# Supervisor Expression of Interest

**MSCA - Marie Sklodowska Curie Action - (PF) Postdoctoral Fellowship 2021**

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<thead>
<tr>
<th><strong>Supervisor name:</strong></th>
<th>Prof. Viola Schiaffonati</th>
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<tr>
<td><strong>Email address:</strong></td>
<td><a href="mailto:viola.schiaffonati@polimi.it">viola.schiaffonati@polimi.it</a></td>
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<td><strong>Link pagina docente:</strong></td>
<td><a href="https://www.deib.polimi.it/eng/people/dettagli/70304">https://www.deib.polimi.it/eng/people/dettagli/70304</a></td>
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<td><strong>Department Name:</strong></td>
<td>Department of Electronics, Information and Bioengineering (DEIB)</td>
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| **Research topic:**   | Computer Science and Engineering  
|                       | Electrical Engineering  
|                       | Electronics  
|                       | Systems and Control  
|                       | Telecommunications |
| **MSCA-PF Research Area Panels:** | CHE_Chemistry  
|                       | ECO_Economic Sciences  
|                       | ENG_Information Science and Engineering  
|                       | ENV_Environmental and Geosciences  
|                       | LIF_Life Sciences  
|                       | MAT_Mathematics  
|                       | PHY_Physics  
|                       | SOC_Social Sciences and Humanities |
| **Politecnico di Milano Areas:** | Cultural Heritage  
|                       | Smart Cities  
|                       | Horizon Europe Missions  
|                       | Health  
|                       | Industry 4.0 |

Title and brief description of the Department and Research Group (including URL if applicable):

DEIB was born officially at the Politecnico di Milano in 2013, although its history dates back to the year 1928, when the Institute of Electrical Engineering was founded at the Politecnico di Milano. The Italian tradition in computer engineering started in 1954 right here, when Prof. Luigi Dadda brought from the U.S. one of the first CRC computers. Since then the Department has been recognized as a world-class scientific institution that contributes to key achievements in computer engineering, telecommunications, industrial automation, electronics and microelectronics. In the past few decades the exponential growth of ICT has boosted an...
impressive expansion of DEIB’s researchers and activities. Despite the variety of its interests, however, the Department has been able to preserve a unique scientific identity. Here cross-fertilization is a working reality and our ICT researchers and specialists are eager to tackle extremely complex and diverse problems in many technical, economic, and social fields. Today our Department counts 235 faculty members and about 418 short-term researchers and PhD students. It is organized in six distinct scientific areas: Bioengineering, Computer Science and Engineering, Electrical Engineering, Electronics, Systems and Control, and Telecommunications. DEIB is also a key node of many research networks, and is a widely recognized gateway to a highly qualified know-how and expertise. DEIB’s mission is to: 1) Push the boundary of ICT development by fostering ground-breaking technological research, forging innovative ideas, and gaining international recognition; 2) Educate young generations of engineers with a solid scientific background, a strong problem-solving mindset, and a truly multi-disciplinary approach.

Courses offered by our faculty cover the full spectrum of ICT within a rich variety of curricula. Undergraduate and graduate degree in Automation Engineering, Biomedical Engineering, Electrical Engineering, Electronic Engineering, Computer Engineering and Telecommunication Engineering, and doctoral programs in Information Technology and Bioengineering are open to national and international students.

https://www.deib.polimi.it

The Artificial Intelligence and Robotics Laboratory (AIRLab), established in 1971, is one of the DEIB labs and one of the longest-standing research groups in Italy working on Artificial Intelligence, Robotics and Machine Perception. AIRLab’s theoretical and applied research covers a wide spectrum of topics. Many AIRLab projects are funded either by European or national agencies or by companies. Given the pervasiveness of these topics, AIRLab researches involve multi-disciplinary collaborations with many teams both within Politecnico and at International level. AIRLab researchers offer one of the broadest academic curricula in Italy on AI and Robotics.

http://airlab.deib.polimi.it/
### Brief project description: (max 1 page)

**The distribution of ethical labor in Innovation Science and Technology Research Groups**

Concerns about the societal implications of science and technology (S&T) are at the centre of many science policy frameworks. While ‘research ethics’ and ‘scientific integrity’ are already regulated by existing committees and codes of professional conduct, what the recent policy frameworks seek is the integration of ethical reflection (ER) into S&T. ER is a critical and anticipatory attitude which cannot be reduced to traditional ‘risk/benefit’ analyses. Instead of being a set of rules which put limits to research, ER may work as a driving force for innovation.

The very expression “integrating ER into S&T”, however, presupposes that ER is separated from S&T. Scientists and engineers are often considered to be ‘ethically blind’ and in need of external guidance on ethical issues. Consequently, current governance frameworks seek the integration of ER into S&T in a top-down fashion. In reality, empirical studies show that many scientists and engineers hold ethical views and may be well equipped to foresee the potential impacts of their research. The problem is that researchers don’t see these issues as part of their job and, therefore, they are not used to openly discuss and examine their own ethical stances. The ways in which scientists and engineers already engage in ER, therefore, should be analysed bottom-up.

This project, in short, examines ethical labor, which is the collective process carried on by scientists and engineers through their individual engagement in ER, and which leads them to make joint decisions and to maintain an anticipatory attitude as a community. Since different researchers may engage with ER in different ways, it is expected that the ethical labour of a researchers’ community is ‘distributed’ across its individual members.

The project has a theoretical and an empirical part. The theoretical part analyses the concept of the Distribution of Ethical Labor (DEL) and defends the view that, in order to maintain its place within society, S&T must demonstrate not only epistemic authority, but also ethical authority. The empirical part involves the study of DEL in two different laboratories of engineering addressing issues of biomedical technologies, an area of research which poses challenging ethical challenges. The first is DEiB AIRLab (Italy, host institution, supervisor: prof. Schiaffonati). The second is the Department of Biotechnology at TU Delft (Netherlands,
secondment institution, supervisor: prof. Santoni de Sio). The study blends ethnographic observations, document analysis and semi-structured interviews. The data will be analysed with the methods of qualitative case study research. Even though the results of the two case studies cannot be ‘generalised’ in a statistical sense, they will be used as ‘exemplars’ to construct a ‘communication model of DEL’. The model will be an idealization tackling fundamental questions on the nature of scientists’ and engineers’ engagement in ER, on how DEL interplays with epistemological issues, and on how critical decisions are taken collectively. The model will be a practical tool to understand how to direct the communication on ethical issues inside research groups, in order to design realistic governance policies.