

JOB ANNOUNCEMENT

POSITION TITLE

Assistant Professor in Computational Biomedical Imaging

TELECOM PARIS

Télécom Paris is one of the top four Grandes Ecoles in France for training general engineers.

It is a member of Institut Mines Telecom (IMT) and the Institut Polytechnique de Paris (IP Paris).

Recognized for its close ties with businesses, this public graduate school ensures excellent employment prospects in all industries and is considered the number-one engineering school for digital technology. With its top-level innovative teaching, Télécom Paris is at the center of a unique innovation ecosystem, drawing on the interaction and cross-disciplinary nature of the school's academic programs, interdisciplinary research, two business incubators and its campuses (Paris and Sophia Antipolis – EURECOM). Its LTCI laboratory has been accredited by HCERES as an outstanding unit in the field of digital sciences for its international reputation and exceptional number of initiatives supporting the socio-economic world and industry, as well as for its great contribution to teaching.

Based in Palaiseau, at the heart of the IP Paris campus alongside the École Polytechnique, ENSTA, Telecom Sud Paris, ENSAE and ENPC. Telecom Paris also has an incubator located in downtown Paris at the epicenter of the French start-up ecosystem.

Télécom Paris is a living laboratory for all the major technological and societal challenges including artificial intelligence, quantum computing, IoT, cybersecurity, large-scale digital equipment (Cloud Computing), 5G/6G, and Green IT.

SCIENTIFIC CONTEXT

Telecom Paris, a CS/EE school of IPParis, has a strong research activity in biomedical imaging, including computer vision, machine-learning, deep-learning, edge computing, inverse-problems and modelling of sensors. Telecom Paris has already established strong collaborations with hospitals, startup companies, industrials, and other research institutes in this domain.

"Engineering for health" is also a strategic theme at the level of IP Paris, supported by laboratories covering a very large span of expertise, from biology to numerical methods, from wet-labs and experimental imaging platforms to large-scale machine learning explorations, from genomic to imaging to body-sensors.

The **Engineering for Health (E4H)** interdisciplinary center at IP Paris is dedicated to advancing health through innovative engineering solutions (<u>https://www.ip-paris.fr/en/research/interdisciplinary-centers/e4h</u>). Bringing together experts from many disciplines, E4H fosters cutting-edge research in areas such as biology, biomedical engineering and digital health. By promoting interdisciplinary collaboration, it addresses key challenges in healthcare and contributes to shaping the future of medicine.

The applicant will integrate the IMAGES team, within the Image, Data and Signal Department (IDS) of the Information Processing and Communication Laboratory (LTCI). The team is involved in theoretical, methodological, and applied research in the domain of mathematics, computer vision, artificial intelligence, and computer graphics.

The team description is available at: https://www.telecom-paris.fr/en/research/laboratories/information-processing-and-communication-laboratory-ltci/research-teams/image-modeling-analysis-geometry-synthesis

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Thanks to the support of the **France 2030** (<u>https://anr.fr/en/france-2030/france-2030/</u>) **ExcellenceS** program, E4H aims to recruit four faculty members whose research spans the spectrum of understanding, imaging, modeling, engineering, and healing living systems with preference for candidates who wish to develop research programs related to **cancer** and/or **degenerative diseases**. In these two fields, the successful candidate for this specific recruitment will benefit from IP Paris expertise in biology, chemistry, biomechanics, and various biological imaging platforms. In the field of cancer, IP Paris is a founding member of the Paris Saclay Cancer Cluster (https://www.parissaclaycancercluster.org/en).



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PREFERRED SCIENTIFIC EXPERTISE

Main expertise:

Outstanding applicants in all areas of computational biomedical imaging will be considered. Research areas of interest - not yet covered by the host IMAGES team - include:

- Bioimage informatics
- Statistical/AI models for integration of multi-modal data (i.e. imaging with clinical, genetic, transcriptomic or other data)
- Image-based longitudinal and survival analysis
- Computational microscopy and optical imaging
- Medical image reconstruction
- Graph-based image modeling and analysis

This list is not exhaustive and other areas not covered by the IMAGES team may be proposed.

Additional expertise:

The applicant is expected to already have a track record in the field of computational biomedical imaging, with some knowledge in computer vision and either imaging sensors, image reconstructions and/or artificial intelligence along with a strong background in applied mathematics and/or computer science.

Preference will be given to candidates demonstrating solid grounds and/or motivation for working in application areas targeting **cancer** and/or **degenerative diseases.**

The applicant should also possess pedagogical skills and be able to teach courses in image acquisition, reconstruction or processing. The candidate must also be capable of and interested in facilitating and creating new cross-disciplinary interactions within the LTCI laboratory, across the schools of IP Paris and with external collaborators from industry, hospitals, research institutes, etc.

JOB DESCRIPTION

MAIN RESPONSIBILITIES AND DUTIES

- 1. Conduct research.
- 2. Participate in the design and implementation of courses.
- 3. Participate in the development of partnerships, collaborations, and contractual agreements.

POSITION RESPONSIBILITIES

Teaching:

In collaboration with the other faculty members of the host department and the IP Paris BME Master program:

- Provide courses consistent with areas of knowledge, skills-set, and departmental/Master needs;
- Teach labs and tutorials for last year undergraduate and graduate students;
- Serve on selection panels for prospective students who are applying for engineering courses, specialized Master programs, etc.;
- Contribute to the analysis of training needs;
- Design and organize teaching activities for last year undergraduate and graduate students;
- Design and implement project-based teaching modules;
- Supervise and grade student's projects;
- Develop courses, teaching materials and tools in the above-mentioned field.

Research:

- Engage in research activities in his/her scientific field;
- Contribute to the supervision of Master and PhD theses;
- Write proposals and participate in projects with partners from IP Paris, IMT or other institutions from the academic and/or corporate world, in particular in the framework of national, European, or international projects;
- Carry-out industrial research contracts;
- Explore and develop partnerships within the industry and establish contractual agreements.

Coordination:

- Participate in and contribute to the scientific activities of the IMAGES team (seminars, presentations, juries, etc.).

Fostering the recognition of Telecom Paris, IMT and IP Paris:

- Disseminate research findings via publications;
- Lead presentations and seminars;





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S IP PARIS	- Take an active role in scholar and professional organizations;
	- Maintain close relations with national and international academic institutions, research centers, and
	companies.
	Other responsibilities:
	- Participate in the scientific, pedagogical, and management activities of the department and/or institution:
	 Where appropriate, direct and manage the staff placed under his or her responsibility or supervision;
	- Report on the activities and results of the tasks for which he or she is responsible.
	SKILLS
	Required skills, experience, and knowledge:
	- In-depth theoretical or applied knowledge in his or her field of expertise;
	- An excellent command of spoken and written English.
	Preferred skills, experience, and knowledge:
	- Post-doctoral or international experience in an academic or industrial laboratory is appreciated;
	- Teaching experience.
	Other abilities and skills:
	- The ability to be an active team member in a diverse faculty, staff, and student environment:
	- Strong teaching, pedagogical, and mentoring capabilities:
	- Superb written and interpersonal communication skills
	Candidates with one or more of the following required qualifications may apply:
	- Doctorate (PhD) or equivalent;
	- Civil servant recruited through the Ecole Polytechnique or ENA or former student of the Ecole
	Normale Superieure and ≥ 3 years of professional experience;
	- Holds a post-graduate degree and has ≥ 5 years of professional experience;
	ACADEMIC RANK and CARREER EVOLUTION
	The proposed position is attributed for an initial three-year term (during which teaching duties is reduced),
	renewable for another three years before the tenure evaluation based on publication track record as well as
	teaching feedback.
	A competitive startup package consisting of support for a PhD student and an installation grant will be
	offered.
	APPLICATION INSTRUCTIONS
	Applicants should submit a single pdf file (check <u>https://www.telecom-paris.fr/fr/ecole/telecom-paris-recrute</u>
	for proper link to use) which includes:
	- Cover letter,
	- Curriculum vitae,
	- Description of previous research & teaching activities (3 pages max)
	- Statements of research and teaching interests (3 pages max)
	- Copy of three key publications
	- Contact information for two references who can be contacted by the Hiring Committee before the
	interview
	For full consideration, applications should be received no later than June 20 th 2025 at noon.
	For more information, please contact: Elsa Angelini (<u>elsa.angelini@telecom-paris.fr</u>) with Email Subject starting with "E4H-TP-BioImaging-Position:"
	SELECTION
	The selection will proceed in the following steps:
	- Selection of the applications that satisfy the required qualifications
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	- Interview by the nost team and selection of a short-list (invited seminars during month of June $2025 - 1000$
	Interview of short-listed candidates by the Salection Committee (02nd July 2025, on site or orline)
	- Interview of short-listed calculates by the Selection Committee (02 ⁻² July 2025, on-site of online),
	Interview by the Director of Telecom Parie
	- Interview by the Director of Telecom Paris.