# 2024 Activity Report

RÉPUBLIQUE FRANÇAISE
*Liberté*
*Égalité*
*Fraternité*

Université Gustave Eiffel

# The President's Editorial

**“Major milestones have been achieved for the future of our establishment.”**

**" Affirming our national co-pilot role "**

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2024 represented an important stage for our university, marked by structural advances and new challenges, as we continue on our path of transformation. One of the main themes of the year was exiting the experimentation phase, a process that is due to be completed in 2025 with the publication of the decrees that will establish our new status as a *“grand établissement”*. This institutional transformation goes hand in hand with considerations with regard to how our economic model will evolve: with government funding not matching rising costs, we need to find new ways of keeping our budget balanced and continuing to fulfil our public service mission.

Two other key aspects defining the year were our internal reorganisation, in particular the restructuring of the Directorate General for Financial Affairs (DGDAF), and the HCERES evaluation of our research, training and doctoral schools. Although this exercise in self-assessment represents a considerable and time-consuming commitment for all teams, it is also an opportunity to examine our plans and positioning for the future.

In addition to these structural processes, 2024 was marked by a number of highlights. In the field of innovation and research, projects were launched confirming our national positioning (projects focusing on the electric road and PEPRs). We also affirmed our desire to strengthen our internal scientific leadership through new methods, in line with the LabExes. In terms of training, we have seen the growth of our in-house apprenticeship training centre and projects centred on the ecological transition and sustainable development in Bachelor courses, notably the AVID (Learning for Sustainable Cities) project. The New University Curriculum (NCU) Conference in September was also a key event, as was the next phase of the PIONEER Alliance, confirmed as an Erasmus+ project, and the chair created with UN-Habitat, all of which illustrate our international dynamism.

Links with our socioeconomic environment are also being strengthened, notably through the growing activity of the Université Gustave Eiffel Foundation,

with the arrival of new founders, the launch of chairs and the creation of the Partners' Council. This new forum for dialogue with businesses offers fresh perspectives on their concerns and expectations in terms of training, research and technology transfer. There was also a number of developments in student life, in particular with the arrival of the new Vice-President for Student Life, the Student Parliament elections and the new Student Vice-President, all of which gave new momentum to student associations and collaborative work with the schools.

**"Supporting the use of AI tools within a controlled framework."**

Lastly, 2024 saw the launch of essential discussions on artificial intelligence and its implications for training and research, particularly in terms of tools and uses. AI is also one of the issues to be addressed by the new Ethics and Scientific Integrity Council (CEDIS). Made up of internal and external members, this council includes the activities of the Committee for Research on Human Subjects (CRPH) and broadens its scope to cover crucial issues such as the role of science in society.

For 2025, the objectives are clear: finalise the process of exiting the experimentation phase and internal reorganisation, continue investing in scientific facilities with the CPERs, strengthen our mission to support public policy by redefining our links with the Ministry for Ecological Transition and local authorities, and finally, prepare for the elections and renewal of all central councils at the end of the year.

Though we face real budgetary challenges, the dynamism of our teams and the wealth of our research, training and public policy support projects show the vitality of our institution. Ahead of our new status as a *"grand établissement"* and a new contract with our supervisory bodies, the evaluations and reorganisations carried out in 2024 have enabled us to better understand and stabilise our institution, so that we can continue to fulfil all our public service missions and provide responses to social, environmental and climate challenges.

**GILLES ROUSSEL**
Président de l'Université Gustave Eiffel

Traduction manquante

# Contents

# Much more than a university

## 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 (Ensa Paris-Est).*

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.

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* 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)

Ensa Paris-Est (Paris-Est School of Architecture for the City and Territories)

I-SITE FUTURE: scientific and institutional project initially led by the Université Paris-Est (UPE), and developed alongside the 7 members and associates.



By 2050, according to the UN, 70 % of the world's population will live in urban areas and we must meet the urgent challenges of urbanisation while ensuring the social, economic, environmental and climatic balance of the planet.

## Our responses to societal, environmental and climate challenges

**Looking to the different disciplines and breaking down barriers between them**

In light of these major challenges, at Université Gustave Eiffel we break down the barriers between disciplines in order to produce innovative knowledge for future transformations. We analyse, search and make deductions to propose solutions while constantly comparing and questioning all disciplines: science and technology, the humanities, economics, architecture, etc.

**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.

"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."

**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 a quarter of French research in this field. We are part of 15 international research and training networks.

**Informing society and public policy decision makers and co-constructing solutions with our partners**

We transmit knowledge and pursue a mission to inform 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.

## 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 to 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 interconnecting 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. "**

**Université Gustave Eiffel CFA**

The Université Gustave Eiffel Apprentice Training Centre (CFA) was set up in 2021 to internally manage apprentice engineers from ESIEE Paris and EIVP, as well as from partners such as ENTPE and Université Paris Cité. The number of apprentices at the CFA has risen from 750 to 1,450 in two years. It organises international mobility campaigns for engineering students and offers specific support for courses such as those focusing on the energy transition. In 2024, it acquired new software, Studea, to optimise the management of apprenticeship programmes.





## 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.

## Transformative projects

The university's transformative projects aim to support all aspects of the institution's strategy: research, innovation, training, public policy support, internationalisation and partnership development, in all their diversity and at all levels.

They are characterised by their cross-disciplinary nature, creating synergy between missions and/or actors, and their potential to stimulate 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.

These projects fall under major programmes arising from national strategies with an impact on higher education and research, such as Investments for the Future and France 2030, both run by the French National Research Agency. They include I-SITE FUTURE, the "GP-DS" SFRI project, AMI-UGE (IDEéS winner), AVID (CMA winner), FORCOVD (ASDESR winner) and the "City-Fab" ExcellencES project.

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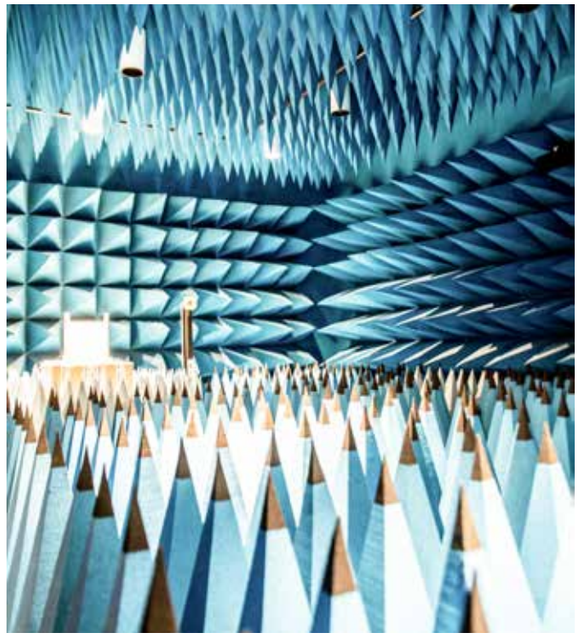

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## Scientific platforms

Designing and manufacturing micro sensors? Experimenting with new technologies for urban mobility? 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 serve the needs 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 and security infrastructure;
- environment and territories;
- components and systems;
- mobility and simulation;
- driving simulators.

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

**find out more**
**https://plateformes.univ-gustave-eiffel.fr**

## Management bodies, the Directorate General of Services and committees

### Governance

The university's governance is composed of the President, several Vice-Presidents and a number of 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**
  The aim of this Mission is to disseminate sustainable development and social responsibility within the different units, departments and components of the University and, of course, among its students. The university aims to obtain the DD&RS label (a CSR commitment accreditation for universities and graduate schools) in 2025.

### 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 35 members: the chair, 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.

### Ethics and Scientific Integrity Council

After receiving the opinion of the Academic Council, the Board of Directors determined the composition, operating conditions and referral procedure of an ethics and scientific integrity council responsible for the activities of Université Gustave Eiffel.

The opinion of this council may be requested by the President, the Board of Directors or the Academic Board.
It may also be sought by any employee or user of the university, under the conditions set by the Board of Directors. The committee may consider any matter it deems relevant. Committee members are appointed by the President based on nomination by the Board of Directors, after consulting the Academic Board.

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### 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 from the components and other bodies, as well as students from the university's associations. Its mission is to contribute

to students' well-being in both their training and daily lives by supporting a range of projects such as the organisation of cultural events and the creation of spaces and venues dedicated to student life.

**Directorate General of Departments**
The Directorate General of Departments (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.

**Social Administration Committee**
A single Social Administration Committee (CSA) has been set up* reporting to the university president, covering both the university and ESIEE Paris.
The CSA is a social dialogue body responsible for examining collective labour issues and working conditions. It is consulted for issues relating to the organisation of departments, human resources management, and projects such as reorganisations and internal regulations.

Lastly, the CSA also monitors health and safety issues around through the mandatory Health, Safety and Working Conditions Committee, which is attached to this body.

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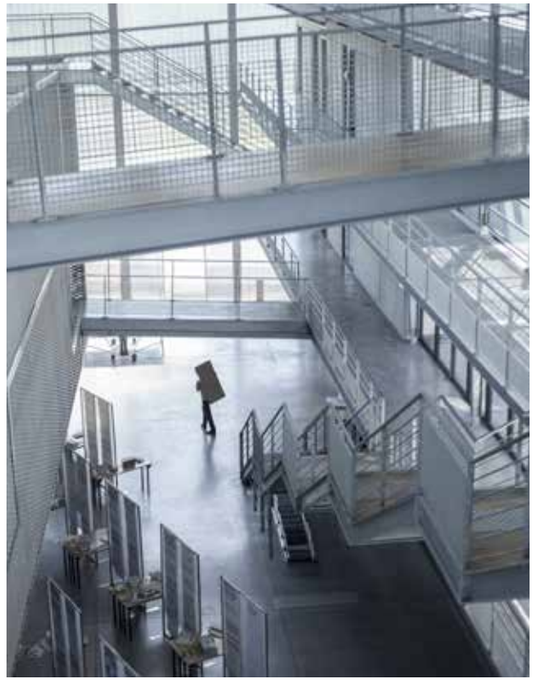

**Social Action Committee**
Université Gustave Eiffel has a Social Action Committee responsible for contributing to the definition of the social action policy to be implemented for the university's active and retired staff.

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.

* La loi de transformation de la fonction publique du 6 août 2019 a réorganisé le dialogue social en fusionnant les comités techniques (CT) et les comités d'hygiène, de sécurité et des conditions de travail (CHSCT) au sein d'une instance unique : le Comité Social d'Administration (CSA), mis en place à compter du 1e janvier 2023.

Traduction manquante


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## Training components

15 training components, schools, training units and institutes:
- 2 component institutions:
  - Paris School of Urban Engineering (EIVP)
  - Paris-Est School of Architecture for the City and Territories (Ensa Paris-Est)
- 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)

## Research components

33 research components, laboratories, teams, departments, institutes:
- Research Units (UR) and Joint Research Units (UMR):
  - Comparative Power Analysis Laboratory (ACP)
  - Observatory of the 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)

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- Gaspard Monge Computer Science Laboratory (LIGM)
- Geographic Information Science and Technology Laboratory (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)
- Biomechanics and Impact Mechanics Laboratory (LBMC)
- Ergonomics and Cognitive Sciences for Transport Laboratory (LESCOT)
- Accident Mechanisms Laboratory (LMA)
- Epidemiological Research and Surveillance Unit in Transport, Occupation and Environment (UMRESTTE)
- Systems and Applications of Information and Energy Technologies (SATIE)
- Joint Research Unit in Environmental Acoustics (UMRAE)
- Applied Psychology and Ergonomics Laboratory (LaPEA)
- Transport and Traffic Engineering and Eco-Management of Energy Systems for Transport Laboratory (LICIT-ECO7)
- Materials for Sustainable Construction (MCD)
- Institute of Earth Sciences (ISTERRE)

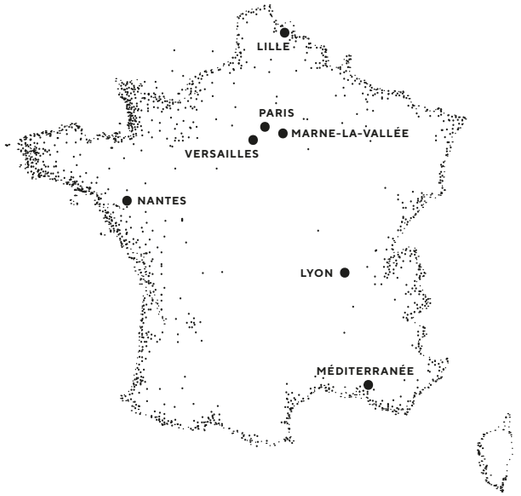
- Research departments:
  - Planning, Mobility and Environment Department (AME)
  - Materials and Structures Department (MAST)
  - Geotechnics, Environment, Natural Hazards and Earth Sciences Department (GERS)
  - Components and Systems Department (COSYS)

## 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 and Lille. There are also branches 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, but the university's main fields of study are also covered, including mathematics, humanities, languages, management, human and social sciences, and techniques of sports and physical activities. There are also 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
- Railway

### La campus de Lyon

Research themes and contribution to training:
- Environment and risks
- Health and safety
- Urban worlds
- Infrastructure and innovative mobility

### Mediterranean Campus (Aix-Marseille

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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1

Atypical, pioneering and multidisciplinary university

1

University on a human scale

- Over 15,000 students
- Over 3,000 administrative and technical staff, teachers, researchers and PhD students across the various member schools:
  - Over 500 faculty members
  - Over 400 research professors
  - Over 200 researchers
  - Over 1,600 support and service staff
  - Over 200 PhD students

5

Major challenges

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

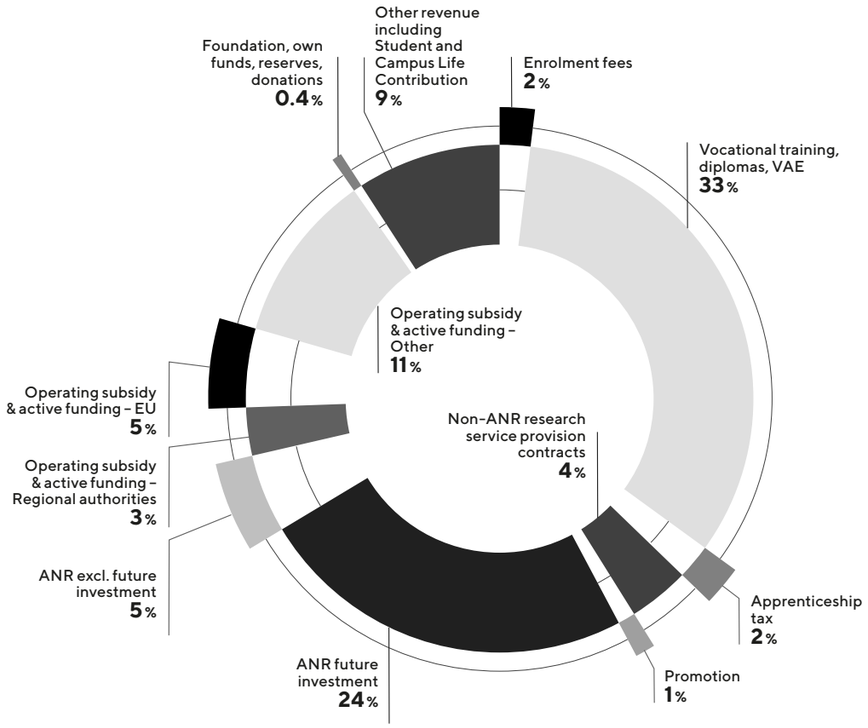
1

Ambition

Fairer and more equitable cities

| Origin of revenue in millions of euros | Received in 2024 | % (excl. SCSP) |
|---|---|---|
| Subsidies in connection with public service | 176.72 | NA |
| Enrolment fees | 1.95 | 2% |
| Vocational training, diplomas, VAE | 30.43 | 33% |
| Apprenticeship tax | 1.71 | 2% |
| Non-ANR research service provision contracts | 3.85 | 4% |
| Promotion | 1.16 | 1% |
| ANR future investment | 21.53 | 24% |

| Origin of revenue in millions of euros | Received in 2024 | % (excl. SCSP) |
|---|---|---|
| ANR excl. future investment | 4.21 | 5% |
| Operating subsidy & active funding – Regional authorities | 2.68 | 3% |
| Operating subsidy & active funding – EU | 4.38 | 5% |
| Operating subsidy & active funding – Other | 10.46 | 11% |
| Foundation, own funds, reserves, donations | 0.33 | 0.4% |
| Other revenue including Student and Campus Life Contribution | 8.35 | 9% |
| **Total** | **267.8** | **100%** |








| Operations in millions of euros | CA spent | % |
|---|---|---|
| Initial and vocational training | 6.68 | 12% |
| Documentation | 1.31 | 2% |
| Research | 18.75 | 33% |
| Property | 13.03 | 23% |
| Steering and support | 16.13 | 29% |
| Student Life | 0.54 | 1% |
| **Total** | **56.44** | **100%** |

**Operations** in millions of euros:
€56.44M, 77% fulfilled

*CA: commitment authorisations*

| Payroll costs in millions of euros | CA spent | % |
|---|---|---|
| Initial and vocational training | 59.56 | 28% |
| Documentation | 3.09 | 1% |
| Research | 95.21 | 44% |
| Property | 3.11 | 1% |
| Steering and support | 51.90 | 24% |
| Student affairs | 2.03 | 1% |
| **Total** | **214.89** | **100%** |

**Payroll costs** in millions of euros:
€214.89M, 96% fulfilled

Traductions différentes pour "Vie Etudiante" À harmoniser

| Investment in millions of euros | CA spent | % |
|---|---|---|
| Initial and vocational training | 1.35 | 9% |
| Documentation | 0.02 | 0.1% |
| Research | 5.35 | 34% |
| Property | 7.58 | 49% |
| Steering and support | 1.19 | 8% |
| Student Life | 0.01 | 0.1% |
| **Total** | **15.58** | **100%** |

Commitment authorisations in investment (€15.58M), 61.5% spent

Dans tous les Prix et Distinctions :
"corps" est traduit soit par "corps" soit par "body".
À harmoniser

## Major Prizes

### HOCHLAF Majdi

**Corps**
University professor

**Unit**
COSYS/IMSE

**Supervisory institution**
Université Gustave Eiffel, COSYS Dept.

**Prize**
Honorary doctorate from the Faculty of Science, University of Gothenburg (Sweden)

**Context**
As holder of the Guest Professor Chair at the Waernska Foundation (Sweden), Prof. Hochlaf spent six months at the University of Gothenburg, working closely with Prof. Raimund Feifel, from the Department of Physics, and Prof. Gunnar Nyman, from the Department of Chemistry and Molecular Biology, and their PhD students and postdoctoral fellows. This collaboration led to major advances in our understanding of state-to-state unimolecular decomposition processes of multiply-charged molecular ions, in particular the formation of abiotic O2 upon double ionisation of SO2.

### GHAZEL Mohamed

**Corps**
Research director

**Unit**
COSYS/ESTAS

**Supervisory institution**
Université Gustave Eiffel, COSYS Dept.

**Prize**
2024 Service Award, IFAC France (International Federation of Automatic Control)

### EVRARD Anne-Sophie

**Body**
Research fellow

**Unit**
UMRESTTE

**Prize**
Golden Decibel

**Context**
The DEBATS project aimed to gain better understanding and quantify the effects of aircraft noise on the health of people living near airports.





## Appointments at prestigious establishments

### BARON Nacima

**Body**
University professor

**Unit**
LVMT

**Supervisory institution**
Université Gustave Eiffel

**Appointment**
Member

**Appointed by**
University Institute of France


### RUAS Anne

**Corps**
General engineer of the Corps of Bridges, Waters and Forests

**Unit**
COSYS/IMSE

**Supervisory institution**
Université Gustave Eiffel, COSYS Dept.

**Appointment**
Anne Ruas joined the new Scientific Council of IHEST in 2024.

**Appointed by**
Ms Ruas was nominated by the Institute and joined the new Scientific Council of IHEST in July 2024.

### ZEMBRI Pierre

**Body**
University professor

**Unit**
LVMT

**Supervisory institution**
Université Gustave Eiffel

**Appointment**
President

**Appointed by**
The Geographic and Environmental Sciences Section of the Historic and Scientific Research Committee (CTHS, under the supervision of the National School of Charters)

### ARNOUX Pierre-Jean

**Corps**
Research director

**Unit**
LBA

**Supervisory institution**
Université Gustave Eiffel

**Appointment**
President of the International Society for Snowsport Safety (SITEMSH)

# PhD Prizes

## SAADE Chedid

**Corps**
Postdoctoral fellow

**Unit**
GERS-CG

**Supervisory institution**
Université Gustave Eiffel

**Prize**
Public Works Research Award, National Federation of Public Works

**Awarded for**
Best scientific contribution for public works, awarded by AUGC at the 2024 Civil Engineering University Encounters

## FONTAINE Marine

**Unit**
ACP

**Prize**
2024 Thesis Prize, INJEP and National Sports Observatory


## NGUYEN Thuy

**Unit**
ESYCOM

**Supervisory institutions**
Université Gustave Eiffel / CNRS / CNAM

**Prize**
2024 Thesis Prize, Chancellery of the Universities of Paris

**Awarded for**
Development of a highly sensitive pH microsensor for biomedical applications





## DEVILLE Thibaut

**Corps**
UTAC CIFRE PhD student

**Unit**
LBA

**Supervisory institutions**
Université Gustave Eiffel / AMU

**Prize**
Prize for Socioeconomic Promotion, Sciences of Human Movement Doctoral School Day

**Awarded for**
Development of tools to assess the performance of airbag vests

## KULE MUKUHI David

**Corps**
PhD student

**Unit**
LIGM

**Supervisory institutions**
SNCF and Université Gustave Eiffel

**Prize**
Best PhD Contribution

**Context**
Prize awarded at SmartRaCon Scientific Seminar (SRC6SSS), bringing together the partner institutions in Europe's Rail Joint Undertaking

## Innovation & Transfer Prizes

### NAAIM Alexandre

Corps
Research engineer

**Unit**
LBMC

**Supervisory institution**
UCBL

**Prize**
2024 BIATSS Excellence Award, UCBL

**Context**
With this award, UCBL wished to honour BIATSS staff for their remarkable contributions to the support and development of scientific research. Alexandre Naaïm has significantly contributed to many research successes at LBMC. Examples include his major leading role in setting up and developing LBMC's collaboration with the Centre des Massues medical centre (CIFRE thesis and association of three members of the Centre des Massues with LBMC, future participatory science projects) as well as his involvement in the collaboration with the Foot & Ankle Institute in Brussels.

As part of the EVASYM international associated laboratory, he co-developed an open-source Python toolbox for movement analysis based on natural coordinates for biomechanics, in conjunction with Pierre Puchaud (S2M Laboratory, Montreal).

### JOPPIN Victoria

Corps
PhD student

**Unit**
LBA

**Supervisory institution**
Université Gustave Eiffel / AMU

**Prize**
AI Discovery Seed Funding, 2024 round, University of Dublin

**Context**
Research on the biomechanics of the abdominal wall





## Prizes from Learned Societies, Associations and Foundations

### OUKHELLOU Latifa

**Body**
Research director

**Unit**
COSYS - GRETTIA

**Supervisory institution**
Université Gustave Eiffel

**Prize**
IEEE Senior Member

**Context**
IEEE Senior Member

### SAINT JACQUES Enoch

Corps
ITPE

**Unit**
COSYS - PICS-L

**Supervisory institution**
Université Gustave Eiffel

**Prize**
Augustin Fresnel Medal

**Awarded for**
Contributions to the visibility of French research on lighting, following the Best Communication Poster Prize received in September 2023 from the CIE

### DE SAUVAGE Jean

Corps
Engineer of the Corps of Bridges, Waters and Forests

**Unit**
GERS-RRO

**Supervisory institution**
Université Gustave Eiffel

**Prize**
2024 Kerisel Prize

**Context**
Awarded by the French Committee for Soil Mechanics and Geotechnics for research on centrifuge modelling of thermal geostructures in a flow system

## ARMOOGUM Jimmy

**Corps**
Research fellow

**Unit**
MODIS

**Supervisory institution**
Université Gustave Eiffel

**Prize**
Certificate of Recognition

**Context**
Paper review coordinator for Standing Committee on Travel Survey Methods AEP25 of the Transportation Research Board

## CHAILLEUX Emmanuel

**Unit**
MAST-MIT

**Supervisory institution**
Université Gustave Eiffel

**Prize**
Honorary title of RILEM Fellow

**Context**
Created in 1993 by the General Council, the honorary title of RILEM Fellow is bestowed upon RILEM senior members who have made exceptional contributions to RILEM in their capacities as research scientist, engineer, technical leader or educator in materials and structures research.

## VAN SCHOORS Laetitia

**Corps**
Research director

**Unit**
MAST-CPDM

**Supervisory institution**
Université Gustave Eiffel

**Prize**
2023 AFGC Award (ceremony in 2024)

**Context**
This prize recognises engineers, researchers, academics and expert figures for exceptional work in scientific, technical or operational fields.

L. Van Schoors is an expert in the field of polymer and composite materials.





# Prizes from Publications, Communications & Conferences

## DE LASSUS Christel

**Corps**
University professor

**Unit**
IRG

**Supervisory institution**
Université Gustave Eiffel

**Prize**
2024 Montesquieu Prize

**Travaux distingués**
*"Joséphine d'Yquem, à l'origine d'un vin de légende", published by Flammarion*

## ABADIE Christelle

**Corps**
Research fellow

**Unit**
GERS-CG

**Supervisory institution**
Université Gustave Eiffel

**Prize**
Bright Spark Lecturers for ISFOG 2025

**Context**
Awarded by TC209 Offshore Geotechnics

## ROZAIRE Julie

**Corps**
PhD student

**Unit**
LBMC

**Supervisory institution**
Université Gustave Eiffel/UCBL

**Prize**
Prize for the Best Student Presentation at the annual conference of the Francophone Society of Movement Analysis in Adults and Children (Sofamea)

**Context**
The presentation focused on the effect of instrumentation on the assessment of upper limb performance in children with unilateral cerebral palsy, as part of her CIFRE thesis with the Centre des Massues in Lyon.

## DUMONT Théo

**Corps**
PhD student

**Unit**
LIGM

**Supervisory institution**
Université Gustave Eiffel

**Prize**
Best Poster Award (INRIA Conference)

**Context**
Prize awarded at the "Geometric Sciences in Action" conference at the CIRM in Marseille, from 27 to 31 May 2024, on the subject: "On the Existence of Monge Maps for the Gromov-Wasserstein Problem".

# Highlights

# Chronology

JANUARY 2024

## The DEBATS research programme wins a Golden Decibel

Launched in 2009, this programme assessed the effects of aircraft noise on the health of people living near French airports. In January 2024, it was awarded a Golden Decibel for its innovative approach, involving various players such as Bruitparif and Inserm.
The programme showed that exposure to aircraft noise has a negative impact on the physical and mental health of local residents, increasing mortality rates due to cardiovascular diseases in particular. The results have helped evaluate the health benefits of noise reduction measures near airports.

© Olivier Ouadah

JANUARY 2024

## 30th edition of Urban Engineering Thursdays: focus on urban geothermal energy

On 11 January 2024, EIVP's Urban Engineering Department organised the 30th edition of Urban Engineering Thursdays, a key annual event for the sector. This year's edition focused on low-temperature geothermal energy in urban environments, an innovative and sustainable energy solution at the heart of environmental issues. Researchers, professionals and students came together to discuss this promising theme, illustrating EIVP's commitment to a resilient, low-carbon, forward-looking city.

© EIVP

JANUARY 2024

## Carte Blanche: AI, ethics and responsibility

On 16 January 2024, ENSG-Géomatique organised the second edition of its "Carte Blanche" Day, open to all students at the school. Focusing on the themes of artificial intelligence, ethics and responsibility, the day's programme was co-constructed with journalist and lecturer Francis Pisani, combining presentations, conversations and round tables. Students from the Ensgagé-e-s association also took part in the discussions, looking at potential consequences, technological choices and citizen engagement in the face of AI.

© ENSG-Géomatique

FEBRUARY 2024

## Technical Route Days (JTR)

On 7 and 8 February, the 2024 JTR were held in Nantes, co-organised by Université Gustave Eiffel, CEREMA and IDRRIM. This event, which has been a key date in the calendar for over 25 years, brought together public and private players in land transport infrastructure, including local authorities, project managers, companies and researchers. A wide range of topics were addressed over the two days, including infrastructure construction, maintenance, safety and operation. Discussions also opened up to multimodal issues, covering roads, railways, aircraft runways and industrial tracks.

FEBRUARY 2024

## Open Days (JPO)

This annual event is dedicated to information and orientation. The 2024 JPO were an opportunity for visitors to discover the Marne-la-Vallée campus and speak with faculty members, teaching teams, students and administrative staff about the courses on offer, the study experience and student life.


© Mathilde Caër

FEBRUARY 2024

## Winter School: rethinking materials through re-use

From 5 to 9 February 2024, more than 250 students from Ensa Paris-Est and partner schools attended Winter School, an intensive week of reflection and collective creation. This year's edition, orchestrated by Thibaut Barrault, looked at forms of reuse, materials reutilisation and recycling in architectural practices. A week full of experiments for more responsible architecture.

© Salem Mostefaoui





FEBRUARY 2024

## A week dedicated to innovation and entrepreneurship at EIVP

From 5 to 9 February 2024, EIVP and Veolia co-organised the fifth Innovation and Entrepreneurship Week on the theme: "Pollution: process or eliminate? How can we manage, operate and design the city of tomorrow?". This immersive week offered the opportunity to tackle environmental challenges through a creathon that stimulated students, featuring design thinking workshops, innovation sprints and pitches to a panel of professionals. First prize went to the Ecopalette project, which offers an innovative alternative to plastic pallets. Second prize went to Buttin'Air, an intelligent and mobile air purifier. An inspiring week where creativity and commitment converged to imagine a cleaner, more sustainable city.

© IVPSHOT

FEBRUARY 2024

## Archi-Folies: a climbing pavilion for the Paris Olympics

As part of the Paris 2024 Cultural Olympiad, Ensa Paris-Est designed Ascension, a pop-up pavilion for the French Federation of Mountaineering and Climbing. Initially set up at La Villette, the project included a climbing wall and a pergola. At the end of the Olympic Games, it was dismantled and reinstalled on the campus of Université Gustave Eiffel, where it now hosts student events linked to the future shared garden. A second life for this structure, standing as a symbol of responsible, modular architecture.

© Salem Mostefaoui

MARCH 2024

## Equality Month

Equality Month at the university was an opportunity to raise awareness around these issues and combat gender-based, discriminatory and sexual violence. Since its creation in 2020, the university has focused on creating an inclusive environment, with an Equality Plan and the National Observatory of Discrimination and Equality in Higher Education (ONDES). The aim of these initiatives was to make equality a part of research, training and events at the university. The month of March highlighted the institution's concrete actions to promote inclusivity and improve internal practices.

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MARCH 2024

## Research Day on digital twins in France, Université Gustave Eiffel / IGN / ENSG-Géomatique

On 28 March 2024, Université Gustave Eiffel, IGN and ENSG-Géomatique co-organised the 33rd edition of the Research Day, this year devoted to digital twins in France. With the participation of INRAE, researchers, institutions and local stakeholders discussed the issues of interoperability, data pooling and shared uses. The event was an opportunity to create dialogue between scientific communities around developing a national digital twin.

© ENSG-Géomatique

MARCH 2024

## ENSG-Géomatique wins the Descartes Trophy for the fourth time

Victory once again for the students of ENSG-Géomatique! At the most recent edition of the Descartes Trophy, a competition between schools on the Cité Descartes campus, the school won first place once again. Facing off against ESIEE Paris, EIVP, Ensa Paris-Est, ENPC, Paris School of Urban Planning, ESO Paris and Université Gustave Eiffel, the teams from ENSG-Géomatique proved themselves in various disciplines, from football to table tennis. A collective performance recognised by all participants.


© ENSG-Géomatique





APRIL 2024

## The university attends Transport Research Arena in Dublin

In April, the university was at Transport Research Arena (TRA) in Dublin, a conference bringing together over 4,000 experts from the transport sector. This major event for sustainable mobility research allowed the university to highlight its expertise through multiple sessions co-organised and moderated by its researchers. Among the highlights, the university contributed to debates around integrating AI into academic programmes on transport and railway innovation. The university's presence at TRA consolidated its position in international sustainable mobility research.

© Anouk Chamelot

APRIL 2024

## Conference on neuronal implants at ESIEE Paris

On 25 April, a conference titled "Neuroscience: Neuronal Implants to Repair Humans, a Reality?" took place at ESIEE Paris, bringing together researchers to discuss issues around neuronal implants. For 20 years, the ESYCOM Laboratory has been studying neuronal implants for functional rehabilitation. This event offered an overview of scientific advances and challenges to overcome in order to use these technologies in medical care in the future, opening the door to new options for treating a range of neurological pathologies.

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MAY 2024

## DIGUE 2020 Project

In May, the DIGUE 2020 Project, led by SYMADREM in partnership with INRAE, Université Gustave Eiffel, Cerema and Aix-Marseille Université, was recognised at the Stars of Europe ceremony in the South – Provence-Alpes-Côte d'Azur region. This prize honours projects supported by European funds committed to the climate. DIGUE 2020 was recognised in the Research and Innovation category. The project involved improving the resistance of dykes to erosion by using lime treatment on soil, a world first for maritime infrastructure.

JUNE 2024

## Pride, third edition

In June, the university celebrated its third edition of Pride. The event expanded its scope to include all forms of diversity, while remaining loyal to the values of equality and inclusion of the LGBTQ+ community. Shows, speeches and workshops brought together around 50 participants, with high participation in awareness-raising activities.
The success of this edition was made possible thanks to the collaboration of associations and students, which helped create an inclusive space where everyone felt valued and respected.

© CIPEN

JUNE 2024

## Yann Le Cun named Honorary Professor

On 26 June 2024, ESIEE Paris named Yann Le Cub, graduate of the class of 1983, its first Honorary Professor. Pioneer of deep learning and recipient of the Turing Prize, he was honoured for his major contributions to artificial intelligence. This distinction highlights the roots of his research in AI at the school.

© ESIEE

SEPTEMBER 2024

## INEDITES Day organised by ONDES

On 20 September, the National Observatory of Discrimination and Equality in Higher Education organised the first INEDITES Day, titled “Fighting Discrimination and Violence in Higher Education and Research”. Two studies were presented, followed by a round table with institutional actors. The first study revealed hiring discrimination based on origin and gender in higher education and research. The second analysed obstacles to denouncing discrimination experienced at university.

© Louise Bourgoin



SEPTEMBER 2024

## Sandrine Wamy, graduate of ESIEE Paris, named “International Woman of the Year”.

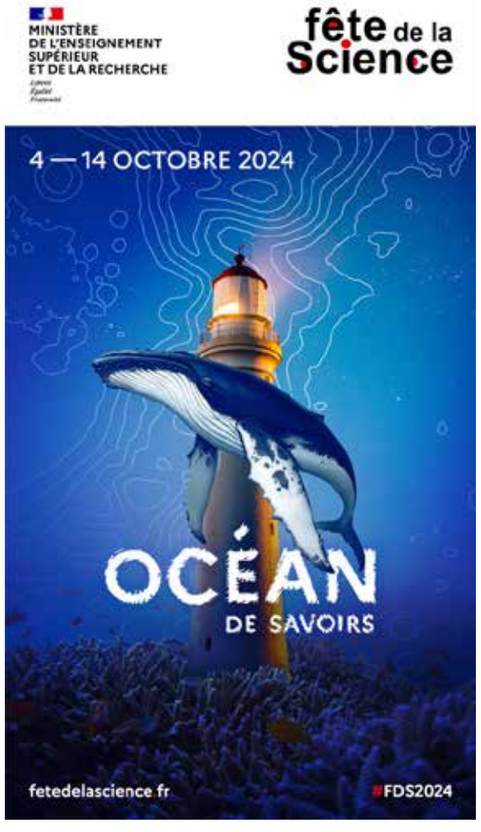
Graduate of ESIEE Paris and now Director of Operations at Africa Global Logistics, Sandrine Wamy was distinguished by L’Usine Nouvelle at the 2024 Women in Industry Trophies. She received the “International Woman of the Year” award for her remarkable work on the African continent. This prize recognises her strategic role in logistics management, her commitment to industrial transformation and her ability to adapt in complex environments.
A major sign of recognition for this committed and inspiring engineer.


© ESIEE

OCTOBER 2024

## Everyone in the water for Fête de la Science

From 4 to 14 October, the university participated in Fête de la Science, focusing on issues related to water, with the theme this year being “Ocean of Knowledge”. Workshops about the urban water cycle were offered, addressing various concerns such as floods, water resources and their impact on local areas. University researchers led workshops, presentations and encounters. For the occasion, a podcast series titled “Quand les eaux se déchaînent…” offered insights into current scientific and societal issues related to water.




© Delcom1/Mesr

OCTOBER 2024

## Rentr'Eiffel: student integration event

From 1 to 3 October, the second edition of Rentr'Eiffel took place, an integration event bringing together nearly 5,500 students. For three days, participants enjoyed activities, concerts, workshops and information stands, highlighting the university's values: solidarity, sustainable development and campus life. The closing evening, attended by over 400 people, celebrated student associations through fun activities like laser tag, as well as featuring food trucks and a rollercoaster simulator.


© Vincent Gerbet

OCTOBER 2024

## EIVP Enterprise Encounters Forum: towards a smart and decarbonised city

EIVP Enterprise Encounters Forum: towards a smart and decarbonised city
On 10 October 2024, the 16th edition of the EIVP Enterprise Encounters Forum brought together nearly 60 companies around the theme: "Urban Engineering: Towards a Smart and Decarbonised City".
Organised by students, this event was an opportunity for future engineers to meet committed recruiters and professionals, while also attending high-level presentations. The day featured fascinating discussions, placing urban innovation and climate challenges at the heart of debates. A unique opportunity for students to project themselves into the professions of the future, working to promote sustainable cities.

© IVPSHOT

OCTOBER 2024

## National Architecture Days: architecture meets the general public

On 19 October 2024, Ensa Paris-Est opened its doors to 386 visitors for the National Architecture Days. Tours, exhibitions, treasure hunts and workshops brought the campus to life. For this edition, there was a new collaboration with Compagnons du Devoir, which offered activities focused on working with stone and roofing materials, to teach young and old about the wealth of architectural expertise.

© Ensa Paris-Est





NOVEMBER 2024

## DuoDays, a commitment to equal opportunity

As part of European Week for the Employment of People with Disabilities (SEEPH), the university participated in DuoDays for the first time. This event allows people with disabilities to discover the world of work, accompanied by a professional. The aim is to promote professional integration by deconstructing prejudice and raising awareness of diversity. The event was part of the university's inclusive policy, which aims to support better integration for people with disabilities, in the academic and professional sphere alike.

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DECEMBER 2024

## HCERES issues a positive opinion for Université Gustave Eiffel to exit the experimentation phase

In December, Université Gustave Eiffel achieved a key milestone in its development as an institution, with a positive opinion from the High Council for the Evaluation of Research and Higher Education (HCERES) to exit the experimentation phase. This success was applauded by the committee of experts, which highlighted the successful merger between a university and a public research institute, as well as the integration of schools under various supervisory bodies around a relevant scientific project. The university's expertise on sustainable cities and territories was especially recognised.

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DECEMBER 2024

## ESIEE Paris celebrates its 120th anniversary

On 4 December 2024, ESIEE Paris celebrated its 120th anniversary with a memorable ceremony. The event highlighted the integration of the main building into Université Gustave Eiffel's heritage.
In the presence of figures such as Valérie Pécresse and Dominique Perrault, the school highlighted its commitment to innovation and training the engineers of the future.


© ESIEE

# Focus

At the end of September, Université Gustave Eiffel welcomed the first national conference of the New University Curriculum (NCU) network, projects aimed at implementing schemes and innovations to promote student success.

## NCU Conference: what transformations for higher education?

Over 300 participants, 120 presentations and 71 higher education establishments in attendance: those are the key figures from the first national conference of the New University Curriculum (NCU) project network. The event took place on 25-27 September at ESIEE Paris on the Marne-la-Vallée campus, organised by the university in collaboration with the ANR. Titled "Five Years of Transformation in Higher Education", the aim of the conference was to *"identify, list and highlight all initiatives implemented by the 36 NCU projects, dating back to 2017 and 2018,"* explained Sacha Bensahel-Mercier, Vice President for Pedagogical Innovation and Student Success at Université Gustave Eiffel.

### Five years of transformation in higher education

Structured around three themes - "Students at the Heart of Success", "Resources for Success", and "Steering Schools" - the conference provided an overview of major developments and prospects for the transformation of higher education. The 36 NCU projects have resulted in almost 100 schemes and innovations aimed at developing a skills-based approach (APC), making student pathways more flexible and personalised, improving student orientation and welcome, and developing new professions within institutions. *"The NCU initiatives also included 113 scientific papers and 44 theses, including one by Wafae Khaddour, a PhD student at LATTS, on the organisational and professional foundations and dynamics underlying student success,"* added the Vice-President.

© Vincent Gerbet

### Positive feedback for D.Clic

The NCU projects, such as NewDEAL, CUPS, L@UCA, écri+, Flex'hybrid, Réussites Plurielles, DREAM-U and @SPIRE, aim to encourage the success of all Bachelor's students. This is certainly the case with D.Clic, the NCU project led by Université Gustave Eiffel. It has given rise to a number of initiatives that have helped transform the school's undergraduate courses. These include nine disciplinary skills reference frameworks, one cross-disciplinary skills reference framework, new teaching resources for all first-years, digital pathways to develop students' behavioural skills, orientation initiatives, and more. *"This work received extremely positive feedback during the ANR's mid-term evaluation,"* said Sacha Bensahel-Mercier.

From September to October, the university organised the seventh edition of FUTURE Days on its various campuses, around the theme of water. This event is a time for exchanges between the university's scientific community and its partners, run every year since 2017.

## FUTURE Days: the water debate

The impact of climate change on aquatic environments and water resources, opportunities offered by inland waterway transport for freight, water issues in development projects, water management in urban environments, maintenance of water networks, water problems in the Mediterranean region... These are just some of the topics that were addressed at the seventh edition of the FUTURE Days, with a central theme: "Water: an Essential Resource to Control". .

**" Dialogue between research and the players on the ground, businesses and local authorities, is essential. That's what FUTURE Days are all about, facilitating the sharing of research findings and bringing to light new research questions, new projects and new areas for implementing research. "**

**Corinne Blanquart,**
**First Vice-President of Université Gustave Eiffel,**
**Director of the Lille Campus**

### Exploring the many dimensions of water issues

Organised on all the Université Gustave Eiffel campuses, this year the FUTURE Days took place on seven different dates: 9 September in Nantes, 13 September in Lille,1 October in Versailles, 8 October on the Mediterranean campus (Aix-Marseille), 17 October in Paris and 24 October in Lyon. Through presentations, round tables, laboratory tours and workshops, these events explored the many challenges linked to water resources, as well as the issues specific to the local area of each of the university's campuses: transport, urban planning, pollution, floods, heat islands, shortages, infrastructure, networks, and underlying it all, climate change. *"This theme was chosen because it is highly topical: natural aquatic environments and water resources are and will be very heavily impacted by climate change,"* says Éric Gaume, Deputy Director of the Nantes Campus.

### A showcase for scientific expertise and facilities

Organised since 2017, the FUTURE Days aim to encourage discussions on the theme of sustainable cities and territories between the university's scientific community and its public and private partners. *"The aim of the FUTURE Days is also to demonstrate the variety of research and themes addressed within the institution, as well as the wide range of approaches made possible by the spectrum of skills we have at our university"* says Corinne Blanquart, First Vice-President of Université Gustave Eiffel.

© Vincent Gerbet




## LabEx: over 10 years of scientific excellence

Supported under the Investments for the Future Programme (PIA), the Laboratories of Excellence (LabEx) saw their funding come to an end this year after a decade of action, collaboration and research. Let's take a look back at these scientific collectives.

**" Like elite athletes, researchers need to be supported in their discipline and encouraged to share practices, tools and vocabularies, in order to better tackle other aspects of their research subjects. As tools for networking, the LabExes have been a great success. As an extension of this, and with the support of FUTURE I-SITE, the university intends to renew its support for organising think-tanks and encouraging a proliferation of ideas. "**

**Serge Piperno,**
**Vice-President for Research**
**at Université Gustave Eiffel**

Scientific tour of Cité Descartes organised as part of the final conference for the Urban Futures LabEx.

Bézout, Urban Futures, MMCD and SITES: these four LabExes, initially led by Université Paris-Est, then by Université Gustave Eiffel following confirmation of the I-SITE FUTURE project, have all played a key role in developing interdisciplinary research, scientific collaboration, student mobility and the international visibility of the university and its partners. The ANR funding of these LabExes under the PIA, dating back to 2011 and 2012, came to an end in 2024, as it did for 99 other such facilities in France.

The LabExes aimed to structure scientific communities and develop original, upstream research drawing on diverse and complementary skills. Bringing together hundreds of researchers, the four LabExes run by Université Gustave Eiffel focused on subjects as varied as geomaterials and sustainable construction, digital humanities and the cities of tomorrow, to name a few. They made it possible to create original knowledge, fund scholarships for international students, participate in European calls for projects, organise seminars, publish books, set up new partnerships and more.

To mark their closure, each LabEx organised events to share its findings and prospects for future research. For example, the Urban Futures LabEx held "Back to the Futures", an international conference aiming to examine recent developments and the future of urban research from 12 to 14 November.

In October, Université Gustave Eiffel co-organised the first Research & Public Action (R&AP) Days. Marked by scientific papers and presentations, the event provided an opportunity to discuss the links between the worlds of research and public policy.

## First Research and Public Action Days

How can we encourage dialogue and cooperation between research and the public sector? What mechanisms are needed to support this dialogue, throughout the production process and the lifespan of public policies? To what extent do public issues feed into research? These were the questions at the heart of the first Research & Public Action (R&AP) Days, held on the Marne-la-Vallée campus on 10 and 11 October 2024. The event was organised by Université Gustave Eiffel, INRAE, Cerema and the TEPP research federation, in partnership with the Paris-Vallée de la Marne urban community, and brought together more than 150 participants, mainly scientists and public policy-makers.

The two days were based around some 60 scientific papers, illustrating the relationships between research, expertise, evaluation and public action. They covered a wide range of topics, including sustainable cities and territories, social cohesion, the digital transition and artificial intelligence, the environment and biodiversity, education, training and employment, urban planning, the energy transition, health, sport, culture, transport and road safety. This wide range of subjects demonstrated the extent of expectations placed on research.

**" Our national involvement is an asset, with our campuses throughout France. Support for public policy is part of our ecosystems and our regions. There is a collective dimension to our involvement in local areas with Cerema and INRAE. Support for public policy must be designed collectively, combining the skills of all. "**

**Corinne Blanquart,**
First Vice-President of Université Gustave Eiffel

### Facilitating dialogue and connecting research and public action

The Research & Public Action Days provided an opportunity to discuss the issues of independence in research, the role of expertise and the need to transfer scientific knowledge at round tables, parallel sessions and plenary conferences.

David Mair, Director of the Joint Research Centre (JRC) at the European Commission, was invited to open these days of reflection and discussion. He stressed the importance of "creating connections between researchers and public policy-makers. The ecosystem won't organise itself on its own, it requires effort." "Dialogue between science and public policy is an interface that cannot be taken for granted, it must be active. We need to think differently, outside the box, adopting innovative approaches and systems, and develop dedicated resources and appropriate skills," added Patrick Flammarion, Deputy Director General for Expertise and Public Policy Support at INRAE.

# Reinventing the world of today and imagining the world of tomorrow

# Research with meaning

Two questions for Serge Piperno, Vice-President for Research at Université Gustave Eiffel.

## “ Exciting subjects that are interdisciplinary by nature ”

**In what ways is the research carried out at the university “meaningful”?**
**Serge Piperno:** If, in the course of your day, you take public transport, walk through built-up areas or use a facility, drive on the public highway or cross a bridge, then our research has been useful to you. Mobility systems, urban resilience, soil pollution, development, the sound environment, socio-spatial inequalities, energy sources, urban heat islands and many more… The subjects explored by our research teams have an impact on everyday life, and our expertise allows us to inform or evaluate public decisions and policies very regularly. It should also be noted that our institution is the only one in France to share the missions of a university and a research body, and to bring together faculty members and researchers in its teams.

**What is your impression of scientific activity in 2024?**
The institution is moving forward, our research teams are dynamic, focusing on subjects that are exciting and interdisciplinary in nature, and that one researcher or their team cannot tackle alone. This is the case, for example, with the work carried out for Grand Paris Express or with various local authorities near our campuses as part of the City-FAB programme.

Another key moment of the year was the evaluation (wave E) by the High Council for the Evaluation of Research and Higher Education (HCERES) of the majority of our research components and doctoral schools. This evaluation represented a major undertaking for our research units, but it was also an opportunity to take stock of the past five years and to step back and formulate a renewed scientific project. The outlined trajectories will be used to develop a new research strategy for the whole of Université Gustave Eiffel, in line with the potential expectations of our various supervisory bodies, which include the Ministries for Higher Education and Research, the Ecological Transition and Culture, City of Paris, IGN and CCI Paris Île-de-France.



## Sédi-PLAST: studying microplastics in waterways

Sédi-PLAST, a project supported by ANR and led by the Water & Environment Laboratory (LEE),* sought to understand the relationships between environments with sedimentary deposits and the nature of microplastics found in these environments.

After four years of work, the findings were shared in late 2024 and should help to improve the monitoring of microplastics in sediment.

The Loire, the Seine and the Rhône: these three river systems were chosen for surface sediment samples and sediment cores, analysed in the laboratory as part of the Sédi-PLAST project between 2020 and 2024. *“The cores were cut up in such a way as to build an age model, using radiometric dating and a homogeneous sedimentation rate of 2 cm per year”,* explains Johnny Gaspéri, Research Director at LEE and project coordinator. *“The microplastics they contain were then measured with infrared spectroscopy paired with a microscope.”*

This analysis led to an initial observation that Johnny Gaspéri describes as *“counterintuitive”*: though the researchers expected to find a high proportion of plastics in suspension, as in ocean models, they discovered that there were much less microplastics in the water column (1-10 / litre) than in sediment (1,000-10,000 / kg). *“It would appear that over time, microplastics acquire surface properties that favour their interaction with organic or mineral particles, leading to their long-term integration into sediment beds.”*

Quantifying microplastics also made it possible to create sediment archives that show how river pollution has changed over time. From the 1950s until the beginning of the 21st century, the proportion of these materials followed the trend in material consumption, growing then stabilising as a result of improvements in wastewater treatment systems. *“This shows that, with the right political will and investment, the impact of plastic pollution on the environment can be reduced, if not eliminated. But we must bear in mind that, now that these measures taken have reached their maximum effectiveness, there is a risk that the amount of microplastics will increase again in future samples.”*

Cutting up a sediment core taken from the Loire.
© Johnny Gasperi

The results of Sédi-PLAST were presented at a conference on 3 December 2024 and have been compiled into a database, made available to the French Biodiversity Agency and water agencies. *“The database gives a great deal of visibility to water management bodies. It remains to be seen how they will use it and what initiatives will be put in place. For the moment, the project has not yet been put into concrete application,”* concludes Johnny Gaspéri. However, management of river sediment is an urgent issue for public authorities and citizens alike.

* en collaboration avec 6 équipes de recherche : Laboratoire Eau Environnement & Systèmes Urbains, Institut de Chimie de Clermont-Ferrand, UMR Milieux environnementaux, transferts et interactions dans les hydrosystèmes et les sols, Laboratoire GéoHydrosystèmes Continentaux), Laboratoire des Sciences du Climat et de l’Environnement), Laboratoire d’Écologie des Hydrosystèmes Naturels et Anthropisés)

Traduction manquante

"The aim of CAYD and eRoadMontBlanc is to demonstrate that ERS technologies are sufficiently mature and reliable for large-scale deployment and to become decisive tools in decarbonising road transport."

**Nicolas Hautière**
**Director of the COSYS Department**

Through two major sustainable mobility projects funded by the France 2030 Plan, Université Gustave Eiffel is actively contributing to developing electric roads in France. Some of its research departments and laboratories have participated in the creation of two demonstrators, a key step towards decarbonising road transport.

## Electric roads in the experimental phase

For a number of years, Université Gustave Eiffel has been involved in the development of the electric road system (ERS) in France, specifically through two major projects launched in 2023: Charge As You Drive (CAYD), led by Vinci Autoroutes, and eRoadMontBlanc, led by Autoroutes et Tunnel du Mont-Blanc (ATMB). The objective is to enable dynamic recharging (while driving) of batteries in electric heavy goods vehicles. *"In 2024, both projects made significant progress,"* says Nicolas Hautière, who coordinates these projects at Université Gustave Eiffel.

**eRoadMontBlanc: an operational demonstrator**
After several months of work and research, eRoadMontBlanc delivered its demonstrator on the Transpolis platform: a key step towards administrative approval and authorisation for deployment on the open road. *"Between March and July, we carried out laboratory and full-scale tests using FABAC machines with the aims of selecting the materials for the self-charging road (mechanical and thermal behaviour, adhesion, rutting, etc.),"* explains Philippe Bonanaud, who is the head of development for the Transpolis platform at Université Gustave Eiffel.

Construction of the 420-metre demonstrator began on 2 September and was completed on 12 December. *"Creating an electrical substation, installing the ERS power supply, connecting to the electricity grid... The project involved considerable work, mainly carried out by researchers from the Materials and Structures (MAST) and Planning, Mobility and Environment (AME) Departments,"* says Philippe Bonanaud.

**CAYD: an initial trial on the A10 motorway**
*"For CAYD, after tests at Vinci Construction's Research Centre to pre-qualify the materials, the first full-scale tests were carried out on the fatigue test machine on the Nantes campus during the summer, to assess the mechanical durability of the roadway equipped with the self-charging technology,"* says Nicolas Hautière.

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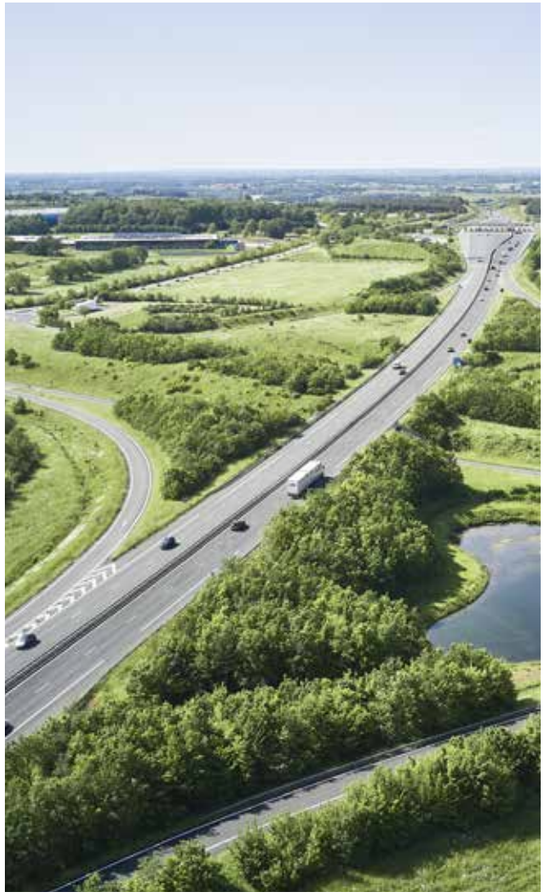

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Research with meaning

At the end of the year, the project entered its final phase, with the installation of a 1.5 km test track under real traffic conditions on the A10 motorway near Saint-Arnoult: a world first.

**A central role for the university in developing the ERS**
eRoadMontBlanc and CAYD were selected for the France 2030 call for projects titled "Automated Road Mobility, Connected and Low-Carbon Service Infrastructure". The two projects test competing conductive charging technologies: induction coils developed by Electreon for CAYD and the solution known as Alstom APS (ground-level power supply) for eRoadMontBlanc.

These large-scale collaborative projects bring together around 10 public and private players as well as the university's research departments and laboratories: Materials and Structures (MAST), Components and Systems (COSYS), Planning, Mobility and Environment (AME), LICIT-ECO7, LASTIG, MSME, LIGM and UMRAE. Researchers contribute their expertise on subjects as varied as optimising energy management, adhesion, durability, economic evaluation, noise emissions and driver acceptability. *"eRoadMontBlanc and CAYD are extremely ambitious projects,"* says Nicolas Hautière. *"They represent a cost of over €46M (€26m for CAYD and €20.8M for eRoadMontBlanc), including €12M in grants, and they involve 55 full-time university staff."*

Launched in 2023 for a period of three years and backed by the Developing Greater Paris Chair, the POPSU Greater Paris programme has produced two initial findings: real estate in the Ile-de-France region has already densified and a new geography of the metropolitan area is being created.

## What are the conditions for an ecological transition in Greater Paris?

*"Today, there is a discourse that tends to criticise large urban areas as being inherently incapable of making the shift to the ecological transition,"* says Daniel Béhar, Professor Emeritus at the Paris School of Urban Planning and Scientific Director of the POPSU[1] Greater Paris programme. *"With this research, we can respond to such criticism with reasoned arguments for a pragmatic approach to metropolisation. And do so in such a way as to ensure that this kind of approach meets the requirements of the ecological transition."*

In partnership with the Developing Greater Paris Chair, POPSU Greater Paris is part of the POPSU "Transitions" partnership research programme, along with 22 other projects in major French cities. Its aim is to gain a better understanding of local dynamics of change in Greater Paris. *"The goal is to equip players with knowledge of the processes involved in the environmental transition, in order to better identify the conditions for metropolitan transition,"* says Daniel Béhar.

### Questioning public action

As an action research programme, POPSU Greater Paris combines a research team with public and private players, who are members of the Developing Greater Paris Chair. 30 researchers from Lab'URBA, LATTS, LVMT and two other laboratories in the Ile-de-France region[2] are working with Métropole du Grand Paris, APUR and Institut Paris Région. According to Léa Donguy, the programme's scientific coordinator, this unique combination of stakeholders plays an important role: *"the aim is to get scientific research out of the laboratory and into the hands of those directly affected by these issues."* Each year, six seminars are organised to present the results and progress of research to stakeholders.

Research with meaning

And already, in the space of a year, research *"has provided lessons and challenges for public action,"* says Daniel Béhar. The first finding, which will be the subject of a publication for the general public, is that the Ile-de-France region consumes much less land than elsewhere and is already densified in a positive way. *"The hardest part is yet to come, because we're going to have to continue to produce housing using mechanisms other than densification,"* warns the researcher. The second finding is sociological: *"The geography of metropolitan areas has changed. There is a clusterisation of lifestyles. The ecological transition cannot be reduced to the idea that urban residents should live like people in villages. It's the other way round. Mobility issues are therefore central to the question of transition. This will form the research programme for 2025,"* says the teacher-researcher.

**"The ecological transition cannot be reduced to the idea that urban residents should live like people in villages."**

© Corinne Legenne / L'Institut Paris Région

1: Observation Platform for Urban Projects and Strategies, attached to the Urban Planning Construction and Architecture Plan (PUCA)

2: Géographie Cités (CNRS, Université Paris 1 Panthéon-Sorbonne, EHESS) and PLACES (CY Cergy Paris Université)

Supported by the French National Research Agency (ANR) with funding of over €300,000, the PREcare project brings together members from three of the university's laboratories: the Comparative Power Analysis Laboratory (ACP), the Mobility, Cities, Mobility, Transport Laboratory (LVMT), and the Techniques, Territories and Societies Laboratory (LATTS). From March 2025 to December 2029, they will be studying the processes involved in precarity and solidarity in small and medium-sized French towns.

## Precarity and solidarity in small and medium-sized French towns

While studies have already been carried out into the processes involved in precarity, particularly in priority neighbourhoods of large cities, few have been conducted on small and medium-sized towns. However, precarity has increased in recent years, while remaining largely invisible in the face of discourse and initiatives that focus primarily on residential and economic attractiveness. Small and medium-sized towns, where people get to know each other more easily, are also characterised by the central role played by associations and more informal forms of local solidarity aimed at the most vulnerable.

Developed on the basis of these working hypotheses, the PREcare project will therefore aim to offer a detailed measurement and differentiation of situations of precarity in small and medium-sized towns, from the national scale (including overseas territories) to the intra-urban scale. It will also analyse practices and representations of people living in precarious conditions, and the types of action taken to support them, whether in the context of public action, investment from associations or family forms of solidarity. By combining national and local statistical and mapping analysis, semi-structured field interviews and a video documentary, PREcare aims to make a theoretical and operational contribution to the analysis of precarity and solidarity in small and medium-sized towns.

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Four projects led by UGE researchers have won the fifth edition of the French government's innovation competitions: i-PhD, i-Lab and i-Nov. Read on to find out more.

## Success in government innovation competitions

Their names are ECHO SILENCE, ISOLATERIA, LUCIA and BETTER. Led by PhD students and start-ups from Université Gustave Eiffel, these projects and innovative companies stood out from the rest in the 2024 edition of three government innovation competitions: i-PhD, i-Lab and i-Nov. Organised by the Ministry for Higher Education and Research, in partnership with Bpifrance and ADEME, these competitions encourage and support innovative research and deeptech projects in France.

Designed to provide young scientists with initial support to help them make the transition from research to entrepreneurship, this year's i-PhD competition recognised two PhD students from the university: Hasan Hassoun from the Navier Laboratory (CNRS - École Nationale des Ponts et Chaussées - Université Gustave Eiffel) and Hussein Nasreddine from the Geomaterials and Environment Laboratory. The former was recognised for his company ECHO SILENCE, which develops eco-friendly and innovative acoustic solutions for noise control. The latter created ISOLATERIA, which uses agricultural waste to create biosourced geopolymer panels for thermal and acoustic insulation.

In the i-Nov competition, start-up Altaroad, co-founded in 2017 in collaboration with the COSYS Department, was awarded a prize for its BETTER project in the category "Transport, Mobility, Cities and Sustainable Buildings". BETTER was recognised for its potential to "become a world leader in its field", representing an innovative solution for the traceability of construction materials and waste. It is aimed at all stakeholders, including purchasers, local planning authorities and recycling facilities, and *"encourages responsible action through recommendations that are actionable, contextualised and multi-criteria (emissions, circularity, costs, etc.)"*.

**find out more**
**www.linkedin.com/company/altaroad/**

**www.nav4you.fr**

Johan Perul, co-founder and CEO of Nav4you.

### I-LAB GRAND PRIZE FOR NAV4YOU

*"Johan and I have been working together for 8 years now, and our enthusiasm for innovation is as strong as ever, driven by powerful human values that I believe are the foundation of long-term success. It's a real pleasure to see our collective efforts bear fruit," says Valérie Renaudin, Director of the AME-GEOLOC Laboratory and co-founder of Nav4you alongside researcher Johan Perul. The Bouguenais-based start-up was awarded an i-Lab Grand Prize for LUCIA, an innovative, sovereign localisation technology based on artificial intelligence. With submetric accuracy, even in the absence of a GPS signal, and the ability to operate in complex communications environments, LUCIA aims to transform professional practices in industry, civil security and defence."*

On 11 March 2024, the inmob project inaugurated its walking track on the Nantes campus. This pedestrian test track provides new data for researchers from the Geoloc Laboratory, with the aim of developing an innovative application to guide visually impaired people in the city.

## Inmob: a test track to support the mobility of visually impaired people

Developing a more accurate, reliable guide application, tailored to the specific needs of visually impaired people – that is the aim of the test track for the inmob project (disability mapping using inertial measurement to facilitate mobility), run by the LabCom of the same name. This joint laboratory was created in 2021 and is supported by the ANR and the Pays de la Loire Region. It brings together the Geoloc Laboratory and Okeena, a company specialising in designing solutions to improve mobility for people with disabilities.

Inaugurated on 11 March in the presence of Christelle Morançais, President of the Pays de la Loire Region and Gilles Roussel, President of Université Gustave Eiffel, the track installed on the Nantes campus simulates a complete urban environment: pavement, pedestrian crossings, traffic lights, letterboxes, bus stops, etc. With the participation of visually impaired testers equipped with sensors, the Geoloc researchers can compile a wide range of data – speed, walking style, ability to find one's bearings in space, etc. – in order to develop an innovative geolocation solution. Based on artificial intelligence and requiring no internet connection, this guide application is expected to be accurate to within a metre, better than satellite solutions which can sometimes vary by up to 5 metres, exposing visually impaired people to considerable accident risk.

# Training, supporting, boosting

Training, supporting, boosting

Interview with Venceslas Biri,
Vice-President for Training
and Pedagogical Innovation
at Université Gustave Eiffel

# “ A strategic year for looking to the future ”

**How would you sum up 2024?**
**Venceslas Biri:** For our courses, the year was largely devoted to the HCERES self-evaluation process. Every five years, higher education establishments are evaluated from a general point of view - on their strategic and operational management, policy in terms of research, innovation, training, student life, etc. - but also at the level of each research unit and each course.

This process began in 2024 with a self-evaluation of each of our degrees. A wide range of criteria are assessed, including international openness, research support, pedagogical methods, monitoring student success, attractiveness and integration of sustainable development issues.

**What are the implications of this self-evaluation for the university?**
The main challenge is to retain our accreditations, i.e. the right to award our degrees. But this self-evaluation exercise is not just an obligation, it's also a way to take stock of the past five years and start to prepare for the 2026-2030 period. It's an opportunity for faculty members, research professors and training components to reflect on their work and look to the future.

This evaluation also coincides with the roll-out of many projects for our institution, such as Learning for Sustainable Cities (AVID) and Lifelong Training for Sustainable Cities (ForcoVD). It’s a strategic time for our institution.
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© CIPEN

**"There is an increase in the international dimension of our courses, and it's a very satisfying dynamic that we hope to amplify."**

**What other events marked 2024 for you?**
The first thing that comes to mind is the round table on “AI and Professional Practices for Teachers” on 18 June and “AI Tuesdays” organised by CIPEN. Artificial intelligence is making its mark, and teachers are aware of the issues at stake and the impact it will have, particularly on assessing student work, pedagogical practices and future skills required by the socio-professional world.

Another important event was the New University Curriculum (NCU) Conference held in September and the momentum of the D.Clic project. This initiative has already enabled more than 70% of our Bachelor’s degrees to incorporate a skills-based approach (APC) at various levels.

Last but not least, I saw an increase in the international dimension of our courses, thanks in particular to the PIONEER Alliance - with actions such as the Blended Intensive Programmes (BIPs) - and initiatives such as the European Hackathon and the Madatlas project. It's a very satisfying dynamic and one that we hope to amplify, so that our students can develop their intercultural skills and our teachers can enrich their pedagogical practices.

Supported by Erasmus+, Blended Intensive Programmes (BIPs) are short-term European exchange programmes that combine online cooperation and physical mobility. In 2024, two BIPs were offered to students at Université Gustave Eiffel as part of the PIONEER Alliance.

## BIPs internationalising training pathways

BIPs are unique classes, consisting of a period of distance learning and 5 to 30 days of mobility abroad, representing a new opportunity for students as well as faculty members and administrative and technical staff. Available at European universities in the PIONEER Alliance, two BIPs were offered for the institution's students this year: the "Technologies for Businesses" BIP, which ended in April with a trip to Laurea University (Finland), and the "Service Design and Marketing Innovation" BIP, which was taken by around 20 students from the Master's in Marketing and Management of Services (MMS) at IAE Paris-Est.

Hosted in May at the University of Applied Sciences in Cologne (TH Köln, Germany), then in November at ISCTE in Lisbon, these students worked on innovative service design projects in multicultural teams and in partnership with companies. *"They found themselves with students of very different languages, cultures, backgrounds and even ages. It was an opportunity for them to discover new ways of working, in a variety of contexts and environments, to develop their skills and expand their network,"* says Rola Hussant-Zebian, associate professor and Co-Director of the second year of the Master's in MMS.






Mapping Madagascar: this is the aim behind the MadAtlas project, co-sponsored by Université Gustave Eiffel and the University of Fianarantsoa. Launched in 2021, the project is now rolling out a course in digital cartography, as well as research and partnerships with local players.

## Towards a course in digital cartography in Madagascar

*"The original idea behind the project was to create a digital atlas of Madagascar that would be updated over time,"* explains Sophie Moreau, geographer at Université Gustave Eiffel and Coordinator of Madatlas. Carried out in collaboration with the University of Fianarantsoa, the French National Research Institute for Sustainable Development and University of Bordeaux Montaigne, this project has given rise to broad international collaboration in which the worlds of university, research, training, business and public institutions have intersected and enriched each other for over four years.

**Training the Madagascan cartographers of tomorrow**

*"One way of producing maps is to improve training for Malagasy actors – students, faculty members, researchers and professionals – in all the stages of the cartographic process,"* says Sophie Moreau. This training objective is at the heart of the MadAtlas project, with the aim of creating a Bachelor's-Master's-PhD pathway and professional training courses, as well as support for PhD students. Partnerships with local businesses and public institutions are also encouraged, in order to facilitate the employment of young researchers while strengthening the links between development stakeholders in Madagascar. It was in this spirit that the first MadAatlas Summer School was held at the University of Fianarantsoa from 22 to 30 April 2024. This week of discussions between Madagascan and French professionals, PhD students and researchers gave rise to "State of the Map Madagascar", the first conference on collaborative cartography co-organised with the association OpenStreetMap Madagascar.

*"Our goal is to ensure the long-term future of our work,"* highlights Andry Razakamanantsoa, member of MadAtlas and Deputy Director of the Geomaterials and Environmental Interactions Laboratory (GIE) at Université Gustave Eiffel. *"As researchers, we are taking advantage of this opportunity to set up structures that are sustainable and compatible with the country's reality, without necessarily being modelled on what we have in France."* Digital cartography is an essential tool for land-use planning and development, enabling French and Madagascan researchers to propose new analysis and decision-making tools in fields related to sustainable development in Madagascar, such as drinking water networks, road maintenance, drought and fire-prone areas, as well as social and gender inequalities. For the last subject, work is underway to establish an equity and gender charter for the island's universities.

The MadAtlas Summer School helped promote work carried out by Madagascans, who are already mapping their island using OpenStreetMap.

This year, the Université Gustave Eiffel Foundation started to award grants to support students in research internships or facilitate access to higher education. Here are some testimonials.

## Supporting equal opportunity and student success

In 2024, 11 scholarships were awarded for a total of €40,000. Five students in second year of a Master's or third year of an engineering course received a "Research" scholarship to carry out a research internship on the themes of "Building Sustainable Cities Together" and "Developing Sustainable Finance" in one of the university's laboratories. Two "Eiffel Excellence" merit scholarships were awarded to young high school graduates to help them continue their studies at the institution.

Lastly, four "Women in STEM" scholarships were awarded to support female high school graduates wishing to pursue their studies in scientific fields at the university: mathematics, physics &chemistry, engineering science or computer science.

Student scholarship ceremony for the Université Gustave Eiffel Foundation
© Boris Fellerath

Training, supporting, boosting

**Thinhinane Hamadachi,**
**PhD student at the ICMN (Université d'Orléans/CNRS Joint Research Unit)**

TESTIMONIAL

*"During the second year of my Master's in Advanced Materials and Nanomaterials, I was awarded a scholarship for my research internship at the ESYCOM Laboratory in 2024. My internship was focused on developing electrode materials from Si/ZnO/metal NPs for photoelectrochemical CO2 conversion. During my studies, I had to work as a waitress at the weekend to pay my bills. This scholarship of €700 per month for the duration of my internship allowed me to focus on my research work, an opportunity that has had a very positive impact on my career. Firstly, my internship evaluation panel recognised that I had obtained results equivalent to a first year of PhD. This directly contributed to convincing the admissions panel of the doctoral school and launching my thesis. The internship was an opportunity for me to gain experience in materials characterisation techniques, including scanning electron microscopy, Raman spectroscopy and scanning near-field microscopy."*

TESTIMONIAL

*"I was awarded an 'Excellence Eiffel' scholarship of €5,000 for my first year at university, which made it possible for me to live closer to the campus. Without this assistance, I'd have to live about an hour and a half away by public transport... The scholarship means that I can concentrate on my studies with peace of mind. It could also help finance my driving licence.*

*It's a merit scholarship, and there are results-based criteria for obtaining it, but I wasn't the top of the class: I got my high school diploma with an average of 14. Université Gustave Eiffel was a natural choice for me because it's both my local university and a well-recognised institution that offers the course I'm interested in: Bachelor's in Mathematics and Computer Science. In the future, I'd like to study computer engineering at ESIEE Paris."*

© Boris Fellerath

**Pharrel Fleuranvil,**
**first-year student in Bachelor's in Mathematics and Computer Science**

Training, supporting, boosting

In late March, 35 European students spent a week working together to develop innovative projects with one objective: to change the way we get around.

## Imagining the transport and mobility of the future

Improving transport infrastructure for active mobility: sites, hubs and platforms for a mobility transition. That was the theme of the third European Hackathon on transport and mobility. Organised by Université Gustave Eiffel and the French Transport Infrastructure Funding Agency (AFIT), the event took place from 22 to 26 March.

The hackathon brought together 35 students from Université Gustave Eiffel and five other European institutions: Laurea University of Applied Sciences (Finland), Università Iuav di Venezia (Italy), Instituto Universitário de Lisboa (Portugal), Univerzita Tomáše Bati ve Zlíně (Czech Republic) and Universidad de Huelva (Spain). In teams of four or five, coached by researchers and professionals, students came up with innovative projects to develop mobility, taking into account the many dimensions involved in this theme: technical, design, governance, location, economic model, social acceptability, etc.

After the student pitches were presented on 26 March to the Ministry for the Ecological Transition, Biodiversity, Forests, Marine Affairs and Fisheries, the judging panel awarded prizes to three teams: GREENSHIFT, which designed specific zones in public transport according to use (conversation, fun, peace and quiet), PATH TO SUCCESS, a technical solution for recycled plastics to be incorporated into cycle paths, and ESODORÉ, which offers innovative, modular workspaces in public parks.

© Vincent Gerbet

For middle school students in the early stages of choosing their path, the “Inventing the Cities and Territories of Tomorrow” exhibition introduces them to the wide range of careers and fields in research, to help them imagine the future.


## Showcasing research at middle schools in Seine-et-Marne

Following collaborations in a number of areas, this year the Department of Seine-et-Marne and Université Gustave Eiffel launched an exhibition in response to a regional challenge. The objectives were to help young people discover the wide range of careers and fields in research, raise awareness of the university and encourage them to come and study here. Taking place in a large and relatively rural area, the exhibition was organised by the university's Knowledge Dissemination and Openness to Society Department (DSOS) and aimed at all young people, especially those who are most cut off from the scientific world.

To make the exhibition as interesting as possible, Scientific Mediation Officer Claire Garraud got part of the teaching team and two pupils from La Maillière Middle School in Lognes involved, right from the design stage. This meant that the chosen theme combined the university's key theme, the school curriculum and questions raised by young people. *“The opening was a real highlight. In addition to the pupils' pride at seeing their opinions taken into account, the involvement of all those involved led to the creation of an exhibition that was much appreciated by all,”* says Claire Garraud.

Air pollution, concrete, female heritage, heatwaves, urban deliveries: the exhibition addresses five themes that are emblematic of the challenges facing the cities of tomorrow, using information panels, quiz questions, a pedagogical toolkit and video portraits of young researchers. *"The toolkit is experimental and includes elements that can be manipulated by hand, it really appeals to pupils,”* says the Science Meditation Officer. *“The video portraits are also interesting because they allow the kids to relate with researchers: 10 or so PhD students talk about their middle school days, their study choices, what they like about their jobs, etc.”*

Although the exhibition is designed to be a ready-to-use tool, Claire Garraud offers a presentation phase each time it is set up in a new middle school, to help teachers get to grips with the subjects. In 2025 and 2026, three new themes will be added to the exhibition, which will resume its tour of middle schools in the Seine-et-Marne region.

# Informing decision-making and enriching public debate

**.73** Societal openness

**.82** Evaluating, assessing and informing decision-making

Our open science approach is reflected in a wide range of actions, aimed at sharing data from research projects and encouraging citizen involvement in knowledge production. These new science practices, with and for society, are being developed in partnership with many local authorities.

# Societal openness

Using real, geolocated data, Université Gustave Eiffel has carried out an unprecedented study to assess its economic footprint, particularly around the Marne-la-Vallée campus. This project was carried out in collaboration with the Paris - Vallée de la Marne Urban Community.

## What is the university's socioeconomic impact on its local area?

Every year, Université Gustave Eiffel's economic impact on the Paris - Vallée de la Marne Urban Community (CA PVM) amounts to €32 million. The institution helps create or preserve the equivalent of 882 jobs in the local area, and its total impact on employment (direct, indirect and induced) represents 1.1% of local employment. In short, this is how the Marne-la-Vallée campus contributes to the economy and employment in its local area. These figures were obtained as part of the study titled *"The Contribution of Localised Data to Assess a University's Economic Footprint: A Case Study of Université Gustave Eiffel"*, commissioned and designed by the university and CA PVM. *"Our aim with this collaborative project was to use robust methodology to provide factual evidence of the university's impact on employment and economic activity,"* explains Sandra Vié, the institution's Chief of Staff and coordinator of the study. *"And the results confirmed our shared intuition: the university is an undeniable asset for the region."*

find out more
www.univ-gustave-eiffel.fr/fileadmin/UniversiteGustaveEiffel/REP_Universite/evaluer-empreinte-economique-UGE-5.pdf

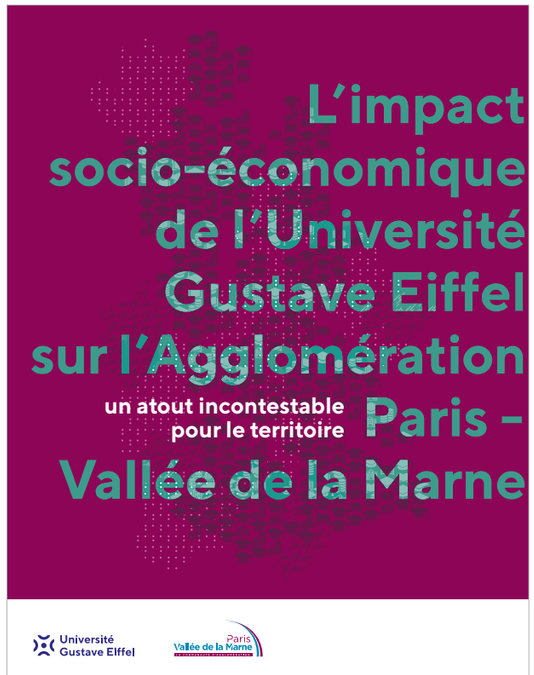
### A unique methodology

Conducted in 2024 by Laetitia Challe and Yannick L'Horty (TEPP Federation) as part of the Gustave Eiffel IN SITU project (Socioeconomic Investigation into the University's Local Impact), the study is unique in that it is based on university data and, above all, geolocalised data. *"Where students and employees live, how much they spend in the areas where they live and work, the school's orders and purchases... We had access to all files related to the university's management,"* says Yannick L'Horty.

Another original aspect of the study was that it measured the effects of learning. It shows that *"the overall impact on employment of apprentices is twice as high as that of other students, despite the fact that there are four times fewer apprentice students at Université Gustave Eiffel than non-apprentices"*.

### A tool for dialogue and improving our local footprint

*"As well as highlighting the economic benefits of our university's presence, the study also represents a tool for improvement and dialogue with local stakeholders. For example, we want to see whether, in two years' time, we have succeeded in encouraging more local businesses to employ apprentices, using them for our purchasing, etc."* says Sandra Vié.






As part of the ExcellencES CityFAB project launched in 2023, Université Gustave Eiffel is working with 10 local authority partners to develop new ways of supporting public policy and science with and for society. Kristin Speck, Head of CityFAB, explains.

## Supporting local authorities in their transition trajectories

**What are the ambitions and strengths of CityFAB?**

**Kristin Speck:** CityFAB is a UGE project that was selected for the call for projects titled «ExcellencES in all its forms", a France 2030 programme designed to fund the development of projects that support interdisciplinarity, to better respond to transitions and strengthen the impact of institutions on society and public policy. Set up in partnership with CNRS, CityFAB aims to support local authorities near the various Université Gustave Eiffel campuses in their transition trajectories through "tailor-made" action research and the development of training programmes and knowledge dissemination systems. Transition trajectories should be understood as strategies for transforming territories in order to place greater emphasis on sustainability issues. These trajectories can cover a wide range of issues: social, environmental, digital, etc.

The aim is to offer scientific programmes that include not only a research dimension, but also training and knowledge dissemination for learning communities that bring together a range of stakeholders: researchers, elected representatives, technical staff and the general public. CityFAB is part of I-SITE's scientific work around sustainable cities and territories. In conjunction with other projects funded by France 2030 (AVID and ForcoVD in particular), it will help strengthen the university in its public policy support role and enhance its national dimension.

**How has this major project played out on the ground?**
In the first stage, the university's various campus departments worked together to identify and contact local authorities potentially interested in the programme. A discussion phase took place over several months, between the university's project team and local authorities, helping to identify and prioritise the support needs of each and mobilise the research laboratories that could meet these needs. We then translated these needs into scientific questions and discussed the resources required for the smooth running and monitoring of each programme. It's worth noting that City-FAB allows us to leverage our strengths, as we mobilise resources from the university's various campuses in order to respond as effectively as possible to the needs of local authorities. For each one, CityFAB co-constructed an action research programme and set up a team made up of players from the local authority and the university.

Currently, 10 local authorities are involved in City-FAB, which was the target. A wide variety of locations and profiles are represented, including communes (Loos-en-Gohelle, Salon-de-Provence, Sevran, Villeurbanne), urban communities (Dunkirk, Nantes Métropole), greater urban communities (Paris-Vallée de la Marne, La Porte du Hainaut, Versailles-Grand Parc) and one department, the Hauts-de-Seine Departmental Council.

**What's the news from 2024 for CityFAB?**
The 2024 objectives were to continue and consolidate the initial work launched in 2023 and finalise the co-construction of programmes with local authorities. From an academic point of view, the first scientific publications (database, article) were being finalised by the end of 2024.

The year was also marked by a number of highlights, in terms of cooperation on the first programmes launched. One example was on the subject of digital twins in Loos-en-Gohelle, with the Digital Twin Alliance in July. There was also the university's participation in the national Positive Energy Territories (TEPOS) Encounters in September.

At an international level, workshops on the Living Lab concept applied to urban mobility have been launched with the German Aerospace Centre (DLR). As for training, a group of students from the university and their teachers travelled to Tunis in October as part of an initiative by the newly created UN Habitat Chair.

Presentation by Fabrice Vienne, Major Projects Officer at the University, on the subject of Loos-en-Gohelle's digital twin at the Digital Twin Alliance 2024.
© Sabine Dundure / Ptolémée



**What issues are emerging and how does the university intend to address them?**
An initial meeting for exchange and discussion with local authorities and academics was organised at EIVP on 27 March 2025. This provided an opportunity to present all the projects and start working together on multidisciplinary issues identified during the development of programmes. These included data and digital systems in supporting the transitions of local authorities, involvement of local residents in public action and research, knowledge dissemination in the local area and training needs for elected representatives and local players.

Work and discussions on these various issues will continue in conjunction with local authorities, based on initial feedback. At Université Gustave Eiffel, this work is being carried out in coordination with other France 2030 projects - such as ForCOVD and AVID - and with the national communities brought together by the Sustainable Cities and Innovative Buildings (VDBI) and Digitalisation and Decarbonisation of Mobility (MOBIDEC) PEPRs.

**What's coming next for this institutional project?**
The major advantage of CityFAB is that it is a long-term project. This future-based approach is invaluable in building, developing and consolidating local partnerships. The results of this research will be used to develop tools for methodologies, analysis and evaluation that will be useful to local authorities. In addition to partner local authorities, these methodologies could be deployed in other areas. The research will also be used to develop new training programmes and experiment with new ways of disseminating knowledge.

Lastly, CityFAB can be seen as a nationwide incubator whose vocation is to create, test and disseminate new practices in public policy support and science with and for society.

**find out more**
https://pepr-vdbi.fr
https://pepr-mobidec.fr

The SonoRezé I project was co-constructed by the Joint Research Unit in Environmental Acoustics (UMRAE) and the City of Rezé, providing an assessment of the urban sound environment based on measurements taken by over 150 residents using the NoiseCapture application. Some then took part in discussion groups with elected representatives and researchers on perceptions of noise in urban areas.

"Sono Rezé has shown that education can help open up constructive dialogue between residents, elected representatives and economic players, with a view to improving the urban noise environment."

**Arnaud Can,**
Director of Research
at UMRAE

## Sono Rezé II: after diagnosis, solutions to reduce noise pollution

Building on the project's initial success, a second phase was launched with the support of the French National Research Agency (ANR)* in May 2023. Based on a renewed partnership between citizens, elected representatives and researchers, SonoRezé II has benefited from a strengthened team, both in scientific terms - the scientific approach of the Space and Society Laboratory at Rennes Angers Agriculture Institute is complementary to that of UMRAE and led to the creation of sensitivity maps - and in organisational terms, thanks to the involvement of third-party observer Auxilia Conseil, a consulting firm specialising in environmental issues, which worked to facilitate interactions between the various stakeholders. This was an essential contribution, as SonoRezé II focused primarily on organising workshops aimed at improving understanding of acoustic mechanisms, in order to better qualify the concept of noise pollution and collectively develop solutions for improvement.

From the very first workshop, held in October 2023, the issue of aircraft noise was at the forefront, due to the proximity of Nantes-Atlantique Airport. One meeting was held per month through to June 2024, attended by an average of 15 participants. Here, elected representatives and residents were able to share their expectations and perceptions, which highlighted major discrepancies between the daily experience of local residents and official data on the number of people affected. The results were presented at a seminar, with a large number of local elected representatives and airport project managers in attendance. The findings revealed the benefits of an approach involving local residents, as well as the need to share knowledge, open up data and communicate transparently in order to create dialogue between interest groups that do not come together spontaneously.

Tradution manquante

* dans le cadre de l'appel à projets Science avec et pour la société – Recherches participatives 1 (SAPS-RA-RP1)



Societal openness

Though the major success of SonoRezé II was to encourage civic involvement, the project also developed a study protocol that can be used for any kind of noise pollution.

A webinar was held in June 2025, bringing together elected representatives and technical departments, noise experts, institutional players and specialists in participatory processes, with the aim of spreading this approach to other areas. It has served as the basis for a methodological guide designed to support local authorities or groups of residents wishing to replicate the approach.

**find out more**
**https://sonoreze.fr**

© Toni Torfer

Université Gustave Eiffel seeks to make science more open by supporting and promoting citizen involvement in research. Along with seven other research establishments, it signed the Charter of Openness to Society.

## Participatory science and research: co-constructing the cities and territories of tomorrow

*"It is absolutely imperative to include citizens in reflections on the cities and territories of tomorrow as imagined by the university. This is a co-construction approach, where the contribution of scientists can only be effective if it is rooted in reality on the ground and in close collaboration with society,"* says Corinne Brusque, Head of the Knowledge Dissemination and Openness to Society Department (DSOS) at Université Gustave Eiffel. Ever since it was founded, the university has been committed to a more open approach to science, working to develop participatory science and research projects run jointly by its scientists and members of civil society.

These projects are featured in **the "Research in Society" collection of dossiers** available on the **Reflexscience** web portal for spreading and co-constructing knowledge. They cover a wide range of subjects, such as initiatives to address inequality, inclusion of senior citizens in the city and environmental protection. They also illustrate the diversity of ways in which citizens are involved in the research process, which include sharing knowledge from the field, helping define research topics, assisting with data collection, preparation and processing, formatting results and communicating the knowledge produced.

The university also organises participatory workshops using design thinking methodology, to bring together the views of citizens and scientists and co-construct knowledge. Entitled **"Discover your science"**, they offer participants the opportunity to share their experiences and observations as citizens, discover a scientific subject and contribute to research by imagining solutions to a real challenge.

**"The principles of participatory research are based on an equitable partnership that requires fair recognition of each party's contribution. It's our responsibility to come up with new formats to highlight these innovative collaborations."**

**Marie Excoffon Gagnoud,**
Deputy Head of the DSOS Department
in charge of participatory science and research.



Societal openness

**15TH ANNIVERSARY OF THE CHARTER OF OPENNESS TO SOCIETY**

On 13/11/2024, Université Gustave Eiffel, Anses, BRGM, Ifremer, Ineris, INRAE, IRSN and Santé Publique France came together to celebrate the 15th anniversary of **the Charter of openness to Society**. The event was held at IRSN and represented an opportunity for signatory establishments to reaffirm "their commitment to an open and plural process in support of public decision-making" and share their visions and goals for contributing to public policy and society. The university also presented its participatory research projects, specifically **OAC - La Narse** and **EQUIPACT.**

© Célia Goumard/Médiathèque IRSN

Our university carries out expertise, standardisation and knowledge transfer missions in support of government administrations, local authorities and state agencies, to help inform public decision-making. We intervene on all themes and disciplines covered by our components, from measuring discrimination in higher education to adapting cities to climate change.

# Evaluating, assessing and informing decision-making



Since 2022, the National Observatory of Discrimination and Equality in Higher Education (ONDES) has implemented studies and tools to help measure and objectively assess discrimination, violence and gender inequality.

## ONDES: discrimination under the microscope

*"Discrimination based on origin persists in access to selective Master's courses. This is a structural phenomenon that undoubtedly requires structural action."* Yannick L'Horty, Director of ONDES, shares this observation from studies carried out as part of the MASTER programme (Measuring Access to Higher Education through Representative Sample Testing). *"For the past three years, we have been carrying out tests on over 2,000 selective Master's courses, and every year we obtain more or less the same results, specifically, a penalty for people whose first or last names indicate a North African origin."*

### Highlighting discrimination in higher education

Published in March 2024, the third study of the MASTER programme looks at the effects of North African origin and religion on admissions to Master's courses. *"This study is one of the first to look at the effects of religion and to show that female Jewish applicants experience discrimination in access to university,"* says Yannick L'Horty. *"It is also interesting because data was collected twice, in February 2023 and February 2024. So we were able to measure the effects of the war between Israel and Hamas."* Though discrimination against female North African and Jewish students has not decreased, the study shows a rise in inegalitarian responses: *"Course directors who previously acted in accordance with the principle of equality now choose to give specific support to female Jewish and North African candidates,"* explains the researcher. *"A form of positive discrimination that is clearly not desirable."*

© Philippe Bout/Unsplash

### Developing new observation tools

In addition to the testing used in the MASTER programme and the victim surveys in studies such as EVIDENCE (Violence and Discrimination in Higher Education Survey), ONDES has developed a new observation tool: the Surname Diversity Index. The principle is simple: count the number of people in an organisation with a surname that was present in France before the 1950s, i.e. before the major waves of migration following the decolonisation period. *"While it does not measure discrimination, it does allow us to assess diversity of origin in an organisation: universities, companies, etc.,"* explains Yannick L'Horty. *"The advantage of this index is that it is simple to implement and can be applied to small groups, such as a football team. It is a tool for knowledge that offers many opportunities, such as studying the effects of diversity."*

**find out more**

https://ondes.univ-gustave-eiffel.fr/fileadmin/contributeurs/ONDES/ONDES-WP-22-01.pdf

https://ondes.univ-gustave-eiffel.fr/fileadmin/contributeurs/ONDES/Publications/ONDES-WP-24-01.pdf

https://ondes.univ-gustave-eiffel.fr/fileadmin/contributeurs/ONDES/Publications/WP-24-02_EVIDENCE.pdf

First "INEDITES" Day on the theme of combating discrimination and violence in higher education and research, organised by ONDES in September 2024.
© Louise Bourgoin

Evaluating, assessing
and informing decision-making

## What happens to waste dumped in urban areas?

The Ruisseau des Gohards, which receives rainwater from the Pin Sec and Jules Verne catchment areas, was opened back up during the restructuring of a Nantes district, with a retention basin built to trap macrowaste. This was where researchers from the Water & Environment Laboratory (LEE)* carried out the Stritter project from 2021 to 2024.

The study was launched as part of the Plasti-nium research project on plastic pollution, with the aim of establishing the link between plastic waste on the urban surface and flows produced by rainwater run-off, as well as observing changes in these flows under various factors (hydro-meteorological variables, municipal waste management practices, community clean-up campaigns).

Litter was collected at regular intervals in the Ruisseau des Gohards basin, then sorted and classified in the laboratory before being compared with litter counted and classified in urban areas with drain access, representative of different types of land use. In the second phase, waste was numbered and deposited in various drains in the study area, in order to assess transfer time to the basin outlet.

This highlighted the fact that, while the proportion of litter not collected by waste management services is around 1% of the total generated on site, the quantity transferred to the waterway remains significant: based on samples taken, an estimated 30 kg per 1 km² of urban area with drain access is transferred per year. It also appears that the build-up of plastic waste in green urban spaces reduces the rate of leakage, but plastic is transferred more frequently than paper or cardboard: though it accounts for 60% of the waste found on the city surface, it represents 90% of that found in the basin.

The results of the Stritter project, whose **final report** was published in October 2024, open up a wide range of possibilities for Nantes Métropole, which has launched an action plan titled "Zero Plastic Pollution Territory". These include installing dual-flow street rubbish bins for more efficient sorting by users, adapting intervention schedules according to activity in urban areas, and improved coordination between internal waste management and green space services.

**find out more**

https://theses.hal.science/IFSTTAR/hal-04731614v1

* in partnership with the Water, Environment and Urban Systems Laboratory (LEESU), and funded by Nantes Metropole, Pays de la Loire Region and Citeo.

© Lauriane Ledieu / LEE

At a workshop with scientific and socioeconomic players organised by the Université Gustave Eiffel Foundation, 10 researchers presented their work on adapting cities to the consequences of climate change.

## Adapting cities to climate change

*"The coming climate shock will be even more severe in mainland France than at global level, with France expected to reach +4°C by 2100."* This is the worrying future shared by Diane Simiu on 4 July 2024. On that day, the Director of Climate, Energy Efficiency and Air Quality at the Directorate-General for Energy and Climate (DGEC) was invited as the keynote speaker for the third edition of the Université Gustave Eiffel Foundation workshops. The aim of this event? *"To publicise and promote research around adapting to climate change,"* explains Michèle Pappalardo, President of the Foundation.

**"The consequences of climate change are having an impact on our living conditions and how we must design our cities. Adapting to climate change is a high-stakes area of research, but the findings and solutions need to be better known, particularly by local authorities."**

**Michèle Pappalardo,**
President of Université Gustave Eiffel Foundation

### For resilient cities

Researchers, faculty members, students, company representatives, local authorities, associations and more... Around fifty people took part in the day-long event, which featured presentations of research carried out at the university in three main areas: urban overheating, pluvial flooding and resilience of urban networks.

Ten researchers and professors (GERS-EE, COSYS-IMSE, LICIT-ECO7, EIVP, ESIEE-Paris) presented their work and the latest research in their field in turn. Topics included the impact of urban heat islands (UHIs) on health, characterising thermal stress, large-scale hydroclimatic modelling, flood forecasting models, developing tools to help manage critical technical networks, etc.

After some more informal discussions, the event concluded with the presentation of a study titled "Resilience of Cities to Extreme Events Caused by Climate Change". Co-funded by the French General Commission for Sustainable Development (CGDD) and the Université Gustave Eiffel Foundation, this study compares 11 cases of natural disasters. Its aim is to identify lessons learned and best practices, in order to better manage the consequences of extreme events and consider new areas for research.



How can cities be adapted to natural hazards? This question is the subject of an extensive amount of research by faculty members and students at Ensa Paris-Est. One such study is titled "Desiring Retreat, Desiring Rest" which focuses on Le Vauclin, a coastal commune in Martinique, by three student architects from the DSA in Architecture and Urban Planning.

## Climate change: architects design the cities of tomorrow

Move away from the coast and let it regenerate. In a nutshell, that is the proposal put forward by Mélissa Anis, Youssef Tibourki and Salim Zniber in their architectural study titled "Desiring Retreat, Desiring Rest". In this project, carried out as part of their Specialised Degree (DSA) in Architecture and Urban Planning, the young architects focused on the commune of Le Vauclin, in the south-east of Martinique. The study was commissioned by the Martinique Department of the Environment, Urban Planning and Housing (DEAL) and the city of Le Vauclin. It carried out between March and July 2024 and presented to the commissioning parties in September.

The main purpose of the study was to adapt Pointe Faula, the tourist and economic epicentre of the commune, and its UCPA holiday centre, which is subject to maritime hazards such as erosion, flooding and cyclones. *"Our proposal mainly consists of reducing use of the coastline to essential areas and encouraging land restoration,"* say the architects. *"Our key idea is to encourage a retreat to safer areas, because a hazard only becomes a risk if there is a human presence. One of the project's major objectives was to initiate a paradigm shift in coastal management. This means gradually phasing out major development and maritime defence infrastructure (dykes, armourstone), which do more to weaken coastal ecosystems than to protect them in the long term. Our approach focuses on nature-based solutions, such as replanting areas at the back of beaches, densifying mangrove forests, and preserving and strengthening coral reefs - all essential elements in the natural cycle of beach erosion and regeneration."*

**find out more**
**https://paris-est.archi.fr/en/publications/cahiers-du-dsa/desirer-le-repli-desirer-le-repos-le-littoral-du-vauclin**

© Ensa Paris-Est

### Encouraging a "desire to retreat"

How do you make people want to leave the coast? What will drive spatial reorganisation? These questions guided the architects' proposal. *"In particular, we have come up with a new way of living, inspired by Creole gardens, with an improved quality of life and in line with local practices."* The eco-friendly "Creole Garden City" uses local materials that are also invasive species, such as bamboo and sargassum. This toxic algae can be combined with clay and used to make compressed earth blocks. *"It was important for us to show people that there are a huge number of possibilities with these hazards,"* explain the three authors.

While the coastline is the focus of attention, it is the Vauclin river that poses the greatest risks, particularly flooding linked to its channeling. To make local residents aware of this situation, the architects worked on renaturing the riverbanks and road that crosses the Vauclin Valley. *"The road is a pretext for spatially symbolising the extent of the river's flooding. Our idea was to create a bridge, a new gateway to the city that would not only keep the road out of the water but also transform the existing road and adjacent farmland into a large linear park."* With areas for socialising, the park is practical to use in dry weather and can serve as a retention basin in the event of flooding.

**The eighth DSA architectural study dedicated to Martinique**

To carry out this research exercise, the architects spent two weeks on the island, visiting and talking to various players such as BRGM and the Coastal Conservatory, as well as local residents. The study is presented in the form of a DSA notebook and offers the commune of Le Vauclin a new way of perceiving its territory thanks to the architect's tool: sketching.

This is the eighth study carried out by DSA students on Martinique. *"Our cooperation with the Martinique DEAL goes back a long way,"* confirms Etienne Randier Fraile, co-ordinator of the "Coastline as a Project Territory" Chair at the Observatory of the Suburban Condition (OCS) alongside Isaline Maire. The first "Martinican" study was carried out in 2015, for the commune of Le Prêcheur. It shares with this recent study an interest in natural hazards, of which there are many in Martinique, and rising sea levels. A digital exhibition will be put on in autumn 2025, "Martinique-Tomorrow", building on the eight DSA studies and imagining "what Martinique could look like in 2100".

Terraced homes are built into the slope using bamboo structures and open onto shared gardens.
© Ensa Paris-Est



The MOUVEDIS (Mobilities, City Uses, Sustainable, Inclusive and Safe Environment) Living Lab is a participatory science initiative, a localised version of the City-FAB project for the Mediterranean campus, using the catchment area of a medium-sized city in the Aix-Marseille-Provence metropolitan area as its testing ground.

## MOUVEDIS, a living lab for safer mobility

MOUVEDIS explores issues linked to contemporary and future mobility and accidents. The aim of the lab is to improve understanding of practices and choices related to modes of travel, with a view to facilitating transition. This approach accounts for changes in urban and societal dynamics, as well as the rising integration of digital technologies in mobility. The Accident Mechanisms Laboratory (LMA) is the project leader, carrying out research-action (RA) aimed at developing solutions adapted to specific local characteristics, responding certain feasibility and social acceptability criteria. In addition, these action research projects aim to produce knowledge that can be transferred and generalised to other areas.

MOUVEDIS is positioned as an open and collaborative third place, bringing together scientists, socioeconomic players, citizen users, elected officials and local authority representatives. Its main aim is to support local transition trajectories by harnessing collective intelligence.

> "MOUVEDIS aims to become a portal for inter-campus collaboration."
>
> **Carole Rodon,**
> **doctor of social psychology and research engineer at LMA**

The activities of MOUVEDIS include:

- Creating synergies between local players;
- Accelerating local transformations while ensuring social acceptability;
- Testing local solutions in real-life situations;
- Facilitating consultation and participatory workshops;
- Analysing practices;
- Cooperating on complex problems and situations;
- Uncovering and promoting existing informal solutions.

They support local public policy players in a process of action research:

- Participatory User Mapping of Travel Risks (C-PUR): prioritising public mobility policies and providing a basis for mediation between public and economic players in the area;
- Safer low-carbon mobility in conjunction with the Master Plan for Cycling Infrastructure (SDAC): promoting intermodality, making urban journeys safer and reducing the area's dependence on cars;
- Excessive speed, digital innovation and urban planning: exploring strategies for regulating speed in the city to encourage safer, more sustainable mobility.

As part of the Terre et Avenir Film Festival in Salon-de-Provence, the MOUVEDIS team led a debate and ran a workshop stand as part of C-PUR.
© Carole Rodon / LMA

# 05

# Strengthening and amplifying our partnerships

# Cooperating with international universities

With over 140 active members in European and international networks, our university has a policy of encouraging internationalisation of training and research. Read on to learn more about our cooperation with European, Egyptian and Tunisian partners in the fields of sustainable and inclusive cities.

Coordinated by Université Gustave Eiffel, the PIONEER Alliance has been selected as a European university under the Erasmus+ programme. This initiative, which focuses on inclusive, safe, sustainable and resilient cities, is opening up new opportunities for more than 130,000 students and 17,000 academic and administrative staff across Europe.

## The PIONEER Alliance takes on a new dimension

The good news came on 28 June: the PIONEER Alliance was one of the 14 winners of the Erasmus+ programme's call for projects aimed at "inventing the European university of the future". The 10 partners[1] in this European network of universities will receive support of over €14 million over four years. Together, they seek to help *"shape the future of inclusive, safe, resilient and sustainable cities"*, in particular by developing mobility and cooperation opportunities for students and staff. *"Launched in 2020, the PIONEER Alliance aims to put in place more fluid and sustainable collaboration processes to align our strategies and institutionalise our collaborations across all our missions: teaching, research, innovation and services to society,"* explains Sylvie Chevrier, Deputy International Vice-President and project coordinator.

### Training a new generation of European students

Support for incoming and outgoing mobility, development of linguistic and intercultural skills, creation of dual degrees, classes by foreign professors, the possibility of taking COIL[2] courses... These are just some of the actions supported or planned by the PIONEER partners, to train students capable of cooperating no matter the language, culture, discipline, background or institutional context. *"PIONEER will allow us to move forward and promote the employability of students on the European market,"* says Sylvie Chevrier.

Another aim of the PIONEER Alliance is to encourage the development of networks of researchers around the themes of the city of tomorrow, in conjunction with the 50 or so regional partners (local authorities, competitiveness clusters, etc.) and the 33 campuses involved in the project. This objective is reflected in particular in the InCITIES project, which has also been supported by the Alliance partners since late 2022. It is structured around seven thematic hubs, including mobility, nature in the city, and digital transition.


1: Université Gustave Eiffel, Avans University of Applied Sciences (Netherlands), ISCTE – University Institute of Lisbon (Portugal), Laurea University of Applied Sciences (Finland), TH Köln – University of Applied Sciences (Germany), University of Huelva (Spain), IUAV – Università Iuav di Venezia (Italy), UTB – Tomas Bata University in Zlín (Czech Republic), University of Zilina (Slovakia), Bern University of Applied Sciences (Switzerland) as associate partner.

2: Collaborative Online International Learning



Cooperating with
international universities

## New partnership with the French University of Egypt

Creating dual degrees, supervising joint PhDs, promoting exchanges for teachers, researchers, students and administrative staff... These are just some of the objectives pursued under the Memorandum of Understanding between the French University of Egypt (UFE) and Université Gustave Eiffel. Signed on 4 November during the World Urban Forum (WUF12) in Cairo, this cooperation framework agreement highlights both institutions' commitment to promoting training and research programmes in line with Sustainable Development Goal 11 (SDG 11). UFE is accredited by the French and Egyptian governments and places particular emphasis on partnerships with French institutions and openness to students from the Middle East and North Africa region (MENA) and sub-Saharan Africa.

This new Franco-Egyptian partnership, in which EIVP will play a central role, aims to support urban transformation through training and research. The development of academic exchanges and collaborative projects will provide future urban engineers with international experience focused on the challenges of sustainability and innovation.

© EIVP

On our various campuses, the university's 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 that can be transferred to society, for the sustainable cities and territories of tomorrow.

# Co-constructing and reinforcing research around lives and cities

## JDID: supporting Tunisian urban planning practices

The JDID project (Milestones for Sustainable Real Estate Development) was launched in 2023, run by UN-Habitat in collaboration with Université Gustave Eiffel and its Tunisian partners. It aims to co-design an update to the El Agba 2 real estate programme in Tunisia, as part of a national and international initiative. This multidisciplinary initiative involves faculty members, researchers and students from the Urban Engineering Department, working with Tunisian players in workshops with the Higher Institute of Environmental Technologies, Urbanism and Construction (ISTEUB), the National School of Architecture and Urbanism (ENAU) at Carthage University and the National Real Estate Company of Tunisia (SNIT).

Territorial diagnosis, study of hydrological risks in the area, scoping report, strategy and recommendations… These are just a few of the deliverables of workshops held in 2023 and 2024 with students from the Master's of Urban Engineering and second-year students from the Urban Planning and Development Master's programme at the Paris School of Urban Planning (EUP), in collaboration with Tunisian urban planning and architecture students from courses at ISTEUB and ENAU. This work is reinforced by the creation of a new chair (see below) and will continue with the aim of co-designing an innovative model for sustainable real estate. In this way, partners of the JDID project aim to support Tunisian institutions in rolling out urban planning practices that are capable of responding to environmental challenges and changes in Tunisian society. The goal is to create resilient and inclusive urban environments, in line with the Sustainable Development Goals (SDG 11).

View of the El Agba 1 district
from the site planned for El Agba 2 in Tunis.
© EUP/Claire Simonneau

### A CHAIR WITH UN-HABITAT FOR A MORE SUSTAINABLE AND INCLUSIVE URBAN FUTURE

At the World Urban Forum (WUF12) held in Cairo in November 2024, UN-Habitat and Université Gustave Eiffel signed an agreement to create the chair titled "Socially Innovating for Sustainable Cities in the Middle East and North Africa" (ISCI-MENA).

Designed to encourage collaborative research, innovation and knowledge exchange for sustainable urban development, this new chair marks a major step towards promoting social innovation and urban sustainability. In particular, it aims to serve as a platform for developing practical solutions that can be applied in cities around the world, especially in vulnerable regions facing rapid urbanisation.

© ONU-Habitat

At the request of Siemens Mobility, researchers from Université Gustave Eiffel and Inria have developed software to predict the heating requirements of a metro line's de-icing system. This work is the result of over 10 years of research into thermal modelling and transport infrastructure monitoring.

## Developing safe and energy-efficient transport with Siemens

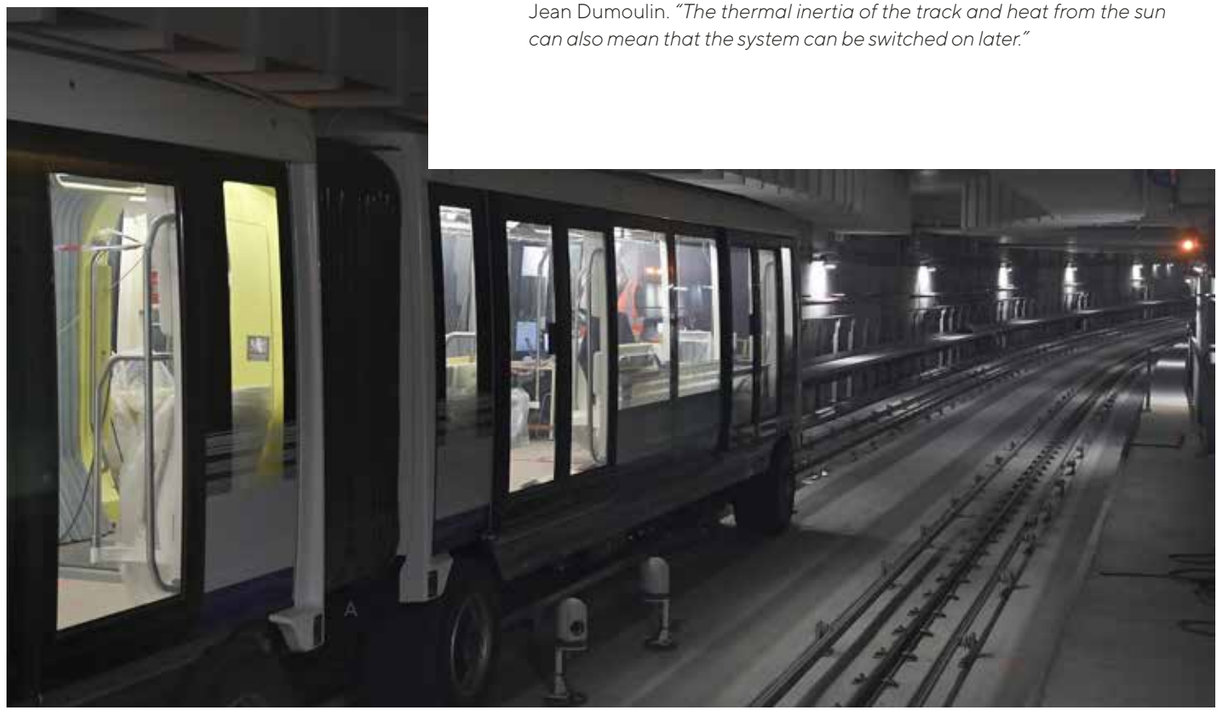
In 2022, the city of Rennes inaugurated its second metro line: the CityVal. Commissioned by Siemens, it is unique in that its carriages are fitted with tyres and run on concrete tracks. Another original feature is that it has decision-support software to determine when to heat and de-ice the track. This experimental solution was developed by researchers at I4S (Inference for Intelligent Instrumented Infrastructures, a joint Université Gustave Eiffel/Inria team).

### Optimising the de-icing system on a metro line

*"With a concrete track, there are the same risks of skidding when braking when it's icy as with cars on the road,"* explains Jean Dumoulin, researcher in thermal modelling and infrared thermography (COSYS / SII and I4S). De-icing the track is therefore an important safety issue. But when should the electric track heating system be activated? In what weather conditions? To help the operator, software was developed to predict heating requirements over several hours, based on temperature measurements taken on the track and data from Météo France, which was also made available to the operator.

Tested on two areas of metro line B, the solution also optimises the energy consumption of the de-icing system. *"Even if it's cold, it's not always necessary to heat the track because the frost point can change,"* explains Jean Dumoulin. *"The thermal inertia of the track and heat from the sun can also mean that the system can be switched on later."*

© Siemens Mobility



Co-constructing and reinforcing
research around lives and cities

"Optimising instrumentation to facilitate system maintenance."

### The fruit of a long collaboration

This software is the culmination of work begun in 2012 by Jean Dumoulin, who was asked by Siemens to gain a better understanding of the system's behaviour in its environment. Three years later, Siemens tested its track structure on the experimental circuit on the Nantes campus. This was an opportunity for researchers from the I4S team to examine the sensors needed to monitor the structure. Finally, in 2019, Siemens requested a proof of concept of the system for monitoring and predicting heating requirements, which required the system to reach a sufficient level of technological maturity (TRL 6-7) before it could be deployed on the new Rennes metro line.

Deployment on the metro was a real challenge, requiring experts in instrumentation, digital modelling and digital systems engineering, says Jean Dumoulin: *"for example, we had to make choices about components and optimise instrumentation to facilitate system maintenance."* Today, the researchers are still in contact with the industrial body and have identified new research questions aimed at improving the system's computing time and taking extreme weather conditions into account, for example.

© Siemens Mobility

Selection and funding of the first projects, scientific events, new co-director: 2024 was a busy year for the "Sustainable Cities and Innovative Buildings" Priority Research Programme and Equipment (VDBI PEPR), coordinated by the university and CNRS.

## Orchestrating research into sustainable cities

Tackling five major challenges in implementing sustainable cities: climate change, urban resilience, energy-efficient and frugal urbanisation, inclusive and equitable urbanisation, and sustainable urbanisation for health and well-being. That is the ambitious mission entrusted to the winners of the first call for projects by the VDBI PEPR. Funded by the fourth Investments for the Future Programme (PIA 4), the VDBI PEPR is co-run by Université Gustave Eiffel and CNRS. Its aim is to orchestrate coordinated, multidisciplinary, downstream-driven research into implementing sustainable cities.

**"The PEPR supports multidisciplinary projects in which local players are genuine stakeholders."**

By early 2024, 40 projects - representing 261 laboratories and over 1,000 researchers - had been submitted: *"a much larger scientific community than we imagined,"* says Dominique Mignot, Co-Director of the PEPR. Of these 40 projects, eight were selected in autumn 2024. *"We're delighted with the quality of the projects, which cover all five challenges. As we hoped, they are multidisciplinary and include local authorities and players as genuine stakeholders."*

### Co-constructed research

The second highlight of 2024 was the Sustainable Cities Innovative Buildings Scientific Days, held in Bordeaux from 20 to 22 November. The event brought together around 100 participants not only to learn about the winning projects, but also to lay the foundation for forward-looking, collaborative work to guide future PEPR research. A participatory brainstorm helped identify priority research themes and needs, such as developing ways to cool down the city using the existing built environment, optimising the use of rainwater, better assessing the ecological functions of soil, and developing raw earth construction and local supply chains. *"Lastly, the event was an opportunity to introduce Anne Ruas, a researcher at the COSYS/IMSE laboratory, as the new co-director of the PEPR,"* Dominique Mignot adds.

**find out more**
https://pepr-vdbi.fr

The "VDBI Prospects" participatory brainstorm, featuring 206 ideas on virtual post-its.






Second annual VDBI PEPR Scientific Days organised in Bordeaux.

**THE WINNERS OF THE FIRST VDBI PEPR CALL FOR PROJECTS**

- **NEO**
  Coordinated by Université Gustave Eiffel, NEO aims to support local areas in accelerating policies and practices to adapt to climate change, by facilitating the production and sharing of environmental data.

- **VILLEGARDEN**
  Co-run by Lyon 1 University and Université Gustave Eiffel, VILLEGARDEN aims to study residential green spaces and assess their environmental performance.

- **RESILIENCE**
  Coordinated by the University of Aix-Marseille in collaboration with the cities of Lille and Marseille, RESILIENCE aims to provide local authorities with tools to better articulate the multiple parameters required for virtuous urban planning: socioeconomic aspects, urban sprawl, mobility and exposure to pollution.

- **TRACES**
  Through the analysis of nine case studies, this project coordinated by CNRS aims to identify the epistemological issues and analytical models that can be used to define trajectories for the general transformation of existing buildings, from ordinary built heritage to protected assets.

- **WHAOU**
  The WHAOU project aims to create a multi-theme and multidimensional observatory of health and well-being in the city, using Paris as a case study.

- **VF++**
  Led by INSA Lyon, VF++ aims to help design and implement strategies to adapt to urban overheating that incorporate green solutions (based on nature), grey solutions (relating to floor coverings, street furniture and buildings) and soft solutions (behaviour and urban management).

- **Paris-RÉUSS-I**
  Merging the URBHEALTH and InteGREEN projects, the aim of this project is to support Paris and the cities of the Île-de-France region in their climate and air quality action plans, by providing scientific evidence on the effects of urban greening and new strategies for mobility, energy management and urban development.

In 2024, the university launched its Partners' Council. The aim of this new body is to involve the institution's key partners in its strategic thinking and development, around both research and training.

## The Partners' Council strengthens the university's roots on its various campuses

Develop, build loyalty and enhance relationships with socioeconomic and local players. This was the aim behind creating the Partners' Club in 2022 and the Partners' Council in 2024: *"a body dedicated to our privileged partners, to actively involve them in the university's strategic thinking and development,"* explains Muriel Jougleux, Vice-President for Partnerships and Professionalisation. *"With the Council, we want to gather their needs, opinions and expectations towards the university on issues such as partnership arrangements, the development of courses, access to research facilities, professional integration of students, etc."*

The Partners' Council is a forum for dialogue, exchange and joint work, with around 15 members including major groups such as EDF, SNCF, Disneyland Paris, Air France, Orange, Alstom and Eiffage, as well as SMEs such as Axelor and Sherpa Engineering. Three local authorities are also members: the City of Paris, the Paris-Vallée de la Marne Conurbation and the Val d'Europe Conurbation.

### Co-constructing strategic thinking

Co-chaired by Gilles Roussel, President of the university, and Damien Grolleau, Director of the Nantes branch and autonomous platform innovation expert at Sherpa Engineering, the Partners' Council brings together directors of R&D, innovation and partnerships, general managers, campus managers, talent managers and HR directors. It met three times in 2024 and set up two working groups. The first looks at young people's relationship with work, apprentices in particular, and the second at the management of patents and intellectual property (IP). *"How can we share intellectual property as part of a research collaboration? This issue has been identified as a potential barrier to collaboration,"* highlights the Vice-President. *"The reflections of the working groups will be shared with other partners and at meetings of our statutory bodies."*

Traduction manquante

**L'UNIVERSITÉ ET SES PARTENAIRES EN 2024**

**337** companies and local authorities
members of the Partners' Club

**10** events organised

**+32** % new members

© Manolis Picault

### A NEW EVENT FOR NEW COLLABORATIONS

On 3 December, Université Gustave Eiffel held its first Partner-University Encounters. The aim of this new event is to strengthen synergy between the institution and local economic players.

Over the course of a morning, some 60 participants were able to discover the range of services dedicated to partners (partnership research, lifelong training, innovation, etc.) and tour innovative research infrastructure dedicated to mobility and road safety, such as Sense-City, immersive simulators and the photometry and colorimetry platform.

# Promoting and embodying the university's values

# Creative and committed students

Invested in campus life, driving forward innovative solutions, ambassadors for the socioecological transition... Our students are supported and accompanied in their initiatives and commitments. Here are some examples.

In 2024, the ENSGagé-e-s association, part of ENSG, continued its actions in support of solidarity, equality and sustainable development. Let's look back at two of the year's key events.

## ENSGagé-e-s: equality and solidarity in action

Lorine Peseux, 23, is in her final year of engineering studies at ENSG. As Vice-President of the ENSGagé-e-s association for the 2023/2024 academic year, she remembers her involvement with the association, which has been an integral part of her student life: *"I joined the association in my first year at school because it runs concrete initiatives to raise awareness around issues that interest me personally. It was an opportunity for me to get involved on campus, on topics that have meaning beyond the school."*

### Equality Week

To mark International Women's Day, ENSGagé-e-s organised a week-long programme from 4 to 8 March to raise awareness of different forms of sexism, with one event per day. It was a lot of work to organise such a busy schedule, but Lorine believes that it is essential: *"We know that we have to keep raising the subject, talking about these issues over and over again to really drive them home. We tried to be as comprehensive as possible."* Skirt Day to smash gender stereotypes, a screening of the film Promising Young Woman to denounce rape culture, a women-only sports afternoon, posters and awareness-raising workshops: the week was full of different activities, culminating in a forum theatre performance by the Synergies Théâtre company. *"With over 70 participants, the forum theatre piece aimed at denouncing everyday sexism was a great success,"* says Lorine. *"The Equality Mission helped us to publicise the event and draw up a report afterwards."* In September, a number of workshops were also offered during orientation month to raise awareness among new students.

### Run for Breast Cancer

On Sunday 20 October, the association also showed its commitment by organising the second edition of a charity run, with all proceeds going to the League Against Cancer. The figures speak for themselves: in 2023, 50 sponsored runners raised €1,259. In 2024, 112 runners were sponsored by 171 donors, raising €6,532. *"We focused on better organisation and communication, which produced this very positive result,"* says Lorine. *"The event helped unite people, it's a real rallying point."* And to conclude: *"we're a modest association, but we manage to bring people together around our projects."*

© ENSG-Géomatique






Throughout 2024, the DD&RS Mission supported the creation of the Eco Campus Collective, a working and discussion group designed to provide concrete responses to socioecological issues at the university.

## Eco Campus Collective: working together to meet transition challenges

In 2021, via two student ambassadors, Université Gustave Eiffel contributed to the drafting of the Grenoble Accord: a document born from a student initiative during Student COP2, which defined 11 socio-ecological transition goals for higher education and research establishments. As a signatory to this agreement, the university undertook to set up a tripartite working group (students, faculty members and administrative and technical staff) to monitor the implementation of these goals and work on the institution's socio-ecological issues. Although the group became defunct with the departure of these students, a new set-up began to emerge at the start of the 2023 academic year, with the arrival of Marine Ménagé, DD&RS Officer.

To lead the group, which has become the "Eco Campus Collective", Nolhan Emica (student at ESIEE Paris) assisted the DD&RS Officer from the outset, later joined by Maleaume Gaillard (student at EUP), both on student contracts. *"With an initial communication campaign launched in January 2024, we held two introductory sessions in March and April, attended by around 20 interested students,"* explains Marine Ménagé. *"This enabled us to find out what students wanted from this collective and what they needed. They were also asked about the format of the discussion group, how often it should meet and the priority issues they would like to work on."* In the end, the students in attendance chose to focus on Article 11 of the Grenoble Agreement ("Ensuring good campus management") and create themed groups that could evolve according to their desires: biodiversity, waste management, sustainable mobility, local

The first Clean Walk organised by the Eco Campus Collective around the Maison des Étudiants (MDE).

food and making meals greener. *"We chose this format to enact the goals of the Grenoble Accord, but it also and above all serves as a means of creating links, bringing people together around this issue - particularly students - and encouraging commitment,"* says Nolhan Emica.

Today, the Eco Campus Collective has 110 members on its WhatsApp community. With a general channel and five specific chats, you can find out about and get involved in the group(s) that interest you. From distributing local fruit and vegetables to mapping cycling infrastructure, reworking the management of green spaces, creating a map of ashtrays and introducing vegetarian meal options, the various themed groups have already come up with plenty of projects, designed to be inexpensive and quickly achievable. *"2024 was an essential year for laying the foundations of a committed group and thinking collectively about what we want to achieve,"* concludes Maleaume Gaillard. *"Now that we've created this space, it's time to take action and make the collective known to as many people as possible."*




What if environmentalism was our common ground for working together? The BORN IN… PPM exhibition brings together art and science, co-organised by the Arts and Culture and Sustainable Development and Social Responsibility (DD&RS) Missions, offering a new aesthetic space for encounters and reflections.

## "BORN IN… PPM" or how to raise awareness of climate change

*"The idea for this project began in 2023, when I discovered Mary-Lou Mauricio's photographs,"* explains Clémence Garnier, Head of the DD&RS Mission. *"Her project 'BORN IN… PPM', created at COP 27, features people posing with the CO2 concentration in the atmosphere at the time of their birth."* She was immediately fascinated. After that, the photographer did two photo shoots at the university: in July for staff and in October, during Rentr'Eiffel, for students. Before culminating in an immersive exhibition presented in the Salon d'Honneur at the Georges Perec Library at Eco-Festival 2024, a crucial encounter was necessary: between Clémence Garnier and Özlem Sulak, artist and research & creation officer for the Arts & Culture Mission.

### A visual and sound installation co-created with students

Özlem Sulak joined the project, responsible for the exhibition's scenography. *"It was a real challenge to present this installation in an all-glass room,"* she says. *"We came up with the idea of creating an exhibition where the photos were hung at different heights."* Produced in collaboration with a student from ENSA Paris-Est and students from the Master's of Music at UFR LACT, the visual and sound installation was met with great success at its opening. While it is difficult to measure the extent to which the exhibition raised awareness, the quantity and quality of interactions that took place were very rich. *"The way the exhibition was set up was all-encompassing and engaged people,"* Özlem Sulak adds. *"Seeing these portraits invited the public to follow the same train of thought."*

This first collaboration between the university's DD&RS and Arts & Culture Missions will be followed by another joint exhibition in 2025, as part of the Art and Culture in Higher Education Days (JACES) and the Eco-Festival. *"I found the mix of art with key issues really moving,"* says Clémence Garnier. *"We need to use every possible channel to reach as many people as possible. This allows us to reach out to new audiences without losing sight of our objectives: to raise awareness of climate change, to make people more aware of the issue and to encourage them to take action."* As part of creating the exhibition, each photograph was preceded by a discussion with Mary-Lou Mauricio to raise awareness of the PPM issue and to ask participants about how they feel towards climate change.

© Mary-Lou Mauricio

How do they see their role within Université Gustave Eiffel? What missions are important to them? What messages or values do they want to convey? Here, our staff share what makes them “knowledge brokers”.

Dans l’entrée de chapitre :
«Staff members sharing knowledge»
À harmoniser

# Staff sharing knowledge



## The pleasure of experimenting with new teaching and research methods

**Julie Tixier**
Associate professor of Management and Entrepreneurship, researcher at IRG and ORELIG Coordinator
Marne-la-Vallée Campus

*“I mainly teach project management and service design to students in the Master’s of MIPI and MITIC courses, as well as social entrepreneurship to students in the Health department at IFIS, which is directly linked to my research. These courses, which are closely linked to the professional world, involve a great deal of collaboration and the ability to constantly adapt, which has led me to develop the principles of the flipped classroom and design sprint. That’s what I like most about my job: the opportunities it offers to forge new partnerships around original subjects of study, and to experiment with new teaching and research methods. In 2020, as pedagogical coordinator of PÉPITE 3EF,* I had the opportunity to work with seven other researchers to create the Observatory of Gendered Perceptions of Entrepreneurship (ORELIG), which studies societal assumptions with regard to gender in entrepreneurship, particularly for student entrepreneurs.*

*Our university encourages and facilitates this innovative and pragmatic approach to teaching. Firstly, because the theme of the city, around which it was built, encourages interdisciplinary exchanges. Secondly, because work-study programmes are is very important here. This enables students to undertake long studies who would not necessarily have the means to do so, while opening up concrete career prospects.”*

* Student Centre for Innovation, Transfer and Entrepreneurship - Est Francilien

## Encouraging dialogue between history and urban planning

*"The thing that excites me about my job is studying and understanding cities of the past to better understand those of the future. I'm particularly interested in shedding light on environmental, social and cultural aspects of urban policies. For example, my students and I worked with the Grand Paris Sud Urban Community on the 'Pays d'Art et d'Histoire' label. We studied forms of urbanisation in the 20th century and farms in the area that promote short distribution channels and encourage food self-sufficiency. These topics of study are in line with current heritage and environmental concerns. We work with a wide range of partners: landscape architects, academics, geographers, archivists, town planners, local authority project managers, etc.*

*My vocation is always the same in my day-to-day work: to pass on to students the importance of having excellent sources, as a guarantee of the rigour and reliability of their work. History can and must contribute to the debate around the city of tomorrow. The aim of training students is to develop their critical thinking skills, because they are the ones who will be building it."*

**Loïc Vadelorge**
Professor of Contemporary History, Head of the Professional Master's in Historical Diagnosis and Urban Planning and Scientific Manager of the Urban Futures Laboratory of Excellence (LabEx) from 2019 to 2024
Marne-la-Vallée Campus



## Redesigning the way knowledge is shared

*"As a designer and organiser of cultural and scientific events, my main role is to foster discussion of ideas with the general public. Working in partnership with local authorities and sociocultural facilities, I co-construct projects tailored to different audiences and areas, such as the Fabrique des Savoirs. There are multiple objectives, including creating social ties between scientists and local residents, reviving interest in science, and promoting academic knowledge in a different way. It's in-depth, made-to-measure work that requires creativity and interpersonal skills to ensure that the general public's expertise in uses is involved and that they adopt the events themselves over the years.*

*When it comes to issues such as climate change, which can be a source of anxiety for some, we need to be as relevant as possible in our approach to the subject and share concrete examples. The work of our researchers is often linked to key projects at the university, such as the Urban Futures LabEx and City-FAB, and shows that there are active reflections and potential solutions to support transitions.*

*Whether we're talking to people from higher socioprofessional backgrounds or priority urban neighbourhoods, their feedback is always useful, because all questions are welcome to reflect together and help researchers re-contextualise their work. I'm convinced that this social link, this direct contact with researchers, will remain essential in the future."*

**Laurent Meyer**
Head of Cultural and Scientific Events, Knowledge Dissemination and Openness to Society Department (DSOS), VP Research and Innovation
Lyon Campus

## Knowledge is best shared in a welcoming environment

*«I wanted to become a librarian because I'm convinced that libraries can save the world, by giving everyone access to knowledge and developing critical thinking. After being Head of Document Policy, then Head of Electronic Documentation, I'm delighted to be the new Director of the University Library. A place that preserves and shares 210,000 physical books, 4,400 DVDS, 1,500 magazines, and 55 subscriptions to periodicals, that trains 3,000 students each year in how to search for information and use documentary tools. I'm particularly proud to be working alongside a team of 55 staff committed to delivering high-quality service and ensuring our primary ambitions: guaranteeing access to knowledge for all and fostering student success.*

**Armelle Thévenot**
Director of the University Library
Marne-la-Vallée Campus

*Not only is the library a place where knowledge is conserved and passed on, I want it to be somewhere people feel at home, where they can recharge their batteries. I think you learn best in a welcoming environment. In the same vein, I care deeply about the inclusion of all, particularly people with disabilities. That's why I'm helping draw up the university's Disability Master Plan.*

*In addition to my work at the university, I am also a trainer in librarianship and the national reference person for the RAMEAU language. As such, I represent Université Gustave Eiffel in interactions with colleagues from all over France and with the Bibliothèque Nationale de France."*





## Drawing on a wealth of technical and human skills

*"I'm helping develop new scale-model tests using the geotechnical centrifuge on the Nantes campus. This involves computer-aided design of new test tools, machine assembly and maintenance. The tests concern research topics such as the stability of retaining structures, resistance of offshore wind turbine anchors, soil liquefaction, etc.*

*Every day brings its own surprises. It takes constant creativity, imagination and inventiveness to design effective and reliable tools, ensuring that our tests reflect reality as closely as possible. The thing that I care about most is the quality and thoroughness of our work. We are fortunate to be able to draw on and surround ourselves with outstanding technical and human skills, thanks to our collaborative work with researchers, PhD students, interns and colleagues from a wide range of nationalities and professional backgrounds.*

*In my opinion, working in this way as part of a single collective is essential, as it teaches us to communicate better in order to achieve a common goal. What's more, I always transmit a message of openness to the students I meet: show curiosity and tenacity, and don't be afraid to make mistakes, because you learn from them."*

**Philippe Audrain**
Research technician
at the Geotechnical Centrifuge Laboratory
Nantes Campus

## A laboratory director is like the coach of a sports team

*"Research at the Accident Mechanisms Laboratory (LMA), which celebrates its 40th anniversary in 2025, aims to understand and prevent traffic accidents by analysing interactions between users, vehicles and the environment. The ANR URFé and ANR NEWMOB projects illustrate this approach by studying new modes of urban transport, such as scooters and electric bicycles, the proliferation of which is leading to new issues in terms of safety, practices and occupation of public spaces.*

*When you come from a regional planning background, as I do, it is not easy to understand the issues of a colleague studying the dynamics of a vehicle or the psychology of its driver. So it was with humility that I took up my post as Director in 2022, three years after joining the laboratory, which I knew well since I had completed my PhD there 25 years earlier. I always think of the analogy made in the book "Méthodologie des sciences humaines. La recherche en action", which I discovered back then. It likens a laboratory director to the coach of a sports team, because scientific work is collective work. While exchange and consultation are essential to build a scientific project collectively, the administrative tasks, which are an important part of my responsibilities, allowed me to get to grips with the multidisciplinary dimension of the laboratory's activities as well as its practical organisation. What's more, the university's human-scale structure means that, despite the geographical remoteness of our campus, we remain very close to research support services, whose guidance and support are essential."*

**Frédérique Hernandez**
Director of the Accident Mechanisms Laboratory
Mediterranean Campus (Aix-Marseille)

Staff sharing knowledge

## Supporting greater representation of women in scientific careers

*"Before becoming Deputy Director General of ESIEE Paris in 2024, I headed the school's Health, Energy and Environment Department for nine years, the Mathematics and ICST Doctoral School (ED MSTIC) for five years and the held the Vice-Presidency of the Paris-Est COMUE for three. I ended up taking on managerial responsibilities gradually. One thing that motivates me in this role is project management. One of my current tasks, for example, is to get the merger with ESIPE up and running. The project is very motivating, as it helps us grow as a school, but it involves reorganisation and commitment: you have to support people and sometimes convince them, because not everything is easy to understand. That's another aspect I like about these missions: it's all about sharing, working with colleagues and communicating. If anyone needs to discuss an issue, my office is always open. Lastly, I also appreciate having a broader view of the school's medium-term strategy and being able to contribute more actively to it.*

*Holding this position is a professional achievement, but also a personal one, because it allows me to make a difference on an issue that is close to my heart: greater representation of women in scientific careers and positions of responsibility. The university has made a real commitment to gender equality, but there is still a lot to be done in France, and I'm delighted to be able to set an example."*

© Simon Cassanas

**Gaëlle Lissorgues**
Deputy Director General of ESIEE Paris
Marne-la-Vallée Campus

## Making my research fully integrated into support for public policy

*"My research at LASTIG* focuses on the analysis, modelling and integration of geographic information produced by volunteer citizens using geolocation tools such as GPS watches or smartphones. I'm interested in how this data, which is a common asset made available on platforms such as OpenStreetMap or IGNRando, can be reused to improve institutional information and meet practical needs. This is the aim of the IntForOut ANR project, led by the MEIG team in partnership with the LIFAT and LECA Laboratories and CREA Mont-Blanc, which is studying the impact of recreational alpine activities on flora and fauna.*

*The interdisciplinarity inherent in this type of project is very enriching, because it pushes us to our limits by forcing us to develop common methodologies and vocabulary, with ecologists, computer scientists and social science researchers. I really like this notion of sharing, which I also find with ENSG-Geomatics students, where I am responsible for the Cross-Disciplinary Methods module in the second year of the Master's in IGAST. The fact that the LASTIG is attached to the university not only strengthens the interactions between my teaching and research, but also means that my research is fully integrated into support for public policy. This is a strong and, for me, very stimulating feature of the university.»*

**Ana-Maria Raimond**
Deputy Director of LASTIG,
lecturer at ENSG-Geomatics

Traduction manquante

*Laboratoire en Sciences et Technologies de l'Information Géographique (UMR Université Gustave Eiffel / IGN-ENSG / EIVP)





## Working on concrete topics that address current issues

*"After defending my thesis in 2019, I worked for two years as a temporary teaching and research faculty member (ATER) at the Grenoble Institute of Technology, while attached to the Automation Department of GIPSA-Lab, and then worked for three years as a research professor in electrical engineering at ESTP. These experiences gave me the opportunity to work with ambitious students, top-level researchers and innovative industrialists. Such interactions created an extremely stimulating dynamic, which convinced me that teaching and research are inseparable. My current research in the IMSE Laboratory, which is part of the COSYS Department, focuses on the control of energy networks, and more specifically on smart grids, as well as on energy storage for smart grid applications. This work feeds into both the classes I teach at EIVP and the discussions I have with companies.*

*Similarly, in order to strengthen the theme of energy in the school's pedagogical model, I'm working on setting up an option devoted to energy in the urban environment. The aim is of course to prepare students for the job market, but also to respond to societal issues at the heart of current public concerns. Taking these different aspects into account requires an interdisciplinary approach that integrates engineering, social sciences and urban planning. The university, whose central theme fits perfectly with my research areas and professional aspirations, encourages this type of approach, which opens up a wide range of missions and offers the opportunity to work on concrete, interdisciplinary topics rooted in current issues of ecological transition and sustainable cities. That's certainly what I like best here."*

**Asma Achnib**
Associate professor at the Paris School of Urban Engineering (EIVP), researcher affiliated with the IMSE/COSYS Laboratory Paris Campus

## Gaining recognition for the pedagogical commitment of research professors

*"I feel I've reached a kind of culmination in my career, an alignment of all my activities: my new work in research, my work as a professor of economics and marketing and my work devoted to pedagogy and student success.*

*I'm passionate about marketing and I'm combining this discipline with the little-studied issue of inclusion in sustainable cities as part of my thesis, which I started in 2023. It will focus on safe places and services that make places safe and inclusive. I believe that marketing can influence behaviour in a positive way. My research could also have practical applications at the university. In management, we know that a safe environment promotes individual well-being, so a safe university would have a positive impact on student success.*

*As soon as I was recruited to the university, I devoted part of my time to providing pedagogical support to my teaching faculty colleagues. I had the opportunity to become Vice-President on this subject and help create the Centre for Pedagogical and Digital Innovation (CIPEN), which now provides pedagogical training for all the university's new teachers.*

*Today, one of my main ambitions is to gain recognition for the pedagogical commitment of research professors as part of their professional development. In my opinion, this is the key to ensuring the long-term viability of initiatives designed to promote student success, which have been implemented with the D.Clic project as part of the New University Curriculum (NCU)."*

**Sacha Bensahel-Mercier**
Vice-President for Pedagogical Innovation and Student Success, Professor of Economics and Management
Marne-la-Vallée Campus

Staff sharing knowledge

## Helping combat climate change

*"I am a professor and co-leader of the apprenticeship programme titled 'Energy - Energy Transition Engineering'. Through my teaching activities, I contribute to limiting climate change, and my research focuses on adaptation to climate change. It's important for me to contribute to both aspects of the climate challenge, neither of which can be neglected today.*

*My research focuses on the urban microclimate from a pedestrian's point of view, with a strong interdisciplinary dimension. I'm particularly interested in adapting cities to heatwaves, in particular by measuring the effectiveness of urban cooling solutions: what is the impact of transforming a car park into an urban forest, for example? From there, I develop decision-making and design tools for local authorities. These solutions are designed to be accessible, because my end users are not physicists or engineers.*

*The city is also a place where people live, and I'm particularly interested in the impact of heatwaves on human health. For example, I'm taking part in the ANR H3Sensing project led by Inserm, which is currently taking measurements from 180 residents of Greater Paris. It aims to analyse the four environmental dimensions of thermal stress: air temperature, humidity, wind speed and radiative exchange. As part of this project, I designed a novel low-tech measurement device: a backpack fitted with sensors to acquire data on exposure to heat stress in healthy people."*

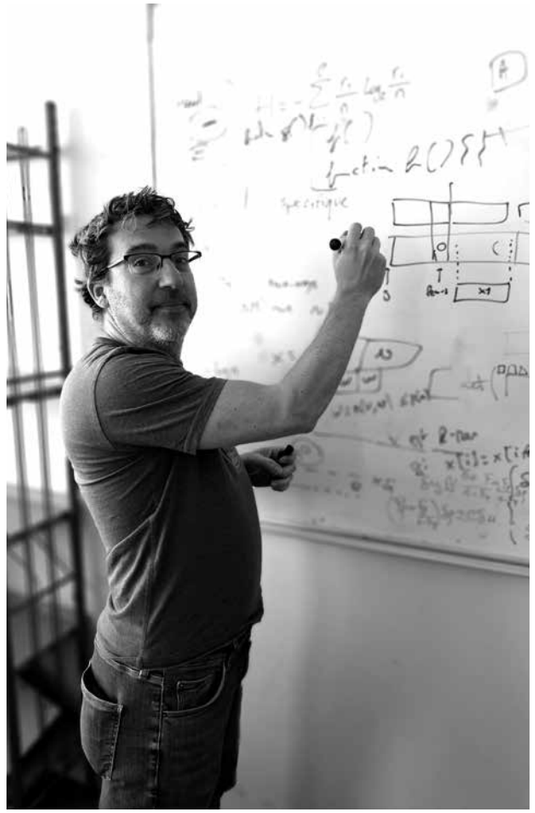
**Martin Hendel**
Associate professot in Urban Climatology
at ESIEE Paris
Marne-la-Vallée Campus

## Encouraging my students to shoot for the moon

*"I teach programming languages to students in the first year of the Master's in Computer Science and second year of the Master's in Software and Data Engineering, as well as at ESIEE Paris, where I am the director of the second year of the Computer Science, Design, Architecture and Development work-study programme.*

*Apprenticeship is a pedagogical method that I care deeply about. It enables students who would otherwise enter the workforce straight away for socioeconomic reasons to continue their studies. Work-study programmes were offered very early at the university, because we wanted to help students who hadn't done preparatory classes to become engineers, which is very complicated if you go to university or evening classes. The programme is mainly aimed at students with a BUT from Seine-et-Marne and Seine-Saint-Denis - which are not the most well-off departments in the Ile-de-France region. It's important for me to help students obtain a Master's-level qualification when they didn't imagine it for themselves, to shift their mindset from seeing themselves as technicians to seeing themselves as engineers. I ask them to shoot for the moon.*

*Both in terms of learning and local roots, my approach fits with the dynamic at Université Gustave Eiffel. I also find that the organisation of the school, which avoids unnecessary compartmentalisation, facilitates dialogue and encourages goodwill. It's nice to work in an environment that matches your desires and aspirations."*



**Rémi Forax**
Associate professor in Computer Science at the Gaspard Monge Institute of Electronics and Computer Science (IGM) and ESIEE Paris Marne-la-Vallée Campus

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