic solvents, ionogels, chemical hydrogels, physical hydrogels , thermosensitive gels, Layer by Layer polymer films, multilayer films, H-bonds, surface wettability, Q-CMD
LYON	**Feth el Zahar Haichar** https://www.researchgate.net/profile/Feth-El-Zahar-Haichar?ev=hdr_xprf	**MAP** Microbiologie Adaptation Pathogénie Microbiology adaptation Pathogeny	https://map.insa-lyon.fr/en/content/chromatin-and-regulation-bacterial-pathogenicity	Microbiology, genetic, pathogeny, plant, microbiome, bacteria, metabolism, virulence, regulation, system biology, pathogenic bacteria
ROUEN NORMANDIE	**Thomas Poisson** https://www.lab-cobra.fr/annuaire/poisson-thomas/	**CARMeN** Chimie Analytique et réactivité en Normandie Institute of Analytical Chemistry and Molecular Reactivity in Normandy	https://www.insa-rouen.fr/en/research/laboratories-and-technological-platforms/carmen	Organic Chemistry, Synthetic methods, New technologies, flow chemistry, electrosynthesis, photochemistry
ROUEN NORMANDIE	**Hélène Beucher** https://orcid.org/0000-0002-5072-5814	**CARMeN** Institut de chimie analytique et réactivité moléculaire en Normandie Institute of Analytical Chemistry and Molecular Reactivity in Normandy	https://www.insa-rouen.fr/en/research/laboratories-and-technological-platforms/carmen	Radical chemistry, Methodology, Electrosynthesis, Photochemistry, Gold catalysis
ROUEN NORMANDIE	**Daniela Vuluga**	**PBS** Polymères, Biopolymères, Surfaces Polymers, Biopolymers, Surfaces	https://www.pbs.cnrs.fr	anionic polymerisation in flow chemistry new Li-based initiators telechelic polymers

CHEMISTRY, BIO-CHEMISTRY & MICROBIOLOGY

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
TOULOUSE	**Claire Dumon** https://www.toulouse-biotechnology-institute.fr/en/claire-dumon/	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	Carbohydrate modifying enzymes, Glycoside hydrolase, Carbohydrate binding module, enzyme synergy, enzyme spatial organization, plant cell wall valorization, polysaccharides
TOULOUSE	**Christophe Danelon** https://www.danelonlab.com	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	synthetic cell; cell-free protein synthesis; directed evolution; synthetic biology; minimal cell; active learning; synthetic genomics; liposomes
TOULOUSE	**Helene Martin-Yken** https://www.toulouse-biotechnology-institute.fr/en/helene-martin-yken/	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	Synthetic Biology; Yeasts; Anti-oxidants; rAAV bioproduction; Engineered Probiotics; Neurotoxins
TOULOUSE	**Sandrine Alfenore** https://www.toulouse-biotechnology-institute.fr/en/sandrine-alfenore/	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	Microbial bioprocesses - intensification of microbial reactions - hybrid (bio)processes - microbial valorization of biomass - bio-based molecules
TOULOUSE	**Guillermina Hernandez-Raquet**	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	Lignocellulose and lignin valorization, CO2 bioconversion, microbial consortia, metagenomics, metaproteomics, microfluidics, microbial ecology, bioreactors
TOULOUSE	**Christelle Guigui**	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	Chemical Engineering/Membrane Processes/Water Engineering

CHEMISTRY, BIO-CHEMISTRY & MICROBIOLOGY

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
TOULOUSE	**Lorie Hamelin** https://www.toulouse-biotechnology-institute.fr/en/lorie-hamelin/	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	Life Cycle Assessment, Large-scale transitions, Low Fossil Carbon, Bioeconomy, Agroecology, Negative Emissions, Soil Carbon Dynamics, Process Engineering, Uncertainty Analysis, bio-based products	Professor Lorie Hamelin holds a Chair Professor of Sustainable Transitions towards lo Fossil Carbon economies. She is employed by the French National Research Institute for Agriculture, Food and Environment (INRAE), and is based at the Toulouse Biotechnology Institute (TBI) of the Federal University of Toulouse, where she leads a team of 10 PhD and postdoc researchers. Her research aims to design just and sustainable transition roadmaps towards low fossil Carbon economies, and to quantify the associated environmental consequences of these roadmaps, and understand their performance dependencies. This is done through combining Life Cycle Assessment, Process Engineering, Uncertainty Analysis and Geographical Information Systems, to characterize, in a time- and space-dependant manner, materials and energy stocks and flows in a system context, in particular for case studies of carbon sequestration, agroecology, or novel food, feed, fuels, materials and chemicals. These roadmaps serve policy makers in their need for making evidence-based investments decisions for tomorrow's food, feed, energy, transport, materials and chemicals systems.

CHEMISTRY, BIO-CHEMISTRY & MICROBIOLOGY

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TOULOUSE	**Isabelle Meynial-Salles**	**TBI** Toulouse Biotechnology Institute	https://www.toulouse-biotechnology-institute.fr/en/	molecular biology; enzymology; metabolic pathways analysis; novel synthetic microbial cellular factories; production of synthons; chemistry; energy supply	The PEEP team uses concepts from molecular biology, enzymology, metabolic pathways analysis to develop novel synthetic microbial cellular factories for the production of synthons for chemistry and/or energy. Research focuses on i) the analysis of the central (anaerobic) metabolism of bacteria to improve its knowledge and its regulation mechanism, ii) the rational modification and reorientation of that native metabolism to maximize the substrate/product conversion yield for the biological production of synthons for chemistry and/or energy; and iii) the in vivo adaptive evolution of bacteria under metabolic constraint to improve the performance of key metabolic enzymes and/or of metabolic pathways. The final goal of research is the development of innovative biotechnological processes, using the created cellular factories to convert cheap and environmentally friendly renewable resources into feedstocks of interest for chemistry and/or energy supply.

DATA SCIENCE, MACHINE-LEARNING & ARTIFICIAL INTELLIGENCE

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
LYON	**Nicolas Ducros** https://www.creatis.insa-lyon.fr/~ducros/WebPage/single_pixel_imaging.html	**CREATIS** Centre de Recherche en Acquisition et Traitement de l'Image pour la Santé Center for Research in Image Acquisition and Processing for Health	https://www.creatis.insa-lyon.fr/site/en	Computational imaging; single-pixel imaging; hyperspectral imaging; data-driven image reconstruction; unfolding; plug-and-play; untrained networks.	
LYON	**Philippe Delachartre** https://cv.hal.science/philippe-delachartre	**CREATIS** Centre de Recherche en Acquisition et Traitement de l'Image pour la Santé Center for Research in Acquisition and Signal Processing for Health	https://www.creatis.insa-lyon.fr/site/en	Research interests include deep Learning methods for ultrasound signal processing and ultrasound Imaging with applications to anomaly detection, segmentation, data annotation, Learning strategies, uncertainty quantification, integration of deep Learning in medical devices	
LYON	**Céline Robardet** http://liris.cnrs.fr/celine.robardet	**LIRIS** Laboratoire d'InfoRmatique en Image et Systèmes d'information Laboratory of Computer Science, Information Processing and Systems	https://liris.cnrs.fr/en	explainable artificial intelligence	Upstream research guided by application involving the three main research communities in the fields of acquisition (instrumentation, strategy/method), image and signal processing (simulation, modeling), and medical and health issues.
ROUEN NORMANDIE	**Florian Yger** https://scholar.google.com/citations?user=NF_1_38AAAAJ&hl=en&oi=ao	**LITIS** Laboratoire d'Informatique, du Traitement de l'Information et des Systèmes Laboratory of Computer Science, Information Processing and Systems	https://litislab.fr/en	Machine learning, geometric learning, graphs, Riemannian geometry, EEG signal	An approach from acquisition to imaging biomarker incorporating the ability to couple acquisition modalities.

DATA SCIENCE, MACHINE-LEARNING & ARTIFICIAL INTELLIGENCE

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
LYON	**Catherine Pothier** https://liris.cnrs.fr/page-membre/catherine-pothier	**LIRIS** Laboratoire d'InfoRmatique en Image et Systèmes d'information Laboratory of Computer Science, Information Processing and Systems	https://liris.cnrs.fr/en	remote sensing, satellite image, inSAR, machine learning, data mining, AI, Tectonic deformation, time series, outliers
ROUEN NORMANDIE	**Alexandre Pauchet**	**LITIS** Laboratoire d'Informatique, du Traitement de l'Information et des Systèmes Laboratory of Computer Science, Information Processing and Systems	https://litislab.fr/en/	Human-Agent Interaction, Human-Robot Interaction, Intelligent Virtual Agents, Affective Computing, multimodal interaction, multi-party interaction, Human-Computer Interaction, Explanable AI
ROUEN NORMANDIE	**Cecilia Zanni-Merk** https://pagesperso.litislab.fr/czannimerk/	**LITIS** Laboratoire d'Informatique, du Traitement de l'Information et des Systèmes Laboratory of Computer Science, Information Processing and Systems	https://litislab.fr/en/	deductive AI, hybrid AI, symbolic AI, knowledge engineering, conceptualisation, ontologies and formal models, rule-based reasoning (crisp, fuzzy, probabilistic, spatio-temporal), case-based reasoning, knowledge and experience capitalisation.
ROUEN NORMANDIE	**Maxime Guériau** http://maxime.gueriau.fr/	**LITIS** Laboratoire d'Informatique, de Traitement de l'Information et des Systèmes IT Laboratory, Information Processing and Systems	https://www.litislab.fr/en	multi-agent systems; reinforcement learning; simulation; connected and automated vehicles; intelligent transportation systems;
TOULOUSE	**Robin Bouclier** https://www.math.univ-toulouse.fr/~rbouclie/	**ICA (& IMT)** Institut Clément Ader (& Institut de Mathématiques de Toulouse) Clément Ader Institute (& Toulouse Mathematics Institute)	https://ica.cnrs.fr/home/ (https://www.math.univ-toulouse.fr/en/)	Computational Solid Mechanics Digital Twins, Data assimilation, High-Performance Computing IsoGeometric Analysis, Machine Learning (Physics-Informed Neural Networks - PINNs), Image-based modeling, Digital Image Correlation

ELECTRONICS, SYSTEMS & ROBOTICS

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
LYON	**Minh Tu Pham** https://cv.hal.science/minh-tu-pham	**Ampère** Laboratoire Ampère Ampère Laboratory	http://www.ampere-lab.fr	Calibration and Identification; Cooperative Manipulators; Degrees of Autonomy and Teleoperation; Haptics and Haptic Interfaces; Hydraulic/Pneumatic Actuators; Identification and Estimation in Mechatronics; Medical Robotics/Mechatronics; Medical Robots and Systems; Model Learning for Control; Modeling, Control, and Learning for Soft Robots; Prosthetics and Exoskeletons; Rehabilitation Robotics; Robot Dynamics and Control; Robust/Adaptive Control of Robotic Systems; Soft Robotics; Surgical Robotics: Laparoscopy; Surgical Robotics: Planning; Surgical Robotics: Steerable Catheters/Needles; Teleoperation	My research activities are focused on the fields of Control Engineering and Robotics, with specific interests in: - **Medical Robotics**: This area involves technological research aimed at practical applications, with a strong emphasis on solving scientific challenges that require skills in physics and system knowledge. It is a multidisciplinary field that involves disciplines such as design, instrumentation, and control. One of the unique aspects of my laboratory is the development of systems controlled by actuators using pressurized fluid. This activity requires collaboration with healthcare professionals. Scientific challenges in this domain include developing simulators for medical gesture learning, assisting medical procedures, and evaluating medical gestures. I utilize methods such as haptic guidance for gesture learning and multi-channel, multi-user teleoperation control architectures. Finally, I am also interested in applying engineering principles and methods in order to study the nervous system and develops techniques for diagnosing, treating, and rehabilitating neurological disorders. - **Control and Observation of Complex Systems** : This research lies at the interface of fundamental and theoretical studies and practical applications with implementation on test benches (power converters, industrial robots, mobile antennas) or realistic industrial models (hybrid vehicles, flexible aircraft, hydrogen production). The focal points of my work in this area include the control and observation of switching systems, identification, and dimensionality reduction of large-scale system models. The tools employed in this context include Lyapunov-based control techniques, predictive control, recent developments in H_inifinity control, linear and nonlinear observers (sliding modes, high-gain), projection techniques in subspaces, and least squares methods for system identification. My research is both methodological and applied, leading to my involvement in the development of two technical platforms at the Fluid Power and Robotics Testing Center and the Power Electronics Converters Laboratory.

ELECTRONICS, SYSTEMS & ROBOTICS

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
LYON	**Paolo Massioni** https://sites.google.com/site/pmassio/home	**Ampère** Laboratoire Ampère Ampère Laboratory	http://www.ampere-lab.fr/spip.php?rubrique90	Automatic control Optimal control Convex optimisation for control engineering Kalman filtering Control of aerospace systems Attitude determination and control Active wing control Nonlinear control Polynomial methods for control	Please feel free to get in touch with me for discussing your potential interests.
LYON	**Arnaud Leleve** https://www.aleleve.fr	**Ampère** Laboratoire Ampère Ampère Laboratory	www.ampere-lab.fr	Automatic Control, Robotics, Haptics, Training Simulation for medical gestures	The Robotics team of the Automatic Control Department at Ampère specializes in advanced control of haptic devices. Their work primarily focuses on hands-on training simulations designed to teach complex gestures that require precise control of both trajectories and applied forces—particularly in medical applications. For more details on their publications and research, visit: https://cv.hal.science/arnaud-leleve.
LYON	**Bertrand Massot** https://cv.hal.science/bertrand-massot	**INL** Institut des Nanotechnologies de Lyon Lyon Institute of Nanotechnology	https://inl.cnrs.fr/en/biomedical-sensors-group/	Biomedical sensors, Transducers, Electrodes, Impedance, Embedded electronics, Wireless body sensor networks, Signal processing, Signal analysis	We're looking for post-doctoral fellows to join a few exciting projects, such as: - Continuous monitoring of diseases (e.g., lymphedema) using multimodal wearable sensors - Real-time and offline analysis of physiological signals to build health indicators using robust signal processing, machine learning, and AI We're especially interested in candidates with skills in one or more of the following areas: - Design and development of wearable electronic systems - Development of machine learning and deep learning algorithms in Python, including real-time inference - Real-world experimentation and data collection - Measurement and analysis of physiological parameters

ELECTRONICS, SYSTEMS & ROBOTICS

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
HAUTS-DE-FRANCE	**Marwane Ayaida** https://www.iemn.fr/la-recherche/les-groupes/comnum	**IEMN** Institut D'électronique, Microélectronique Et Nanotechnologie Institute Of Electronics, Microelectronics And Nanotechnology	https://www.iemn.fr/en/	Cybersecurity Intelligent Transport Systems Cooperative Intelligent Transport Systems (C-ITS) Cooperative Perception Connected, Cooperative & Automated Mobility (CCAM)
HAUTS-DE-FRANCE	**Kaouther Moussa**	**LAMIH** Laboratoire d'Automatique de Mécanique et d'Informatique Industrielles et Humaines Laboratory of Automatic control, Mechanics, Industrial and Human computer science	https://www.uphf.fr/lamih/en	Control, predictive control, uncertain systems, probabilistic certification, biological systems and health care related applications
HAUTS-DE-FRANCE	**Olivier Sénéchal** https://www.uphf.fr/lamih/membres/senechal_olivier	**LAMIH** Laboratoire d'Automatique de Mécanique et d'Informatique Industrielles et Humaines Laboratory of Automatic control, Mechanics, Industrial and Human computer science	https://www.uphf.fr/lamih/en	Decision support in maintenance and sustainability.
HAUTS-DE-FRANCE	**Mohamed Djemai** https://www.uphf.fr/lamih/membres/djemai_mohamed	**LAMIH** Laboratoire d'Automatique de Mécanique et d'Informatique Industrielles et Humaines Laboratory of Automatic control, Mechanics, Industrial and Human computer science	https://www.uphf.fr/lamih/en	Cyber Physical Systems, Multi-agents systems; control; faut detection; time scale approche, Hybrid Systems.

ELECTRONICS, SYSTEMS & ROBOTICS

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
HAUTS-DE-FRANCE	**Sondes Chaabane** https://www.uphf.fr/lamih/membres/chaabane_sondes	**LAMIH** Laboratoire d'Automatique de Mécanique et d'Informatique Industrielles et Humaines Laboratory of Automatic control, Mechanics, Industrial and Human computer science	https://www.uphf.fr/lamih/en	System control, resilience of production and logistics systems, demand forecasting
LYON	**Bruno Allard** https://cv.hal.science/bruno-allard-insa-lyon	**Ampère** Laboratoire Ampère Ampère Laboratory	www.ampere-lab.fr	Electrical Engineering, power electronics and automatics. From low to high power systems. From low to high frequency. Power systems possibly integrating living-species-related phenomena. Fluid Power. From semiconductor to system-level prototyping. Mathematical modeling, advanced multi-level simulation, analytical design, optimization to synthesis of control strategy.
STRASBOURG	**Sylvain Durand** https://sylvain.durandchamontin.fr/	**Icube** Le laboratoire des sciences de l'ingénieur, de l'informatique et de l'imagerie The Engineering Science, Computer Science and Imaging Laboratory	https://icube.unistra.fr/en/	Frugal control, Event-driven control, Robotics, Aerial robotics, Mobile robotics, Cyber-physical systems, Embedded systems, Limited resources.

ENERGY, THERMAL & FLUID SCIENCES

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
ROUEN NORMANDIE	**Frédéric Grisch**	**CORIA** COmplexe de Recherche Interprofessionnel en Aérothermochimie	https://www.coria.fr/en/	reacting flows; Combustion (Gas phase combustion,Two-phase combustion, Modelling and simulation of reacting flows), Plasmas, Two-Phase, Flows, and Turbulence; Transport Processes and Control, Atmospheric Pollution: Emissions and Impacts; Electromagnetism, Optics, Optoelectronics.	CORIA is a joint laboratory organized between CNRS, University of Rouen, and INSA Rouen Normandie. CORIA-CNRS is a Mechanical Engineering Lab fully devoted to study of reacting flows and addresses three main topics: (i) Combustion (Gas phase combustion,Two-phase combustion, Modelling and simulation of reacting flows), Plasmas, Two-Phase, Flows, and Turbulence; (ii) Transport Processes and Control, Atmospheric Pollution: Emissions and Impacts; (iii) Electromagnetism, Optics, Optoelectronics. The combustion Group (30 people) has a strong expertise in the study of turbulent reacting flows in academic experiments and real (aircraft combustion) operating conditions, using both advanced laser-based diagnostics and CFD tools (DNS, LES, and RANS).
LYON	**Abdelkrim Trabelsi** https://www.researchgate.net/profile/Abdelkrim_Trabelsi	**CETHIL** Centre d'Energétique et de Thermique de Lyon Centre for Energy and Thermal Sciences of Lyon	https://cethil.insa-lyon.fr/en	heat and mass transfer in porous media building physics; bio-based thermal insulation; earth-based materials; AI for moisture transfer in buildings	If you are passionate about transfer in porous media, sustainable materials, advanced modeling, or the integration of AI in building physics, feel free to reach out. Exciting challenges and collaborative projects await.
TOULOUSE	**Matthieu Labat** https://cv.hal.science/matthieu-labat	**LMDC** Laboratoire Matériaux et Durabilité des Constructions The Laboratory of Materials and Durability of Constructions	https://www.lab-lmdc.fr/en/le-laboratoire-english/	HVAC systems Control Optimization Heat transfer Building Physics	My research activitles take place in the framework of the ECC theme (Energy Comfort Construction). The ECC theme brings together LMDC researchers whose activities aim to develop innovative solutions at different scales (system, building, city) to improve energy efficiency and propose smart energy management, analyze occupant behavior and guarantee optimal comfort, and finally reduce the environmental footprint.
LYON	**Liviu Iulian Palade** https://math.univ-lyon1.fr/icj/annuaire-des-personnels/	**ICJ** Institut Camille Jordan Camille Jordan Institute	https://math.univ-lyon1.fr/icj/	Non-Newtonian fluid dynamics, modeling and numerical simulations (matlab acquaintance is necessary), continuum mechanics but acquaintance with kinetic theories for polymer dynamics is a plus even though not mandatory. Viscoelasticity, basic rheology	Please get in touch with me I look forward to talking to all those interested

ENERGY, THERMAL & FLUID SCIENCES

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LYON	**Mickaël Lallart**	**LGEF** Laboratoire de Génie Electrique et Ferroélectricité Laboratory of Electrical Engineering and Ferroelectricity	https://lgef.insa-lyon.fr/en/content/laboratory	energy harvesting self-powered device energy conversion piezoelectric systems vibration control	Possiblity (not mandatory at all), for Global Postdoctoral Fellowships, of being part of an International Research Network with Japan (Tohoku Univ.)
LYON	**M'hamed Boutaous** https://cethil.insa-lyon.fr/en/content/fluids-polymers-and-composites	**CETHIL** Centre d'Energétique et de Thermique de Lyon Centre for Energy and Thermal Sciences of Lyon	https://cethil.insa-lyon.fr/en/	Polymer processing, Polymer Material, Heat Transfer, Microwaves, Wave-polymers interaction, Thermo-rheology, Material characterisation, Modelling and simulation	The conventional heating used in polymer processing is inefficient and energy-consuming. One of the solutions could be the use of microwaves to heat polymers. The electromagnetic wave has the ability to penetrate and even pass through most polymers while inducing a form of energy transformation due to molecular polarization and leading to rapid volumetric heating. Studies on various materials have shown reduction of energy consumption compared to the traditional method on the one hand and on the other hand improved microstructures and material properties. Consequently, the study of microwave heating of polymers becomes an important topic. A bench is already built in our lab, to quantify the ability of microwaves to heat different type of polymers, with an original setup characterising the thermo-rheological behaviour of polymers under controlled microwaves field. The challenge is now to link numerical modelling and materials characterisation analysis to understand the material behaviour with the aim to extend the finding to develop new polymers and composites materials and new processing technologies.
LYON	**Shihe Xin**	**CETHIL** Centre d'Energétique et de Thermique de Lyon Centre for Energy and Thermal Sciences of Lyon	https://cethil.insa-lyon.fr/en/	heat transfer in viscoelastic flows; shearthinning fluids; numerical simulation or experimental study;	We have strong experience in deveopping numerical codes for solving Oldroyed-B, Giesekus and PTT models and studying viscoelastic Rayleigh-Bénard convection. We are also developping experimental set-up of channel configuration in order to investigate secondary flows.

ENERGY, THERMAL & FLUID SCIENCES

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
TOULOUSE	**Marcos Rojas Cardenas** https://ica.cnrs.fr/author/mrojas/	**ICA** Institut Clément Ader Clément Ader Institute	https://ica.cnrs.fr/home/	Microfluidics, Hydrogen, Rarefied-gas, MEMS, Knudsen-pump, Thermal transpiration.	The use of hydrogen both as an industrial process gas and as an energy storage medium requires rapid and selective detection of gaseous H2. New sensors are being developed to meet increasingly demanding performance requirements in several emerging applications. For example, H2 sensors are used to ensure the safe utilization of hydrogen in fuel cells, hydrogen vehicles, and more. Compared to conventional H2 sensors, MEMS-based micro-scale sensors offer advantages such as low energy consumption, high sensitivity, and fast response times. Knudsen hydrogen pumps (HKPs) can efficiently and controllably generate microflows to supply a detection device, a hydrogen micro-combustion chamber, or a micro fuel cell. HKPs have no moving parts and can thus be regarded as highly robust and time-stable non-mechanical micro-compressors. Their operation relies on the phenomenon of thermal transpiration, which becomes significant only at the micro-scale and/or at very low pressures, and requires only a temperature gradient to move the gas from a cold region to a hot one. Therefore, intelligent thermal management of the entire system could enable the micropump to operate with zero additional energy cost by utilizing the thermal dissipation from another component, such as a combustion cell, for instance. The fabrication of these devices is generally carried out by UV lithography on silicon substrates or by stacking porous media in order to create the thermodynamic conditions necessary for effective thermal transpiration at the device scale. Devices have thus been successfully developed and tested at the University of Michigan for applications in the miniaturization of integrated gas chromatography systems. However, no such micropump has yet been produced in Europe. Moreover, the studies currently published on hydrogen micro-pumping by thermal transpiration are purely numerical and lack experimental proof of concept. At present, the consortium has made major advances and has manufactured successfully, via Two-Photon-Polymerization, a first prototype of one-stage micro-Knudsen-pump. This prototype has been successfully tested with Hydrogen, too. It will be now of great importance to improve the thermal architecture of the overall system and produce a pumping system of multiple stages in parallel and in series to increase the pumping efficiency of the device. Participants: Marcos Rojas-Cardenas, Lucien Baldas and Stéphane Colin
TOULOUSE	**Lucien Baldas** https://ica.cnrs.fr/en/author/lbaldas/	ICA Institut Clément Ader Clément Ader Institute	https://ica.cnrs.fr/home/	Fluidic microactuators for flow separation control; Pulsatile micro-impacting jets for heat transfer enhancement; Inertial migration of inert and bio-particles in microchannel flows; Micro-bioreactors for cultivation, concentration and processing of microalgae	These topics also involve the following researchers of the team "Microfluidics" at the Institut Clément Ader : Dr. Pascale Magaud (https://ica.cnrs.fr/en/author/pmagaud/) Dr. Ahmad Batikh (https://ica.cnrs.fr/en/author/abatikh/) Prof. Christine Barrot (https://ica.cnrs.fr/en/author/cbarrot/)

ENERGY, THERMAL & FLUID SCIENCES

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
LYON	**Marc Clausse** https://www.researchgate.net/profile/Marc-Clausse	**CETHIL** Centre d'Energétique et de Thermique de Lyon Centre for Energy and Thermal Sciences of Lyon	https://cethil.insa-lyon.fr/en	energy optimisation, energy integration, thermoeconomy, exergy analysis, environnemental assessement of energy systems, waste heat recovery, district heating network, datascience for energy applications, industrial heat decarbonisation
LYON	**Pierre-Olivier Chapuis** http://polivier.chapuis.free.fr & https://cethil.insa-lyon.fr/en/content/chapuis-pierre-olivier	**CETHIL** Centre d'Energétique et de Thermique de Lyon Centre for Energy and Thermal Sciences of Lyon	http://cethil.insa-lyon.fr/en	- Thermal management (heat conduction, thermal radiation) - Nanoscale energy conversion: thermophotovoltaics, thermoelectrics, LEDs, thermal rectennae - Nanoscale thermodynamics - Phonon transport - Near-field thermal radiation - Atomic force microscopy for thermal studies
LYON	**Konstantinos Termentzidis** https://gdrname.fr/	**CETHIL** Centre d'Energétique et de Thermique de Lyon Centre for Energy and Thermal Sciences of Lyon	https://cethil.insa-lyon.fr/en/node/11	Nanomaterials for Energy Application, Energy Conversion, Energy Dissipation and Storage Thermal dissipation in nanostructures and nanodevices, Atomistic simulations, Beyond Fourier thermal transport
ROUEN NORMANDIE	**Mostafa Safdari Shadloo**	**CORIA** COmplexe de Recherche Interprofessionnel en Aérothermochimie	https://www.coria.fr/en/	CFD, SPH, LBM, machine learning, electro-hydrodynamics, multi-phase flow, separation process
TOULOUSE	**Stéphane Colin** https://ica.cnrs.fr/en/author/scolin/	**ICA** Institut Clément Ader Clément Ader Institute	https://ica.cnrs.fr/home/	Molecular tagging velocimetry (MTV) and thermometry (MTT) for gaseous microflows; Analysis of gaseous microflows, heat and mass transfer; Development of microfluidic systems (microactuators and microsensors) using gases; Pressure and temperature driven gaseous microflows; Rarefied gases
TOULOUSE	**Stéphane Ginestet** https://cv.hal.science/stephane-ginestet	**LMDC** Laboratoire Matériaux et Durabilité des Constructions The Laboratory of Materials and Durability of Constructions	https://www.lab-lmdc.fr/en/le-laboratoire-english/	Energy and buildings Thermal comfort Urban heat island mitigation solutions Hygrothermal transfers (Modelling / In-situ measurements) Thermal renovation of buildings

MATERIALS SCIENCE & ENGINEERING

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
ROUEN NORMANDIE	**Olivier Bareille**	**LMN** Laboratoire de Mécanique de Normandie Laboratory of Mechanics of Normandy	https://www.insa-rouen.fr/en/recherche/laboratoires/lmn	probabilistic mechanics, reliability, optimisation, dynamics of structures, structural health monitoring, condition-based monitoring, risks, uncertainties, variability	Efficient and active research group. Strong experimental and numerical expertise. Friendly environment and optimal position of the region within the national scientific frame. Tight connections and large interaction with first-ranking industrial companies.
LYON	**Patrice Chantrenne**	**MATEIS** Matériaux Ingénierie et Sciences Materials Science and Engineering Laboratory	https://mateis.insa-lyon.fr/en	electromigration, material processing (thermal treatments), metals, ceramics, microstrutural caracterisation, multiscale modelling	Thermal treatments with direct Joule heating or assisted with electric current are more and more used. Physical phenomena induced by the electric field /electric current need to be investigated in order to optimize the material processing. Experimental and theoretical investigations are considered.
HAUTS-DE-FRANCE	**Christian Courtois**	**CERAMATHS** Laboratoire de matériaux céramiques et de mathématiques Laboratory of Ceramic Materials and Mathematics	https://www.uphf.fr/ceramaths	materials, ceramics, piezoelectric, sintering, thermomechanical materials, catalysis, ceramic composite, Synthesis, characterization, properties	
HAUTS-DE-FRANCE	**Mohamed Aymen Ben Achour** https://www.linkedin.com/in/mohamed-aymen-ben-achour-8a081baa/	**CERAMATHS** Laboratoire de matériaux céramiques et de mathématiques Laboratory of Ceramic Materials and Mathematics	https://www.uphf.fr/ceramaths/presentation-ceramaths	ferroelectricity , piezoelectricity, additive manufacturing, Coldsintering, biomaterials	
HAUTS-DE-FRANCE	**Cyrille Albert-Mercier**	**CERAMATHS** Laboratoire de matériaux céramiques et de mathématiques - Département Matériaux et procédés (DMP) Laboratory of Ceramic Materials and Mathematics - Department of Materials Processing (DMP)	https://www.uphf.fr/ceramaths	bioglass - bioactivity - structure - doping - biomaterials	

MATERIALS SCIENCE & ENGINEERING

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
HAUTS-DE-FRANCE	**Alex Montagne**	**LAMIH** Laboratoire d'Automatique, de Mécanique et d'Informatique Industrielle et Humaines Laboratory of Automatic control, Mechanics, Industrial and Human computer science	https://www.uphf.fr/lamih	surface, mechanical properties, nanoindentation, hardness, materials science
LYON	**Ali Daouadji**	GEOMAS Laboratoire de Géomécanique-Matériaux-Structures Laboratory of Geomechanics-Materials-Structures	https://geomas.insa-lyon.fr	Soils and Rock Mechanics - Geotechnics - Granular Materials Experimental and Numerical Modelling - Constitutive Modelling - Failure, bifurcation & instabilities Grain breakage - Soil reinforcement - Slopes failures
LYON	**Khalid Lamnawar** https://scholar.google.com/citations?user=OLWC5EsAAAAJ&hl=en	**IMP** Ingénierie des Matériaux Polymères Polymer Material engineering	https://imp-umr5223.cnrs.fr/en	Rheology Polymer Processing Recycling Biopolymers
LYON	**Fabrice Ville** https://lamcos.insa-lyon.fr/fiche_personnelle.php?p=23_9&L=2&Numpers=62	**LaMCoS** Laboratoire de Mécanique des Contacts et des Structures Contact and Structural Mechanics Laboratory	https://lamcos.insa-lyon.fr/?L=2	Tribology of lubricated mechanisms Gear Transmissions Rolling Contact Fatigue Wear Scuffing Power losses
LYON	**Emmanuelle Vidal-Sallé** https://lamcos.insa-lyon.fr/fiche_personnelle.php?p=23_2&L=2&Numpers=212	**LaMCoS** Laboratoire de Mécanique des Contacts et des Structures Contact and Structural Mechanics Laboratory	https://lamcos.insa-lyon.fr/?L=2	Textile characterisation Composite forming simulation Constitutive equations for textiles
LYON	**Laurent Maxit**	**LVA** Laboratoire Vibrations-Acoustique Laboratory Vibration and Acoustics	https://lva.insa-lyon.fr/	Acoustics, Vibration, sound - structure interaction, vibroacoustic modelling, flow-induced noise and vibration, acoustic metamaterial

MATERIALS SCIENCE & ENGINEERING

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
LYON	**Damien Fabrègue** https://mateis.insa-lyon.fr/en/node/1072	**MATEIS** Matériaux Ingéniérie et Science Materials Science and Engineering Laboratory	https://mateis.insa-lyon.fr/en	Materials Science, microstructure, mechanical properties, multi-scale experiments and modeling
LYON	**Nathalie Godin**	**MATEIS** Matériaux Ingénierie et Sciences Materials Science and Engineering Laboratory	https://mateis.insa-lyon.fr/en	1) Identification of the acoustic signature of damage mechanisms using acoustic emission and artificial intelligence: Diagnosis of the state of health. 2) Prediction of lifetime during fatigue tests in a PHM approach (Prognostic Health Management). 3) Modelling of the acoustic emission from the physical mechanism to the AE signal: toward a quantitative analysis.
LYON	**Benoît Ter-Ovanessian** www.linkedin.com/in/benoît-ter-ovanessian-4226771a3	**MATEIS** Matériaux Ingénierie et Sciences Materials Science and Engineering Laboratory	https://mateis.insa-lyon.fr/en	Corrosion, surface reactivity, biomaterials, metallic glasses, Ti-based alloys, Mg-based alloys, powder metallurgy
STRASBOURG	**Georg Koval** https://www.researchgate.net/profile/Georg-Koval-2	**Icube** Laboratoire des sciences de l'ingénieur, de l'informatique et de l'imagerie Engineering science, computer science and imaging laboratory	https://icube.unistra.fr/en/	Granular materials, porous materials, Discrete Element Method (DEM), Computational Fluid Dynamics (CFD), injection, clogging, fracture mechanics.
TOULOUSE	**Hugo Cagnon** https://www.linkedin.com/in/hugo-cagnon-74a5b17a/	**LMDC** Laboratoire Matériaux et Durabilité des Constructions Laboratory for Materials and Construction Durability	https://www.lab-lmdc.fr/	Cementitious materials, air permeability, creep, shrinkage, Bio-geobased materials, Raw earth-hemp, Water transfer, Drying kinetics, Microbial growth
TOULOUSE	**Narintsoa Ranaivomanana**	**LMDC** Laboratoire Matériaux et Durabilité des Constructions Laboratory for Materials and Construction Durability	https://www.lab-lmdc.fr/	Non-destructive testing, concrete, raw earth, acoustic emission, permittivity, acoustic methods

MATERIALS SCIENCE & ENGINEERING

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
TOULOUSE	**Frédéric Duprat** https://www.linkedin.com/in/frederic-duprat-b255524a/	**LMDC** Laboratoire Matériaux et Durabilité des Constructions Laboratory for Materials and Construction Durability	https://www.lab-lmdc.fr/en/le-laboratoire-english/	Durability of concrete infrastructures Structural resilience to climate change Probabilistic assessment of structural reliability Rehabilitation of structural heritage
TOULOUSE	**Thomas Blon** https://lpcno.insa-toulouse.fr/research-groups/nanomagnetism/	**LPCNO** Laboratoire de Physique et Chimie des Nano-Objets Laboratory of Physics and Chemistry of Nano-Objects	https://lpcno.insa-toulouse.fr/en/	spintronics, van der Waals materials, magnetic van der Waals materials, graphene, hBN, spin-orbit torques
TOULOUSE	**Cédric Robert** https://lpcno.insa-toulouse.fr/equipes/optoelectronique-quantique/membres-de-lequipe/	**LPCNO** Laboratoire de Physique et Chimie des Nano-Objets Laboratory of Physics and Chemistry of Nano-Objects	https://lpcno.insa-toulouse.fr/en/	2D materials, optical spectroscopy, quantum technologies, transition metal dichalcogenides, hexagonal boron nitride, sliding ferroelectricity
TOULOUSE	**Simon Tricard** https://lpcno.insa-toulouse.fr/annuaire/	**LPCNO** Laboratoire de physique et chimie des nano-objets Laboratory of physics and chemistry of nano-objects	https://lpcno.insa-toulouse.fr/fr/	Hybrid systems, hybrid materials, nanocomposites, nanostructuration, nanoparticles, functionnal molecules, neuromorphic electronics, photocatalysis, nanomedecine.
TOULOUSE	**Pierre Fau** https://lpcno.insa-toulouse.fr/equipes/nanostructures-et-chimie-organometallique/membres-de-lequipe-nco/	**LPCNO** Laboratoire de Physique et Chimie des Nano-Objets Laboratory of Physics and Chemistry of Nano-Objects	https://lpcno.insa-toulouse.fr/en/	Photocatalysis, NOx pollution abatement, nano oxyde synthesis, metalorganic chemistry, metal nanoparticles, surface plasmon, nanocomposite M(Au, Ag, Cu)@MOx (TiO2, ZnO, SiO2) powders.
TOULOUSE	**Julie Hot**	**LMDC** Laboratoire Matériaux et Durabilité des Constructions Laboratory of Materials and Durability of Constructions	https://www.lab-lmdc.fr/	indoor air quality, photocatalysis, NOx depollution, semiconductor oxides (e.g. TiO2, ZnO), metallic nanoparticles decoration (e.g. Au, Ag)

PHYSICS & MATHEMATICS

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS	ADDITIONAL DETAILS
LYON	**Camille Sonneville** https://cv.hal.science/camille-sonneville	**Ampère** Laboratoire Ampère Ampère Laboratory	http://www.ampere-lab.fr/	physical characterization, micro-Raman Spectroscopy, Deep Level transient spectroscopy, power electronic, reliability , wide-band-gap semi-conductor, GaN, SiC, Diamond, Ga2O3	Subject: Physical and electrical characterization of wide-bandgap and ultra-wide-bandgap semiconductors for power electronics applications. We are looking for highly motivated post-doctoral fellow with solid experience in physical characterization and/or wide band gap semiconductor devices. Cleanroom experience would be welcome.
HAUTS-DE-FRANCE	**Matthias Taufer** https://www.uphf.fr/ceramaths/membres/taufer_matthias	**CERAMATHS** Laboratoire de matériaux céramiques et de mathématiques Laboratory of Ceramic Materials and Mathematics	https://www.uphf.fr/ceramaths	Mathematical modelling of additive manufacturing, heat equation, control theory, parabolic equations, mathematical Physics, spectral theory	
LYON	**Marco Valerio D'Agostino** https://geomas.insa-lyon.fr/content/marco-valerio-dagostino	**GEOMAS** Géomécanique, Matériaux, Structures Laboratory of Geomechanics, Materials and Structures	https://geomas.insa-lyon.fr	Condensed matter physics, Mathematical-physics, K-theory, C^*-algebras, Groupoids, Differential geometry, Algebraic topology, Quasi-crystals	
LYON	**Brice Gautier** https://www.linkedin.com/in/brice-gautier-15ab8711/	**INL** Institut des Nanotechnologies de Lyon Lyon Institute of Nanotechnologies	https://inl.cnrs.fr/	Ferroelectric thin films growth Ferroelectric memories Ferroelectric transistors Neuromorphic memories X-ray Photoelectron Microscopy Atomic Force Microscopy Piezoresponse Force Microscopy Multi-scale Electrical characterization X-Ray Diffraction Phase field simulation	

PHYSICS & MATHEMATICS

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
TOULOUSE	**Tristan Benoist** https://tbenoist.perso.math.cnrs.fr	**IMT** Institut de Mathématiques de Toulouse Toulouse Mathematics Institute	https://math.univ-toulouse.fr	Quantum Mechanics, Quantum Measurements, Stochastic Thermodynamics, Probability, Operator Algebra
TOULOUSE	**Francesco Costantino** https://www.math.univ-toulouse.fr/~fcostant/	**IMT** Institut de Mathématiques de Toulouse Toulouse Mathematics Institute	https://www.math.univ-toulouse.fr/fr/	Quantum Topology, Topological Quantum field theories, quantum algebra, knot invariants, mapping class group representations, 3-manifold invariants, 4-manifolds invariants

TELECOMMUNICATION

INSA	SUPERVISOR'S NAME & RESEARCH PROFILE	LABORATORY	LABORATORY WEBSITE	RESEARCH KEYWORDS
LYON	**Clémentine Gritti** https://perso.citi-lab.fr/cgritti/	**CITI** Centre d'Innovation en Télécommunications et Intégration de services Centre of Innovation In Telecommunications and Integration of Service	https://www.citi-lab.fr/	cryptography differential privacy machine/federated/decentralized learning
LYON	**Razvan Stanica** https://perso.citi.insa-lyon.fr/rstanica/index.html	**CITI** Centre d'Innovation en Télécommunications et Intégration de services Center for Innovation in Telecommunications and Service Integration	https://www.citi-lab.fr	mobile networks human mobility analysis
LYON	**Stéphane Frénot** http://perso.citi.insa-lyon.fr/sfrenot/	**CITI** Centre d'Innovation en Télécommunications et Intégration de services Center for Innovation in Telecommunications and Service Integration	http://www.citi-lab.fr/	Virtualization & containerization, k8s, high-performance computing
LYON	**Fabrice Valois** https://perso.citi-lab.fr/fvalois/	**CITI** Centre d'Innovation en Télécommunications et Intégration de services Center for Innovation in Telecommunications and Service Integration	https://www.citi-lab.fr/	Wireless networking, wireless mobile and cellular networks, IoT networks, mobile base stations integration, 5G / Beyong 5G / 6G networks, Wi-Fi.