

CONGRÈS JUNIOR PLURIDISCIPLINAIRE DE L'UNIVERSITÉ PARIS-SACLAY

8 JUIN 2023

PROGRAM

POUSSES DE CHERCHEUR·EUSES
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GRADUATE SCHOOL
Métiers de la Recherche
et de l'Enseignement
Supérieur

CONGRÈS JUNIOR PLURIDISCIPLINAIRE

Welcome to the 2023 University Paris-Saclay Pluridisciplinary Junior Conference!

The conference is organized by the **Graduate School Métiers de la Recherche et de l'Enseignement Supérieur (MRES)** with the help of the organizing, scientific and junior committees presented below.

Organizing Committee:

- Laure-Lise Chapellet (ENS Paris-Saclay, Chemistry) **Junior Conference Manager**
- Stéphanie Nowak (GS MRES) **Administrative assistant**
- Sarah Cohen-Boulakia (UFR Sciences, Computer Science)
- Nathalie Corbalan (AgroParisTech, Research and technology transfer)
- Bich-Liên Doan (CentraleSupélec, Computer Science)
- Keitaro Nakatani (ENS Paris-Saclay, Chemistry)
- Christine Duvaux-Ponter (AgroParisTech, Animal Science and Director of Doctoral Studies) **GS Deputy Director**
- Anne Lafosse (Université Paris-Saclay, Chemistry) **GS Deputy Director**
- David Néron (ENS Paris-Saclay, Mechanics) **GS Director**



Scientific Committee: The scientific committee is composed of the organization committee and members representing different graduate schools or 1st degree College of Paris-Saclay University.

- Pascal Aubert (École Universitaire de 1^{er} cycle, Université Paris-Saclay, Physics)
- Eddy Dumas (GS Chimie, Université de Versailles St-Quentin-en-Yvelines, Chemistry)
- Stefan Haar (GS Informatique et sciences du numérique, INRIA/ENS Paris-Saclay, Computer Science)
- Maryse Bresson (GS Education, Formation Enseignement, UVSQ, Sociology)
- Delphine Mika (GS Health and Drug, Université Paris-Saclay, Pharmacy)
- Pascale Rialland (GS Life Sciences and Health, ENS Paris-Saclay, Biology)
- Jean-Marie Mirebeau (GS Mathématiques, Université Paris-Saclay, Mathematics)
- Sylvain Gautier (GS Santé Publique, UVSQ, Medecine)
- Elodie Bethoux (GS Sociologie et Sciences Politiques, UVSQ, Sociology)
- Rafael Munoz Tamayo (GS Biosphéra, INRAE, Biology)

Junior Committee: The Junior Committee is composed of students helping in both the organization and the evaluation of the different presentations.

- Aka Doche (M2 AgroParisTech, Award winner of the 2022 the Junior Conference)
- Audrey Pollien (M1 ENS Paris-Saclay, Award winner 2022, elected member of the GS MRES council)
- Orianne de la Cropte de Chanterac (M1 AgroParisTech, elected member of the GS MRES council)
- Daniela Torres Diaz (PhD Student Université Paris-Saclay, elected member of the GS MRES council)
- Josué Moreau (PhD Student ENS Paris-Saclay, Award winner 2022, elected member of the GS MRES council)
- Léo Kunlinski (Student ENS Paris-Saclay et Award winner of the 2022 the Junior Conference)
- Jullien Mallétroit (PhD Student Paris-Saclay)
- Léa Chocron ((PhD Student Paris-Saclay)

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The conference takes place at the **ENS Paris-Saclay** that has kindly made available some of its resources (**human, technical and financial**) to help with the organization

The conference is also organized with the **financial support** of the **Institut DATAIA**.



You can find all the abstracts corresponding to the oral, poster and video presentation by visiting the conference webpage where you can click on the titles (<https://www.universite-paris-saclay.fr/gs-mres-congres-junior>) or by scanning the following flashcode:



For each category (oral presentation, poster, video) there is a prize awarded by the audience. **Please vote (votes closing at 19h45)** by visiting the conference webpage (<https://www.universite-paris-saclay.fr/gs-mres-congres-junior>) or by scanning the following flashcode:



The videos will be displayed among the oral presentations and are always available by scanning the flashcodes that are displayed among the posters. **All videos are eligible for the awards**, be sure to watch them before you vote.

In this program, the oral presentations are indexed from **O1 to O55** and presented like this:

O1	Student name	Presentation Title	Academic level	Institution	Individual or group presentation
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Videos are indexed from **V1 to V11** and presented like this:

V1	Student name	Presentation Title	Academic level	Institution	Individual or group presentation
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Posters are indexed from **P1 to P32** and presented like this:

P1	Student name	Presentation Title	Academic level	Institution	Individual or group presentation
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CONGRÈS JUNIOR PLURIDISCIPLINAIRE

12h30 – 13h30 Registration and poster session **Hall Emmy Noether**

Plenary session Lecture Hall Alain Aspect 13h30 – 16h15

13h30 – 14h Opening remarks and introduction

14h – 16h15 Oral presentations and 4 videos

O1	Amine Bouidder	Synthesis of <i>Sinapoylagmatin</i> , a Phytopathogen Infection Biomarker	M1	Université Paris-Saclay	Individual presentation
O2	Gauthier Debuisschert and Matthieu Deschamps	One electron reduced density matrix for molecular crystals at given temperature	M1	CentraleSupélec	Group presentation
V5	Pietri Mélanie	Production of biofuels from renewable resources: study of the sensitivity of microalgae to electroporation	M2	École normale supérieure Paris-Saclay	Individual presentation
O3	Guillaume Barre	Creation of artificial intelligence applied to the study of goat behaviour	L3	AgroParisTech	Individual presentation
O4	Lola Leblond	Comparative law of animal protection in France and India	L3	Université de Versailles St-Quentin-en-Yvelines	Individual presentation
O5	Arnaud Feyel and Mathilde Lieury	Spherical designs	L3	Université Paris-Saclay	Group presentation
O6	Esther Gilles, Aida Boukamel, Meyssa Beghdad, Pauline Vittaz, Ben Hamou–Kuijpers Elsa, Chaouat Elsa and Beure Nathan	Psonyx, a new virus discovered by undergraduate biology students	L3	Université Paris-Saclay	Group presentation
V8	Lise Estournet, Inès Mezghani, Audrey Pollien and Nina Villette	Aggregation-induced fluorescence emission and mechanoluminescence	M1	Université Paris-Saclay and École normale supérieure Paris-Saclay	Group presentation
O7	Natacha Marjanovic	"Be proud, and loud": linguistic markers of pride in drag queens' spoken discourse	M2	École normale supérieure Paris-Saclay	Individual presentation
O8	Clémence Sebe	Information extraction of scientific workflows from English articles	M2	Université Paris-Saclay	Individual presentation
O9	Camille Faber	Finding an attractive kairomone for the biological control of <i>Eurytoma amygdali</i> , the almond wasp	M2	Université Paris-Saclay	Individual presentation
V7	Jamy Lafenetre	Real-time super-resolution: an explainable, hallucination-free alternative to deep learning	M1	École normale supérieure Paris-Saclay	Individual presentation
O10	Charlotte Janson	Saving differently: between citizen commitment and financial pragmatism. The case of the CIGALES	M2	École normale supérieure Paris-Saclay	Individual presentation

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O11	Solène Delaporte	Controlling structural stability through chemical functionalization in molybdenum-based metal-organic cages	M2	École normale supérieure Paris-Saclay	Individual presentation
O12	Valentin Henriet	Quantitative pH mapping in skeletal muscle by MRI: application to neuromuscular diseases	M2	Université Paris-Saclay	Individual presentation
V6	Marie Jérôme	Analysis of the circadian rhythm of <i>Drosophila</i> flies	M2	CentraleSupélec	Individual presentation
O13	Tristan Gamot	Wheat pathogen adaptation and early warning signals in an agro-eco-evolutionary model	M2	École normale supérieure Paris-Saclay	Individual presentation
O14	George Marchment	Similarity of scientific workflows	M2	Université Paris-Saclay	Individual presentation

16h15 – 17h30 Poster session / Coffee break

Hall Emmy Noether

All the posters will be displayed during the whole session. However, students are expected to be present next to their posters to explain them according to the following schedule:

- **16h30 – 17h Presentation of posters with an even number**
- **17h – 17h30 Presentation of posters with an odd number**

17h30 – 19h30 Oral presentations in three parallel sessions in Lecture Hall Alain Aspect and the two Lecture Halls Simondon 1 and 2

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Parallel session Lecture Hall Alain Aspect 17h30 – 19h30

O15	Etienne Cochard et Loïc Feneyrou	Hilbert's demonstration of Waring's problem	L3	Université Paris-Saclay	Group presentation
O16	Maximilien Rouanet	Les carrières scolaires, processus co-construit, générateur d'inégalités ?	L3	Université de Versailles St-Quentin-en-Yvelines	Individual presentation
V9	Elizabeth Ruiz	Study of strategies and geometric parameters in repair by wire deposition	M1	École normale supérieure Paris-Saclay	Individual presentation
O17	Jean-Josué Tokpo	Factors affecting the transmission rate of the COVID-19	M1	Université Paris-Saclay	Individual presentation
O18	Noémie Worbe et Quentin Marquant	Eosinophil's role in interstitial lung disease	M2	Université Paris-Saclay	Group presentation
O19	Mathilde le Gressus	The Eden effect of roadless areas: Can roadless areas improve species conservation status?	M2	Université Paris-Saclay	Individual presentation
V11	Vivien Ducros	Study of the c-join operation	M1	École normale supérieure Paris-Saclay	Individual presentation
O20	Mélina Scopin	Targeting TASK-3 leak potassium channels in mesial temporal lobe epilepsy	M2	Université Paris-Saclay	Individual presentation
O21	Louis Védrine	Discrete element study of size effect in quasi-brittle structures	M2	École normale supérieure Paris-Saclay	Individual presentation
O22	Baptiste Arnaud	Deciphering CAR-T cell dynamics in solid tumors <i>in vivo</i>	M2	École normale supérieure Paris-Saclay	Individual presentation
O23	Paul Patault	Dynamic formal verification	M2	École normale supérieure Paris-Saclay	Individual presentation
V10	Moncef El Moatamid	Surrogate-based aerodynamic shape optimization of centrifugal compressors	M2	CentraleSupélec	Individual presentation
O24	Sarah Manoury Battais	3D chromatin conformation and epigenetic alterations involved in Ewing Sarcoma	M2	École normale supérieure Paris-Saclay	Individual presentation
O25	Morgane Joly	Peptides analysis using liquid chromatography coupled with mass spectrometry (LC-MS) in the context of osteoarthritis	M2	Université Paris-Saclay	Individual presentation
O26	Baptiste Lorenzi	Characterization of the contextual modulation of layer 1 interneuron activity during sensory processing	M2	CentraleSupélec	Individual presentation
O27	Olivier Brisset	Comparative study of historical demography in two Columbidae species: the Mauritian pink pigeon (<i>Nesoenas mayeri</i>) and the Madagascar turtle dove (<i>Nesoenas picturata</i>)	M2	Université Paris-Saclay	Individual presentation

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Parallel session in English Lecture Hall Simondon 1 17h30 – 19h30

O28	Lucie-Garance Barot	Study of the drought stress response among a maize panel	L3	AgroParisTech	Individual presentation
O29	Yaelle Aidan	Investigating the role of Nucleoporin 93 in breast cancer metastasis	L3	École normale supérieure Paris-Saclay	Individual presentation
O30	Théo Prats Rioufol	Ultra-low consumption neural network	L3	CentraleSupélec	Individual presentation
V2	Baptiste Piguet	Replication stress mapping in aged cells	M2	École normale supérieure Paris-Saclay	Individual presentation
O31	Nina Granger	"The fabled damned of nations": America, poetic ethos and decay in Allen Ginsberg's reading of Walt Whitman	M1	École normale supérieure Paris-Saclay	Individual presentation
O32	Eva Dumesnil	Which role has pollinators for our food security?	M1	AgroParisTech	Individual presentation
O33	Mathieu Lordez	Pluridisciplinary study of photo-switchable glycomacrocycles for metallic ions complexation	M1	École normale supérieure Paris-Saclay	Individual presentation
O34	Luc Grasset et Théo Perrot	Experimental characterization of added-mass force in dry granular matter	M1	École normale supérieure Paris-Saclay	Group presentation
O35	Romane Moreau	A sociophonetic study of Scottish rock bands' pronunciation	M1	École normale supérieure Paris-Saclay	Individual presentation
V1	Victor Lopes de Souza	Geometric group theory for everyone	M2	CentraleSupélec	Individual presentation
O36	Maxime Coca	Evaluation of the effects of a 24-hour exposure to cold and heat on the determinants of food intake	M2	Université Paris-Saclay	Individual presentation
O37	Jennifer Calderon Mora	Probing the fluorescence of conjugated polymers in the vicinity of a plasmonic substrate	M2	Université Paris-Saclay	Individual presentation
O38	Sadia Akter Prity	Identification PARP (poly-ADP ribose polymerases) functions in NAD ⁺ -dependent acclimation to excess light in <i>Arabidopsis thaliana</i>	M2	Université Paris-Saclay	Individual presentation
O39	Pei Sun	Numerical modeling of the mechanical behavior of paper	M2	Université Paris-Saclay	Individual presentation
O40	Ellen Acquonoo Gyasi	Flash irradiation: beneficial or not for non-specific immunity?	M2	Université Paris-Saclay	Individual presentation
O41	Md Amit Hasan	Monitoring motor neuron activity to decode behavior using calcium imaging in <i>Drosophila</i> larvae	M2	Université Paris-Saclay	Individual presentation

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Parallel session Lecture Hall Simondon 2 17h30 – 19h30

O42	Audrey Pollien	New photogenerated DNA intercalators for therapeutic purposes	M1	École normale supérieure Paris-Saclay	Individual presentation
O43	Quentin Giton	From satellites to microscopes, unmix data with deep learning	M1	Université Paris-Saclay	Individual presentation
O44	Clara Martinot	Investigation of ultra-rapid hypothermia through the total liquid ventilation of lungs	M1	AgroParisTech	Individual presentation
V4	Lilian Seyve et Jad Zeroual	How will quantum computers break your bank security?	M2	CentraleSupélec	Group presentation
O45	Jules Ducept	The political economy of green transition: evidence from EU allocation to French municipalities	M2	Université Paris-Saclay	Individual presentation
O46	Hélène Lubrano Di Scampamorte	Study of the parameters impacting the degradation of Aurora kinase A by PROTACs	M2	École normale supérieure Paris-Saclay	Individual presentation
O47	Gaëtan Serré	An overview of integral estimation methods	M2	École normale supérieure Paris-Saclay	Individual presentation
O48	Aissatu Balde Camara	Male infertility in Down syndrome: study of testicular cell subpopulations by ScRNAseq in mouse models	M2	Université de Versailles St-Quentin-en-Yvelines	Individual presentation
O49	Bora Guloren	Effect of reiterated high-intensity exercise on salivary biomarkers for top-elite athletes	M2	Université Paris-Saclay	Individual presentation
V3	Arthur Colin et Thibault de Varax	Causes and consequences of soil salinisation	M2	CentraleSupélec	Group presentation
O50	Corentin Le Floc'h	Study of the IL2-RG/JAK3 pathway in the immune response to human papillomavirus	M2	École normale supérieure Paris-Saclay	Individual presentation
O51	Émile Larroque	If you please – draw me a quantum algorithm!	M2	École normale supérieure Paris-Saclay	Individual presentation
O52	Laury Batista	Laser plasma acceleration - modelling the nonlinear laser wakefield using a fluid approach	M2	Université Paris-Saclay	Individual presentation
O53	Margot Kandel	Analysis of the impact of NAD+ levels on water stress resistance in Canola and Arabidopsis	M2	Université Paris-Saclay	Individual presentation
O54	Yannis Monbru	Towards automatic Diagram chasing	M2	École normale supérieure Paris-Saclay	Individual presentation
O55	Guillaume Blondy	Pancreatic cancer: how sugars can help in the diagnostic	M2	École normale supérieure Paris-Saclay	Individual presentation

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19h30 – 20h30 Cocktail

Hall Emmy Noether

Starting at 20h30 Award ceremony

Hall Emmy Noether

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List of posters

P1	Lou-Léna Vrignaud	Antiviral activities of monoclonal antibodies targeting SARS-CoV-2 Spike protein	M2	École normale supérieure Paris-Saclay	Individual presentation
P2	Luca Froger	Developing a sequent calculus in an abstract formalism: bringing back constructivity	M2	CentraleSupélec	Group presentation
P3	Hélène Lubrano Di Scampamorte	Molecular and functional study of the modulation of ASIC by endogenous lipids	M2	École normale supérieure Paris-Saclay	Individual presentation
P4	Léa Couvidat	What causes powder floating or submergence? An experimental study	M2	AgroParisTech	Individual presentation
P5	Baptiste Ortheau Alberti	Microbiology to design the school of the future	M1	Université Paris-Saclay	Individual presentation
P6	Gauthier Debuisschert et Matthieu Deschamps	One electron reduced density matrix for molecular crystals at given temperature	M1	CentraleSupélec	Group presentation
P7	Nicolas Arrault	Electrochemistry for electricity storage: new battery technologies	M2	École normale supérieure Paris-Saclay	Individual presentation
P8	Ademola Adeniji	Supercapacitors based on tetrazine functionalized graphene	M2	Université Paris-Saclay	Individual presentation
P9	Daphné Hamilton-Jones	Workshops for Transitions towards low-carbon futures	M2	École normale supérieure Paris-Saclay	Individual presentation
P10	Shangaya Touraivane	Nanoscale characterization of precursor damage in pathological dentin	M2	École normale supérieure Paris-Saclay	Individual presentation
P11	Youssef El Hussein	Determination of phospholipids isomerism by MS/MS And IMS in the presence of copper	M2	Université Paris-Saclay	Individual presentation
P12	Leonard Darbeau	A history of football in all its aspects	M1	École normale supérieure Paris-Saclay	Group presentation
P13	Léonie Parisot	A one-electron density matrix in the multipolar model	L3	CentraleSupélec	Individual presentation
P14	Lucas Jacquier	Prediction of Mediterranean fish occurrence by machine learning	M2	École normale supérieure Paris-Saclay	Individual presentation
P15	Samy Delalay	Role of PARP1 on cardiac mitochondrial biogenesis and influence of biological sex	M2	Université Paris-Saclay	Group presentation
P16	Rafael Saucedo Lopez	Assessment of SAMHD1 and OAS1 interaction in the context of HIV-1 and 2 infection	M1	Université Paris-Saclay	Individual presentation
P17	Marie Delrieu	Statistical study of Brazilian plant-pollinator networks	L3	AgroParisTech	Group presentation

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P18	Théo Ternier	Overlaying 2D and 3D datasets to better understand the structure of spatial grains	M1	Université Paris-Saclay	Individual presentation
P19	Clémentin Léron	Design of civil supersonic transport aircraft: use of an automation chain to reduce environmental impacts	M1	CentraleSupélec	Individual presentation
P20	John Carlos	Localization of Glycerophospholipid's double bond by mass spectrometry with alternative activation methods to collision-induced dissociation	M2	Université Paris-Saclay	Individual presentation
P21	Camille Fourcault	Effect of obesity on endometrial receptivity mediated by extracellular vesicles	M2	Université Paris-Saclay	Individual presentation
P22	Armel Tene Tesse	Effect of the stranding operation on the mechanical properties of drawn wires	M2	École normale supérieure Paris-Saclay	Individual presentation
P23	Lindsay Goulet	Automatic detection of contaminated metagenomic samples	M2	Université Paris-Saclay	Individual presentation
P24	Jay Solanki	Photon sphere and shadow of a time-dependent black hole described by a Vaidya metric	M1	Université Paris-Saclay	Individual presentation
P25	Yousma Aboudou, Maysem Hachim, et Océane Menguy	Discovery of new compounds with antibiotic properties by combinatorial chemistry	M1	Université Paris-Saclay	Group presentation
P26	Pascale Bou Fadel	Study of oral comfort provided by natural salivary substitutes when swallowing food	M1	AgroParisTech	Individual presentation
P27	Gaspard Blondet	Coupling plasticity and damage: towards a cohesive crack model	M2	École normale supérieure Paris-Saclay	Individual presentation
P28	Ludovic Trautmann	Multichromatic radar interferometry for 3D reconstruction	M2	CentraleSupélec	Individual presentation
P29	Esther Gilles, Aida Boukamel, Meyssa Beghdad, Pauline Vittaz, Ben Hamou–Kuijpers Elsa, Chaouat Elsa et Beure Nathan	Psonyx, a new virus discovered by undergraduate biology students	L3	Université Paris-Saclay	Group presentation
P30	Pablo Castro	Model of activity propagation in conscious and unconscious states in primates' brains	M2	Université Paris-Saclay	Individual presentation
P31	Thomas Hobbs	The effect of metabolic alkalosis on the acute changes in mitochondrial respiration and lactate transport following high intensity exercise	M2	Université Paris-Saclay	Individual presentation
P32	Emeric Hartmann et Martin Cesbron	Electrostatic actuation for an electro-caloric cooling system	M1	École normale supérieure Paris-Saclay	Group presentation

CONGRÈS JUNIOR PLURIDISCIPLINAIRE

List of videos

V1	Victor Lopes de Souza	Geometric group theory for everyone	M2	CentraleSupélec	Individual presentation
V2	Baptiste Piguet	Replication stress mapping in aged cells	M2	École normale supérieure Paris-Saclay	Individual presentation
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