

Activity report 2023



RÉPUBLIQUE
FRANÇAISE

*Liberté
Égalité
Fraternité*



Université
Gustave Eiffel

The President's Editorial

Whether on a local or national level, our ability to steer projects for sustainable cities is well-established

"Our relationships with socio-economic stakeholders have taken on a new dimension"



In a complicated global context with ever greater budgetary restrictions, Université Gustave Eiffel has been able to forge its own path and demonstrate consistent action. Our projects and results help promote and establish our approach as an institution within the landscape of higher education and research. This is extremely satisfying. It is now a question of having a long-term vision and making informed decisions to continue to help society evolve, providing training, spreading knowledge and supporting transitions in a challenging period.

The university co-steered two major national projects, the Mobidec and VDBI Priority Research Programmes and Equipment (PEPR), and accompanied around forty sustainable city projects through the Sci-city programme, demonstrating our ability to pilot and lead research and innovation projects, on a local and national level, including on behalf of groups of institutions.

Through the PRRD scheme, supported by the France Relance recovery plan, and CityFab, a project selected for France 2030, our relationships with socioeconomic stakeholders have also taken on a new dimension. This helps strengthen and structure our capacity for action, in our usual missions and through transformative research, training and innovation projects.

There were also internal developments during 2023, specifically with closer relations between our schools and shifts in our digital processes and tools. We made solid progress on the trajectory that we set ourselves and the next stages are clear. As part of the process to exit the experimentation phase, scheduled for January 2025, we have planned a self-evaluation ahead of the visit and report on the institution's future by the High Council for the Evaluation of Research and Higher Education (Hcéres).

There were also the student elections, which demonstrated our students' continued investment in university life, as well as renovation works for our property assets to improve our energy efficiency, and sustainable development initiatives coordinated by the DD&RS Mission on all our campuses.

"Improved structure of our range of courses"

Learning remains a strength of our institution. We have also improved the structure of our range of courses, in particular with the ESIPÉ/ESIEE Paris merger and in the field of urban engineering with EIVP. Internationally, the institution continues to maintain and develop excellent partnerships, including a new venture with UN-Habitat in Tunisia, as part of the Milestones for Sustainable Real Estate Development (JDID) project.

Lastly, just like our public policy support initiatives, our open science approach helps promote the university in other spheres and show our openness to the world, in service of society.

GILLES ROUSSEL
President of Université Gustave Eiffel

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Much more than a university

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Continuing a common history that began over 20 years ago

Our university was created in 2020 based on an innovative model bringing together for the first time in France the trio of university, schools and a research organisation.

We are the result of a common history launched more than 20 years ago between a university (UPEM),* a research organisation (IFSTTAR),* three engineering schools (ESIEE Paris,* ENSG,* EIVP*) and an architecture school (Éav&t).*

By pooling our many strengths in the fields of training and research, we create better synergy, broaden our range of skills and thus meet our ambition of transforming lives and cities.

Université Gustave Eiffel is notably responsible for the FUTURE I-SITE project: preparing the transformation and sustainable adaptation of cities and territories.

By 2050, according to the UN, 70% of the world's population will be living in urban areas and we will have to face the pressing challenges of urbanisation while maintaining the social, economic, environmental and climate balance of the planet.

Our responses to societal, environmental and climate challenges

Looking to the different disciplines and breaking down barriers between them

Faced with these major challenges, at Université Gustave Eiffel we are breaking down the barriers between disciplines in order to produce innovative knowledge to serve future transformations. We analyse, research and make deductions in order to propose solutions while constantly confronting and questioning all disciplines including science and technology, human and social sciences, economics and architecture.

Training and supporting future generations to reinvent the world of today and imagine the world of tomorrow

Training students, helping them to innovate and create with a view to reinventing the world of the future is an essential mission of the Université Gustave Eiffel project. In order to reflect on and solve these societal and environmental challenges, we are committed to supporting and accompanying future generations, the enlightened and committed generations of citizens, those who make up the world of today and are building the world of tomorrow.

Acting as a bridge for our students to the socioeconomic world

We provide a bridge between the academic and socioeconomic worlds, and are the leading French university in terms of apprenticeships. We adapt our courses to socioeconomic issues and offer them at all ages and stages of life. As the leader in France in the field of sustainable cities, we alone represent ¼ of French research in this field. We are part of 15 international research and training networks.

Informing society and public policy decision-making and developing together with our partners

We are knowledge brokers and have a mission to enlighten society as a whole. We work hand in hand with public and socioeconomic actors to invent cities in which women and men can live better, together, and become actors of change.

Bringing together committed and creative staff

On our various campuses throughout the country, we bring together curious, creative and committed women and men who strive every day to create a better societal and environmental future.

"Training students, helping them to innovate and create with a view to reinventing the world of the future is an essential mission of the Université Gustave Eiffel project."



* UPEM (University of Paris-Est Marne-la-Vallée)
 IFSTTAR (French Institute of Science and Technology for Transport, Development and Networks)
 ENSG (National School of Geographical Sciences)
 EIVP (Paris School of Urban Engineering)
 Eav&t (Paris - Est School of Architecture for the City and Territories)
 I-SITE FUTURE: a scientific and institutional project initially led by Université Paris-Est (UPE) and developed alongside seven members and associates.

Nationwide presence

In addition to its main location in eastern Paris, Université Gustave Eiffel is also present in regional locations that enable it to fulfil its training and research mission. This multi-location presence is both a particularity and an asset in affirming the national ambition of the institution. Each campus belongs to a territorial ecosystem, allowing us to increase our collective capacity to be and act with, on the one hand:

- a national perspective on subjects and objects;
- an ability to promote scaling up and to support the development of industries;
- an ability to provide learning spaces and attract partnerships;

and on the other hand:

- the power to bring people together and collaborate through interweaving ecosystems;
- an ability to cross-reference needs and skills within a network;
- an ability to support public action in the development of common actions and in the definition of their regulatory framework, as close as possible to territorial expectations.

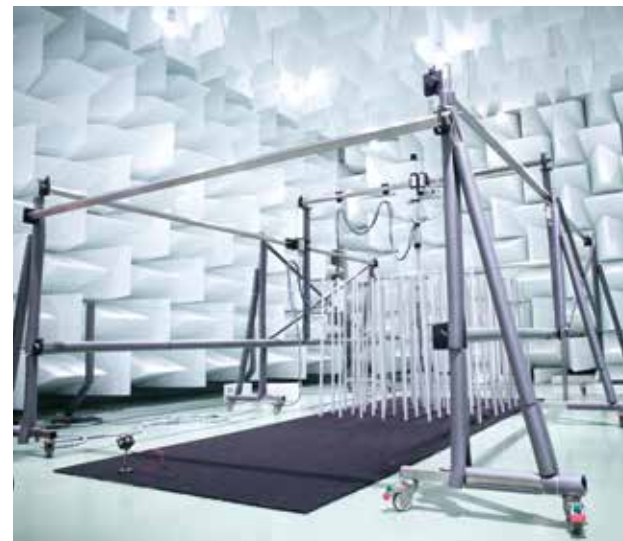
Apprenticeship

Université Gustave Eiffel is the leading university in France in terms of apprenticeship training, with more than a quarter of its students on apprenticeships. For more than fifteen years, through its various components and institutions, it has been developing apprenticeships in many courses, promoting both a teaching method based on work-study programmes and the employability and professional integration of students.

"Supporting pedagogical innovation: this is one of the ambitions of Université Gustave Eiffel."

Pedagogical innovation

Supporting pedagogical innovation: this is one of the ambitions of Université Gustave Eiffel. This action is based in particular on our Centre for Pedagogical and Digital Innovation (CIPEN), which works to develop internal competence in supporting teachers, the attractiveness and international scope of training programmes, entrepreneurship and courses of excellence.



Manège de fatigue, campus de Nantes
© Myr Muratet

Transformative projects

Transformative projects aim to support and promote the University's missions and the careers of its staff through an approach based on decompartmentalisation and synergy with the objective of building a community. They are cross-disciplinary projects, creators of synergies between missions and/or individuals and leaders of development for individuals, missions and the local areas around the different campuses. Their transformative nature can also be appreciated with regard to the university's responsibility toward the local territories of its campuses and society as a whole. Transformative projects include several major programmes in the framework of national strategies concerning higher education and research, such as the Investments for the Future Plan. The I-SITE FUTURE project and its associated LABEX organisations, the "GP-DS" SFRI project, the "AMI" IDEeS project and the "City-Fab" ExcellencES project are all transformative initiatives.

Scientific platforms

Designing and manufacturing micro sensors? Experimenting with new urban mobility technology? Assessing the performance of urban equipment and materials? Université Gustave Eiffel has a wide range of scientific facilities, otherwise known as platforms, which enable it to develop high-level research and expertise. Some of these are deemed to be "outstanding facilities". These are rare facilities that enable the university to conduct original research, experiments and/or trials, facilities that are linked to a significant scientific output (theses, publications, research reports, etc.), facilities that are essential to research structures in implementing their scientific priorities, facilities that bring together major partnerships or networks for the university, and facilities that back up training programmes with practice. These platforms concentrate projects, skills and resources, and are at the service of students, researchers, local authorities, public authorities and companies (start-ups, SMEs, large groups, etc.). They provide them with high-level resources, promote collaboration and enable them to conduct original research, experiments and/or trials in the following areas:

- infrastructure and materials;
- transport infrastructure and security;
- environment and territories;
- components and systems;
- mobility and simulation;
- driving simulators.

Their purpose: research, experimentation but also innovation and knowledge transfer.



Management bodies, the Directorate General of Services and committees

Governance

Governance centres around the President and a set of vice-presidencies and missions. Among them, there are two flagship missions of social commitment:

- #### • The Equality Mission

This mission is tasked with promoting gender equality within the institution and, more generally, respect for people of all sexes and genders, regardless of their sexual orientation, ethnicity or religion. The main scope of its work covers support, prevention, training and communication.

- #### • The Sustainable Development and Social Responsibility (DD&RS) Mission

Its objective is to raise awareness of environmental issues among the institution's staff and users and to work towards sustainable development. The University aims to obtain the DD&RS label (a CSR commitment accreditation for universities and graduate schools) in 2022-2023.

Board of Directors

The Board of Directors is the governing body of the university and determines its strategy and general orientations. It is composed of 34 members: 15 elected members, 11 ex officio members and 8 external members.

Academic Council

The Academic Council represents the staff and users of the institution and deliberates on matters of education and research. In particular, it guarantees the link between research and teaching. The Academic Council is composed of 71 to 75 members, including 60 elected officials, 10 external members and 1 to 4 staff representatives.

Student Parliament

This Parliament is a unique body in the French university landscape. It was created by and for students, and is composed solely of students elected within the components and other bodies, as well as students from the university's associations. Its mission is to contribute to the well-being of students, both in their training and in their daily lives, by supporting projects ranging from the organisation of cultural events to the development of student life.

The Directorate General of Services (DGS)

The DGS is responsible for the management, organisation and operation of the administrative, financial and technical services of the institution. It contributes to the development of the institution's policies and ensures their operational implementation. The DGS designs, implements and monitors the institution's performance indicators in the areas of administrative, financial and asset management, human resources and information systems.

Technical Committees and Health, Safety and Working Conditions Committees

The Technical Committee is a consultation body dealing with questions and draft texts relating to the organisation and operation of services, issues surrounding staff numbers, jobs and skills and special statute drafts. The Health, Safety and Working Conditions Committee, another consultation body, is responsible for protecting the physical and mental health of staff and their safety in the workplace, and helps to improve working conditions.

Université Gustave Eiffel has a technical committee and a health, safety and working conditions committee for the institution, which are responsible for issues relating to the merged institutions, as well as a technical committee and a health, safety and working conditions committee common to the university, its component institutions and its member schools, which deal with common issues.

For their own issues, the component institutions and the member schools are not covered by the joint technical committee and health, safety and working conditions committee and have their own bodies.

The Social Action Committee

Université Gustave Eiffel has a Social Action Committee responsible for contributing to the definition of the social action policy to be implemented for the university's active and retired staff.

This committee studies and proposes measures relating to the organisation and management of social action as well as its improvement and development. It is responsible for all matters relating to social action and is tasked with drawing up an assessment of the situation, carrying out a survey of social needs and making proposals to the administration.



Training components

15 training components, schools, training units, institutes:

- **2 component institutions:**
 - Paris School of Urban Engineering (EIVP)
 - Paris-Est School of Architecture for the City and Territories (Éav&t)
- **2 member schools:**
 - National School of Geographical Sciences (ENSG – Géomatique)
 - Paris School of Electronic and Electrotechnical Engineering (ESIEE Paris)
- **6 training and research units (UFR):**
 - Mathematics
 - Literature, Arts, Creation and Technology (LACT)
 - Languages, Culture and Society (LCS)
 - Economics and Management Sciences (SEG)
 - Human and Social Sciences (SHS)
 - Sciences and Techniques of Sports and Physical Activities (STAPS)
- **5 institutes:**
 - University Technology Institute (IUT)
 - Gaspard Monge Institute of Electronics and Computer Science (IGM)
 - Ile-de-France Institute of Service Engineering (IFIS)
 - Ile-de-France Institute of Applied Sciences (IFSA)
 - French Institute of Urban Planning (IFU), also called Paris School of Urban Planning (EUP)

Campus de Marne-la-Vallée
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Research components

33 research components, laboratories, teams, departments, institutes:

- Comparative Power Analysis Laboratory (ACP)
- Observatory of Suburban Condition Team (OCS)
- Information and Communication Devices in the Digital Age Laboratory (Dicen)
- Research Team on the Use of Individual Data in Economic Theory (ERUDITE)
- Urban Planning Laboratory (Lab'Urba)
- Techniques, Territories and Societies Laboratory (Latts)
- Cities, Mobility, Transport Laboratory (LVMT)
- Hannah Arendt Interdisciplinary Laboratory for the Study of Politics (LIPHA)
- Interdisciplinary Laboratory for Science, Innovation and Society (LISIS)
- Electronics, Communication Systems and Microsystems Laboratory (ESYCOM)
- Laboratory of Analysis and Applied Mathematics (LAMA)
- Gaspard Monge Computer Science Laboratory (LIGM)
- Geographic Information Science and Technology Laboratory



Campus de Marne-la-Vallée
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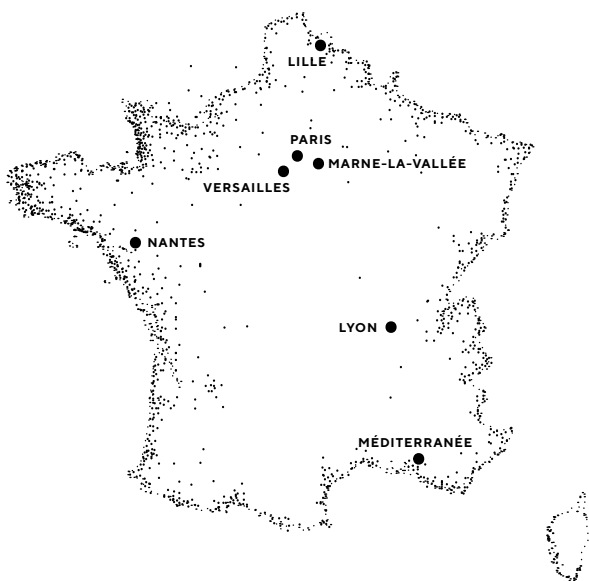
- (LASTIG)
- Navier Laboratory
- Geomaterials and Environment Laboratory (LGE)
- Literature, Knowledge and Arts Laboratory (LISAA)
- Institute for Management Research Laboratory (IRG)
- Multi-Scale Modelling and Simulation Laboratory (MSME)
- Applied Biomechanics Laboratory (LBA)
- Laboratory of Biomechanics and Impact Mechanics (LBMC)
- Laboratory of Ergonomics and Cognitive Sciences for Transport (LESCOT)
- Accident Mechanisms Laboratory (LMA)
- Epidemiological Research and Surveillance Unit in Transport, Occupation and Environment (UMRESTTE - Joint Research Unit)
- Systems and Applications of Information and Energy Technologies (SATIE)
- Joint Research Unit in Environmental Acoustics (UMRAE)
- Laboratory of Applied Psychology and Ergonomics (LaPEA)
- Transport and Traffic Engineering Laboratory and Eco-Management of Energy Systems for Transport (LICIT-ECO7)
- Materials for Sustainable Construction (MCD)
- Institute of Earth Sciences (ISTERRE)
- Planning, Mobility and Environment Department (AME)
- Materials and Structures Department (MAST)
- Geotechnics, Environment, Natural Hazards and Earth Sciences Department (GERS)
- Components and Systems Department (COSYS)

7 research and training campuses

Université Gustave Eiffel has several campuses throughout France, including the Marne-la-Vallée campus, just outside Paris, as well as campuses in Paris, Versailles, Lyon, Nantes, Aix-Marseille (Mediterranean) and Lille. There are also premises in Belfort, Brussels, Bordeaux, Grenoble, Meaux and Val d'Europe.

Marne-la-Vallée campus

Most of the training and research components are present here, as well as in Val d'Europe and Meaux. The main research themes are urban planning and transport. Also present are the major fields of study such as Mathematics, Humanities, Languages, Management, Human and Social Sciences, Sciences and Techniques of Sports and Physical Activities and some of the major facilities of our university.



Lille campus

Research themes and contribution to training:

- Spatial planning
- Waves and signals for transport
- Performance and safety of automated transport systems
- Logistics innovations
- Rail

Lyon campus

Research themes and contribution to training:

- Environment and risks
- Health and safety
- Urban worlds
- Infrastructure and innovative mobility

Mediterranean campus

Research themes and contribution to training:

- Risk exposure
 - Accident rate / Road safety
 - Safe facilities and innovative mobility
- Health and engineering for healthcare

Nantes campus

Research themes and contribution to training:

- Infrastructure and innovative mobility
- Marine renewable energy
- Environment and risks
- Circular economy
- Urban worlds

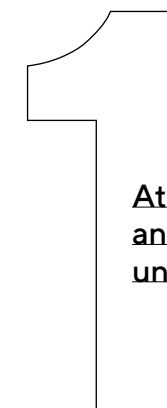
Paris campus

The Paris campus is home to the Paris School of Urban Engineering (EIVP). It is the Grande École of urban engineering and a reference in terms of teaching and research on the themes of sustainable urban development and management.

Versailles campus

Research themes and contribution to training:

- Power electronics
- New urban cyclists
- Vulnerable transport users
- Simulators and virtual reality
- Driverless vehicles and shuttles

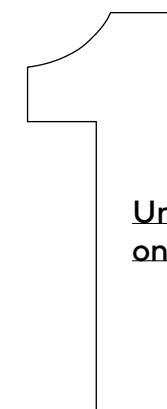


Atypical, pioneering and multidisciplinary university



Major challenges

- Climate change
- Urban resilience
- Economical and frugal urbanisation
- Inclusive and equitable urbanisation
- Sustainable urbanisation for health and well-being



University on a human scale

- 15,553 students
- 3,131 staff members (1,619 women, 1,512 men) including administrative and technical staff, faculty, and PhD students spread between the different member schools:
 - 507 teachers
 - 439 teacher-researchers
 - 298 researchers
 - 1,610 support and service staff
 - 277 PhD students



Ambition

Fairer and more equitable cities

The year was marked by the devolution of I-SITE, showing that the French government recognises the strength of the experimental university's project.

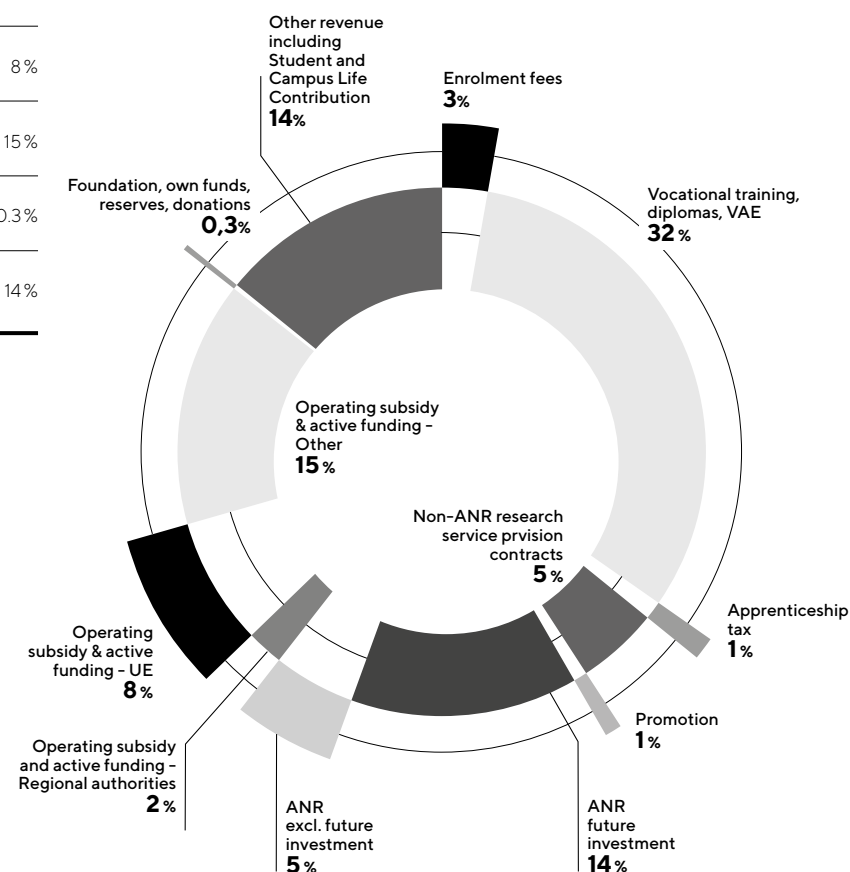
Origin of revenue in millions of euros	Received 2023	% (excl. scsp)
Subsidies in connection with public service	180.2	NA
Enrolment fees	2.7	3%
Vocational training, diplomas, VAE	31.3	32%
Apprenticeship tax	1.1	1%
Non-ANR research service provision contracts	4.8	5%
Promotion	0.56	1%
ANR future investment	13.5	14%
ANR excl. future investment	4.65	5%
Operating subsidy & active funding – Regional authorities	2.4	2%
Operating subsidy & active funding – EU	8.2	8%
Operating subsidy & active funding – Other	15.2	15%
Foundation, own funds, reserves, donations	0.25	0.3%
Other revenue including Student and Campus Life Contribution	13.8	14%
Total	278.7	

Revenue

Revenue increased by 5.6%. The budget balance came to +€6.3m with cash flow at a solid level (€60.9M).

97.8 % of the revenue forecast was fulfilled, i.e. €279 million, an increase of €15M on 2022.

Distribution in %



Expenditure

Expenditure (€275M in commitment authorisations) managed and 86% fulfilled.

Operations in millions of euros	CA spent	%
Initial and vocational training	56.4	28%
Documentation	2.9	1%
Research	90.9	45%
Property	2.8	1%
Steering and support	47.3	24%
Student affairs	1.7	1%
Total	191.4	100%

Payroll costs in millions of euros: €202.0M, 95% fulfilled

CA: commitment authorisations

Payroll costs in millions of euros	CA spent	%
Initial and vocational training	5.98	11%
Documentation	1.39	2%
Research	14.20	26%
Property	17.80	32%
Steering and support	15.54	28%
Student affairs	0.59	1%
Total	55.50	100%

Operations in millions of euros: €55.5M, 74% fulfilled

Payroll costs in millions of euros	CA spent	%
Initial and vocational training	1.69	10%
Documentation	0.02	0%
Research	5.37	32%
Property	8.79	51%
Steering and support	1.16	7%
Student affairs	NA	0%
Total	14.86	100%

Commitment authorisations in investment (€17.0M) 56% spent

Major Prizes



Jennifer Buyck

Unit
LABURBA

Prize
Villa Albertine Laureate

Prize awarded by
Ministry for Europe and Foreign Affairs,
Ministry for Culture

Formelsabelle Panet

Unit
ENSG-Géomatique

Prize
2023 Scientific Grand Prize

Prize awarded by
Fondation Simone and Cino Del Duca from
the France Institute, for the project "*Deep
slab motions over the seismic cycle of great
earthquakes from satellite gravity*"

Appointments at prestigious establishments

Nacima Baron

Unit
LVMT
LVMT

Appointment
Vice-President

Appointed by
· CNFG (National French Geographical
Committee)
· University Institute of France

Sylvain Zeghni

Unit
LVMT

Appointment
Grand Master

Appointed by
French Federation for Human Rights

Pierre Zembri

Unit
LVMT

Appointment
President

Appointed by
Geographical and Environmental Sciences
section of the Committee for Historic
and Scientific Works (CTHS, under the
supervision of the National School of
Charters)

PhD Prizes

Loic Bonnetain

Unit
LICIT-ECO7

Prizes
Abertis Prize + Abertis International Prize

Awarded for
Best transport thesis

Clément Carnielli

Unit
ACP

Prize
Prize in literature, humanities and social
sciences, "all specialisations", for 2023
Chancellor of Paris Universities

Awarded for
*"Non te fidar in stato né richeça?
Fiscalité, citoyenneté et inégalités
durant la seconde commune de Bologne
(1376-1402)", supervised by Giuliano Milano*



Florent Chossière

Unit
ACP

Prizes
· Paris-Est Sup Thesis Prize for the "Cultures
and Societies" doctoral school
· Chancellor of Paris Universities Prize
· Defender of Rights Prize
· National French Geographical Committee
Prize

Awarded for
*"Minorités sexuelles et de genre en exil.
L'expérience minoritaire à l'épreuve
de la migration et de la demande d'asile en
France", supervised by Marianne Blidon
(Université Paris I Panthéon-Sorbonne) and
Serge Weber (Université Gustave Eiffel)*

François Fournier

Unit
LBA

Prize
1st Prize, Doctoral School Day 2023



Hannah Franz

Unit
MAST-SMC

Prizes
· AUGC Thesis Prize (René Houpert Prize)
· CILAC Prize / Young Industrial Heritage
Researchers 2023

Awarded for
· "*Evaluation de la performance structurale
des poutres treillis rivetées dans les halles
de gare de 1850-1930 : entre histoire
et rénovation*"
· CILAC – Information and Liaison Committee
for Archaeology

Félicie Roux

Unit
LABURBA

Prize
Paris-Est Thesis Prize

Awarded for
*"Depuis le quartier, face à l'État : politiser
les inégalités territoriales. Sociogéographie
des contestations parentales en
Seine-Saint-Denis"*

Innovation & Transfer Prizes

Marie-Dominique Van Damme

Unit
LASTIG

Prize
1st Place – People's Choice, GeoDataDays
Challenge 2022

Awarded for
Application for data discovery for
emergency mountain rescues

Léa Zachariou

Unit
LVMT

Prize
People's Choice – "My Thesis in 180
Seconds", Paris-Est Sup Regional Final

Awarded for
*"Enfants à bord! Place(s) et vécu(s) du
déplacement dans les trains"*

Prizes from Learned Societies, Associations and Foundations

Jérémy Bleyer

Unit
NAVIER

Prize
Jean Mandel Prize

Prize awarded by
Materials Centre, École des Mines de Paris, Solid Mechanics Laboratory, École Polytechnique (prize awarded every two years)



Philippe Coussot

Unit
NAVIER

Prize
InterPore Medal for Porous Media Research

Prize awarded by
International Society for Porous Media (INTERPORE)



Laurent Carnis

Unit
LMA

Prize
PIARC France Prize 2023

Prize awarded by
World Road Congress 2023, Prague; "Road Safety" category

Céline Villa

Unit
COSYS-PICSL

Prize
Augustin Fresnel Medal, French Lighting Association

Awarded for
Involvement in the International Commission on Illumination (CIE) and research into glare.

Fabien Menant

Unit
MAST-LAMES

Prize
PIARC France Prize 2023

Prize awarded by
World Road Congress 2023, Prague; "Road Design, Construction, Maintenance and Operation" category

Latifa Oukhellou

Unit
CPSYS-GRETTIA

Prize
Named Senior Member of IEEE

Jules Ronne

Unit
LBMC

Prize
Young Researcher Mobility Grant

Awarded for
Secondment to Bicycle Laboratory (TU Delft)



Franziska Schmidt

Unit
MAST-EMGCU

Prize
AFGC Prize 2022

Prize awarded by
French Civil Engineering Association

Lucile Tuchtan

Unit
LBA

Prize
Charles Massias Prize for Forensics

Jean Sulem

Unit
NAVIER

Prize
Science Achievement Award

Prize awarded by
International Society of Rock Mechanics (ISRM) (prize awarded every two years)

Prizes from Publications, Communications & Conferences

Bernard Host

Unit
LAMA

Prize
Frontiers of Science Award

Prize awarded by
International Congress of Basic Science

Antoine Robichet, François Combes, Patrick Niérat

Unit
AME-SPLOTT

Prize
Best Sustainable Supply Chain Article, 2023



Enoch Saint Jacques

Unit
COSYS-PICSL

Prize
Best Poster Paper, 30th CIE Session (Ljubljana, September 2023)

Awarded for
"Etude de l'évolution des caractéristiques photométriques des revêtements de chaussée en fonction de l'angle d'observation"

Solenn Tual

Unit
LASTIG

Prize
Special Prize, CP IC2023

Awarded for
SoDUCo ANR Project: *"Création d'un graphe de connaissances géohistorique à partir d'annuaires du commerce parisien du 19e siècle : application aux métiers de la photographie"*

Maxim Gibert-Vilas

Unit
LGE

Prize
Best Poster, Water Category, SFGP Conference, Toulouse, 2022

Awarded for
"Réacteur d'électro-oxydation en continu: hydrodynamique, transfert de matière et réactivité"

Karim Bouzaffour, Philippe Talbot, Benoit Lescop, Stephane Rioual, Yannick Falaise, Cheikh Sarr, Sylvain Chataigner, Laurent Gaillet

Unit
MAST-SMC

Prize
Best poster award

Awarded for
Best Poster at the Eurosensors 2023 international conference, Lecce, Italy. (*"RFID Autonomous Sensors for Monitoring Corrosion on Prestressed Concrete Bridges"*)



Xuguang Wang

Unit
LBMC

Prize
Best Paper Award, AHFE 2023

Awarded for
Model of the human body to help design electric bikes

Wei Wei

Unit
LBA

Prize
Best Article, International Forum of Automotive Traffic Safety



High- lights

2022

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JANUARY 2023

The fatigue test carousel goes electric

The fatigue test carousel is a large accelerated pavement testing facility. It is located on the Nantes campus of Université Gustave Eiffel and can test the durability of general pavement construction solutions in reduced time. The facility underwent major works, co-funded by the European Regional Development Fund, the Pays de la Loire Region and Université Gustave Eiffel.



MARCH 2023

20 years of the Cities, Mobility, Transport Laboratory

To mark its 20th anniversary, the Cities, Mobility, Transport Laboratory (LVMT) of Université Gustave Eiffel and École des Ponts ParisTech organised five scientific presentation days on sustainable cities and mobility throughout 2023. These events provided an opportunity for attendees to discover and learn more about the laboratory, which places citizens and users at the heart of its research. The first took place on 16 March 2023, on the Marne-la-Vallée campus.



FEBRUARY 2023

Open Day

In 2023, this annual event dedicated to information and guidance was reinvented: escape games, a campus tour in the form of a quest, and more. Visitors had the opportunity to discover the Marne-la-Vallée campus from a different angle. They were also able to speak with faculty members, students and administrative and technical staff about the courses on offer, the study experience and student life.



MARCH 2023

Eco-Festival

Every year, Université Gustave Eiffel organises a number of fun initiatives to raise awareness of sustainable development and corporate social responsibility among members of the university. The events include various themed workshops, such as composting and plant-swapping.



MARCH 2023

Center for World University Ranking (CWUR)

Université Gustave Eiffel considerably improved its position in the international ranking, rising from 802nd place in 2021, to 660th place in 2022, and finally reaching 597th place this year. This puts it in the top 3% of universities worldwide. This significant progress demonstrates the institution's ongoing commitment to academic excellence and teaching quality.



APRIL 2023

FORCOVD project: for lifelong learning

ForcoVD was selected as part of the France 2030 call for projects titled "Acceleration of Development Strategies for Higher Education and Research Institutions". The project was launched on 1 September 2023 and runs until August 2029, in partnership with France Villes et Territoires Durables and Efficacity. It aims to raise awareness, provide training and help professionals and local authorities develop their skills in relation to the challenges of sustainable cities, by offering a range of courses based on latest research findings.



MAY 2023

Launch of the Sustainable Cities and Innovative Buildings PEPR

On 24 May 2023, the launch event for the Priority Research Programme and Equipment was held on the university's Marne-la-Vallée campus. The "Sustainable Cities and Innovative Buildings" (VDBI) PEPR is run by the CNRS and Université Gustave Eiffel. It aims to accelerate the transition by helping build a community capable of handling the issues involved in creating sustainable cities and innovative buildings from a scientific and technical perspective.



MAY 2023

IUF Conference on evolution

From 23 to 25 May 2023, Université Gustave Eiffel organised and hosted the University Institute of France (IUF) Conference on the theme of evolution. The year's theme was proposed by our institution and chosen by the IUF because of its cross-disciplinary nature. For the first time in Île-de-France, speakers from all over the world opened the debate on the interdisciplinary theme of evolution.



JUNE 2023

Launch of the eRoadMontBlanc project

This ambitious research project, worth more than €20 million, is led by Autoroutes et Tunnel du Mont-Blanc (ATMB), in consortium with Université Gustave Eiffel, Alstom, Pronergy and Greenmot. Its aim is to test an electric road solution using a conductor rail on the ground in the Chamonix-Mont Blanc Valley and demonstrate the capabilities of this technology, with a view to developing an electric road system to decarbonise long-distance mobility in France, and even in Europe, by 2030.



JUNE 2023

Student Pride

On 1 June 2023, the Student Parliament and Student Vice-Presidency of Université Gustave Eiffel joined forces to hold the second edition of University Pride. For the occasion, a number of the university's departments and associations offered activities throughout the day. Around fifty students and staff took part in the campus pride march.



JULY 2023

The Olympic Village: a laboratory of innovations for sustainable cities?

The Université Gustave Eiffel Foundation and the Partners' Club co-organised a conference on the theme of the Olympic Village. This event, the Foundation's first, took place at the Paris School of Urban Engineering (EIVP).

It featured a round table, titled "The Olympic Village: A Laboratory of Innovations for Sustainable Cities?" and moderated by Michèle Pappalardo, President of the Université Gustave Eiffel Foundation, in the presence of a number of partners.



JULY 2023

ONDES report on university course selection and gender inequalities in the labour market

On Monday 10 July 2023, the National Observatory of Discrimination and Equality in Higher Education (ONDES) presented the results of its latest research report, titled "Gender and Course Selection: From University to Employment". A number of speakers discussed the conclusions presented by Louis Erb at the Marne-la-Vallée campus of Université Gustave Eiffel.



OCTOBER 2023

Rentr'Eiffel

From 3 to 5 October 2023, the Université Gustave Eiffel held its first orientation days for the student community. Attendees were able to enjoy a packed programme of events, including concerts, a jumble sale, laser tag, a photobooth and a student association evening.



OCTOBER 2023

Sport and science: working up a sweat at Fête de la Science

In 2023, Fête de la Science, the popular French national science festival, took place from 6 to 16 October. This year, the spotlight was on sport, in homage to the Paris 2024 Olympic and Paralympic Games.



NOVEMBER 2023

The Shanghai Ranking

The Shanghai Ranking is an annual ranking of the world's universities. For the third year running, the Université Gustave Eiffel scored well in 9 of the 54 themed rankings, and in particular, ranked 1st in Civil Engineering in France.

NOVEMBER 2023

EIVP 5th in the ChangeNOW ranking

In the 3rd edition of the ChangeNOW ranking by Les Echos Start, EIVP was ranked 5th among engineering schools committed to the ecological and social transition.



DECEMBER 2023

Launch of the "Digitalisation and Decarbonisation of Mobility" PEPR

Co-run by IFP Energies Nouvelles (IFPEN) and Université Gustave Eiffel on behalf of the French government, and funded by France 2030, the "Digitalisation and Decarbonisation of Mobilities" (MOBIDEC) Research Programme (PEPR) was launched on 6 December 2023. It aims to understand and predict mobility behaviours of goods and people, facilitate data interpretation and processing and provide decision-making tools.



DECEMBER 2023

Historic film night for the Eiffel centenary

To celebrate the 100-year anniversary of Gustave Eiffel's death, the university held an evening of "period cinema", with screenings of rare films dating from 1900 to 1923, accompanied by an orchestra. The event was created and organised by Carole Arouet, Professor of Film and Audiovisual Studies at Université Gustave Eiffel.



ONDES highlights gender inequalities in university course selection

Choice of Master's specialisation has a major impact on gender inequality in the labour market. This decision explains more than 70% of the gap in access to stable jobs between women and men, and more than half of the gender pay gap. Here is the conclusion of the report, titled, "University Course Selection Explains the Majority of Gender Inequalities in the Labour Market", by Louis-Alexandre Erb, Research Officer at DARES and PhD student at Université Gustave Eiffel. The study was supported by the National Observatory of Discrimination and Equality in Higher Education (ONDES) and presented at an event on 10 July 2023.

Based on data collected from 107,000 students as part of the national survey on the professional integration of university Master's graduates, the report documents the gender breakdown across all higher education course areas, including at the more detailed level of specialisations. It reveals that "the disciplinary segregation within Master's courses leads to a high concentration of women in disciplines and specialisations with the most unfavourable employment conditions". For example, within the discipline of "Management Sciences", women are more represented in the specialisations of "Human Resources" and "Marketing", and men in "Finance" and "Accounting".

Four high-profile reports

In 2023, ONDES organised two other events to promote research into discrimination in higher education: on 9 March, for the study Access to Enrolment in Master's: the Effects of Gender and Origin, and on 13 November for the REMEDE survey (Extensive Report on Institutional Anti-Discrimination and Equality Measures). "These events are also an opportunity to bring together our institutional partners (the Defender of Rights, DILCRAH, etc.) and associations (SOS Racisme, LICRA, La Cordée, etc.) and collectively determine which actions should be taken to address the report findings", says Yannick L'Horty, economist and ONDES Director.

ONDES was launched in 2022 as part of the university's Action Plan for Equality, and is co-run by Université Gustave Eiffel and France Universités, with financial support from the local education authority, the Ministry for Higher Education and Research and the Defender of Rights. In 2023, the Observatory published four research reports, with the results receiving wide media coverage in outlets such as Le Monde, L'Étudiant, Le Parisien and AEF info.



find out more

<https://ondes.univ-gustave-eiffel.fr>

Evolution at the heart of the transdisciplinary IUF Conference

Each year on a different campus, the University Institute of France (IUF) invites representatives from a variety of disciplines to come together for a conference on a single theme. In 2023, the conference was hosted for the first time in Île-de-France, by Université Gustave Eiffel, and the theme was evolution. Transversal in nature, this subject was proposed by the event's co-organisers:* Gisèle Séginger, Professor of Literature and founder of the LISAA Laboratory, and Julien Yvonnet, Professor of Mechanics and Co-Director of the MSME Laboratory (as traditionally, the scientific programming of the conference is carried out by a pair of researchers from the social sciences and the exact sciences). The notion of evolution was greatly theorised in the 19th century, a particular period of focus in Gisèle Séginger's work. It has been the subject of countless debates with epistemological, ideological and political implications.

"The aim was to offer a high-level scientific event that would be open to the general public, but also to raise the profile of Université Gustave Eiffel," says Gisèle Séginger. Mission accomplished, for the conference held from 23 to 25 May in the Bienvenue building at Champs-sur-Marne campus. The question of evolution was developed across three plenary lectures, as well as in 32 papers – most of which will be included in a book published by Éditions Matériologiques – presenting approaches from disciplines such as psychology, mathematics, law, philosophy, medicine and literature. The challenge for the speakers was to satisfy both their peers and non-specialists in the audience. The rich programme was complemented by two cultural interludes: a talk by members of Oulipo and a performance by the Quatuor PhiloGaïa Orchestra of an original

work by Nobuaki Fuji, vulcanology specialist, IUF member, composer and conductor. The concert was greatly appreciated and illustrated the transdisciplinary ambitions of the conference.

find out more

<https://iuf2023.sciencesconf.org>



"Who knows what the ideal city of tomorrow will look like? The SEville University Innovation Hub (PUI) will bring together players in the fields of health, the environment and cities, with the aim of having an international impact and providing a systemic response to the challenges of transforming our economies in favour of the climate, biodiversity and health.

SEville aims to give opportunities to local talent and leaders of projects that want to scale up, such as a pilot project for sustainable construction."

Frédéric Bourquin,
1st Vice-President of Paris-Est Sup
and Coordinator of SEville PUI

SEville PUI: boosting the socio-economic impact of innovation projects

Its name refers to a commitment made in Seville in 2019 by governments determined to place local action at the heart of the global development agenda. It also reflects the three themes that make the project unique: Health ("Santé"), the Environment and Cities ("Villes"). The SEville project was awarded the University Innovation Hub (PUI) label in September 2023 as part of a call for projects for the France 2030 programme. Like the 28 other projects selected, it aims to "strengthen the role of universities in structuring an effective local innovation ecosystem". With a budget of €2.5 million, the SEville PUI brings together a consortium of seven founding bodies: the Paris-Est COMUE (lead partner), Université Gustave Eiffel, Université Paris-Est Créteil, École des Ponts ParisTech, École Nationale Vétérinaire d'Alfort, CNRS and technology transfer acceleration company Erganeo, along with 21

regional partners (local authorities, clusters, institutes for energy transition, etc.). It offers them the opportunity to better structure their innovation and transfer policies and programmes at the interface between health, the environment and cities.

The local support offered by SEville is reflected in an action plan that includes opening up experimentation platforms to businesses, strengthening co-innovations with local authorities and identifying and supporting new projects by laboratories or those already involved in France 2030 programmes. *"SEville brings together around 100 laboratories, including 30 UMRs,"* says Frédéric Bourquin, 1st Vice-President of Paris-Est Sup and SEville PUI Coordinator. *"It will help coordinate existing innovation initiatives, in order to amplify them and give them greater socioeconomic impact. In conjunction with partners such as the Department of Val-de-Marne and Efficacy, projects are already taking shape on the topics of urban revegetation and digital tools for the low-carbon transition of territories."*

find out more

<https://urls.fr/irnfNC>

PUI SEville launch day.
© Vincent Gerbet

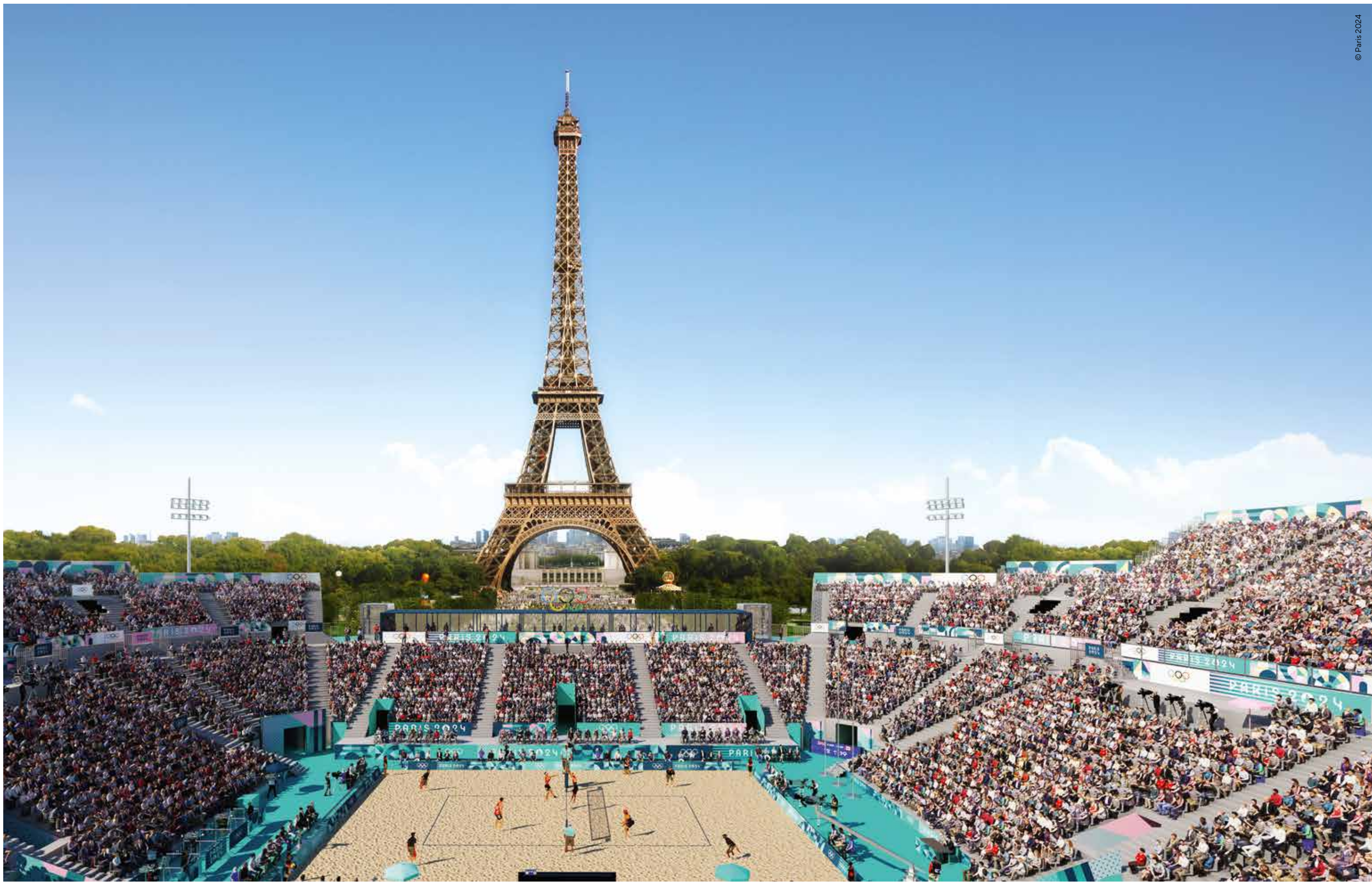


* with the support of the Departmental Council, the Paris - Vallée de la Marne Conurbation, and the City of Paris, and in collaboration with the Literature, Arts, Creation and Technology UFR, the IMSE and LVMT Laboratories and Paris-Est Sup.



In the lead-up to the Paris 2024 Olympic and Paralympic Games, our researchers, PhD candidates and students have carried out a range of analyses, expert appraisals and scientific outreach work. Read on for an overview of their contributions, plus the profile of a student who qualified to compete in the canoe slalom events at the Olympics.

Focus Olympic Games



What will be the legacy of the Paris 2024 Olympics?

How do Parisians and tourists see the Paris 2024 Olympic Games? Can the Olympics change the image of a territory? How will local and regional authorities handle this global event? Will hosting the Olympics increase physical exercise and sport among the population? These are all questions that researchers at the Observatory for Research on Mega-Events (ORME) have been tackling since 2017. ORME is a tool designed to analyse and evaluate the effects of global, transformative events, founded by four Université Gustave Eiffel researchers – Cécile Collinet, Marie Delaplace, Yannick L'Horty and Pierre-Olaf Schut – with the support of the Urban Futures Labex and I-Site FUTURE.

The Observatory for Research on Mega-Events (ORME) was created in 2017 when Paris won the Olympic bid, bringing together researchers to analyse and evaluate the changes that hosting the Olympic Games may bring to the capital.

© Paris 2024 / Mirco Magliocca



The Observatory is particularly interested in the legacy of the Paris 2024 Olympic Games. *"It's a question of the infrastructural, tangible and intangible benefits (change in the area's image, employability of volunteers, 'swimmability' of the Seine, etc.) that the event can bring to the host city. This is the argument put forward by the IOC in its communications to encourage countries to organise these events, which are very expensive and highly controversial. With ORME, our aim is to be a central player in evalua-*



© Paris 2024

find out more
www.u-orme.fr

ting this legacy," says Marie Delaplace, Co-Director of the Observatory and Emeritus Professor of Urban Planning at Université Gustave Eiffel (Lab'Urba). ORME's research is structured around six issues to analyse the possible consequences of the Olympics: environmental, economic, social, sporting, territorial and urban, and tourism.

To achieve this goal, the Observatory has created a research dynamic, supports stakeholders such as local authorities, and offers research actions, diagnostic initiatives, project support and partnerships. The researchers have worked with the City of Paris, the departments of Seine-Saint-Denis and Seine-et-Marne, the Organising Committee of the Olympic Games, as well as academic players such as University of French Polynesia. "For example, we carried out research on the social legacy of the Games, the legacy for Seine-Saint-Denis and Île-de-France, the barriers and levers to sporting activity for people with disabilities, the image of Paris, the social acceptability of the surfing events at Teahupo'o, and women and sport in public space. Some of the results were presented to funding bodies as well as the Interministerial Delegation for the Olympic and Paralympic Games (DIJOP). This has given rise to a number of publications and a new book, 'Planning the Paris 2024 Olympic Games', which is due to be published before the Olympics," says Marie Delaplace.

"The Observatory aims to be a key player for bringing together researchers and facilitating exchanges with stakeholders."

In 2023, Les Echos du Savoir podcast (produced by the university's Knowledge Sharing and Openness to Society Department) devoted a series of episodes to the theme of sport.

One of the episodes featured Alexia Gignon, a PhD student at Lab'Urba, who presented her work on the new developments in eastern Paris created for the Olympics.

A long-term view of the developments in eastern Paris for the Olympics

The imposing Arena stadium, the Athletes' and Media Villages, the new aquatic centre, the Olympic footbridge over the A1, and more... In the lead-up to the Olympics, a large number of buildings were constructed in eastern Paris, not to mention renovations to existing sites such as the Vaires-sur-Marne Nautical Stadium. But what impact will these new facilities have on the area's urban and tourism structure? Can they help improve residents' quality of life? And how do the various players involved in these new developments interact with each other? Alexia Gignon is attempting to answer these questions through her research. This PhD student in urban planning and development at Lab'Urba is collaborating with the City of Paris' Partnerships and Tourism Mission under a CIFRE contract. Her work focuses on the role of urban and tourism players in preparations for the Paris 2024 Olympic Games.

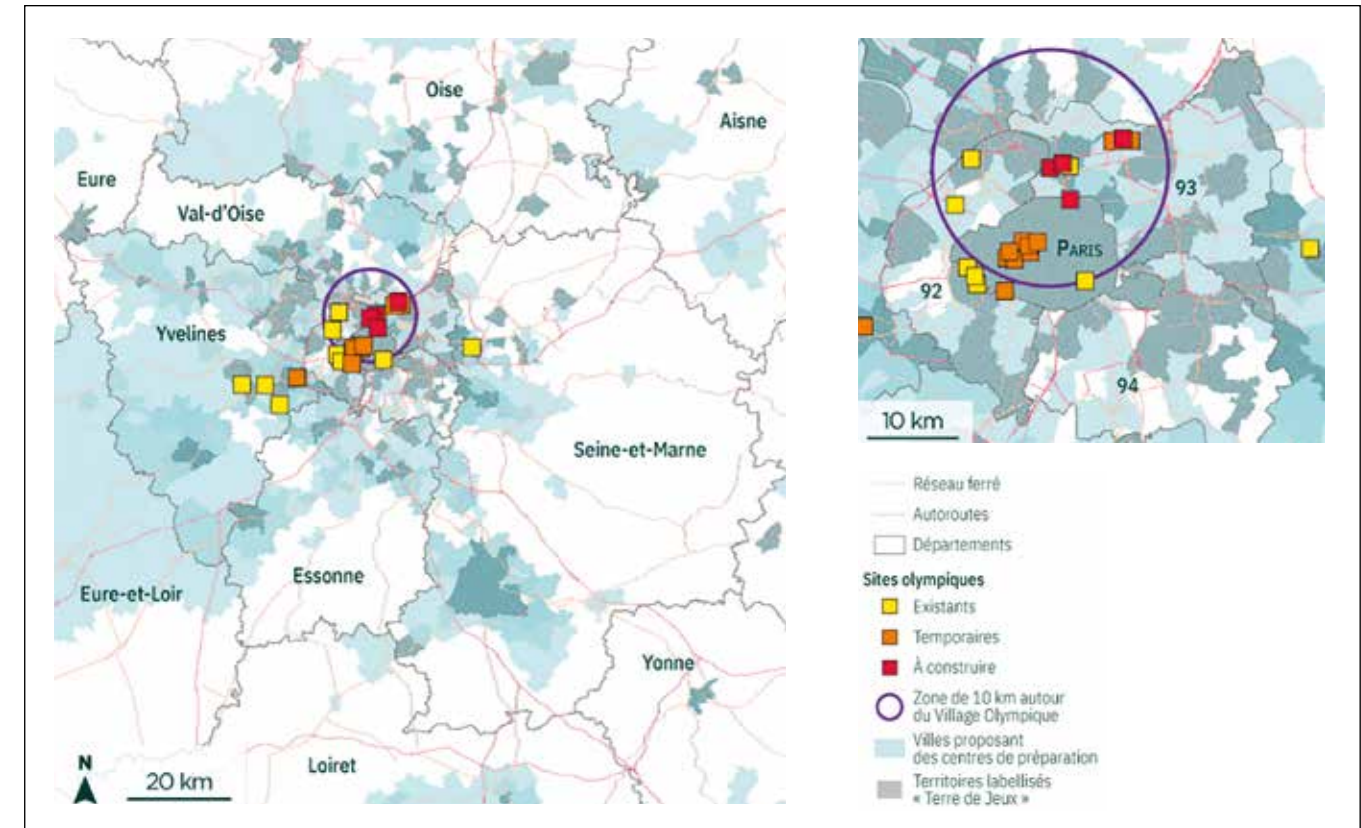
"I'm looking to identify the relationships between tourism stakeholders in the context of this event and to identify the organisational legacy that it may bring to north-eastern Paris," she says in the podcast, which lasts around seven minutes and was released in September 2023. "For my thesis, I conducted a large number of interviews with people from a wide range of backgrounds: project officers for the Olympic Games, tourist office directors, elected representatives in charge of the Olympics or tourism, as well as people working in the heritage sector who want to promote and preserve the region." While Alexia Gignon is still analysing the collected data, she has already identified a number of takeaways: "Work with local residents and associations is still not sufficiently taken into consideration. Olympic stakeholders should listen more carefully to what local residents have to say. This contact is essential. Furthermore, the aim is to make my research accessible to professionals and the general public."

find out more
"New facilities for the 2024 Olympics: is it really worth it?" (in French) from Les Échos du Savoir
https://urls.fr/LP1JG_

Alexia Gignon also worked with Marie Delaplace, her thesis supervisor at Lab'Urba, on studying the image of Seine-Saint-Denis in the lead-up to the Olympic Games. The results were published in 2021 in Le Bulletin de la Société Géographique de Liège and highlighted the fact that 42% of people living in the Ile-de-France region felt that hosting the Olympics was likely to have a positive impact on their image of the department.

"It's vital to take the views of local residents into account."

© UMR CNRS 6266 IDEES, Université de Rouen-Normandie



The Olympic Village construction site under the microscope

On 12 July 2023, 5 months and 13 days before delivery of the Olympic facilities, the Université Gustave Eiffel Foundation and the Partners' Club co-hosted their first "Rendez-Vous" on the theme of "The Olympic Village: An Innovation Laboratory for Sustainable Cities?". The Rendez-Vous are a new series of events where the university and its civil society partners can come together, aiming to *"highlight the work and collaborations of Université Gustave Eiffel in the field of sustainable cities"*, said Michèle Pappalardo, Foundation President, when introducing this first edition. The round table on the topic of the Olympic Village shone a spotlight on the Olympic Delivery Authority (SOLIDEO), the university's partner in the Coubertin research/action programme.

What methods and innovations have SOLIDEO implemented to meet the deadlines, budgets and ecological and social aims of this extraordinary project? Antoine du Souich, Director of Strategy and Innovation at SOLIDEO, and Henri Specht, Director of the Olympic Village project, focused on this question in their responses. They began by reminding us of the challenge represented by the Olympic Village: 13 co-funders and 30 project managers to build a village with 330,000 m² of floor space and almost 15,000 beds in just three years, which will become a modern district with 2,800 new homes, 6,000 residents and 6,000 professionals working there after the Games. They then

"The challenges of the Village are a source of innovation, both technical and organisational."

presented the project's environmental ambitions – to reduce the carbon impact of building the Village, create buildings that are resilient to climate change, preserve biodiversity and promote the circular economy – and the innovations generated by these objectives.

"The challenges of the Village are a source of innovation, both technical and organisational," said Joel Idt, a researcher at Lab'Urba, when presenting the Coubertin programme. The programme, launched by the Department of Housing, Urban Development and Landscapes (DHUP) and the Urban Development, Construction and Architecture Plan (PUCA), will involve a team of four researchers from the university between 2018 and 2026. Their mission is to monitor and observe SOLIDEO in order to document the choices, actions and solutions adopted when creating the Olympic structures.

find out more
<https://urls.fr/A80CEa>

© SOLIDEO / Sennse / Dronepress



"Will the 2024 Olympic Games encourage us to do more sport?" This was the question posed by Florian Moussi-Beylie, a PhD student in Sports Economics, when he went to speak to high school students in Seine-et-Marne.

The economic impact of the Olympics discussed in class

As part of the Fête de la Science 2023 and in the lead-up to the Olympic Games, Florian Moussi-Beylie visited Lycée Jean Moulin in Torcy to talk to pupils as part of the "1 class, 1 scientist, 1 hour" educational workshops organised by the university. Through this question, he was able to present the research behind his thesis ("The Economic and Social Effects of Sport Mega-Events: The Contribution of Experimental Methods") and put forward some ideas in a fun way. "Who likes watching sport? Raise your hand. OK, now who likes playing sport?" A few hands go down, and here is the researcher's opportunity to introduce his topic

The economics of sport is an underdeveloped sector, particularly in France, where there is a lack of data and analysis. This is what makes Florian Moussi-Beylie's thesis innovative. As a PhD student in Sports Economics at the ERUDITE Laboratory, and a member of the Research Federation

on Theory and Evaluation of Public Policies (TEPP) and the Observatory for Research on Mega-Events (ORME), he adapts economic impact assessment models to sport mega-events. Using data analysis and the "testing" method, he asks, what is the impact of encouraging people to take part in sport as part of the Olympic Games (labels for local areas)? Does elite sport influence sport for the general public (trickle-down)? Does access to sports associations decrease depending on certain criteria (discrimination)?

As Florian Moussi-Beylie says, "I had a number of aims beyond simply discussing the subject. As I myself came from this difficult high school, where I was an average pupil, I wanted to tell them, 'don't put limits on what you want to do, don't discriminate against

yourself because you come from Torcy'. The aim was also to introduce them to science, make it attractive, highlight its importance in all areas and explain how economics can shape people's lives. And of course, introduce them to the university and how it works, to give them the necessary tools."

"Explaining how economics can shape people's lives."



Students from Ensa Paris-Est create the FFME pavilion

As part of the Cultural Olympiad, a programme organised by Paris 2024 in collaboration with the Ministry for Culture, around fifty students from the Elements, Structure & Architecture Master's programme at Ensa Paris-Est

created the pavilion that will house the French Federation of Mountaineering and Climbing (FFME) in Parc de La Villette during the 2024 Olympic and Paralympic Games. Made up of a climbing wall and a pergola with exhibition and mediation spaces, the structure will stand alongside 19 other "Archi-Folies": pop-up pavilions created by architecture schools for French sports federations. It is the culmination of a year's work, during which the students, supervised by Margaux Gillet and Jean-Aimé Shu, both engineers, architects and lecturers at Ensa Paris-Est, took charge of the entire project, from design to construction. The process included working drawings, prototyping, calculating requirements and discussions with various

sponsors.* "The design of small demonstrator pavilions is common practice in our teaching, which focuses on 1:1 construction, but we had never carried out a project on such a scale, both in terms of visibility and duration," says Jean-Aimé Shu.

"The aim of the Archi-Folies project is to bring together the worlds of sport and culture, as described by the Ministry for Culture."

After a 1:20 scale model was presented at ENSA Paris-Malaquais in July 2023, where all the selected projects were exhibited, the students set about making the building in actual size. Wood was chosen as the preferred material, with respect for the environment in mind. The wooden elements were shaped and pre-assembled in the workshop before the final assembly on site.

find out more
<https://urls.fr/kOdUa1>

© Ensa Paris-Est



The pavilion will be open to the public until September 2024, who will be able to meet members of the FFME and try their hand at climbing. It will then be reassembled on the Marne-la-Vallée campus in early 2025, where it will become part of student life.

*The T/E/S/S design office, Renaudat Centre Constructions (metal parts), Würth France (fixings, tools and consumables), Pyramide (climbing wall), Serge Ferrari Group (pergola fabric), Scierie Beal (wood processing), TYNY (landing mats), VOLX (climbing mats) and Artline (climbing holds and volumes).

Not only is Nicolas Gestin the 2023 world vice-champion in slalom canoe and France's representative in his discipline for the Paris 2024 Olympic Games, he is also studying for his Master's at the Paris School of Urban Planning. Read on for a portrait of this 24-year-old student athlete, who was one of the first five athletes to qualify for the Olympics in early October.

Nicolas Gestin, a whitewater medal hopeful

The future champion was just four years old when he discovered his sport. "My nanny was actually the person that introduced me to it," he recounts twenty years later. "She had a kayak in her garage. I loved climbing in there, I could stay for hours. When I was seven, I passed my swimming certificate and joined the Quimperlé canoe-kayak club, where my brother was already taking lessons." This passion took Nicolas Gestin all the way to the Canoe Slalom World Championships, where he was crowned vice-champion in 2023. Alongside his career as a high-level athlete, he is studying his Master's degree at the Paris School of Urban Planning: "thanks to special provisions, I was able to spread my first year of Master's over two years. In fact, I did a dissertation on the Olympic whitewater stadium in Vaires-sur-Marne. Even though 2023 was a demanding year with a very fast pace, the school did everything it could to make things easier for me, particularly with making arrangements for my timetable. I really enjoyed being able to do my studies alongside sport, it was a chance for me to focus on something different."

"Representing my sport and my country in front of 15,000 spectators at the nautical stadium"

© Stefan Brending /
Wikimedia Commons



With a razor-sharp focus on July 2024 and the first events of the Olympic Games, the young canoe athlete has put his studies on hold to undertake "an intensive training programme of 20 to 25 hours a week: whitewater sessions, race simulations, training camps in Prague and Augsburg in Germany, as well as weightlifting sessions". The Olympic Games are also an excellent media opportunity for him: "It's a chance for canoe-kayak to shine in the spotlight. I'll be representing my sport and my country in front of 15,000 spectators at the nautical stadium and countless people watching on TV," says Nicolas Gestin, whose idols include two of the sport's great Olympic medallists: Tony Estanguet and Denis Gargaud Chanut.

While he dreams of an Olympic medal, the athlete has not forgotten his native Finistère: "I'm still a member of the Quimperlé club and I often go back. I'm proud to be the first athlete from Quimperlé to qualify for the Olympics, and I know that the town will be right behind me." Nicolas Gestin is also a mentor at Apprentis Riders, a non-profit organisation that offers water sports activities to young people in Finistère receiving child welfare support.

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Mirco Magliocca





Reinventing the world of today and imagining the world of tomorrow

.53 Research with meaning

.63 Training, supporting, boosting

From fundamental research to deploying innovations, in conjunction with socioeconomic stakeholders, the work carried out by our 1,200 faculty members aims to address major challenges in a wide range of fields related to the cities of tomorrow, including urban engineering, construction materials, mobility of people and goods, and digital systems for health, energy and the environment.

Our university provides leadership of multidisciplinary scientific communities and support for project leaders within the framework of two Priority Research Programmes and Equipment (PEPR), co-run by our university on a national scale.

Research
with
meaning

In May, Université Gustave Eiffel and CNRS began their mission to coordinate the "Sustainable Cities and Innovative Buildings" Priority Research Programme and Equipment (VDBI PEPR). The first initiatives have helped mobilise research laboratories with the aim of forming new, multidisciplinary and innovative consortia for an initial call for projects.

In all, over 200 laboratories responded to the call for expressions of interest.

The "Sustainable Cities and Innovative Buildings" PEPR gets underway

The objectives of the VDBI PEPR are to structure a national scientific and professional community and remove the main scientific barriers in the fields of sustainable cities and innovative buildings. It was officially launched on 24 May 2023, with funding of €40 million from the 4th Investments for the Future Programme (PIA 4) and co-run by CNRS and Université Gustave Eiffel. It is structured around three major fields of actions: launching calls for projects, creating three operational centres to mobilise and disseminate immediately available knowledge, and lastly, coordinating the scientific community.

First call for projects and first Scientific Days

On 27 July, the partners launched the first call for projects under the VDBI PEPR, operated by the French National Research Agency (ANR) and open until February 2024. It was designed to address five major challenges in creating sustainable cities: climate change, urban resilience, economical and frugal urbanisation, inclusive and equitable urbanisation, and sustainable urbanisation for health and well-being. *"In order to bring together researchers interested in this call for projects, establish a dialogue and encourage the creation of large-scale projects, we organised the PEPR's first Scientific Days on 16 and 17 October in Lyon,"* says Dominique Mignot, Co-Director of the PEPR alongside Gilles Gesquière (Lyon 2 - CNRS) and Jean-Yves Toussaint (INSA Lyon - CNRS). The event was attended by around 200 people and centred on presentations of

75 project ideas, involving more than 200 French laboratories. The concepts covered subjects such as geothermal foundations, the role and use of soil, the creation of digital twins to manage energy consumption, wind power, nature in the city, and inclusive cities and pedestrian mobility.



"The mandate given to us with this PEPR is to ensure that scientific teams cooperate, identify the questions to be asked and implement research together.

This mission is a real recognition of our ability to lead major research programmes and the quality of our work in the fields of transport, cities and regional development."

Dominique Mignot,
Co-Director of the VDBI PEPR



Producing research that meets real-life needs

The Scientific Days also provided an opportunity to reiterate what the PEPR is looking for: *"We would like to see multi-disciplinary projects led by national consortia, with the idea of encouraging communication and coordination between scientific and professional communities, as well as the circulation of knowledge on urban transition,"* says Dominique Mignot. The second requirement is to produce downstream-driven research. *"Projects must absolutely meet the needs of local municipalities and businesses. We encourage consortia to include them as partners."*

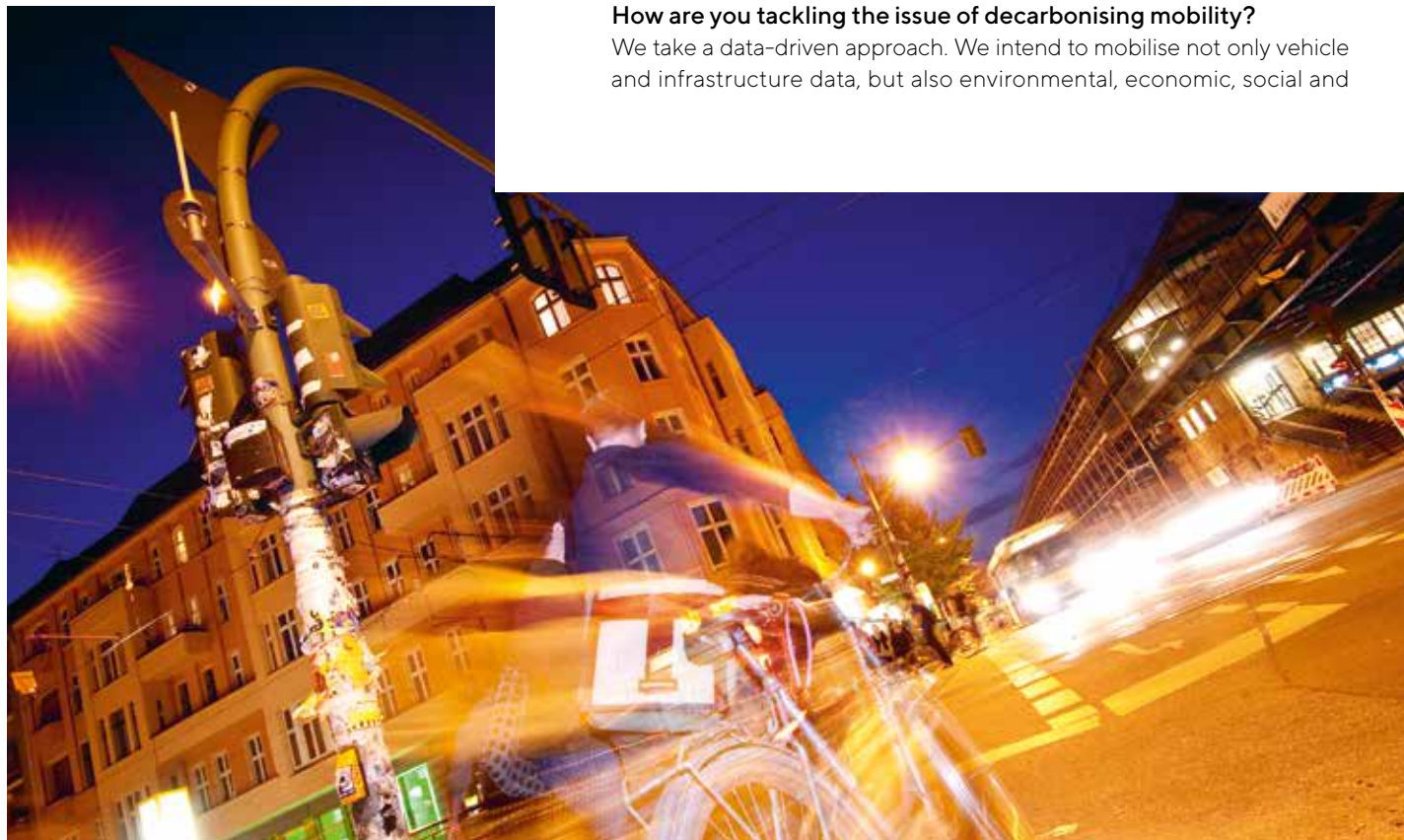
As soon as the PEPR was launched, three operational centres (CO) were also set up, titled "Sustainable Cities and Innovative Buildings Information System" (SIVDBI), "Modelling Initiative for Sustainable City and Innovative Buildings" (MISCIB) and "Methods for Evaluating Public Action Scenarios" (MESAP). Their role is to rapidly provide researchers, local authorities and businesses with information and methods in these areas, which have already been the subject of a great deal of research. Supported by Université Gustave Eiffel, CO-SIVDBI began its activities with meetings bringing together key players (IGN, CSTB, etc.) and organising a workshop titled "The Data Fresco" in November in Nantes. At the same time, Gilles Gesquière, Dominique Mignot and Jean-Yves Toussaint have continued to lead and foster dialogue with the scientific community and institutional players, particularly through the Sci-Ty and "Sustainable City Demonstrators" programmes, as well as within the "100 Climate-Neutral and Smart Cities by 2030" mirror group.

find out more
<https://pepr-vdbi.fr>

The MOBIDEC Priority Research Programme and Equipment (PEPR) was launched in late 2023, co-run by IFPEN and Université Gustave Eiffel. It is taking an original approach to decarbonisation and digitalisation using mobility data, with three major target projects.

Fabrice Vienne, Co-Director of the PEPR at the university, explains.

© Abbilder / Flickr



Accelerating research into mobility with MOBIDEC

What are the objectives of the MOBIDEC PEPR?

Over an eight-year period, MOBIDEC should help to achieve the goal of carbon neutrality by 2050. To achieve this, we have three main missions.

The first is to bring together a national, multidisciplinary research community on the subject, with the help of university partners and research bodies, and in collaboration with economic players and local authorities.

The second is to generate knowledge through three "target" collaborative projects, spearheading the MOBIDEC themes, and two calls for projects issued by ANR in 2024 and 2027.

In total, we plan to support around a dozen innovative projects, which will be multidisciplinary and complementary to the target projects, led by national consortia and in connection with stakeholders (businesses, local authorities and associations).

Finally, our third mission is to disseminate and promote the knowledge produced, in particular using tools aimed at users, principals and public policy-makers, but also by organising annual conferences.

How are you tackling the issue of decarbonising mobility?

We take a data-driven approach. We intend to mobilise not only vehicle and infrastructure data, but also environmental, economic, social and

"Accelerating knowledge creation and structuring a community around the issues of decarbonising mobility, goods and people, based on data above all."

behavioural data. This will allow us to design solutions aimed at implementing more sustainable forms of mobility, for both goods and individuals.

What scientific avenues are being explored?

Our scientific project is structured around three main areas, each of which is associated with one of our three target projects.

The first area aims to improve knowledge of the mobility of people and goods by acquiring new data, either using new methods such as virtual reality, or by carrying out national surveys of goods transport commissioners. The MiDMoB project, led by the LaPEA and SPLOTT Laboratories, will perform numerous studies to better understand and anticipate the mobility of people and goods.

The objective of the second theme is to successfully exploit heterogeneous data from different sources. The Mob Sci-Dat Factory project aims to improve methods and tools for collecting, processing and analysing heterogeneous data.

Finally, based on the first two, the third area aims to develop modelling and simulation tools to aid decision-making. The FORBAC project focuses on two approaches: forecasting, to simulate changes in mobility and assess their impact over time; and backcasting, to define objectives and identify the public policies needed to achieve them.

find out more
<https://pepr-mobidec.fr/>

Altaroad and H2SYS: selected for French Tech 2030

The announcement was made at the Vivatech 2023 trade fair on 14 June: Altaroad and H2SYS were among the 125 companies selected for the first French Tech 2030 cohort. These two innovative companies, supported by Université Gustave Eiffel, have joined the programme launched by Mission French Tech in partnership with the General Secretariat for Investment (SGPI) and Bpifrance, with the aim of "supporting emerging players that are responding to major societal challenges through innovation". "Creating a French technology offering is an essential condition for preserving our economic sovereignty, and start-ups play a decisive role in producing new large-scale solutions," says Clara Chappaz, Director of Mission French Tech.

Altaroad: reducing the construction industry's environmental impact

Of the 125 companies selected, 52% are committed to the ecological transition and 30% are co-founded or run by women. Altaroad ticks both these boxes. Founded in 2017 by three women, this spin-off from laboratories at Ecole Polytechnique, CNRS and Université Gustave Eiffel has set itself the mission of "helping create a greener, safer and more attractive construction industry using AI".

Today, with a team of 30 people, it deploys traceability solutions for construction and public works waste, accessible via a digital platform (Digitrack)



find out more
www.altaroad.com

© Mission French Tech



"Start-ups play a decisive role in producing new large-scale solutions."

Clara Chappaz,
Director of Mission French Tech.

designed for a range of players, from principals to recycling sites, including the companies carrying out the work on-site. "We're the only company selected that focuses on construction and the circular economy," says Cécile Villette, co-founder and CEO of Altaroad, who sees the French Tech 2030 programme as "an accelerator for commercial and international development".

H2SYS: producing low-carbon electricity from hydrogen

H2SYS specialises in combining hydrogen fuel cells with electricity storage systems, and is the result of a technology maturation project at the FCLAB platform in Belfort, of which Université Gustave Eiffel is a partner. Founded in 2017, the company designs and manufactures generator sets and hydrogen fuel cell systems. It has piqued the interest of industry and research stakeholders. "Since the start-up was created, H2SYS has won a number of awards and is showing positive momentum. It is now becoming an SME, with new challenges around industrialisation and marketing," says Fabien Harel, research engineer at the LICIT-ECO7 Laboratory and Scientific and Technical Adviser at H2SYS. "Joining the French Tech programme means we have a point of contact at Bercy, a 'start-up manager', who is our reference on a number of issues such as standardisation and certification. The label also gives us greater visibility and makes it easier for us to find funding or partners for new projects, such as setting up a factory."



find out more
<https://h2sys.fr>

Sci-ty is a 5-year national innovation support programme co-run by Université Gustave Eiffel and technology transfer acceleration company (SATT) Erganeo.

In 2023, the programme supported its first 42 projects, 14 of which are led by researchers from the university. They all share the same ambition: to innovate for sustainable cities and mobility, moving towards carbon neutrality.



© Chuttersnap / Unsplash

Sci-ty: 42 projects to transform cities and mobility

"We're very pleased, both in terms of the number of applications and their level of quality". David Chupin, who is in charge of Sci-ty as part of the university's Vice-Presidency for Partnerships and Professionalisation (VP3), is delighted with *the interest shown in the programme by faculty members* from higher education and research establishments across France. Supported by a consortium of 21 partners* and €30 million of funding, Sci-ty has selected 42 projects for "their ability to address the challenges of national innovation acceleration strategies", following two calls for projects in May and October 2023. Developing less polluting construction materials, decision-making tools, risk prevention and predictive maintenance systems... These are just some of the objectives of the product and service creation projects supported by Sci-ty.

Of the 42 projects selected, which have been awarded a total of €4.2 million, 14 are led by members of Université Gustave Eiffel, including nine in the pre-maturation stage and five in the maturation stage. One example is a faculty member at the Management Research Institute's pre-maturation project called BENEV (Wellbeing and Nature in Cities). She aims to offer urban areas, developers and builders a "service for gathering and analysing residents' perceptions of their well-being and nature around their place of residence". Another example is Research Director at LICIT-ECO7 Nour-Eddin El Faouzi's Carbotrim maturation project. His goal is to offer "a software platform to support the decarbonisation of goods transport by road".

Working closely with the VDBI and MOBIDEC PEPRs, Sci-ty's co-pilots have encouraged **pre-maturation project leaders to work with companies in order to speed up the time it takes to bring innovations to market**. 32 companies are taking part in 25 pre-maturation projects.

"This panorama augurs well for potential transfers once the innovations reach the required level of maturity. It also makes it possible to anticipate a smooth transition between pre-maturation and maturation." All maturation projects are launched in partnership with one or more companies. The stated ambition of Sci-ty's partners is to support 250 innovation projects over five years.

find out more
<https://urls.fr/r-Ues->

*15 higher education institutions, six SATTs and nine partners, including competitiveness clusters and environmental transition and technological research institutes.

The Critical Climate Machine is a research/creation project designed to reveal and quantify climate scepticism expressed on the social network known as X, created by Gaëtan Robillard, artist, researcher and Associate Professor at Université Gustave Eiffel in the IMAC course at ESIEE Paris.

A participatory project to combat climate misinformation

A constantly evolving "machine"

Within a soundscape broadcasting contradictory statements about the climate, the installation turns red and flashes more and more depending on the flow of fake news circulating... The Critical Climate Machine was created in 2021, with the support of the European consortium MediaFutures and the European research and innovation programme H2020. The installation, which combines machine learning and cognitive science, uses an artificial intelligence algorithm to process climate-sceptic statements made live on X (formerly Twitter). Since Twitter was taken over at the end of 2022, the social network's policy has changed. Academic access to data is now largely restricted. "The work has therefore evolved, and the data collected now resembles a kind of archive. It marks the end of an era on the internet, giving way to a digital landscape with new frontiers," says Gaëtan Robillard.

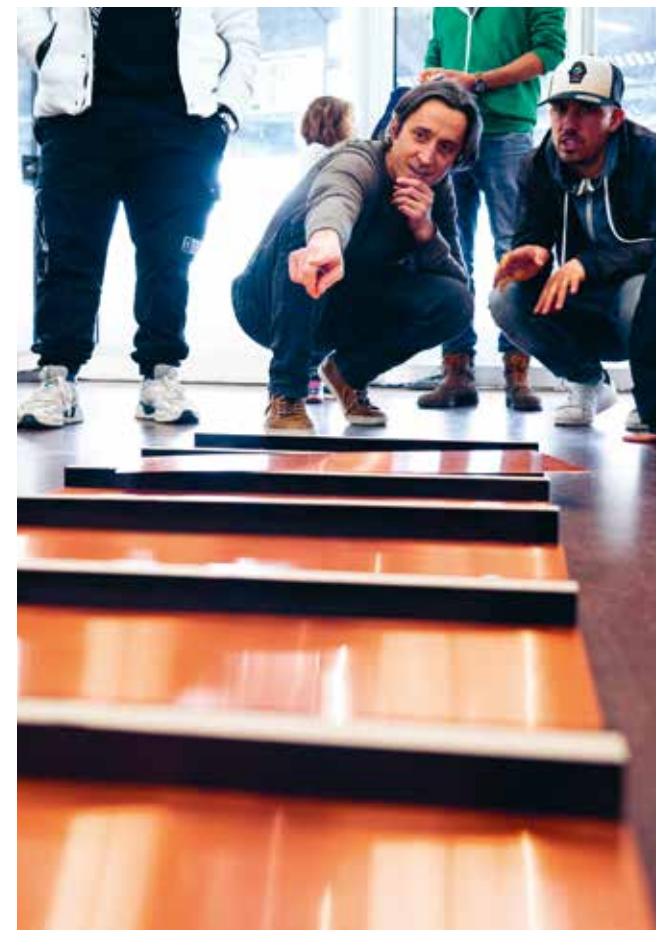
A card game to combat misleading information

Students contributed to the sound production of the work through a series of workshops. A cooperative card game has also been specially designed and was available to the public at a number of exhibitions in 2023. The "Refutation Game" features 70 cards displaying either climate-sceptic statements or scientific arguments. "Within a single round, the players find themselves alternately in the position of spreading fake news or drawing on science. It's a decision-making game that facilitates structured debate between participants," says the artist and researcher.

In October 2023, the Critical Climate Machine project won the British Computer Society (BCS) Futures Award as part of the Lumen Prize for Art and Technology. "BCS works to promote information and digital technologies for the benefit of society. This prize is a perfect illustration of the civic and public scope of my work," says Gaëtan Robillard. "I'm now looking to make the most of the large database of over 90,000 tweets collected since the project began, by making them available as open source."

find out more
<https://robillardstudio.github.io/ccm>

Gaëtan Robillard explains how his "Machine" works to the public at an exhibition at Université Gustave Eiffel. © Gabriel de La Chapelle



JMBS: mathematics applied to biology and health

"Structuring the mathematical modelling community in health and life sciences in a sustainable and inclusive way" - that is the goal of the MathSAV research group (created by Insmi, CNRS) and the Mabiome working group at the Applied and Industrial Mathematics Society (SMAI). The Maths Biology Health Days (JMBS) is the annual conference of this national network.

This year's edition was organised by the Laboratory of Analysis and Applied Mathematics (LAMA), which combines researchers from Université Gustave Eiffel and Paris Est-Créteil. The event was held on the Marne-la-Vallée campus from 27 November to 1 December 2023.

Over 80 mathematicians, both students and faculty, had the opportunity to discuss recent mathematical advances, based on the many research projects presented and their applications in cancer research, population dynamics, neuroscience and biomechanics. JMBS began with an Autumn School and ended with a symposium, during which a diverse range of topics were discussed, including using single-cell data to study gene expression, new digital challenges in medical imaging, modelling forest-climate interactions and using random graphs to describe cancer-causing mutations. *"At a time when environmental change and its impact on human societies and biodiversity are at the centre of the news, it is always gratifying to see that problems related to ecology or epidemiology can be solved using mathematics"*, says Viet Chi Tran, mathematics professor at LAMA and co-organiser of the event.

Theoretical solutions, but also practical ones, since much of the research is leading to concrete applications: *"for example, a presentation was given on the use of fluid mechanics equations in treating certain bladder diseases. As a complement to the medical examination of patients, mathematical modelling makes it possible to translate complex data into equations that lead to precise diagnoses and predictions. This type of subject perfectly illustrates the interdisciplinary nature of our approach."*

After closer collaboration between the MathSAV and Statistics and Health research groups, the Math Biology Health Working Network was created on 1 January 2024, to continue the work already underway.

Training professionals in the challenges of sustainable cities, encouraging our engineering students to devise solutions for the energy and ecological transition, developing undergraduate courses to improve personal, academic and professional success... These are just some of the projects underway to enhance our range of courses and support our students when they enter the world of work.s.

"Problems linked to ecology or epidemiology can be solved using mathematics"



Training,
supporting,
boosting

The university's new "Lifelong Learning for Sustainable Cities" (ForcoVD) programme aims to train professionals and decision-makers in the challenges and issues related to the ecological transition in cities and regions. The programme draws on the institution's strengths – its cutting-edge research, chairs, outstanding scientific facilities, national presence and links with the socio-economic world – to develop an offering tailored to the needs of local players and decision-makers.

ForcoVD: a new range of lifelong education courses for sustainable cities

"There is an urgent need to train the entire population in the challenges of the ecological transition, especially professionals who are in a position to take immediate action: decision-makers, regional planners, local authorities, businesses, and so on. It is with this aim in mind that we launched the 'Lifelong Learning for Sustainable Cities' (ForcoVD) programme in September 2023," says Veronika Dussous, Director of this new programme. ForcoVD was selected by the France 2030 call for projects titled "Acceleration of Development Strategies for Higher Education and Research Institutions" and has been allocated a budget of €3.88 million to achieve an ambitious objective: create 30 lifelong learning modules, particularly short courses, that address the issues and challenges of sustainable cities by 2029.

Mobility, energy, infrastructure, materials, biodiversity, water management and more... With ForcoVD, the university aims to offer a range of courses covering all areas of sustainable cities. *"For example, we want to offer modules on reusing building materials, the water cycle, greening cities, soil protection, adapting to climate change, urban cooling, sustainable tourism, and more,"* says Veronika Dussous.

Working with laboratories, chairs and the university's Foundation

To develop its 30 training modules, ForcoVD intends to build on the university's strengths, first and foremost its research: *"Our laboratories have expertise in the field of sustainable cities, which we want to use to support our range of courses. Our ambition is to use the latest research findings and results to provide trainees with an opportunity to take a step back and question their own thinking."* The university's Chairs – Circular Economy and Urban Metabolism, Social and Solidarity Economy, Urban Land Reclamation, Land Use Transition, and others – will also provide support and partnership opportunities for ForcoVD, as will the Université Gustave Eiffel Foundation, with which training projects are currently being developed. Finally, another of the programme's assets is its two partners, the France Villes et Territoires Durables (FVD) association and the Efficacity R&D institute, both recognised players in the field of transitions and resilient cities and territories.

Expanding the existing range of course

"Reusing Building Materials: An Opportunity for Sustainable Construction", "Building with Raw Earth", "Water Management: Preserving Resources, Treatment and Recycling", "Vertical Vegetation in Urban Environments", and many others... "We already offer lifelong learning courses on sustainable cities, a subject at the heart of the university's project. The aim with ForcoVD is to expand and create new courses to meet the many challenges and needs linked to the climate emergency that are not yet covered."

"Placing vocational training at the heart of the response to issues related to transitions and reflection around sustainable and resilient cities and environments".

A range of courses in line with the needs of professionals and local areas

"The first step in creating the programme is to identify needs. So we have to carry out some prospecting work," says Veronika Dussous. *"Our national presence and the relationships we've built over many years with socio-economic players will be assets in identifying opportunities. Not to mention our scientific facilities, some of which are the only ones of their kind in France, which will also be used to support this project."* The programme head also specifies that the range of ForcoVD courses will be aimed at both novices and professionals who are experts in their field. *"There will be different levels, from introduction to advanced training. The idea is also to emphasise short courses, lasting one or two days, and give our students the opportunity to create their own learning journey, brick by brick."* Lastly, ForcoVD aims to develop innovative teaching methods and formats tailored to students of lifelong learning, by focusing on field trips, experience-sharing, serious games, testimonials, and so on.

Expanding the Lifelong Learning department

"To achieve all these goals, 12 new employees will be joining the Lifelong Learning department, doubling its workforce. These new recruits will help us develop our skills in educational and digital engineering, as well as in marketing and sales, because in the future we will have to be self-financing," says the Programme Director.

© Jessica Da Rosa / Unsplash



find out more
<https://urls.fr/-NH79E>

Architectural research remains a young and developing field, but it is a key issue for architecture schools. This is the context in which Paris-Est National School of Architecture (Éav&t Paris-Est) has organised a series of awareness-raising events for students: Research Thursdays.

Spreading a culture of architectural research

"The aim of these events is to raise our students' awareness of research in architecture", says Isaline Maire, associate professor at Éav&t Paris-Est, research engineer in the OCS laboratory (AUSser UMR) and coordinator of Research Thursdays. Designed to complement and build on introduction to research courses for Éav&t Master's students, Research Thursdays are "events - round tables, conferences, competitions, exhibitions, and so on - that aim to illustrate the diversity of research in architecture and show students the variety of paths that can lead to research, as well as the key milestones in the life of a researcher: thesis defences, research seminars, poster displays, etc."

Between Thursday 9 March and Thursday 25 May, six events were held for the school's students, including a "My Thesis in 180 Seconds" competition, highlighting work from the school's four Master's programmes. The students were also able to talk to PhD students with different research

On 20 April, third-year Bachelor's (Licence) students were invited to present their end-of-year work at the "Licence Dissertation Poster Gallery", using a medium well known to researchers: the scientific poster.



© Myr Muratet

methodologies (interviews, creating an illustrated atlas or photographic inventory) and attend a lecture by a young researcher from the OCS Laboratory, whose PhD research involved a four-year exploration of the wooded countryside in Vendée and Val-de-Marne. *"It showed that research can be very pragmatic, linked to professional practice, local populations, elected representatives and territories,"* says Isaline Maire.

"Architectural research is relatively new [editor's note: PhDs have been offered at National Superior Architecture Schools since 2006] and, in this context, architecture schools are beginning to create learning models oriented towards research, while raising questions about the many forms it can take. We need to collectively define what architectural research is and how to teach it." This is the context for the creation of Research Thursdays. The aim is to broaden students' thinking about the forms that research can take, at the crossroads between reflective practice and academic foundations. *"We can take a fresh look at current issues around the way that space is organised in cities and regions, particularly with the many challenges we face as a result of climate change",* she says.

"Openness to research can only create better professionals. It's a way of returning architects to a central role in building contemporary territories and in construction itself, by placing connections with thought back at the heart of a dialogue combining the deepening of theoretical knowledge and the production of new knowledge, acquired from these plural practices."

"Collectively defining what architectural research is and how to teach it."

find out more
<https://urls.fr/3pBpgi>

From 30 January to 3 February, EIVP organised the fourth edition of its "Innovation and Entrepreneurship Week", in collaboration with the Veolia group. Focusing on energy efficiency and adaptability, the event inspired students to come up with innovative projects designed to accelerate the energy and ecological transition.

A week to imagine more equitable, frugal and resilient cities

"Getting out of the classroom, breaking the mould, discovering new professions and opening new professional doors... That's what our students experienced during this week," says Hypatia Nassopoulos, the faculty member in charge of EIVP's Innovation & Entrepreneurship Week. For five days, second-year urban engineering students attended workshops on start-up creation, design thinking and lean innovation, led by experts from Veolia, the City of Paris and the scientific world, including a palaeoclimatologist from the IPCC, Jean Jouzel. *"In this breeding ground for innovation, the students worked in small independent groups, in a dynamic and supportive atmosphere. Experts were on hand to provide constructive feedback and advice,"* says Hypatia Nassopoulos. A careers conference was also organised to answer students' questions about professional opportunities.

The high point of the event was a pitch competition in front of a panel of experts, where awards were granted to a number of student projects. "Pass'Partout" was one of the winners, presenting an idea for an application to define customised itineraries, tailored in particular to the needs of people with reduced mobility. It would flag obstacles and provide a map updated in real time, to make it easier for people with reduced mobility to get around. Another award-winning group in this year's competition was the students behind the "Multi Pass" project, with their concept for a single pass designed to simplify and streamline journeys, which could be used for public transport as well as for scooters and bicycles provided by various transport providers.

"During the week, more than 50 speakers and mentors from Veolia were on hand to support the EIVP students. Some solutions already exist, others are yet to be invented. This generation of talent will be the driving force behind the success of the ecological transformation."

Isabelle Quainon,
Deputy HR Director at Veolia

"The situation is getting worse. The latest IPCC report shows that we have three years to act, but the psychological shock has not yet set in. It is now up to engineers to write history and make the best use of what already exists, to invent a new world."

Collective intelligence will show the way."

Jérôme Gleizes,
EIVP President

Launched in 2018 as a ten-year initiative to support teaching teams, D.Clic is helping transform undergraduate education at universities. Read on for a mid-term review of this project, led by a cross-disciplinary team.

"Nine out of the university's fifteen departments have already signed up to D.Clic. It has already had a very positive impact on the school and our undergraduate programme, allowing us to take our students' wishes and needs into consideration."

Sacha Bensahel-Mercier,
Vice-President for Pedagogical Innovation and Student Success.

Supporting undergraduates to succeed

Nine subject-specific skills frameworks and one cross-disciplinary skills framework, new teaching resources, digital pathways to develop students' behavioural skills... These are just some of the initiatives that have been implemented over the past five years as part of the D.Clic programme. The aim of this programme, funded by the "New University Curriculum" (NCU) initiative from the PIA3, was to *"support everyone to succeed in general Bachelor's degree programmes by transforming these courses,"* says Sacha Bensahel-Mercier, Vice President for Pedagogical Innovation and Student Success.

One of the key achievements of this initiative is the D.Clic semester. This 'toolbox' is based on a cross-disciplinary skills framework and designed to provide first-year Bachelor's students with the practical know-how they need to *"take charge of their personal, academic and professional success"*. This core semester has also given rise to new teaching resources such as "Library Expedition", a training module that focuses on the methodology of academic work.

As part of the D.Clic project, the Bachelor's degrees in Humanities, STAPS, Economics and Management, Arts, Mathematics, Computer Science and MIASHS have committed to certain transformations using a **skills-based approach**, the aim of which is to make the skills that students will develop throughout their course more visible and legible. D.Clic has also resulted in new programmes prior to the start of the academic year, that focus on socialisation for students through leisure activities and work, as well as a training scheme to develop students' behavioural skills.

Led by a cross-disciplinary team at Université Gustave Eiffel, D.Clic brings together staff from the Pedagogical Support Department and the Observatory of Teaching Practices at the Teaching and Digital Innovation Centre (CIPEN), the Information, Orientation and Professional Integration Department (SIO-IP), and the Delegated Directorate General for Computing and Digital Technology (DGDIN). On 24, 25 and 26 September 2024, the university will welcome the national network of 36 "New University Curriculum" projects, as a co-leader of the network.

find out more
<https://dcliv.univ-gustave-eiffel.fr>





04

Informing decision-making and enriching public debate

.73 Societal openness

.83 Evaluating, assessing and
informing decision-making

Our open science approach is reflected in a wide range of schemes and initiatives, aimed at sharing data from research projects and encouraging citizens to get involved in producing knowledge. In 2023, the activities of the Knowledge Dissemination and Openness to Society (DSOS) Department expanded, with the aim of making science even more transparent, participatory and reproducible.

Societal
openness

Through its actions and commitments to opening up research to society, the DSOS Department has seen greater involvement in open science from scientists and the university this year. This increase in participation has been supported by the introduction of a number of measures to open up research data, encourage participatory research and disseminate knowledge to a wider audience.

"The Data Univ Eiffel workshop combines a range of professional skills (documentary, legal, IT, archiving, data protection, etc.) within the university to support teams of scientists in managing and opening up their research data and software. With the "Data Workshop" label, we have joined a network of academic players which is helping to improve our collective open science practices."

Corinne Brusque,
DSOS Department Head

Valuing the voices of citizens in research: an affirmed ambition

How can we collectively make the most of citizen knowledge, in the same way as academic knowledge, in a participatory project? This is the question that drives the DSOS teams, and one that has found an initial response through the "Research in Society" web dossiers (see following pages). These online dossiers, published throughout 2023 on the Reflexscience.fr portal, show how the university's scientists work with representatives of third-sector research (associations, trade unions, local authorities, etc.) to co-construct knowledge on subjects related to cities and territories. *"They highlight the different ways in which citizens can be involved in research processes, and the different players involved in the collaboration,"* says Marie Excoffon Gagnoud, who is Citizen Participation Development and Promotion Officer at the DSOS department. *"This question is relevant to all those involved in developing and supporting participatory research activities. This new format was therefore presented to the partners that signed the charter of openness to society (Anses, BRGM, Ifremer, INRAE, etc.), who are also interested in developing this type of collaboration."*

In the same way, specific efforts were made to capitalise on the "Révèle ta Science" (Discover your Science) participatory workshops. These discussion forums were designed and tested by the university from 2022, encouraging the public to express their views in response to questions put forward by the university's scientists. The results were presented in the form of interactive posters. These materials highlight citizen knowledge and the solutions devised through the workshops. The "Révèle ta Science" participatory workshops aim to collect, share and promote citizen voices as part of a research project.

The Data Univ Eiffel workshop encourages the sharing and opening up of data

Awarded the "Data Workshop" label in late 2022 by the Ministry for Higher Education and Research, the "Data Univ Eiffel" workshop was gradually rolled out in 2023. This programme provides a range of services and tools to facilitate well-considered management of data and software resulting from scientific work: support for research teams in the acquisition, management and dissemination of their data, establishing a single point of contact, and opening an institutional space on the national Research Data Gouv repository.

In order to encourage the exchange of best practices between scientists, a series of short webinars titled "Rendez-Vous Data" was also launched this year.



The first two were an opportunity for researchers to learn more about software development, sharing and archiving platforms such as Github, Gitlab and Software Heritage, as well as how to publish datasets on the Recherche Data Gouv repository. *"The Rendez-Vous Data sessions have been a real success, which shows that there is a need for information and experience-sharing around research data and software,"* says Céline Rousselot, Research Data Management and Openness Officer and coordinator of the Data Univ Eiffel workshop.

A network of data ambassadors, made up of volunteer researchers and engineers, has also been set up to work closely with teams, providing advice and guidance and reporting their needs to the workshop. *"We are seeing a growing commitment to open science from our laboratories, with an increase in the number of open datasets,"* says Céline Rousselot. Data and software produced by the university's research teams are also promoted in the form of #Data articles published on the Reflexscience portal, to raise awareness of the university's data assets.

find out more
<https://urls.fr/Gwz1Zy>



WITH REFLEXSCIENCE.FR, LET'S SIMPLIFY SCIENCE!

Launched in October 2022, the Reflexscience.fr portal for discovering new topics and joint knowledge production celebrated its first anniversary in 2023. *"When it opened, the DSOS Department set itself the goal of making science accessible by publishing robust scientific*

multimedia content, straight from the university's research laboratories," says Marie Excoffon Gagnoud, who manages the project. Mission accomplished. Reflexscience.fr currently offers more than 500 pieces of content for professionals, associations, students,

young people and anyone with an interest in science. In a spirit of openness, the project plans to regularly add to its collections in French and English, and allows internet users to republish content under a Creative Commons licence.

In association with Université Gustave Eiffel, the City of Rezé invited its residents to create a participatory map of noise levels in their town using an application on their smartphone. This initiative in support of public policy has been a resounding success and will continue until 2025.

Rezé residents map out their sound environment

Located to the south of Nantes, the city of Rezé is home to a varied soundscape. There are air, road and rail links as well as natural environments (including urban forest, the Valley of Ilette, and the banks of the Loire and the Sèvre). This is the sound environment that has been the focus of a citizen experiment launched by Arnaud Can, a researcher in Acoustics at UMRAE, in collaboration with the City of Rezé, specifically, Claire Guiu, Deputy Director of Planning, Landscapes and Ecology, and Philippe Audubert, Deputy Director of Public Policy for the Elderly and Health Prevention.

From December 2021 to June 2022, 134 volunteer Rezé residents created a noise map using the smartphone application NoiseCapture. The app was developed by UMRAE in collaboration with CNRS, and allows acoustic data to be linked to GPS coordinates. 1,566 recordings were made by residents, for a total of around 93 hours. This produced a map of median noise levels, highlighting contrasts across the city.

This first experimentation phase illustrated the potential of the three-pronged "local municipality-residents-researchers" approach at the heart of SonoRezé's participatory and civic-minded orientation. Building on this success, a second phase was launched in May 2023, which will run until 2025 under the name "SonoRezé II". Supported as part of the ANR's call for projects titled "Science with and for Society: Participatory Research", this new phase of citizen experimentation should allow for more in-depth diagnostics and sound surveys, as well as reflection around how similar projects could be deployed in other areas.



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"This project increases collective awareness around the urban sound environment, going beyond stereotypes whereby noise is always perceived as a source of disturbance."

Philippe Audubert,
Deputy of Public Policy for the Elderly
and Health Prevention
for the City of Rezé

find out more
<https://urls.fr/nPjPY1>

Does a jobseeker from Martinique, La Réunion or Guadeloupe have the same chance of being granted an interview for a job as a waiter as one from mainland France? This issue was at the heart of the project titled MELODI-DOM (Local Measurement of Discrimination in French Overseas Departments), undertaken with SOS Racisme.

"The data proves that discrimination exists and that it is not an isolated phenomenon."

Alice Murgier,
Head of the Legal Hub
at SOS Racisme

find out more
<https://urls.fr/miVpk3>

Measuring the discrimination experienced by people from French overseas departments

MELODI-DOM (Local Measurement of Discrimination in French Overseas Departments) was led by the research federation on Theory and Evaluation of Public Policies (TEPP - CNRS), in collaboration with the association SOS Racisme, and involved carrying out discrimination testing* in Fort-de-France (Martinique), Pointe-à-Pitre (Guadeloupe), Saint-Denis (La Réunion) and Paris. It aimed to compare the probability of receiving a job interview based on two criteria: whether a candidate comes from a French Overseas Department or mainland France, and whether or not they live in a priority urban district.

The test, the first of its kind to focus on origin from French overseas territories as a factor for discrimination, was undertaken in May 2021 in over 1,000 restaurants. "For the project, we created three fictitious waiter profiles for each city: a candidate from a French Overseas Department living in a neutral district, a second candidate from a French Overseas Department living in a priority district, and a candidate from mainland France also living in a neutral district. In each case, the candidates were given the most common first and last names. For example, Jean Payet in La Réunion," says Yannick L'Horty, professor of Economics at Université Gustave Eiffel and TEPP Director. Each restaurant received three spontaneous applications, one for each fake profile.

The results, which were presented to the Ministry for Overseas Territories at a press conference organised by SOS Racisme, were definitive: the French Overseas Department candidate received 20% fewer positive responses than the mainland France candidate. In other words: there is employment discrimination towards people from French Overseas Departments. "The study proves once again that the racist prejudices that have been propagated for many years persist", says Alice Murgier, Head of the Legal Hub at SOS Racisme. "The fight against racism is a struggle that persists today and that must be undertaken everywhere."

*Discrimination testing involves submitting two profiles for the same purpose (job interview, apartment visit, etc.) that are similar in all ways except for criteria that may be basis for discrimination: origin, disability, age or gender.

Making decisions collectively and imagining a shared future for your local area as it adapts to climate change - this is the principle behind the serious game called "Futurable", developed in collaboration with university researchers.

Imagining a fair and attractive future together

Giving a voice to people who do not usually express their views on climate change or socioenvironmental issues, in order to fuel the democratic debate on these issues affecting everyone's future - this is the ambition of Futurable, a serious game, which aims to help people share points of view in order to build a common vision for the future of our territories. Designed by the Nantes Futurable association, this mediation tool was co-produced through a research/action process, involving researchers from the LEE and LISAA Laboratories. The aim of this collaboration was to develop the game (form, methods, content, etc.), make it more accessible and "connect it to an expert methodology and knowledge", says Alice Mounissamy, journalist, scientific mediator, and co-founder of the Nantes Futurable association.

Residents of Nantes, community activists and students, PhD candidates and lecturers from Université Gustave Eiffel were invited to play and imagine the future of the Loire estuary, helping develop Futurable. *"The aim was also to create a framework for collaboration between science and society - which is necessary if we are to provide a sustainable response to the challenges of climate change - with more dialogue, co-construction, co-analysis and co-implementation,"* says Jules Sekedoua Kouadio, research engineer at LEE. The game is adapted to other regions such as the Loire-Anjou-Touraine Nature Park and Ile d'Yeu. It represents a catalyst for dialogue and has sparked the interest of stakeholders such as Nantes Métropole and the Pays de la Loire IPCC. *"With Futurable, we have laid the foundations for a common working culture between researchers and local authorities. It's a great way to transfer knowledge, in both directions,"* says Alice Mounissamy.

"The support provided by the researchers really guided our efforts."

Anthony Marque,
spokesman for the Narse
de Nouvialle collective

The OAC-La Narse project is a genuine collaboration between citizens working to preserve wetland and researchers studying alternative citizen initiatives, illustrating the contribution and potential of participatory science.

Researchers and citizens activists: a rich learning partnership

"The support provided by the researchers really encouraged us and guided our efforts. It enabled us to gather information and figures to present a sustainable economic project and arguments in favour of preserving the wetland," says Anthony Marque, spokesman for the Narse* de Nouvialle collective. The group is committed to protecting a Natura 2000-listed natural site in the Cantal region, land that is sought after by the mining industry. *"Thanks to our collabo-*

ration with the collective, we have been able to uncover new knowledge about citizen-led organisations and their ability to produce economic projects that respect shared heritage, natural resources and the living environment," says Amina Béji-Bécheur, a professor of Management Sciences at the Institute for Management Research (IRG) and scientific manager of the Alternative Citizen Organisations (OAC) project, which aims to *"understand the conditions for citizen-led initiatives to succeed and their contribution to ecological and social transitions"*.

Carried out as part of the OAC-La Narse knowledge co-construction project, this collaboration has enabled scientists to develop their thinking, both in terms of the knowledge they have acquired and their experimental methodology. It also provided the collective with data and tools to consolidate its alternative economic project.

* Wetland, in Occitan.

"Scientists' perspectives cannot be perfected without citizen contributions."

Jules Sekedoua Kouadio,
research engineer at LEE

© Futurable



find out more
<https://urls.fr/YBkmok>

find out more
<https://urls.fr/gtFiEL>



© Collectif de la Narse
de Nouvialle

The CAPACité collaborative research project focuses on the societal challenge of ageing well, involving senior citizens in a process of co-constructing the inclusive city of the future.

"Sharing the city and how accessible and inclusive it is must become real topics of discussion..."

Sylvie Dhalleine,
former Director of Maison des Aînés
et des Aidants Paris Ouest

Co-constructing cities where ageing is a pleasure

Determining how senior citizens define "ageing well" and identifying the forms and areas of mutual support that could promote their inclusion in cities - these were the aims of the CAPACité (Senior Citizens Partners for Autonomy in the City) project. It was led by four researchers in economics, urban planning and innovation management (Management Research Lab, Dicen IdF, Lab'Urba) and benefited from the participation of three partners, experts in the field of old age and in direct contact with the elderly: the Maison des Aînés et des Aidants de Paris Ouest, Ivry Sciences and Silver Innov. This collaboration enabled the researchers to meet senior citizens living in two very different areas, the 15th arrondissement of Paris and Ivry-sur-Seine.

The co-construction process took place in two stages. First of all, individual interviews were carried out with around thirty elderly people, in order to "understand what an inclusive city meant to them, how they got around the city and how they felt about it", says Luciana Castro Gonçalves, a research professor specialising in collaborative innovation and co-leader of CAPACité. The co-construction process then continued with three creativity workshops with different configurations: the first workshop was made up of 30 students, the second of five elderly people and the third involved 13 elderly people and 20 students.

This resulted in some fifty proposals for better ways of getting around, finding fulfilment, learning, keeping fit, shopping, working and living in the city. Using the design thinking approach, these discussions also made it possible to highlight "the reflexive potential of vulnerable groups to co-construct solutions", as well as the conditions for successful co-construction. "This type of approach is still all too rare, despite the incredible wealth of our senior citizens and the fact that towns and cities are not adapted to people who experience 'difficulties'," says Sylvie Dhalleine, former Director of the Maison des Aînés et des Aidants Paris Ouest.

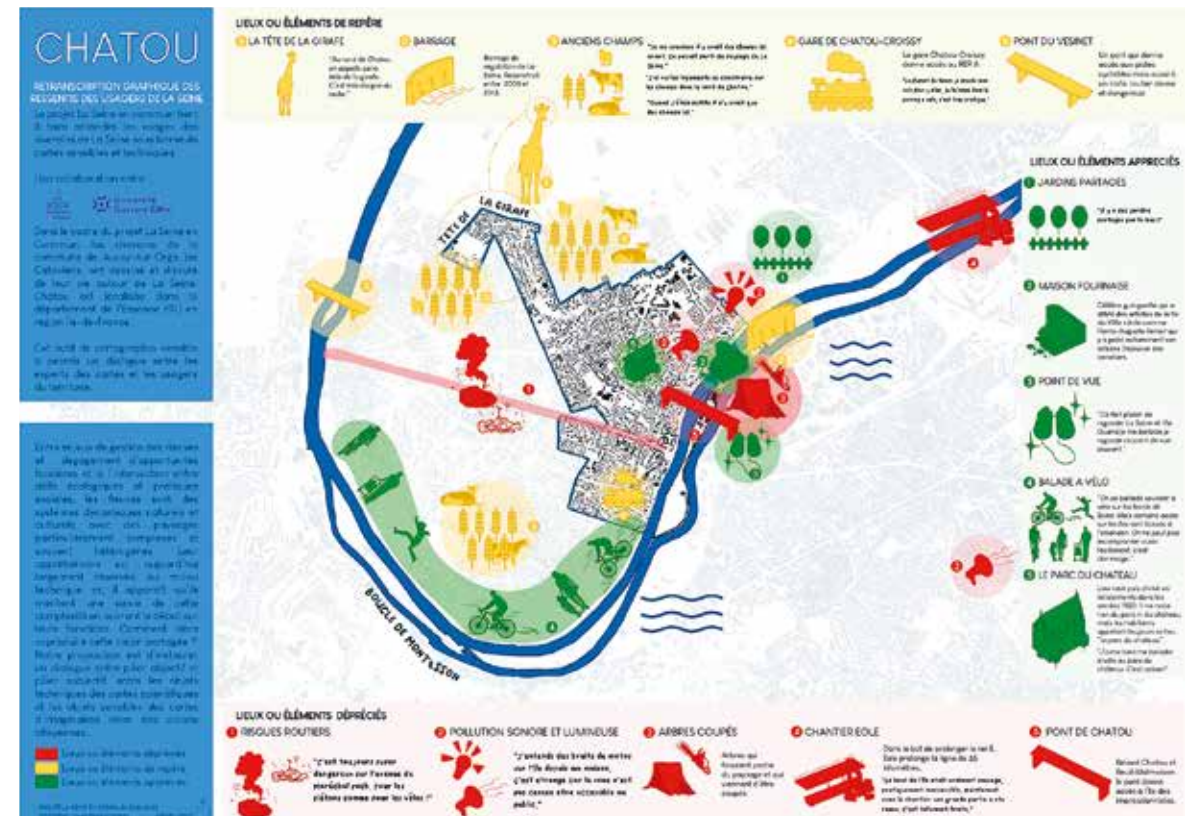
find out more
https://urls.fr/_suQwO

How can we reconcile scientific analysis with individual experience? This issue was at the heart of the "La Seine en Commun" project, led by a Lab'Urba faculty member and members of the association La Seine N'est Pas à Vendre (SPAV). These partners invited people living along the river to draw sensitivity maps, in order to "co-produce a shared vision of the Seine" and enrich thinking on local development.

Combining the views of scientists and the general public about the Seine

While understanding rivers is now largely the preserve of the technical community, the view of the general public deserves to be more widely solicited and exploited. This is particularly the case when land development issues are at stake, with impacts that are not only related to the land, but are also economic and ecological. The leaders of the "La Seine en Commun" project have sought to determine how this shared vision is to be developed: Youssef Diab, professor of Urban Engineering at Université Gustave Eiffel, member of Lab'URBA and Scientific Director at EIVP, alongside Bernard Landau and Bénédicte Goussault, respectively President and member of the association La Seine N'est Pas à Vendre (SPAV).

As part of this citizen participation initiative, residents of Chatou, Créteil and Juvisy were invited to create a "sensitivity" map of the Seine during workshops. Unlike traditional cartography, sensitivity maps offer a subjective representation of a territory or space that is unique to their authors. Accompanied by Bénédicte Goussault, as well as urban engineering and architecture students from the university, residents drew a map of "their Seine", focusing on three particular aspects: risks, landscapes and routes. The drawings were then shared with the group so each person could discuss their own creation and that of others. They were then presented to all participants at an overall feedback session and summarised in "maps showing the



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feedback received from users of the Seine in graphical form". "After they had finished drawing, the participants wanted to explain what they had done. Their stories were rich and elaborate. We hadn't expected such a wealth of stories," says Bénédicte Goussault. "Scientifically speaking, the project has enabled us to discover sensitivity maps, and we are still seeing the usefulness of the concepts they reveal", says Youssef Diab.

"Support for collective awareness and appropriation of the river can only be achieved if there is commitment to a narrative."

Bernard Landau,
President of the SPAV association for Narse de Nouvialle

find out more
<https://urls.fr/qps3pE>

1921, swimming in the Seine.
Press photography by Agence Rol.
Source: gallica.bnf.fr / BnF



In support of administrations, local authorities and government agencies, our university carries out expert appraisal, standardisation and knowledge transfer missions to help inform public decision-making. We contribute on all the themes and disciplines covered by our components, from measuring discrimination in higher education to studying the durability of materials.

Evaluating,
assessing and
informing
decision-making

The SMC Laboratory, from research to certification for civil engineering structures

"A research laboratory that supports companies, project managers and contracting authorities." That is how Sylvain Chataigner describes the Metal and Cable Structures (SMC) Laboratory, where he has been director since January 2023. Although the majority of its activities are devoted to research and development, the laboratory, which is part of the university's Materials and Structures department (MAST), is regularly consulted by public and private-sector players for support, product testing and expertise: reinforcements and cables, metal structures and their assembly, composites and structural bonding, and more.

Historically, the laboratory developed its skills around bridges and, more generally, all metallic and cabled structures, before extending them to other types of constructions, such as dams and enclosures around nuclear power stations. "Over the past ten years, we've been sought out more and more in the field of marine renewable energy (MRE), in particular for testing anchoring or electrical cables for floating wind turbines," - says Sylvain Chataigner.

Between research, expertise and certification

The SMC Laboratory possesses recognised expertise - which has led it to contributing, alongside AFCAB and ASQPE,* to certification tests for reinforced concrete and prestressed concrete reinforcements and prestressing processes - and benefits from the skills of its researchers, several of whom are recognised as specialists or experts in the field of civil engineering structures by the French Ministry for the Ecological Transition. But the laboratory

has another key strength: its extensive experimental capabilities. "We have around 2,000 m² of workshop and test hall space and a number of high-performance tools, including one of the university's key facilities: a cable fatigue bench (BFC) which can be used to carry out 1:1 scale tests." This piece of equipment, the only of its kind in France, has been upgraded to perform complex fatigue tests combining tensile and bending stresses. It is used to test cables and anchors for prestressed, suspension and cable-stayed bridges, and now for offshore installations as well. It is in this context that the fatigue bench has been integrated into THEoREM, an experimental platform awarded the Major Research Infrastructure (TGIR) label by the French Ministry for Higher Education, Research and Innovation. This platform was created by connecting the marine engineering testing facilities of four establishments - Centrale Nantes, IFREMER, Université Gustave Eiffel and Fondation OPEN-C - in order to carry out research activities and collaborative projects with academic partners and French and international industrial players. In addition, one of the SMC Laboratory's projects involves building new MRE cable testing equipment, with €3.75

"We work a great deal on developing innovative methods for assessing the condition of bridges or helping infrastructure managers monitor the evolution of their deterioration."

Sylvain Chataigner,
Director of the Metal and Cable
Structures (SMC) Laboratory

million of funding under the State-region plan contract (CPER) between the European Union, the French government, the Pays de la Loire Region and Nantes Métropole.

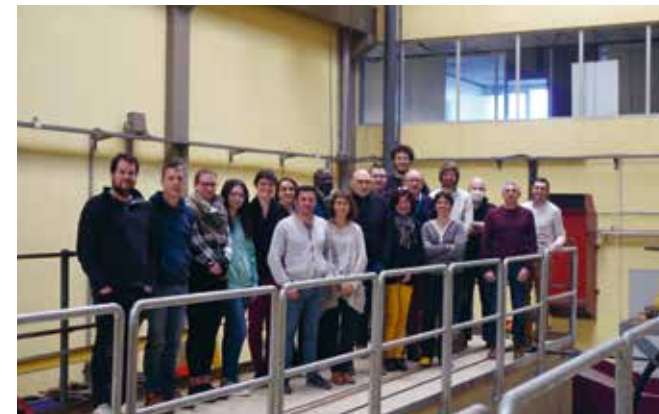
Innovative methods for heritage preservation

The SMC Laboratory is heavily involved in heritage preservation, contributing to research to develop methods for assessing, monitoring, diagnosing and reinforcing/repairing civil engineering structures, some of which are very old. "We work a great deal on developing innovative methods for assessing the condition of bridges or helping infrastructure managers monitor the evolution of their deterioration. This is the aim of the CAHPREEX project, for example, which was launched in 2021." Alongside Université Bretagne Occidentale, the SMC Laboratory is a partner of the Artelia Group and APRR in this project, which is one of the 17 projects selected for the "Connected Bridges" call for projects from Cerema. The aim of CAHPREEX is to implement autonomous RFID sensors to detect corrosion on guy wires and cables.

This same desire to create dialogue between past and present is also found in the thesis by Hannah Franz, a CIFRE doctoral student working with AREP, on the structural and heritage assessment of riveted lattice girders used in large train station halls built between 1850 and 1930. Her research was awarded the René Houpert Prize by the University Association of Civil Engineering (AUGC) in May 2023. It was carried out in the SMC Laboratory, where beams from the Gare de l'Est station were used for full-scale vibration testing.

*AFCAB: French Association for Reinforced Concrete Certification;
ASQPE: Association for the Qualification of Prestressing and Facilities of Civil Engineering Structures and Buildings.

find out more
<https://smc.univ-gustave-eiffel.fr>



Cable fatigue bench.

The interactive website titled "Inspection of Road Infrastructure" offers a collection of technical and methodological documents for assessing the condition and pathologies of bridges, tunnels, dams and other dykes. Created in 2015 by Université Gustave Eiffel and Cerema, this reference tool is regularly updated and expanded.

"We have a great deal of ageing assets, which need to be maintained and sometimes repaired, upgraded or reinforced. Inspection techniques are essential for make the right decisions."



Some of the methods provided in the resource have been used to inspect and monitor prestressed cables on Pont Île de Ré.
© Remi Jouan / Wikimedia Commons.

An interactive reference resource for inspecting road infrastructure

Professionals involved in the management and maintenance of road infrastructure can now access the interactive resource "Inspection of Road Infrastructure" at a new web address. *"In 2023, we migrated to a univ-gustave-eiffel.fr address. We took the opportunity to make the resource more ergonomic, rework the presentation texts and add an 'Update info' tab for regular users,"* says Jean-François Seignol, research engineer at the EMGCU Laboratory and Scientific Coordinator of the resource.

This reference tool, created nearly 10 years ago, is aimed at project managers, infrastructure managers, design offices and government services, such as the Interdepartmental Road Directorates. "We regularly update the existing method documents - in line with changes in practices, the framework of standards and scientific advances - and add new inspection methods when the techniques are sufficiently mature." In 2023, around ten new documents were created by researchers and experts in the field, including from Cerema and Université Gustave Eiffel. For example, researchers from the CPDM Laboratory (MAST Department) worked on a document on sampling and analysing high-density polyethylene (HDPE) external prestressing sheathing.

The website features 26 diagnostic methodologies and 124 inspection methods, such as ultrasonic reflectometry, tomography, petrographic testing of concrete, resistivity and so on. Each document details the principle of the method, the operating procedure, the degree of maturity, advantages, disadvantages and costs.

find out more
<https://urls.fr/OsEUmk>

USE OF THE WEBSITE IN 2023

- Most frequently consulted inspection method: concrete sampling.
- Most frequently consulted diagnostic method: reinforced concrete corrosion diagnosis
- Over 9,500 individual visitors, with over 5,500 since the site migrated in September 2023.

A study of the durability of materials used in the watertight membrane of a detention basin

The mission was to understand the ageing process of the bituminous materials used in the watertight membrane of a detention basin in a hydroelectric facility. As part of its preventive maintenance policy, the EDF Group is mobilising the joint expertise of researchers from five of the university's laboratories: the MIT, CPDM and LAMES Laboratories (MAST Department), the GIE Laboratory (GERS Department) and the SII Laboratory (COSYS Department). This is a first for these researchers, who are specialised in analysing materials and structures. They frequently collaborate with EDF, but here they have to adapt their knowledge of the material in question - an asphalt mix of bitumen and mineral aggregates - to its specific use: the waterproofing of hydraulic structures.

"While the material's properties are perfectly understood in the context of its application in road infrastructure, where it has a lifespan of no more than 30 years, here, we are studying its waterproofing properties and changes over time," says Mathieu Galiana, Research Manager at the MIT Laboratory and coordinator of the project, which is due to run until 2027. The first stage was completed in 2023 and involved characterising the bituminous materials used, based on samples taken during site visits, in the laboratories. The aim now is to study the ways in which these materials age and the consequences of such. The results will be used to adjust EDF's preventive maintenance programme.



Tour of the GIE Laboratory in Nantes and the equipment used to measure the permeability of materials.

The REMEDE national survey (Extensive Review of Institutional Anti-Discrimination and Equality Measures) was carried out by ONDES and the CPED (Permanent Conference on Equality and Diversity). It provides insights into the conditions for implementing initiatives to promote equality in higher education. Interview with Aude Stheneur, Project Manager at CPED.

"Solid, quantified and objective evidence to support dialogue"

find out more
<https://urls.fr/l7gHx9>

An overview of initiatives to promote equality in higher education

What were the major questions posed by REMEDE?

The aim of the survey was to review equality initiatives implemented by higher education institutions in the context of changing obligations.¹ We wanted to document the conditions under which these initiatives are carried out: who are they led by? How are they structured in institutions: is there a dedicated vice-presidency and/or "Equality" mission? What is the scope of this mission? What human, financial and structural resources are allocated?

How do ONDES surveys such as REMEDE contribute?

For us, ONDES is an indispensable observatory with invaluable expertise in data processing. Its work allows us to confirm our impressions – as was the case with REMEDE – or refute them. This type of survey gives us solid, quantified and objective evidence to support dialogue with decision-makers and suggest improvements.

For example, when the REMEDE results were presented, we were able to alert the Ministry and France Universités to the fatigue of project officers, the scale of their task and the limited resources at their disposal to accomplish it. We also stressed the importance of institutional and structural support, in particular through the creation of dedicated vice-presidencies. REMEDE has also enabled us to gain a better understanding of project managers' needs for training, particularly in relation to bullying and LGBTQI+phobia.

REMEDE IN A FEW FIGURES

- Out of the 63 establishments that responded, only 55% have a structure dedicated to equality and anti-discrimination, most often referred to as the "equality mission".
 - 81% of equality officers are women.
 - 94% of missions are also responsible for addressing gender-based and sexual violence; 78% for the fight against LGBTQIphobia; and 63% for the fight against racism and antisemitism.
 - Less than 30% of missions had a budget over €100,000 in 2022.
 - More than 50% of institutions have introduced reporting systems since 2021.
 - 1,543 reports were made in 2022.
-

¹ Introduced by Act no. 2019-828 of 6 August 2019 on the transformation of the civil service.



05

Strengthening and amplifying our partnerships

- .93 Collaborating with international universities
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Collaborating with **international** **universities**

Our university has over 350 partnership agreements with higher education and research institutions around the world. Read on for an overview of collaborations with American, Tunisian and Quebec partners in the fields of architecture, urban engineering and sustainable cities.

Following a partnership between the cultural department of the French Embassy in the United States and Université Gustave Eiffel, City/Cité is a mobility programme for American students of architecture, urban planning and landscape design. The 2023 edition included a week of visits and a five-week work placement in an architecture or urban planning agency, in collaboration with Université Gustave Eiffel students

City/Cité: a new transatlantic architecture and urban planning exchange programme

"As an architect and urban planner, I'm always intrigued by the impact of the built environment on our lives. Being here, guided by incredible mentors and learning alongside talented colleagues really enriched my perspective," says Brendan. This Master of Architecture student at the Illinois Institute of Technology took part in a five-week work placement and a week of tours and lectures in France during the summer of 2023. The experience was offered as part of City/Cité, a student mobility programme set up in 2023 by the cultural department of the French Embassy in the United States (also known as Villa Albertine) and Université Gustave Eiffel through three of its components: Paris School of Urban Planning (EUP), Paris School of Urban Engineering (EIVP) and the Paris-Est City & Regional School of Architecture (Eav&t).

"City/Cité is designed to inspire and raise awareness among a new generation of students committed to innovation in architecture and urban planning. It is a way for us to share methods and public policy on both sides of the Atlantic and lay the foundations for future international collaboration," says Nicolas Douay, Deputy Director of Villa Albertine in Chicago, Head of the City/Cité programme and former professor of Urban Planning. *"International exchange is essential if we are to meet the challenges of sustainable global transformation,"* says Daria Kriazhova, International Projects Manager in the International Relations Department of Université Gustave Eiffel. *"The City/Cité programme represents an opportunity for our university to achieve its goal of becoming a leader in urban planning and architecture research."*

For the first edition of City/Cité, 13 American architecture and urban planning students from universities that belonging to the French Embassy's "Centers of Excellence" network had the opportunity to attend seminars, lectures and tours. *"For example, they visited the Cité de l'Architecture et du Patrimoine, the Pavillon de l'Arsenal and the Paris Rive Gauche development project, and were able to discuss subjects such as pedestrian mobility and the recycling of soil extracted during the construction of the Grand Paris Express metro,"* says Daria Kriazhova.

"The programme also focuses heavily on the spirit of collaboration," says Nicolas Douay. *"The American students were paired with students from Université Gustave Eiffel to encourage discussions around architectural and urban planning topics."* The American students also spent five weeks working alongside their French counterparts in public and private architecture firms, urban planning offices and landscaping agencies, such as the Atelier Parisien d'Urbanisme (Apur). *"My internship at Institut Paris Région and the City/Cité programme allowed me to immerse myself in French*

"Sharing methods and public policy on both sides of the Atlantic"

"Creating multi-faceted dialogue on urban issues"

culture and urban planning. It was quite simply transformative," says Cole, an urban planning student at Texas A&M University. The City/Cité mobility programme, created with Université Gustave Eiffel, is part of a wider initiative launched in 2015 by Villa Albertine and Institut Français to *"create multifaceted transatlantic dialogue on urban issues. This dialogue takes the form of conferences, exhibitions, publications, professional residencies, mobility programmes and decentralised cultural cooperation,"* says Nicolas Douay. *"It brings together a wide range of players, including researchers, teachers, students, policy-makers, artists and architects."*

© Nicolas Douay / Villa Albertine



find out more
<https://urls.fr/V7FNOO>

The Urban Engineering Department supporting sustainable property development in Tunisia

"Make cities and human settlements inclusive, safe, resilient and sustainable."
 The Milestones for Sustainable Property Development (JDID) project is directly in line with this goal, number 11 of the UN's 17 Sustainable Development Goals (SDGs), and Université Gustave Eiffel is contributing through its partnership with UN-Habitat in Tunisia. With the support of Société Nationale Immobilière de Tunisie (Tunisian public property development company), JDID aims to support the programme to build 5,500 homes in El Agba, a locality in greater Tunis. *"This is international cooperation that is designed to be decentralised and co-constructed,"* says Amina Béji-Bécheur, Deputy International Vice-President for the Maghreb region. *"It is based on an experimentation process that is not limited to sharing skills, but one which will drive transformation through appropriation of such skills by local players."*

"This is international cooperation that is designed to be decentralised and co-constructed"

Amina Béji-Bécheur,
 Deputy International Vice-President
 for the Maghreb region



"A group of students worked on the issue of water, a major factor in sustainable development."

In the first phase of the project in 2023, a geographical and environmental analysis was carried out jointly by Tunisian students from ISTEUB and ENAU,* and French students from Université Gustave Eiffel. The Tunisian students carried out a site assessment, which was used by students in the Sustainable Urban Development (DUD) Master's, directed by Margot Pellegrino, to reflect on development principles in a workshop coordinated by Flavie Ferchaud. Under the supervision of Gilles Hubert, Emeritus Professor of Urban Engineering, and Christian Piel, Director of the Urban Water agency, a group of 25 Tunisian students also worked on the issue of water, a major factor in sustainable development. Based on this work, a new project workshop will be held by a group of Tunisian and French students in Tunis in June 2024, to prepare the guide plan for the future El Agba eco-district. A second phase of the project, focusing on the experiences and practices of residents of a neighbouring district, will run until 2025. This will be used to establish takeaways for the future district.

The initial results of the work have been shared with UN-Habitat in Cairo, which plans to replicate the approach in other countries, particularly Egypt, where over 40 new cities are planned to be built. *"The JDID project was initially localised, but it ended up having such an impact that we are considering creating a UN-Habitat-Université Gustave Eiffel chair for the MENA region. Although it sometimes requires us to leave our comfort zone due to the local political issues involved, the project has met with great enthusiasm and enjoys the support of all the university's departments."*

*Higher Institute of Technology, Environment, Urban Planning and Construction; Tunis National School of Architecture and Urban Planning.

Collaborating with international universities

FormelIn early June, a delegation of faculty members from Université de Sherbrooke (UdeS) visited the university's campus in Nantes for three days of discussions, facility tours and scientific sessions.

This meeting was the culmination of more than two years of inter-university cooperation to address the major challenges involved in future cities.

Université de Sherbrooke in Nantes to design the cities of tomorrow

The two universities have been working together since 2016 within the ECOMAT International Associated Laboratory (LIA) and have always shared the same goals: to help develop knowledge on the major challenges facing cities of the future. As part of a project supported by the Permanent Commission for Franco-Quebec Cooperation (CPCFQ), Université Gustave Eiffel and Université de Sherbrooke (UdeS) organised **four meetings** over a period of almost two years to **share their expertise, practices and knowledge** on a wide range of subjects, including the environment, sustainable mobility, digital transformation, gender equality and civil engineering. *"We had free discussions on the issues of sustainable, resilient and inclusive cities in the context of climate change,"* says Claude Marin-Lamellet, Deputy International Vice-President and coordinator of the cooperation project.

After two visits from members of Université Gustave Eiffel to Sherbrooke and a delegation from Quebec welcomed to the Marne-la-Vallée campus in 2021 and 2022, the visit to Nantes from 7 to 9 June 2023 was the last in a series of meetings structured around site visits and scientific sessions via videoconference. As well as exploring the major facilities on the Nantes campus, such as the fatigue test carousel, the geotechnical centrifuge and the anechoic chamber, the partners took part in three scientific sessions, one of which was devoted to urban energy. Highlights included talks from a researcher from the LMFTEUS Laboratory in Quebec about innovative heating-ventilation-air-conditioning (HVAC) systems and a representative from Nantes Métropole about energy transition services for businesses. *"The meetings formed the basis of a framework agreement that is currently being drafted, to develop future scientific, educational and administrative collaboration,"* says Claude Marin-Lamellet. *"UdeS is very advanced in terms of learning by doing, an approach that we want to develop in our university's pedagogical model,"* he says, before mentioning some good news for collaboration prospects: in late 2023, Canada joined the Horizon Europe programme as an associate country.



On our various campuses, Université Gustave Eiffel teams work in close collaboration with scientific and socioeconomic players in the fields of transport, construction and energy. The aim of these special partnerships is to co-develop innovative solutions for sustainable cities and territories of the future that can be transferred to society.

**Co-constructing
and reinforcing
research around
lives and cities**

Co-constructing and reinforcing research around lives and cities

In order to coordinate its electric road system (ERS) activities and exchanges with the scientific, technical, institutional and economic players involved in electric road development, Université Gustave Eiffel has set up an internal ERS project group. It includes researchers working on the subject, the Communications Department, the Public Policy Support Vice-Presidency and the Vice-Presidency of Partnership and Professionalisation.

Jean-Paul Mizzi, Vice-President of Campus Policy Organisation and coordinator of this new mission, provides further details.

A coordinated initiative for electric roads

"Developing the electric road system (ERS) requires multiple forms of collaboration between researchers - it is a subject at the crossroads of civil engineering, electrical engineering, energy engineering, mechanical engineering and social sciences - but also with project managers, infrastructure managers, solution manufacturers, equipment manufacturers, and so on." says Jean-Paul Mizzi, Vice-President of Campus Policy Organisation. Since late 2023, he has been leading a university project group designed to coordinate the ERS initiatives in which the institution is involved, both internally and with external national and international players. *"We are involved in two major projects designed to test ERS technologies: CAYD (Charge As You Drive), run by Vinci Autoroutes, and eRoadMontBlanc, run by Autoroutes et Tunnel du Mont-Blanc (ATMB). The first tests two technologies - charging by induction coils and by conduction via a power track on the ground - and the second focuses on another conductive charging technology. The aim of these projects is to set up demonstrators in a controlled, protected environment and then on real roads - on a section of the A10 motorway in the Paris region and on the RN 205 motorway upstream of the Mont Blanc tunnel."*

These two projects were selected for the France 2030 call for projects on "Automated Road Mobility, Connected and Low-carbon Service Infrastructures". They bring together a dozen players, including Alstom, Electreon, Elonroad, Greenmot Hutchinson, Pronergy and Cerema, in public-private consortia. At Université Gustave Eiffel, nine components are involved in the two projects: LICIT-ECO7, COSYS, LIGM, LASTIG, MSME, EIVP, AME, UMRAE and MAST. Researchers will contribute their expertise on subjects as varied as **optimising energy management, grip,**

© Vinci Autoroutes



"Of all the solutions for decarbonising mobility and accelerating the energy transition, the ERS is surely the one with the greatest potential, both in terms of reducing greenhouse gas emissions and saving often scarce resources², and in terms of social and economic benefits.

This is one of the university's historic areas of research and one for which we are renowned: two years ago, we took part in DGTIM working groups, which aimed to provide input for developing a national ERS strategy and examine the various technical solutions proposed."

Jean-Paul Mizzi,
Vice-President of Campus Policy Organisation
and coordinator of the ERS group

Co-constructing and reinforcing research around lives and cities

durability, economic evaluation, noise emissions and driver acceptability. The university's major scientific facilities will also be involved, such as the Transpolis experimentation platform in Saint Maurice de Remens, the road reference and experimentation track, the Fabac machines and the fatigue carousel in Nantes.

Uniting teams and working with all stakeholders

The ERS group aims to bring together the activities of research teams and encourage knowledge sharing. *"We plan to organise an annual electric road seminar. In addition, a number of the university's experts have been invited to join the group, in order to establish links with our scientific platforms or look at possible connections with the 'Digitalisation and Decarbonisation of Mobility' Research Programme (MOBIDEC PEPR) or the Sci-ty Programme,"* says Jean-Paul Mizzi. The ERS group will also provide a link between the university and all national stakeholders: competitiveness clusters, Institutes for Energy Transition (ITE) and the relevant public authorities, such as the Directorate-General for Infrastructure, Transport and the Sea (DGITM) and the Directorate-General for Energy and Climate (DGEC).

An international outlook

ERS is an international issue of great importance. *"For example, our university is involved in submitting a European Cooperation in Science and Technology (COST) Action. We are also discussing electric roads through the GTNs' linked to Horizon Europe's Cluster 5 - Climate, Energy and Mobility, the World Road Association (PIARC), the COLLERS partnership between Germany, Sweden and France, and the European Commission."*

find out more
[www.ecologie.gouv.fr/
lautoroute-electrique](http://www.ecologie.gouv.fr/lautoroute-electrique)

1. GTN: National Working Group
2. "Décarboner le transport routier de marchandise par l'ERS, enjeux et stratégie" report by Working Group 1 on the electric road system - July 2021

After working together for several years, Université Gustave Eiffel and Sherpa Engineering signed a framework contract in 2023. Damien Grolleau, Director of Business Development at this SME specialising in embedded systems engineering, explains the importance of this agreement.

Closer collaboration with Sherpa Engineering

What concrete forms does your cooperation with Université Gustave Eiffel take?

Damien Grolleau: It began in 2018 with the Driverless Shuttle Tests (ENA) project, for which we developed our first piece of hardware: a perception and localisation system for self-driving vehicles. We are currently working with the EASE Laboratory on two projects co-funded by the R&D Recovery Plan: the PAD project, which uses an autonomous robot to analyse the quality and safety of cycle paths; and EVAL-SYS, a data science project that aims to use AI to analyse road skid resistance data collected by the EASE Laboratory.

We are also involved in the Board of the Partners' Club, which I co-chair with Gilles Roussel, the President of the university, and we also offer our expertise in energy optimisation and decarbonisation, as part of the Sci-ty programme. The framework agreement signed with the university on 11 May 2023 formalises and strengthens our collaboration.

"A fine example of co-designing innovative solutions that can be transferred to society"

Robot co-developed by the university and Sherpa Engineering as part of the PAD project ("Autonomous Platform for Diagnosing Cycle Paths").



What is the goal of strengthening this partnership?

The main aim is to launch PhDs and engage in co-maturation: identifying projects carried out by university laboratories that could interest our customers and be the subject of a technology transfer. Sherpa Engineering is an SME specialising in embedded systems engineering for vehicle propulsion, advanced driver-assistance systems (ADAS), autonomous mobile robotics, vehicle energy optimisation, etc. To remain experts, we need to anticipate future needs and make the right decisions. Our links with research laboratories enable us to stay one step ahead. The university is also in close contact with public decision-makers. This helps us focus our work more effectively.

Signing a framework contract with the university also raises our profile with its laboratories and components. This opens up new opportunities.

find out more
https://urls.fr/K_rXoE

"Our collaboration with Sherpa Engineering is an excellent example of our desire to increase our research and innovation collaborations with companies that are experts in the fields of sustainable cities and territories, in order to co-design innovative solutions that can be transferred to society. Co-maturing innovation projects, creating joint laboratories, supporting Cifre theses at industrial sites... These are just some of the ways in which we can accelerate technology transfer and enhance the value of research."

Muriel Jougleux,
Vice-présidente Partenariats
et Professionnalisation

PRO-6PO: a pilot line for the pre-industrialisation of microsensors at ESIEE Paris

Reduced costs and development times, faster and easier time-to-market, reduced risks, lower consumption of raw materials... These are just some of the promises made to companies by the PRO-6PO project, which is currently being **deployed in the cleanrooms at ESIEE Paris**. It was selected for the "SESAME Sectors Future Investment Programme (PIA)" call for projects and received co-funding of €2.3m from the French government and the Île-de-France Region. The project aims to increase support for the R&D and pre-industrialisation activities of industrial and academic players in the field of micro- and nanotechnologies. The end goal is to accelerate the launch of innovative miniature sensors and new microelectromechanical components (MEMS) on the market for applications in the environmental, health, mobility and food industries.

Renforcer la souveraineté nationale dans un domaine stratégique

PRO-6PO is co-directed by Jérôme Clinckx, Director of International Funding and Institutional Relations, and Lionel Rousseau, Head of Cleanrooms at ESIEE Paris. It aims to set up a pre-industrial line, the only of its kind in the Paris region, to produce micro-sensors on a silicon wafer with a diameter of 6 inches (150 mm). *"Until now, engineers have been working on 4-inch substrates, but more and more companies want to switch to 6-inch substrates in order to produce larger quantities,"* says Lionel Rousseau. *"The dual 4" and 6" pilot line will mean that both substrate formats can be processed on the same machines, without having to change anything over."*

Upstream of industrial production, PRO-6PO will help manufacture pre-production runs at a competitive cost, and ensure that technology transfer is accelerated and facilitated for scaling up volume. This is a major advantage at a time when the lack of national players in this field is forcing innovative companies to relocate, which endangers France's ability to respond and financial commitment. Against a backdrop of shortages of electronic components, PRO-6PO will increase national sovereignty in the micro- and nanotechnology markets.



find out more
<https://urls.fr/ZSSxov>



The project was launched in December 2022 for a period of three years. While 2023 was devoted to acquiring and installing three new pieces of equipment, 2024 will be devoted to qualifying them so that standard manufacturing processes can be put in place and **the first demonstrators designed**. The 6-inch line will then be used for industrial production and creating more complex demonstrators for research laboratories in the Paris region and nationally. *"We are building a virtuous circle: our students will gain experience on equipment that they may have to use at their future jobs, and researchers will be able to develop new manufacturing processes."* With the PRO-6PO project, the cleanrooms at ESIEE Paris are continuing to develop a partnership network built on training, research and production, in line with their original purpose.

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Created by the Université Gustave Eiffel Foundation and Land Use Transition Institute, the Land Use Transition Chair was launched in November under the scientific aegis of Éav&t and EIVP. It aims to promote interdisciplinarity and the transfer of scientific knowledge to civil society.

"Transition and land use are two words we don't usually associate with each other, but they are at the heart of environmental transitions in the same way as energy and carbon neutrality."

Michèle Pappalardo,
President of Université Gustave Eiffel Foundation

© ENSA Paris-Est



Land Use Transition Chair: building shared knowledge around sustainable land management

Combining scientific disciplines and bringing together research and operational players (local authorities, urban operators, project managers, etc.) around the issue of sustainable soil management - that is the goal of the Land Use Transition Chair, launched by the Université Gustave Eiffel Foundation and the Land Use Transition Institute. Paris-Est School of Architecture for the City and Territories (Eav&t) and Paris School of Urban Engineering (EIVP) provide scientific leadership for this new partnership research chair at Université Gustave Eiffel. The agreement was signed and the Chair inaugurated on 29 November 2023, at the Université Gustave Eiffel Foundation's second Rendez-Vous event. It was an opportunity to present the Chair's objectives, its partners such as the Caisse des Dépôts and the AREP group, and its first scientific projects, such as Lukas Madl's thesis which aims to develop a decision-making tool for urban soil renaturation practices.

The Chair's activities are structured around three areas of research - the ecological functions of soils, economic models for land development, and soil governance - and have two objectives. The first is interdisciplinarity: successfully combining the social, legal, natural and applied (architecture, urban planning) sciences. "We realised, for example, that soil scientists don't look to deeply into issues around soil governance and urban planners don't address soil quality," says Jean Guiony, founder of the Land Use Transition Institute. The second objective is to transfer knowledge from research to civil society. "There are simple things that are not well understood: soil is still seen as a surface and not as a volume; as a perimeter and not as an ecological continuity; as mineral and not inhabited by 25% of biodiversity..." says Jean Guiony.

find out more
<https://urls.fr/bMyK1Q>

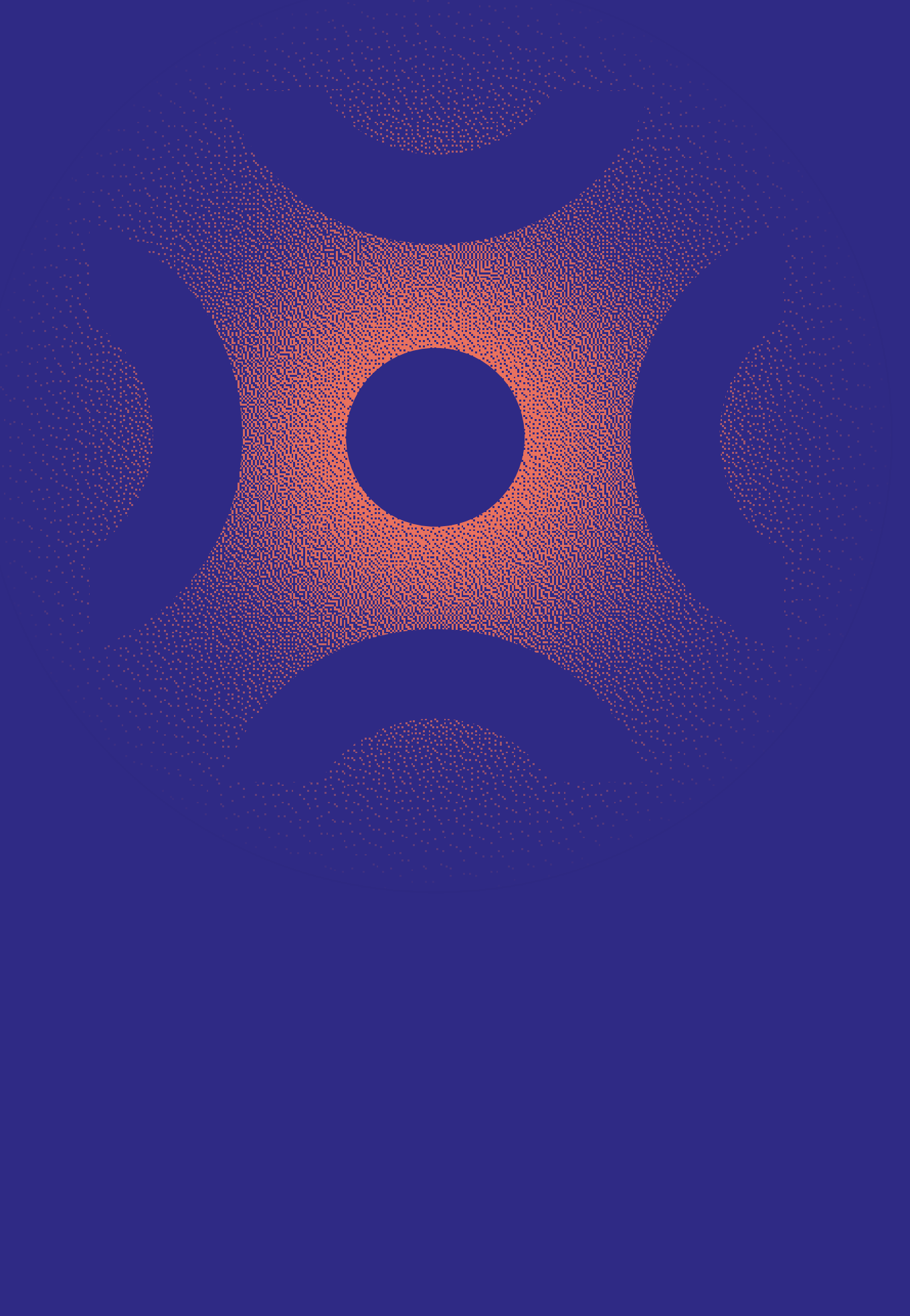
R&D Recovery Plan: 22 projects supported and young researchers recruited

The goal was clear: to maintain companies' human resources in R&D and support the recruitment of young graduates and PhD students. The PRRD was launched by the French government in September 2020, on the eve of the second lockdown. Its measures included government funding of up to 80% of the salary of a postdoctoral student for a period of 12 to 24 months, through a collaboration between a public laboratory and a company. For Université Gustave Eiffel, the programme resulted in 22 new research collaboration contracts signed in 2022 and 2023, including nine on the Nantes campus and five on the Lyon campus: four private-sector employees on secondment to university laboratories and 18 postdoctoral students hired by the institution.

Vinci, Stanley Robotics, Eurovia, Sixense Engineering... These are just some of the companies (small, medium-sized and large groups) that have joined forces with the university through projects supported by the PRRD with funding of €2.8 million in total. These public-private partnerships cover R&D projects in a wide range of fields, including energy, infrastructure, construction, mobility and communications. Examples of research underway include monitoring of animal movements for aeronautical safety (PICS-L Laboratory and Terroïko) and developing engine control solutions to make hybrid vehicles cleaner (LICIT-ECO7 Laboratory and CRMT).

"The projects will run until the end of 2024, but the initial results are very encouraging, with a start-up created, new hires and prospects for further development," says Juliette Renaud, from the Vice-Presidency for Partnerships and Professionalisation (VP3). "The PRRD has been an effective way of nurturing ideas, developing new solutions and strengthening our relationships with socioeconomic players. Many projects could also join the Sci-ty programme, to support their prematuration phase," she says. Another positive point to highlight is that the PRRD has helped create a community of companies and laboratories involved in the scheme. The VP3 hosts quarterly webinars, where project leaders are invited to discuss and present the progress of their projects.





Promoting and embodying the university's values

.111 Creative and engaged students

.119 Staff sharing knowledge

Creative and engaged students

Involved in campus life, driving forward innovative solutions, ambassadors for the socioecological transition... Our students are supported and accompanied in their initiatives and commitments, in particular through a decision-making and representative body that is unique in France: the Student Parliament.

Thomas Blusson was elected by his peers to the position of Student Vice-President of Université Gustave Eiffel and is supported by three deputies. Read on for an interview with this engineering student, who is motivated by the idea of defending the interests of the student community, in particular by raising the profile of the Student Parliament.

"We need to get students enthusiastic about getting involved in associations again"



Thomas Blusson invited by university President Gilles Roussel to give a speech at the ESIEE Paris 2023 graduation ceremony.

Interview with Thomas Blusson, new President of the Student Parliament

Can you tell us about yourself and your study journey?

Thomas Blusson: I'm 21 and originally from Orléans. After a high school diploma in Science and a university technical diploma in Computer Science at UPEC (Université Paris-Est Créteil), I'm currently in my second year of engineering studies at ESIEE Paris. I intend to be a cybersecurity engineer, but ESIEE provides general engineering training and I'm not closing any doors.

You're not "just" Student Vice-President: can you tell us about your different forms of involvement?

I was a deputy delegate in my last two years of high school, but I wouldn't call it a 'real mission'. My involvement in student representation really began in my first year at ESIEE Paris, during which I was class delegate, cohort representative and deputy student representative. Following the most recent student elections at Université Gustave Eiffel, I was elected to the Board of Directors and succeeded Enora Lorcy as Student Vice-President following the Student Parliament elections. I'm also a mission officer in the elected branch of the BNEI (National Student Engineers Office) and, in terms of associations, I'm a member of ESIEESPACE and co-organiser of HackDay.

Where does your desire to get involved come from?

What motivates you?

Let's just say that I don't hesitate to say yes to propositions that motivate me and to continue if I like it. It's always worth a try and it costs nothing. As far as the Student Parliament is concerned, I like the idea of defending students' interests. I find it interesting, and all the more important given the sharp decline in student involvement in associations. I'm convinced that we need to get students enthusiastic about this again and that the Student Parliament has a role to play, through the real power it wields within the school.

What major issues are you committed to defending?

In addition to representing students, one of the missions that my three deputies (Cerise Garenne, Corentin Poupy and Florian Gay-Perret) and I have set ourselves is to create greater cohesion between the various campus associations. There is a gap between the associations and student representatives in the Parliament. But the university is still young, which no doubt partly explains this fragmentation. Our dream would be to work together more effectively, so that everything can be pooled, loaned, etc. To achieve this objective, we have a number of ideas: communicate effectively about the Student Parliament, launch a call for grievances to understand the issues with associations (already underway) and create a directory.

What targets have you set yourself?

At the end of this two-year mandate, we would like everyone to know and be able to define the Student Vice Presidency, to know what the Student Parliament is and what it can do for them. For example, it's not right that the FSDIE (Solidarity and Development Fund for Student Initiatives) and its €300,000 budget are not known to all students, when it is specifically created for them. The objective is to move away from a system where everyone is doing things off by themselves, and towards something that is well-known, with various key milestones to achieve our desired outcome. In the end, we're here to pass information back and forth. We're here to spread the word and make connections.

"Make sure everyone knows what the Student Parliament is and what it can do for them"

From left to right: Corentin Poupy, Thomas Blusson, Cerise Garenne and Florian Gay-Perret.





Around a dozen students are deployed on the Paris and Marne-la-Vallée campuses, under contract with the Sustainable Development and Social Responsibility (DD&RS) mission, to help raise awareness about issues related to the socio-ecological transition and to carry out projects. Nolhan Emica, who studies at ESIEE Paris, joined the mission in September 2023. Here, he explains his role and what he does.

A network of students to support the DD&RS mission

"For me, there are two benefits to the role of DD&RS Officer," says Nolhan Emica. "Firstly, it fits in perfectly with my field of study and my favourite subjects: energy and sustainable development. Secondly, this student job gives me an income while offering great flexibility and adaptability in terms of work hours." Nolhan is studying his preparatory class at ESIEE Paris and is one of 10 student officers attached to the DD&RS mission. *"One of their major challenges is to promote our mission's commitments and achievements to the student community," says Clémence Garnier, head of the mission at the university. "They play an important role in relaying information and communicating to an ever-growing audience."*

Depending on their interests and areas of expertise, student officers are invited to work on a variety of themes. For example, Nolhan assisted with the university's entry to CUBE, a nationwide competition that recognises buildings at higher education institutions working to **effectively reduce their energy consumption**. In 2023, Université Gustave Eiffel entered several buildings in the competition, including the ENSA Paris-Est building, which won first prize in the Teaching category. *"For this competition, we had to report our energy consumption every month," says the student. "I ensured that the measurements were taken on time and I supervised the creation of posters to communicate the benefits of this operation to university users."*

"As student officer, I also coordinated discussions around the Grenoble Agreement objectives," says Nolhan. This document, drawn up in 2021 by higher education students (including two from Université Gustave Eiffel), sets out 11 objectives around eco-responsible campus management and policy for signatory institutions. "The meetings brought together many members of the university, both staff and students. It was a very rewarding experience of sharing and exchange."

In April 2023, the final of the 11th "All Accredited" entrepreneurial pitch competition was held. Two of the university's students were recognised for their concrete and innovative projects.

"All Accredited": the student entrepreneur pitch competition

Co-organised by Pépité 3EF (Student Centre For Innovation, Transfer and Entrepreneurship) at Paris-Est Sup and Université Gustave Eiffel, "All Accredited" invites students to submit a business creation project and defend it in **three minutes in front of a panel** of entrepreneurs and professionals. After an initial selection was made from 47 entries, eight projects took part in the final of this pitch competition, five of which were submitted by students from the university. Among them, there were two winners.

The Emerging Prize, valued at €700, is awarded to "early stage" projects that have a well-constructed, comprehensible offering, respond to an identified problem and have already set out a business model canvas. One of the two winners in this category in 2023 was the **WayUp** project, co-founded by three students, including Nicolas Ristic, an ESIEE Paris graduate who has since been appointed CTO of this e-health start-up. The young entrepreneurs are developing a smartphone application that encourages users to adopt better waking and sleeping habits. By combining

a scientific approach with gamification principles, WayUp offers a range of functions to help you "fix your body clock": a progressive alarm, challenges and advice tailored to your biological rhythm, cognitive exercises, a questionnaire to determine your chronotype, and more.

The People's Choice Prize (also worth €700) went to **Line Paris**, a project by Danna Taguia. She received support and guidance from Pépité 3EF when developing a lingerie brand aimed at *"women with large chests and small backs"*, with the aim of *"offering a product with the right amount of support, while maintaining a modern, fresh, fun and elegant look!"*

As a partner in the event, Descartes Développement & Innovation also offered all candidates free access to Descartes Fablab, a place for encounters and collaborative creativity.



find out more
<https://mission-ddrs.univ-gustave-eiffel.fr>

In 2023, the student officers' work included launching the DD&RS Mission's Instagram account.



find out more
<https://urls.fr/jc4lds>

Paying homage to Gustave Eiffel and representing the values he embodied: innovation, modernity, creativity... That was the challenge issued to the university's students in response to a call for projects, designed to celebrate the legacy of this 'iron magician'.

When students take inspiration from Gustave Eiffel

Throughout 2023, groups of students developed inventive and innovative pedagogical projects inspired by the life and work of the famous French engineer. *"The idea was also to highlight the creative abilities and technical skills that our students acquire in our various courses,"* says Frédéric Moret, Vice-President of the university and professor at the Comparative Power Analysis Laboratory.

One of the projects, from students at Professional Superior Architecture Assistant School (EPS-AA), took the form of an architectural competition. In the spirit of the World Fairs, they had to create pop-up pavilions in tribute to the Eiffel Tower and the Champ-de-Mars. Students in the Bachelor's degree in Technology in Multimedia and Internet (MMI) were introduced to sound design and created 15 podcasts about Gustave Eiffel: his bridges, his daughter, the story of his "Eiffel" pseudonym, and more... Students from the Image, Multimedia, Audiovisual and Communication (IMAC) field at ESIEE Paris created a virtual reality game called "La volonté de Fer" (The Will of Iron) and international students made videos talking about their conceptions of Gustave Eiffel.

Over the course of the year, the university's students were also asked about their perception of Gustave Eiffel and

"I had no idea about everything Gustave Eiffel did throughout his life. In my opinion, our university is ambitious just like the engineer was, in particular with its many courses that constantly push us to go the extra mile."

Noam,
MMI Bachelor's student

"We wanted to pay homage to Gustave Eiffel by striving for innovation and creativity, like him. This project was a very enriching experience and, in the end, that's what we expect from university: that it enriches us."

Théo,
IMAC student

his work. The adjectives most often used to describe him included innovative, ingenious, creative, curious, modern, ambitious, enterprising, a builder and a magician.

"Gustave Eiffel was an innovator, he proposed a new way of seeing architecture that made an impact on people all over the world."

Yue,
French university culture and methodology diploma student

find out more
<https://urls.fr/6shTzQ>

Gustave Crauk
Gustave Eiffel, Bronze, 1903, 87 x 35 x 32 cm
Private collection, Philippe Coupérie-Eiffel



Creative and engaged students

The second edition of the European Hackathon was co-organised by the university and AFIT France (French transport infrastructure funding agency) and held from 25 to 27 March. Around fifty European students combined their approaches and expertise to present projects that "support changes in behaviour for more sustainable mobility".

European students come up with sustainable mobility solutions

Mobilising students with a wide range of backgrounds and profiles around the theme of sustainable mobility – that is the aim of the European Hackathon, which encourages healthy competition and teamwork. In March 2023, the event took place in the ESIEE Paris premises and was attended by 33 students from partner universities of Université Gustave Eiffel, including Cologne University of Applied Sciences (TH Köln), the Polytechnic University of Milan, Avans University of Applied Sciences in the Netherlands and Tomás Bata University in Zlín (TBU) in the Czech Republic. They were joined by 17 students from Université Gustave Eiffel.

For two days, the participants worked in teams on the issue of mobility (of goods or individuals) and more specifically, on the way in which the range of services, urban or residential development, and the presence of shops or jobs influence our mobility. They were also encouraged to reflect on how psychological and cognitive biases impact mobility. During the development phase of their projects, the students benefited from the guidance of professors, entrepreneurs and researchers in the field of sustainable development and mobility.

After two days' work, they presented their projects to a jury featuring MEP Fabienne Keller and AFIT Chairman Patrice Vergriete. First prize was awarded to the team behind "Be-Hold", a project designed to "avoid congestion and increase safety on the Paris metro", in which EIVP student Arthur Courjaud took part, alongside students from Italy and Finland. On 10 May 2023, the winning team was invited to the European Parliament as part of the "May by Bike... Ride for Europe in Strasbourg" day, to present their project to MEPs Karima Delli and Pascal Canfin, as well as Thierry Coquil, Director General of Infrastructure, Transport and Mobility (DGITM) at the French Ministry of Ecological Transition and Territorial Cohesion.

How do they see their role within Université Gustave Eiffel? What values or missions are important to them in their job? Faculty members and administrative staff talk about the reasons and motivation that give them the energy to share knowledge, support projects and help maintain our school's outstanding reputation on a daily basis.



Staff sharing
knowledge

"Embodying the open, eclectic spirit that characterises our university."

"Sharing knowledge is the primary mission of a professor and researcher, which is why I wanted to do this job. I've always loved passing on knowledge and know-how. As Montaigne said, 'it's better to have a well-made head than a well-filled head.' I like to encourage curiosity and the desire to learn in order to foster students' freedom and autonomy.

I joined the university as a temporary teaching and research faculty member (ATER) in 2001 and after writing my thesis on the multi-faceted work of Jacques Prévert, I have remained interested in the links between two disciplines: literature and cinema. In line with the open, eclectic spirit that characterises our university, it's important to me to teach a wide range of students, both initiated and uninitiated, from first-year Bachelor's to PhD level, in my subject areas as well as in information and communication sciences. That's why I also give classes in general culture at CIPEN and methodology in the second year of Master's in Human Resources Management and Work and Organisational Transformation.

I care deeply about promoting and spreading research beyond the academic sphere, and I help share it in a variety of ways: organising a "period cinema" evening for the Gustave Eiffel centenary, directing collections, speaking at lectures for the University for All Ages and University of Time Regained programmes, on radio shows, etc. It can be time-consuming, but above all it's a pleasure and a passion."

Carole Aurouet,
Professor of Film and Audiovisual
Studies, Marne-la-Vallée campus



Aurélie Signoles,
Head of the EIVP Documentation
Centre, Paris campus



"Breaking down barriers to knowledge and encouraging cultural openness."

"As Head of the EIVP Documentation Centre, I oversee a department that assists students, teachers and researchers with their information and documentation needs. My job is also to expand access to the collections and foster links between resources and the wide variety of courses offered by EIVP. To achieve this, we set up a number of content curation tools, including one that monitors new developments and research on the cities of tomorrow, accessible to all audiences. It allows students to keep abreast of the latest news in their learning areas: the challenges and management of sustainable cities (urban development, mobility, roads, public spaces, etc.), the ecological transition and risk adaptation.

By encouraging curiosity and cultural openness and breaking down barriers to knowledge, our team acts as a vector for student success. And to further guide and help students, a new resource centre will open its doors in September 2024. More airy, central and welcoming, it will bring users together in a place that fosters knowledge-sharing and interaction between all components of urban engineering."

Johnny Gaspéri,
 Director of Research at the Water
 and Environment Laboratory (LEE),
 Nantes campus

"Reconciling scientific excellence and support for public policy."

"Plastic is omnipresent in our daily lives. My research looks at how the environment responds to the rise in consumption by tracing the trajectories of contamination from microplastics, a palpable pollution that also affects our imaginary and perception of nature. That is also the aim of Rubbercity, a project directly linked to the university's focus on urban innovation, carried out in collaboration with the EASE (Environment, Planning, Safety and Eco-design) Laboratory and funded by the French Agency for Ecological Transition (Ademe). As part of the project, we are studying tyre particle emissions linked to mobility.

The difficulty for researchers is to translate the knowledge they produce into scientific, political or technical impact. We need to be clear about the consequences of the messages we communicate and the way in which they are communicated - particularly for a subject like this which is finding particular resonance in civil society with the recent rise in environmental awareness, and offers major prospects for development in terms of reducing the entropic pressure on the system. One thing that sets Université Gustave Eiffel apart is that it encourages research that reconciles scientific excellence with support for public policy. Feeling supported and accompanied in this way is very rewarding."



Caroline Pigeon,
 Head of Research at LESCOT
 (Ergonomics and Cognitive Sciences
 for Transport Laboratory),
 Lyon campus

"For research that is rooted in reality, with an impact on people's lives."

"In my research, I'm interested in the mobility and social participation of disabled people and the elderly, particularly those with visual impairments. In late 2023, I obtained funding from CNSA and IReSP to develop a joint research community on visual impairment.

I wanted to focus my work on these issues quite early on. Among the elderly, meta-analyses show that engaging in activities with others has a greater impact on health and mortality than quitting smoking or doing exercise. My interest in mobility stems from that: if you can't get around, you can't visit your friends, go out to eat, volunteer with an association, and so on. What's more, mobility is a vast subject that can be tackled from many angles: city or transport accessibility, the cognitive load involved in pedestrian travel, mourning the loss of driving when you get older or become disabled, the acceptability of self-driving vehicles, and so on.

What I like about my research is that it is rooted in reality and has an impact on people's lives. What's more, I attach great importance to my results being useful and known to everyone, especially to those most directly concerned.

On a day-to-day basis, I like the fact that I'm constantly learning, discovering new methods, solving puzzles... I really enjoyed school and I still feel like I'm there."



Profil de Caroline Pigeon
<https://pagespro.univ-gustave-eiffel.fr/caroline-pigeon>

"Architecture as a solution to the ecological transition of cities and territories."

"The core of my activities as a teacher and practitioner is to bring together the disciplinary fields of landscape, urban planning and architecture in the transformation of space. More specifically, I'm interested in operational solutions to combine ecological ambition and economic sustainability. For example, how do you restore the ecological functions of urban land in a poor state (biodiversity reserves, carbon sinks, water filtration, etc.), while at the same time building a housing development? Architects have a capacity for synthesis, an aesthetic ability to play with restrictions and an opportunity to embody collective values, giving them the power to make our cities beautiful and our territories desirable in the age of ecological transition, as well as developing interdisciplinary research/action projects. This conviction led me to help create the Land Use Transition Chair, which breaks down the barriers between disciplines and brings together operational players, such as local authorities, urban operators and others.

I applied to become director of Ensa Paris-Est because I wished to pool our resources around the unique aspects of architecture to address climate change challenges and, to this end, develop synergy with Université Gustave Eiffel. I'd also like to strengthen the school's local roots by working in close proximity on issues faced by local players and stepping up our international collaborations in the fields underpinning our reputation: architecture, cities and territories."

Mathieu Delorme,
Director of Ensa Paris-Est, School
of Architecture for the City and
Territories, Marne-la-Vallée campus.



"Contributing to efforts to address gender-based and sexual violence and discrimination."

"As part of my studies in sociology, I did a Master's in Gender Studies at EHESS. I care deeply about gender equality and the fight against all forms of discrimination and addressing gender-based and sexual violence. In 2021, I joined the university's Equality Mission and the National Observatory of Discrimination and Equality in Higher Education (ONDES) - for which I manage the programme - and I now enjoy working on these issues with the entire university community.

Louise Bourgoin,
Equality and Anti-Discrimination
Project Officer with the Equality
Mission and ONDES,
Marne-la-Vallée campus

The Equality Mission works with students before the academic year even begins. We present our support and prevention initiatives, in particular our reporting system, which is starting to be better known by university users. Throughout the year, we organise a number of events (conferences, round tables, meet-ups, etc.) on the themes of equality and addressing violence and discrimination, such as a conference on the history of feminism and a round table on cyberbullying. Equality Month, which takes place every year in March, is one of the highlights of the year for us.

We work in close collaboration with the university's other departments: social action, the student health service, the DD&RS Mission and the Student Vice Presidency. The latter inspired us to install dispensers of sanitary materials, freely available on campus, to combat menstrual insecurity."



"Encouraging a culture of open science."

"Since I took up my post, archiving and documentation techniques have continued to evolve. This is still the case today, with the ongoing migration of Madis, the institutional archive set up at Ifsttar in 2011, to the HAL Univ-Eiffel portal. But my primary mission remains the same: to promote the work of the institution's faculty members. At the same time, I'm working on bibliometrics (analysis and creation of indicators). One example of this is the publication of the university's Open Science Barometer, which gives a clear picture of the level of openness for an institution's publications, data, code and software.

The concept of open access has become a major concern for research and higher education institutions. My work therefore also involves providing day-to-day support for researchers in developing a culture of open science, mainly around publications. This means providing local support through targeted training that respects both individual needs and the framework defined by the university's general policy. The aim is to increase the dissemination of open-access scientific publications, thereby boosting their visibility by making them easily and rapidly available."

Jessica Bouchez,
Deputy Head of the Scientific
and Technical Information
Department (Research VP),
Lille campus



"I'm truly lucky to get to learn and challenge paradigms on a daily basis."

"I've been working at the Accident Mechanisms Laboratory (LMA) for around 15 years, mainly focusing on the links between network development and accident production. It's a subject that is little explored yet fascinating, at the interface of research and reality on the ground. My job allows me to learn on a daily basis and I consider myself truly lucky for that. The few classes I teach also make me learn, but in a different way: being 'pushed' by students, by their different ways of approaching a problem, responding to their requests and questioning the paradigms... Without them, the job wouldn't be as exciting!

Whether it's through the PhD I'm currently supervising, the Master's classes I teach or the "Travel Safety" module I give at the Paris School of Urban Planning, I'm keen to pass on certain values that I've acquired over time. The first is rigour, of course. Documentary research is also fundamental, in order to learn how to look for what has already been done and save time. And the last thing is my conviction that the development of road networks structures interactions between users in the public space and is a lever for improving their safety. As researchers, we must produce knowledge and share it with as many people as possible."

Nicolas Clabaux,
Researcher at the Accident
Mechanisms Laboratory (LMA),
Mediterranean campus.



Vincent Lemire,
HDR Associate Professor
in Contemporary History,
Marne-la-Vallée campus

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"Working together on the challenges of digital humanities."

"I see my job as having three pillars: research, teaching and leading public debate, in which faculty members have a duty to participate. Especially when current events impact on their field of research, as is currently the case for me, as I have been studying Jerusalem for over twenty years. This means finding ways of expressing ourselves that can reach a wide audience, which is what I did, for example, when I worked with Christophe Gaultier on the comic strip titled Histoire de Jérusalem (History of Jerusalem).

After my thesis, in 2008, I co-directed the Web Culture and Professions Master's degree and gave a lecture course, which was later developed into a book. The fact that I was given this opportunity says a lot about the way teaching and research are linked at the university, where a real collegial approach encourages faculty to take initiative, even the youngest members. From 2014, I coordinated Open Jerusalem, a project supported by ERC (European Research Council) funding. Our work on indexing urban archives, which was extended as part of Archival City, is now continuing with Data City, pursuing the question of how to open up data.

I decided to return to Université Gustave Eiffel in 2023, after four years as director of the French Research Centre in Jerusalem, because it offers the many talented people who work there the opportunity to work together on these new challenges in digital humanities."

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