The research at « Université Paris-Est Marne-la-Vallée » (UPEMLV) is developed in the framework of the Pole for Research and Higher Education (PRES) « Université Paris Est » created in March 2007 gathering today 2 universities, 9 engineering schools, 5 research institutions and 1 competitiveness cluster. The publications of the researchers in the laboratories are signed « Université Paris-Est ».

The research activities are carried out by the researchers and faculty members in the Research Laboratories which are evaluated by AERES (Agence Nationale d’Evaluation de la Recherche et de l’Enseignement Supérieur) and which are accredited by the « Ministère de l’Enseignement Supérieur et de la Recherche » (MESR). Five laboratories (UMR) are associated with « Centre National de la Recherche Scientifique » (CNRS), one laboratory with « Institut français des sciences et technologies des transports, de l’aménagement et des réseaux » (IFSTTAR) and one with the « Ministère de l’Agriculture, de l’Alimentation, de la Pêche, de la Ruralité et de l’Aménagement du territoire ». The research laboratories are gathered in Research Poles. The doctoral studies and programs are organized in Doctoral Schools of PRES « Université Paris Est ». Every doctoral student is a member of a research laboratory.

The research contracts undertaken by the Research Laboratories are managed by the « Industrial and Commercial Projects Department » (SAIC) of the University. The vice-Presidence in charge of research and the Scientific Council define and monitor the scientific research policy.
Research Pole: « Mathematics and Information Sciences »

The « Mathematics and Computer Sciences » research pole explores issues in mathematics, computer science, electronics, information systems. The doctoral school of this research pole is « Mathematics and Information Sciences » (MSTIC).

« Laboratory of Analysis and Applied Mathematics » (LAMA) UMR 8050 CNRS

Director: François Bouchut, Deputy Director Raphael Danchin
Institutions: UPEMLV, UPEC, CNRS
http://umr-math.univ-mlv.fr/
Statutory members: 60 faculty members, 6 researchers, 1 engineer

Teams and research areas:
- **Analysis (S. Jaffard):** Dynamics - Wavelets and multifractal analysis.
- **Partial differential equations (R. Danchin):** Models from fluid mechanics – Elliptic PDE’s – Other models of PDE’s.
- **Analysis in high dimensions: geometrical and probabilistic aspects (A. Pajor):** Functional, entropy and isoperimetric inequalities – Statistical mechanics – Singular values of random matrices – Signal reconstruction.
- **Problems related to curvature (F. Pacard):** Surfaces with constant mean curvature in homogeneous and in Riemannian manifolds – Isoperimetric domains – Singular solutions for geometrical problems – Lagrangian surfaces.
« Gaspard-Monge Computer Science Laboratory »
(LIGM) UMR 8049 CNRS

Director: Marie-Pierre Béal, Deputy director: Gilles Roussel
Institutions: UPEMLV, ESIEE, Ecole des Ponts ParisTech, CNRS
http://igm.univ-mlv.fr/LIGM/
Statutory members: 55 faculty members, 10 researchers, 2 research engineers, 1 engineer

Teams and research areas:
• Algorithmics (S. Lombardy): Theoretical computer science – Networks and software – Bioinformatics.
• Algebraic combinatorics and symbolic computation (J.-Y. Thibon): Combinatorics – Symbolic and formal computation.
• Computational linguistics (E. Laporte): Descriptive and formal linguistics – Language engineering – Theoretical computer science.
• Algorithmics, architectures, image analysis and computer graphics (G. Bertrand): Theoretical computer science - Recognition, image processing and image synthesis - Three-dimensional reconstruction from images - Machine learning.
• Signal and communications (J.-C. Pesquet): Image analysis and inverse problems – Information transmission and digital communications – Statistical signal processing.
• Geomatics, Remote Sensing and Modeling of Knowledge (Emergent team).

« Electronic, Communication, Systems and Microsystems Laboratory » (ESYCOM) – EA 2552

Director: Odile Picon, Deputy director: Tarik Bourouina
Institutions: UPEMLV, ESIEE, CNAM
http://esycom.univ-mlv.fr/
Statutory members: 24 faculty members, 3 research engineers, 1 engineer

Teams and research areas:
• Communication systems (C. Algani and M. Villegas): Photonic and microwaves, Wireless systems.
• Multiphysic components and nanotechnologies (T. Bourouina): Microsystems, RF and optical MEMS – Sensors – Nanotechnologies.
• Electromagnetism, applications and measurements (J. M. Laheurte): Electromagnetic modeling – Antenna, propagation and digital radiocommunications.
Research Pole: « Sciences, Engineering and Environment »

The « Sciences, Engineering and Environment » research pole deals with physics, theoretical chemistry, mechanics for materials and structures, geomaterials, earth materials, complex mechanical systems in engineering mechanics, geological engineering and civil engineering. The doctoral school corresponding to this research pole is « Sciences, Engineering and Environment » (SIE).

« Laboratory of Earth Materials and Environment » (LGE) - EA 4508

Director: Mehmet A. Oturan
Institution: UPEMLV
http://www2.univ-mlv.fr/lge/
Statutory members: 9 faculty members, 3 engineers

Research areas:
- Water and soil pollution and treatment technologies.
- Bioalteration of complex materials of geological, environmental, and cultural heritage interests.
- Evolution of Earth-like materials under extreme conditions.
- Interaction materials-pollutants-environment.
- Waste storage matrices.

« Laboratory of Physics of Divided Materials and Interfaces » (LPMDI) FRE 3300 CNRS

Director: Yamin Leprince
Institutions: UPEMLV, CNRS
http://www2.univ-mlv.fr/lpmdi/
Statutory members: 7 faculty members, 1 researcher, 1 engineer

Research areas:
- Physics of foams and interfaces.
- Foam rheology and new light scattering probes.
- Granular media and acoustics of heterogeneous materials.
- Nanomaterials: fabrication & characterization.
**Multiscale Modeling and Simulation** (MSME) – UMR 8208 CNRS

**Director:** Christian Soize, **Deputy director:** Guy Bonnet  
**Institutions:** UPEMLV, UPEC, CNRS  
**http://msme.univ-mlv.fr/**  
**Statutory members:** 36 faculty members, 1 researcher, 2 research engineers, 1 engineer

**Teams and research areas:**
- **Theoretical chemistry (G. Chambaud):** Electronic structure of molecules and clusters – Bound states and spectroscopy – Time dependent phenomena, quantum dynamics, molecular dynamics.  
- **Mechanics (Q.-C. He):** Multiscale-multiphysics modeling and simulation in mechanics of materials – Modeling, simulation and uncertainties in structural dynamics, vibrations and coupled systems – Probabilistic mechanics and stochastic dynamics.  
- **Heat and mass transfer (G. Lauriat):** Heat and mass transfer in porous media and in Newtonian fluids.  
- **Biomechanics (S. Nalili):** Mechanical transduction and mechanics of adaptation, remodeling and growth of live tissues - Characterization of live tissues.

**Research Pole: « Cities, Transports and Territories »**

The« Cities, Transports and Territories » research pole is focussed on the city, the territories, the transports and the environment. The doctoral school of this research pole is « Cities, Transports and Territories » (VTT).

**Research Centre on Technologies, Territories and Societies**

**Director:** Olivier Coutard  
**Institutions:** UPEMLV, Ecole des Ponts ParisTech, CNRS  
**http://latts.cnrs.fr/**  
**Statutory members:** 14 faculty members, 18 researchers, 3 research engineers
Teams and research areas: (in this research pole for the « Networks, institutions and territories » team)

- **Networks, institutions and territories (S. Jaglin):** Cities, technologies, innovations – Metropolisation, firms, public policies - Government of local administrations.
- **Technology, innovation and organization (P. Flichy):** ICT and cooperation between heterogeneous worlds in organized action – Production of « new sciences »: spatial organization and markets construction - Innovation and changes in work.

« Mobility, Urban Planning, Transport Laboratory » (LVMT) UMR-T 9404 IFSTTAR

Directeur: Jean Laterrasse
Institutions: UPEMLV, Ecole des Ponts ParisTech, IFSTTAR
http://www.lvmt.fr/
Statutory members: 11 faculty members, 11 researchers, 1 research engineer

Teams and research areas:

- **Mobility and metropolization (M.-H Massot):** Knowledge of mobility practices and trends - Lifestyles and production of metropolitan areas - Urban form and sustainability.
- **Arrangement of networks and mobility policies (A. L’Hostis):** Analysis of relationships between transport and spatial planning from the double point of view of institutions and engineering territories - Urban planning and public transport, urban networks - Public transport policies.
- **Network economics and supply-demand modeling (L. Leurent):** Tools and methods for infrastructure planning - Prediction models for transports - Simulation, optimization, engineering of transport systems.

« Urban Engineering, Environment and Housing », (LABURBA) - EA 3482

Director: Jean-Claude Driant, Deputy director: Alain Bourdin
Institutions: UPEC, UPEMLV
http://urbanisme.u-pec.fr/
Statutory members: 44 faculty members, 2 engineers

Research areas:

- New urban dynamics of public action.
- Economic approaches for territorial development and for urban planning.
- Analysis of interactions between mobility and habitat.
- Representations of the city, environment and virtual city.
- Uses and spaces taking into account practices and ways of life.
- Sustainable city: risks and constraints.

« Water, Cities and Environment Laboratory » (LEESU) UMR-MA 102

Director: Bruno Tassin
Institutions: UPEC, UPEMLV, Ecole des Ponts Paris Tech, ENGREF
http://leesu.univ-paris-est.fr/
Statutory members: 11 faculty members, 7 researchers, 1 research engineer

Research areas:

- Water cycle and urban ecology.
- Maintenance of urban infrastructure and sustainable city.
- Decision-making processes and actors of the city.
Research Pole: « Organisations, Markets, Institutions »

The « Organisations, Markets, Institutions » research pole explores issues concerning business and company management; technology, innovation and organization; services; firms; Work and Labor; employment. The doctoral school of this research pole is « Organisations, Markets, Institutions » (OMI).

« Research Centre on Technologies, Territories and Societies » (LATTs) UMR 8134 CNRS

Director: Olivier Coutard
Institutions: UPEMLV, Ecole des Ponts Paris Tech, CNRS
http://latts.cnrs.fr/
Statutory members: 14 faculty members, 18 researchers, 3 research engineers

Teams and research areas: (in this research pole for « Technology, innovation and organization » team)
• Technology, innovation and organization (P. Flichy): ICT and cooperation between heterogeneous worlds in organized action – Production of «new sciences»: spatial organization and markets construction - Innovation and changes in work.

« Management Research Institute » (IRG) EA 2354

Director: Frédérique Pigeyre, Deputy Director: Amina Bécheur
Institutions: UPEC, UPEMLV
http://www.irg.u-pec.fr/
Statutory members: 60 faculty members

Research areas:
• Finance and accounting (P. Chollet and A. Cellier)
• Management and strategy (F. Allard Poesi and J. Le Goff)
• Marketing and logistics (A. Becheur and Sandrine Hollet-Haudebert)
Thematic projects:
- Creativity and Innovation,
- Communication and persuasion,
- Managing change,
- Distribution, sustainable development and consumption,
- Finance and CSR,
- Services Management,
- Managing performance of public organizations and social economy,
- Corporate Social Responsibility,
- Stress and health at work,

«Research Team on the Use of Panel Data in Economics»
(ERUDITE) EA 437

Director: Claude Mathieu, Deputy director: Alain Desdoigts
Institutions: UPEC, UPEMLV
http://erudite.univ-mlv.fr/
Statutory members: 39 faculty members

Research areas:
- Firms, Labour and Public Policies (T. Barnay and D. Redor).
- Econometrics (P. Blanchard and J. Dmitrijeva).

«Ethical and Political Spaces - Hannah Arendt institute»
(EEP) EA 4118

Director: Dominique Folscheid
Institution: UPEMLV
http://eep.univ-mlv.fr/
Statutory members: 5 faculty members

Research areas:
- Politics.
- Practical philosophy (Medical Ethics).

«Research Institute in Innovation and Research in Society»
(IFRIS) GIS

The «Research Institute in Innovation and Research in Society» (IFRIS) was created in April 2007 to gather a dozen research teams in Ile-de-France in the field of Science and Innovation Policy Studies and Science and Society Studies. Involving 150 researchers belonging to 7 research groups. The heart of this consortium belongs to the PRES «Université Paris-Est ».
http://www.ifris.org/
Research Pole: « Humanities »

This research pole explores issues of praxis, power, letters, arts, languages and cultures. The doctoral school of this research pole is « Humanities » (CS)

« Comparative Analysis of Powers » (ACP) - EA 3350

**Director: Geneviève Bührer-Thierry**
Institution: UPEMLV
http://acp.univ-mlv.fr/
Statutory members: 22 faculty members

**Research areas:**
- Conflict, territories, boundaries
- Intellectual controversies
- Interdisciplinary scientific work
- Counting sources and databases
- Investigate the photo corresponding of Humanity

« Institute of the Anglophone, Germanic and Romance Worlds » (IMAGER) - EA 3958

**Director: Nathalie Caron, Deputy director for « Anglophone Studies » : Marie-Françoise Alamichel**
http://imager.u-pec.fr/
Institution: UPEC, UPEMLV
Statutory members: 48 faculty members

**Research areas:**
- Identity / otherness
- Flow and exchanges
- Conflicts
Director: Gisèle Seginger
Institution: UPEMLV
http://lisaa.univ-mlv.fr/
Statutory members: 27 faculty members

Research areas: French and Spanish literatures, arts, history of literature and arts.
• Form, theories and discourse (G. Seginger): Vision and knowledge – Genetic criticism and writing of knowledge - Archeology and genealogy of knowledge, epistemocriticism.
• Writings of the Hispanic world (Nancy Berthier): Knowledge of the world and knowledge areas – Vision and knowledge - Society, knowledge and representations - Translation: the circulation of knowledge.
• Cinematographic, audiovisual, musical and numeric arts confluences (M. Laliberté): Body, gesture, tool – Representing theory, thinking the practices - Interactions between creation and diffusion methods – The sensible.
• Linguistics Group (L. Dufaye): Syntactic forms, discursive forms - Theories of translation.

Competitiveness clusters
The university is an active participant in the following competitiveness clusters: ADVANCITY (the cluster of sustainable cities and urban eco-technology), CAP-DIGITAL (the cluster of digital content) and STSTEM@TIC (the cluster of the design, implementation and control of complex systems).

Research statistics concerning research laboratories
(January 1, 2011)
16 research laboratories whose 6 are associated with Research Centers
415 faculty members, 54 researchers, 8 research engineers and 10 engineers in the research laboratories.
577 Doctoral students in the laboratories

Doctoral Schools
« Mathematics and Information Sciences » doctoral school (MSTIC)
« Sciences, Engineering and Environment » doctoral school (SIE).
« Cities, Transports and Territories » doctoral school (VTT).
« Organisations, Markets, Institutions » doctoral school (OMI)
« Humanities » doctoral school (CS)
Number of doctoral students: 1415 (January 1, 2011)
http://www.univ-paris-est.fr/
Contacts

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