Configuration and management of short and sustainable supply chains

INSA INSTITUT NATIONAL DES SCIENCES APPLIQUÉES LYON

Laboratoire Décision et Information Pour les Systèmes de Production

Chaire Professeur Junior
INSA Lyon

Position description

- **Chairs of junior professor** are proposed to researchers, in the first part of their career, that have a strong potential to supervise and lead a research team, as well as to participate in national, European or international projects.

- This position is based on a fixed-term contract (*CDD*) for a period of 5 years before tenure as Full professor *(fonctionnaire)*.

- It is awarded with a teaching service in INSA Lyon - Industrial Engineering department (*approximately 64 hours each year*) and a welcome package (*support for 1 PhD student and 1-year Post-Doc*).

Official source:

- https://www.enseignementsup-recherche.gouv.fr/fr/des-carrieres-plus-attractives-les-chaires-de-professeur-junior-46095
- https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000044518389

Position description

- Context
  - In a context of increasingly strong environmental pressure, changing societies' behaviours and industrial redevelopment, it is important to question supply chain models to fully integrate sustainability issues into the configuration, optimisation and management of supply chains: sustainable performance measurement, sustainable collaborative practices, activity mutualisation, impact of/on the energy transition, impact of/on the ecological transition, circular economy, etc.

- Scientific positioning
  - The objective is to propose models and decision support tools allowing the various stakeholders of a supply chain (supplier, producer, customer, 3PL, community, etc.) to better understand and take into account the environmental and societal impacts, for a global and collaborative optimisation.
  - The strong dynamics of the environment (uncertainties, crisis situation, etc.), which has to be considered, implies new indicators making it possible to manage the agility and resilience of such supply chains.

Position description

- The person being recruited will strengthen the research axis "**Operations Management and Optimisation**" of DISP research laboratory (cf. hereafter)
  - with an opening to the research axis "Information Systems and Data".

- Research profile
  - Competencies in operations management applied to supply chain, in process and data modelling, in operations research, in simulation and in data science are expected
  - An experience considering challenges and constraints of sustainable development in the research works is expected
  - Soft skills, like curiosity, collaborative capability, adaptability, open-minded etc., will be considered

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Position description

- Teaching activities at INSA - Industrial Engineering department:
  - Creation and implication in lecture "**Industrial ecology and circular economy**" (level M1 – 4th year) on the subject of reverse logistics and short supply chains
  - Implication in major "**Optimization of the supply chain in industry 4.0**" (level M2 – 5th year) by developing lessons to consider sustainability aspects (short supply chains, electric vehicles for urban delivery, use of public transport for urban freight deliveries, etc.).
  - Proposition and supervision of **student research projects** (4th & 5th year) in industrial engineering related to short and sustainable supply chains such as organization and pooling, drone-based delivery, loading optimisation, co-modality…

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Environment description

DISP Laboratoire Décision et Information Pour les Systèmes de Production

INSA Lyon

DISP research laboratory

Industrial Engineering Department

INSA Lyon

- **INSA Lyon** is a leading engineering school with strong humanist values that have formed the basis of its business model for more than 60 years.
  - QS World University Ranking 2023 : #457 /1500 institutions
  - 1st Institution with a 5-year integrated master's program in France
- **Education**
  - Top quality training in engineering in 9 specialisations
  - For all these trainings, the 'Humanities' played a central role since the creation of INSA Lyon, including foundations of ethical reflection, developing a sense of responsibility, while encouraging creativity and innovation.
- **Research and Innovation**
  - more than 600 researchers and teacher-researchers, 650 PhD students, and over 1,000 industrial contracts with the socio-economic world
  - On five main fields: Digital Society and Information, Energy for a Sustainable Development, Environment: Natural, Industrial, and Urban Environments, Global Health and Bioengineering, Transport: Structures, Infrastructures, and Mobilities

https://www.insa-lyon.fr/en

DISP research laboratory

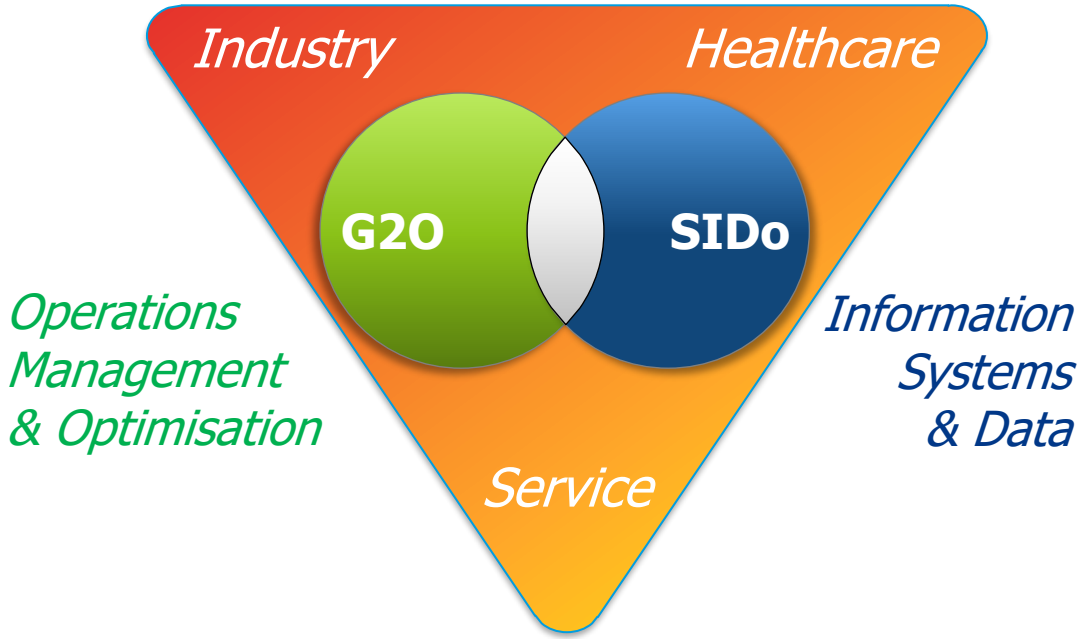
- DISP-lab (Decision & Information Systems for Production systems, UR4570), gathers teacher-researchers from Lyon around a double expertise in **Industrial Engineering** and **Information technology for businesses**
  - With competencies in modelling, operational research, operation management, simulation, software engineering, artificial intelligence, planning, scheduling, and decision-making.

- Members: around 60 people
  - From INSA-Lyon, Univ Lumière Lyon 2, Univ Claude Bernard Lyon 1, Univ Jean Monnet St Etienne
  - 30 teacher-researchers (among 10 full professors)
  - 20 PhD Students
  - 5 administrative and technical staff

https://www.disp-lab.fr/

DISP research laboratory

Develop research activities to improve the performance, the resilience, the agility of goods and services production systems and comprehensive supply chains, by simultaneously addressing their structural, decision-making, information-related and human-related dimensions.



Operations Management & Optimisation

Organise, control and improve the performance of goods and services production systems and supply chains in dynamic and uncertain environment.

Information Systems & Data

Characterise, formalise and implement the enterprises digital transformation by the evolution of information systems with a lifecycle vision of data, products / services and complex systems.

INSTITUT NATIONAL DES SCIENCES APPLIQUÉES LYON

INSA - Industrial Engineering department

Improving the overall industrial performance

1992
Department creation

90
graduates every year

100%
outbound mobility

Interactive pedagogy oriented towards professional situations

Valorization of student associative engagement

Strong links with industry

https://gi.insa-lyon.fr/en/

INSTITUT NATIONAL DES SCIENCES APPLIQUÉES LYON

INSA - Industrial Engineering department

Industrial engineer skills

Model the process of any activity (industrial, logistics and tertiary)

Design and **size** systems required for a given activity of production, service, distribution...

Identify and **correct discrepancies** in a continuous improvement process (material, human and information systems) by the implementation of analytical and simulation tools

Manage and **configurate** supplies and purchases for single, serial or continuous productions

Lead any type of **project** at all levels (operational, strategic, transverse or pilot)

Initiate and **manage** innovations and direct change

Ensure quality reporting through appropriate indicators, based on a systemic view of organizations

Enhance, protect and sustain the expertise of entities in the activity scope

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Additional information

Additional information

- Application conditions
  - No restriction on the age or nationality of applicants
  - Open to junior researchers (holders of a PhD or equivalent degree) with the potential to supervise and lead research and with at least 5 years of research experience.

- Contact

DISP
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Additional information

- Planning (can be updated):
  - Application deadline : 2023 March 30th
  - Interview: between beginning of April and end of May 2023
  - Beginning of position: 2023 September 1st

- To apply:
  - https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/cand_CPJ.htm