

27TH DOCTORAL SCHOOL OF CHEMICAL SCIENCES DAY

THURSDAY, APRIL 3RD 2025
8:30 AM – 5:30 PM

AGORA, DOMAINE DU HAUT-CARRÉ
43 RUE PIERRE NOAILLES, TALENCE

OVERVIEW OF THE DAY :

Poster sessions

2nd year PhD students



Oral communications

3rd year PhD students

**Presentation from the
SCF and ADOC student
association**



Science Speed Meeting

**PLENARY TALK : ROLE OF COORDINATION CHEMISTRY IN
UNDERSTANDING ALZHEIMER'S DISEASE**

Dr. Christelle HUREAU
CNRS Silver Medal 2024



**DR CNRS | Coordination Chemistry Laboratory
Université de Toulouse**



DAY PROGRAMME

8:30 AM

Opening speech by
Laurent Servant VP RI

8:45 AM

Association presentation
(SCF, ADOC,...)

9:05 AM

First poster session
(1 -> 26)

9:50 AM

Coffee break

10:05 AM

3rd year oral
communications

11:00 AM

Second poster session
(27 -> 53)

11:45 AM

Science Speed Meeting

12:30 PM

Lunch
(only for registered people)

2 PM

Plenary talk
Dr. Christelle HUREAU

3 PM

Third poster session
(54 -> 80)

3:45 PM

Coffee break

4 PM

3rd year oral
communications

4:45 PM

Feedback

5 PM

Open science
communication

5:15 PM

Award ceremony and
closing discussion



Société Chimique de France



École doctorale
Sciences chimiques / université
de BORDEAUX

PLENARY TALK

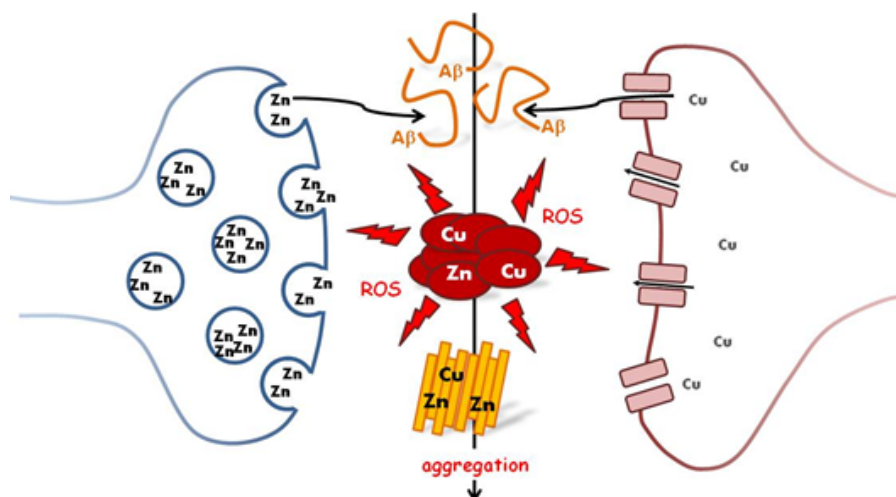
Apport de la chimie de coordination à une meilleure compréhension de la maladie d'Alzheimer et à une meilleure conception de candidats médicaments

C. Hureau

Univ. Toulouse, LCC, CNRS, UPR 8241, 31400 Toulouse, France

*christelle.hureau@lcc-toulouse.fr

La maladie d'Alzheimer (MA) est une maladie neurodégénérative caractérisée post-mortem par des dépôts amyloïdes constitués d'agrégats de peptides amyloïdes- β ($A\beta$) et contenant des niveaux élevés d'ions métalliques Cu, Zn et Fe. Les ions métalliques ont été impliqués dans des processus précoces liés au développement de la maladie, à savoir la modulation de l'auto-assemblage des peptides $A\beta$ mais aussi la participation au stress oxydant, via la production d'espèces réactives de l'oxygène (ERO) induite par le complexe $Cu(A\beta)$. Ces effets seront présentés à l'échelle moléculaire (production de ERO) et supra-moléculaire (auto-assemblage peptidique). Des approches thérapeutiques seront également illustrées, visant en particulier la chélation des ions Cu versus Zn.





3RD YEAR PHD STUDENTS ORAL COMMUNICATIONS

Morning session

10:05 am - Thomas DARDE (LCPO) | Organic catalysis for polymerization of alkyl muconates as a bio-based alternative of acrylates

10:20 am - Carine ASSAF (CBMN) | Development of Atomic Force Microscopy related modes for the study of plasma membrane repair

10:32 am - Anaïs LUTON (CBMN/IECB) | An approach to convert linear pentapeptide ligands of the bacterial sliding clamp into constrained macrocyclic inhibitors

Afternoon session

4:00 pm - Josianne OWONA (ISM/DIPC) | Computational Insights into Room Temperature Phosphorescence of Carbazole and the Impact of Aggregation

4:15 pm - Henri COSTE (ICMCB) | Tailoring the surface chemistry of nanoparticles to modulate their Protein Corona

4:30 pm - Vivien WILLEMS (CRPP) | Out-of-equilibrium giant unilamellar vesicles as a model for cell-inspired microswimmers



1	Paméla	DE LA FUENTE	CBMN/IECB	Chiral plasmonic nanostructures towards assymetric plasmon induced catalysis
2	Seamoon	DEB	CBMN/IECB	Reconstitution and structure-function investigation of regulated cell death signalosomes encapsulated in protocells
3	Frank	NGUETSOP	CBMN/IECB	Structural study of a synaptic vesicle protein and its interaction with lipid membranes by Nuclear Magnetic Resonance (NMR)
4	Abigail	POPE	ICMCB	Recycling spent Li-ion battery cathodes: a direct recycling approach
5	Charlotte	Moreau	ICMCB	Coating of layered oxide particles with Supercritical Fluid Chemical Deposition process for Li-ion battery
6	Jordan	SETTA	ICMCB	Development of an innovative abusive nail test method to be representative of an internal short-circuit of a lithium-ion cell
7	Cardinaud	Antonin	CRPP	Hairball Engineering
8	Qifan	XUE	CBMN/IECB	Design, synthesis and applications of an aromatic oligoamide duplexes
9	Hugo	LABARRERE	ICMCB	Deposition and sintering of Ba1-xSrxTiO3 for tunable radiofrequency devices realization
10	Younes	MASSAD	ISM	Photocatalyzed Oxidation of Oximes using visible light
11	Zaid	Sawalmeh	LCPO	Designing of Multilayer Structures for Solution-Processable OrganicLight-Emitting Diodes (OLEDs)
12	Valentin	Lehuédé	LCPO	High-performance bio-based aromatic thermosets for aerospace
13	Siwan	BLANCHER	ICMCB/I2M	LASER surface texturing for srutural bonding of metal alloys
14	Mickaël	Du Fraysseix	LCPO	Synthesis of self-healing poly(dimethylsiloxane) and their stability under proton irradiation
15	Charlotte	METRAL	ICMCB	Fabrication and characterization of silver-based contact materials with graphene+graphite reinforcements
16	Laetitia	VARAJAO	CBMN/IECB	Design, synthesis and evaluation of DNA-binding mimics of c-Fos/c-Jun transcription factor in anti-cancer therapy
17	Fabyan	Soulard	CBMN/IECB	Synthesis of proteomimetic structures based on foldamers
18	Alix	LEEPINLAUSKY	LOF	Flow Of concentrated suspensions under Vibrations
19	Julien	Renaudeau	LOF	Transient osmotic flows in a microfluidic channel: measurement of solute permeability and reflection coefficients
20	Salma	Serghini	ISM	Green hydrogen delivery: what is the most sustainable storage and transportation option?
21	Charles	CIAMBRONE	ISM	Fluorescence delayed twice? The mysterious case of TADF antenna-lanthanide ion complexes.
22	Amin	EL JARROUDI HAMMOU	ISM	Functional polypeptidic nanoparticles
23	Quentin	ROUYER	ICMCB	Na4Fe3(P04)2P207 a Mixed Phosphate and Pyrophosphate Material for Na-ion Batteries: Challenges and Perspectives
24	Héliante	Torre	ICMCB	New-Generation of Blue Pigments: Mn ²⁺ doped Chromophore for Enhanced Color and Luminescence
25	Loubna	EL FEDYL	ISM	Benzophenone - Copper dual photocatalysis supported on classical and mesoporous silica for the anilines α -amino C-H bonds alkylation
26	Dounya	FRAH	ISM	Hydrogen storage in mixed hydrates: effect of perchloric acid on thermodynamics
27	Benjamin	Dumoulin	CEA/ICMCB	Solid electrolyte interfaces protection through ALD coatings
28	Victor	LANCRENON	LCTS	Identification of the damage mechanisms in a ceramic matrix composite / protection {CMC-EBC} system under tensile test
29	Alexandre	MOUNÉRAT	LCTS	Controlled growth by CVD and characterization of 3D-architected BN films in model channel pores
30	Gabrielle	SÈVE	LCTS	Development of CVD environmental barrier coating in the Yb-Si-O ternary system
31	Alexia	ARAUJO	LCPO/CRPP	Asymmetric patchy particles from combined colloidal and block copolymer assembly
32	Nadia	BENCHAREF	ICMCB/IMS	Optimizing low temperature Spark Plasma Sintering of KNN ceramics: microstructure and properties relationships
33	Gabin	LALANDE	ISM	Photoinduced reduction and deuteration of aryl halides with NHC-borane
34	Yi	LI	ISM	The supply risk evolution of raw materials for hydrogen production
35	Luka	Perrin	ISM/IECB	Bioorthogonal fluorogenic cyclooctynes for glycans imaging
36	Bastien	Lopez	LCPO	Synthesis of monomers from biobased precursors and polymerization to obtain biodegradable polymer
37	Swagata	Dutta	ICMCB/LCPON	New inorganic-polymer composite materials for the positive electrode of asymmetric supercapacitors
38	Chloé	Manseau	LCPO	Self-propelled artificial cells for drug delivery
39	Ines	Kelkoul	LP2iB	Cryo-Correlative Imaging of Proteins and Metals: A Synchrotron-Based Approach for Neurotoxicology Studies
40	Quentin	Saros	ISM	Leveraging the Selena-Kemp reaction for the efficient synthesis of functionalized selenides

41	Gabriel	Coulombe	ISM	*O-Labeled singlet oxygen and substituted cyclopentadienes: winning combination for versatile syntheses of [*O2]oxylipins
42	Nicolas	Yéyé	ISM	Singlet oxygen modular receptors for hydrogen-bonding organocatalysis
43	Alice	Delhaes	LCPO	Fermenter-based Production of Elastin-like Polypeptides Aimed at Chemical Post-modifications
44	Xin	Wu	ISM	Spatiotemporally Resolved Fluorescence-Based Electrochemical Sensing via Confocal Microscopy and Microstructured Optical Fiber Electrodes
45	Charline	Dechamps	ARNA	Water-friendly Azolium Derivatives for NHC-Organocatalysis in aqueous media
46	Prashanth	Sivakumar	ICMCB	Synergistic morphology controlled P2/O3 structural type sodium layered oxides for Na-ion batteries
47	Silvia	Spagnoli	ISM	Shedding Light on the Self-Assembly of a Fluorescent Molecular Gelator
48	Anna	Papaioannou	ISM	PAINT Super-Resolution Microscopy of Self-Assembled Low Molecular-Weight Gelator Nanofibers
49	Rohit	Kumar	ISM	Photochemical Control of Gel Formation and Disassembly mediated by Singlet Oxygen
50	Quentin	Dubois	EPOC	Contamination of ecosystems by fluoroalkyl substances: Multi-method study of PFAS contamination at a fire-training site
51	Jouke	Fleege	CRPP	Towards terephthalonitrile-radical-bridged metal-organic molecular architectures
52	Gorann	Lepied	ARNA	Development of multivalent aptamers targeting gastric cancer cells
53	Chidaine	Cléo	ARNA	DNA nanostructure based on an aptaswitch/aptakiss interaction
54	Parfait	KENFACK YMBE	CRPP	Adsorption and enzymatic activity of myeloperoxidase and glucose oxidase and their bifunctional chimeras on silicone model surfaces
55	Philippe	Nguyen	CRPP	Phytoplankton Tetraselmis suecica as an active matter model to probe soft matter
56	Guillaume	Sanchez	LCTS	Impact of oxidation on the properties of C/C-SiC composites
57	Changlin	Zhou	ISM	Photoelectrochemical Charge Transfer Imaging at Nanoscale Catalysts
58	Emilie	Martins	ICMCB	O3-type layered oxides in the NaFe1/3Ni1/3Mn1/3O2 system for sodium-ion battery applications.
59	Srividhyadevi	CHANDRASEKARAN	ICMCB	Inducing Steric Strain to Enhance T(LIESST): A Synthetic and DFT Study on Coordination Sphere Distortion
60	Jiao	WANG	IECB/CBMN	RNAse S engineering using ligand-directed bioconjugation
61	Kévin	Balaire	ISM	Methodological development of a [2+2] cyclodimerization of ortho-quinonoids: Towards the total synthesis of sclerocitrin
62	Ashish Kumar	Rajayan	CRPP	Lignin based flow electrochemistry for energy storage applications
63	Marine	Lavainne	ISM	Near-infrared electrochemiluminescent luminophores for biosensing and bioimaging
64	Mohamed	El Botakmanti	CRPP	Chiral Co(II)-based materials towards Ferroelectric Single-Molecule Magnets
65	Jeaniero Johann Andriamahavalinarivo	RALAITSIZAFY ANDRIANJAFETRA	ICMCB	Study of the interface of LiNi1/2Mn3/2O4 spinel electrode material with a carbonate-free LiFSI electrolyte
66	Riccardo	SAVASTANO	ISM	Quantitative precipitation of wine polysaccharides: an optimization study using Central Composite Design
67	Miguel	Ceja	ICMCB	Composition-Structure-Property Relationships in Ternary Metal Halide A3MX6 Ceramic Electrolytes
68	Lucas	ROCCO	ICMCB	Infiltrated oxygen electrode for Protonic Ceramic Fuel Cell (PCFC)
69	Adeline	Coeugnet	CBMN	Impact of membrane polyunsaturated fatty acids on cannabinoid type 1 receptor pharmacology
70	Florian	Brunet-Coy	ICMCB	Electrochemical diagnosis of SOFC cells incorporating reference electrodes
71	Elliott	Demenois	LCTS	Modeling the manufacturing process of silicon oxinitride matrix composites
72	Alexandre	EL MELHOUI	LCTS	Innovative way of developing composites based on ultra-refractory ceramics for aerospace applications
73	Ramzi	CHELLALI	CBMN	sRAGE, A Potential Therapeutic Approach to hIAPP Amyloid Fibrillation and Toxicity
74	Ahmad Kamal	KAMALI	ISM	Is it Really "Green"? Antisolvents for the Perovskite Solar Cell Production
75	Julien	BROC-CASALENGO	IECB/CBMN	Nanoscale Characterization of Tau Amyloids
76	Sorasak	KLINYOD	NSysA	Rational design of Janus redox catalysts for simultaneous monomer synthesis and polymerization
77	Freboeuf	Louis	ISM	When Thermodynamics Meets Industrial Ecology: A Critical Analysis of Resource Efficiency and LCA Interactions
78	Paul	SAINT-AMAND	LCPO	Design of hybrid silica-polymer colloids for electrophoretic inks with structural colours
79	Najib	EL RHAZFOURI	ICMCB	Microstructure and Hydrogen Storage Properties of Mg-Gd-Ni Alloys Containing LPSO Phases
80	Zhengxin	XU	LCPO	Catalytic metallic coacervates by electrostatic assembly of polymerized ionic liquids-stabilized nanoparticles