

Saber DARMOUL

Enseignant-Chercheur

UTER Génie Industriel



▪ **Parcours :**

✓ Formation

- 2010** **Ph.D. in Computer Engineering (with honours)**
Université Blaise Pascal, Clermont – Ferrand, France.
Thesis topic: Study of the contribution of artificial immune systems to monitor and control disturbances in manufacturing systems.
- 2004** **MEng. in Industrial Informatics, Automation and Control (with distinction, 1st degree honours)**
Institut National des Sciences Appliquées et de Technologie, INSAT, Tunis, Tunisia.
Thesis topic: Design and development of a hybrid evolutionary approach for a vehicle routing problem with double time windows for the depot and multiple use of vehicles.
- 2003** **BEng. in Industrial Informatics, Automation and Control (with distinction, 1st degree honours)**
Institut National des Sciences Appliquées et de Technologie, INSAT, Tunis, Tunisia.
Graduation project topic: Multi-objective optimization of production scheduling in a plastics packaging industry.

✓ Expérience professionnelle

Academic Experience

- Since Sept. 2017** **Assistant Professor of Industrial and Systems Engineering**
Ecole Centrale Casablanca (ECC), Morocco (<http://www.centrale-casablanca.ma/en/>)
- Aug. 2017 Oct. 2011** **Assistant Professor of Industrial Engineering**
King Saud University (KSU), Riyadh, Saudi Arabia (<https://www.ksu.edu.sa/en/>)
- Aug. 2011 Sept. 2009 –** **Teaching and Research Associate**
SIGMA Clermont, formerly known as Institut Français de Mécanique Avancée (IFMA), Clermont – Ferrand, France (<https://www.sigma-clermont.fr/en>)
- Aug. 2010 Sept. 2005 –** **Researcher (Ph.D. Student)**
LIMOS, UMR-CNRS 6158, Université Blaise Pascal, Clermont – Ferrand, France (<https://www.sigma-clermont.fr/en>)

Industrial Experience

- Aug. 2005 Sept. 2002 –** **Production Engineer and Manager**
Galion S.A., Tunis, Tunisia. (Medium sized plastics packaging industry, 200 employees, <http://galion.com/Fr/>)
Main duties:

- *Production planning, scheduling, and control*
- *Inventory control*
- *Logistics and distribution management*
- *Cost monitoring and control, Business intelligence*
- *Implementing an industrial information system (ERP) for production planning and control*
- *Implementing company's Good Hygiene Practice (GHP) and ISO9000-2001 certification projects*

▪ **Responsabilité(s) Académiques** (au sein de l'ECC, au niveau national voir international)

- ECC – Teaching portfolio: Project Management, Value analysis, Systems Engineering, Enterprise Architecture, Simulation of industrial and logistic systems, Cyber-Physical Systems design.
- ECC – Coordinator of the Industrial Engineering major
- ECC – Administrator of the e-learning EDUNAO/MOODLE platform
- ECC – Administrator of the Coursera e-learning platform
- ECC – Member of the information systems and data management committee
- ECC – Coordinator of the Industrial Research Chair on Transformation & Operational Excellence
- ECC – Coordinator of the Anti-COVID 19 pandemic organizational and digital transformation plan to adapt teaching and learning activities to sanitary restrictions and remote learning
- ECC – Manager and co-manager of an examination center for the national competition for access to engineering schools (CNC – Maroc)

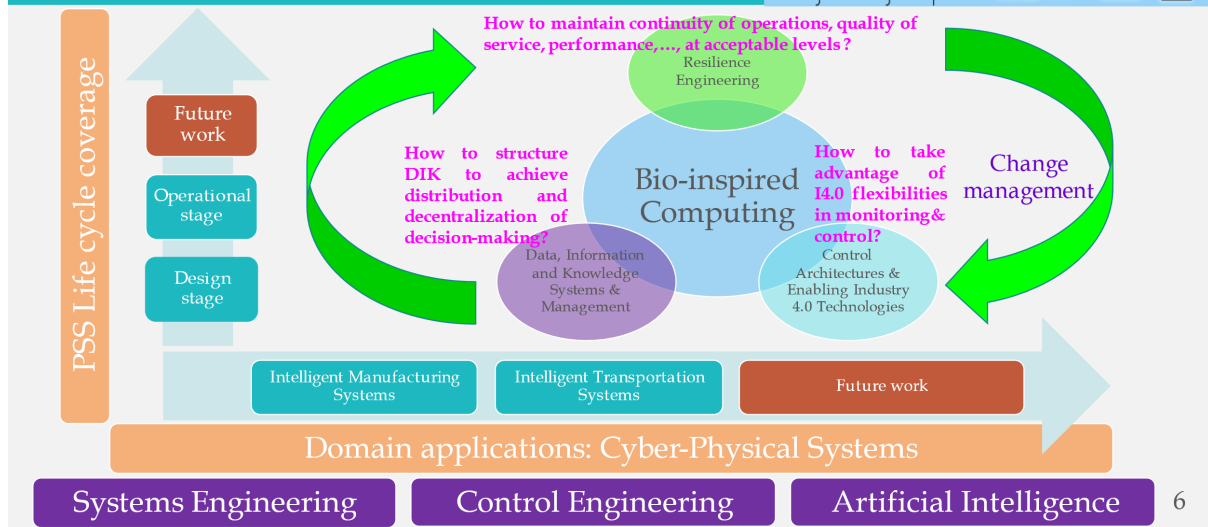
▪ **Domaines de compétences** (mots clés)

- Resilience engineering and change management
- Distributed monitoring and control architectures and enabling Industry 4.0 technologies
- Data, Information, and Knowledge systems and management
- Digitalization and operational excellence
- Bio-inspired computational intelligence

▪ **Thèmes de Recherche**

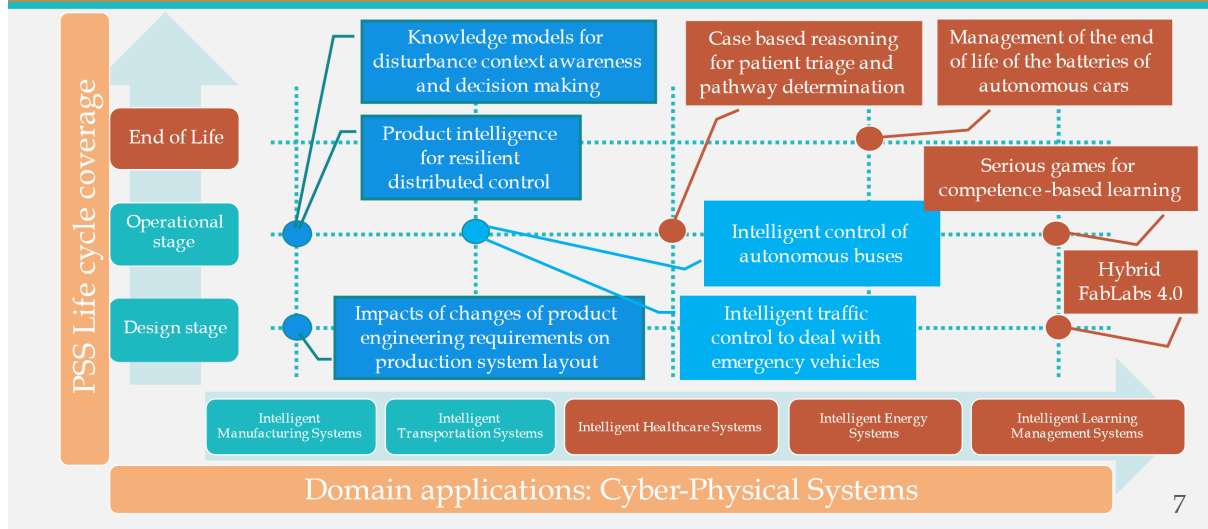
My research efforts focus on developing methodologies and tools to embed resilience, agility and flexibility into the design and operations management of (1) CPS, and (2) digital transformation projects leading to deployment of CPS. Two types of CPS are particularly considered as domain applications: Intelligent Manufacturing Systems, and Intelligent Transportation Systems. I am interested in the design of generic conceptual frameworks, the development of distributed control architectures, and knowledge-based decision support systems to enhance the CPS capabilities to deal with change in a reactive way. Particularly appealing to me is the idea to look for intelligence in natural systems, and to adapt that intelligence to manage and control change. My goal is to capture the intelligence of natural systems and rely on recent technological advances to support decision makers in their tasks. This is achieved through rigorous methodological approaches and tools from control engineering, software engineering, computer engineering and systems engineering.

Artificial Immune Systems for Resilient Cyber-Physical Systems



6

Current and planned research



7

Projets Scientifiques

- Aug. 2020** **ENHANCE: strENgthening skills and training expertise for TunisiAN and MorroCan transition to industry 4.0 Era** (<http://eplus-enhance.eu/>). Role: Co-investigator. European Commission Erasmus+ Program: Cooperation for innovation and the exchange of good practices; Action: International Capacity Building in Higher Education. Grant Reference: 619130-EPP-1-2020-1-FR-EPPKA2-CBHE-JP. Approved max. budget: 779,667.00 Euro. Expected execution period: January 2021 – January 2024.
- Nov. 2019** **Maintenance 4.0: Design and development of a distributed and knowledge-based control architecture for the management of maintenance in cyber-physical production systems.** Principal Investigators: Saber DARMOUL (Ecole Centrale Casablanca) and Sondes Chaabane

(Université Polytechnique des Hauts de France). French-Moroccan Cooperation program, called Partenariat Hubert Curien (PHC) Toubkal, co-funded by the French Embassy in Morocco and the Moroccan Ministry of National Education, Professional Training, Higher Education and Scientific Research, project award number Toubkal/20/98-Campus France: 43660VC. Approved budget: EUR 30,000. Expected start date: January 01st, 2020. Expected end date December 31st, 2022.

Mar. 2017 **AI-SOS: Artificial Intelligence for Self-Organized Systems.** Role: Co-Investigator, Research Group (ref. RG-1438-056) funded by King Saud University, Vice Rectorate for Graduate Studies and Scientific Research, Deanship of Scientific Research, The Research Group Program (RG). Approved budget: 150,000 SAR (approx. EUR 37,500), started March 2017, ended date March 2018.

Sept. 2012 **SAFE-TRACS: Developing an artificial immune system to control roadway traffic signals and regulate traffic flow in case of emergencies.** Role: Principal Investigator, National Plan for Science, Technology, and Innovation, MAARIFAH, project award number 12-INF2820-02. Approved budget: 1,470,000 SAR (approx. EUR 346,000). Started December 01st, 2014. Ended December 01st, 2016.

Feb. 2012 **CAN-MAP: Comprehensive Analysis Network for Multi-tasking Assessment of Performance.** Role: Principal Investigator, National Plan for Science, Technology, and Innovation, MAARIFAH, project award number 12-INF2574-02, <http://rp.ksu.edu.sa/can-map>. Approved budget: 1,285,000 SAR (approx. EUR 302,000). Started March 01st, 2015. Ended March 01st, 2017.

Feb. 2012 **VMASS: Development and Evaluation of a Virtual Manufacturing Assembly Simulation System.** Role: Co-Investigator, National Plan for Science, Technology, and Innovation, MAARIFAH, project award number 12-INF2573-02. Approved budget: 1,614,000 SAR (approx. EUR 380,000). Started March 01st, 2014. Ended March 01st, 2016.

- **Publications / Ouvrages** 

Lien Google Scholar : <https://scholar.google.fr/citations?hl=en&user=jGCv4IMAAAAJ>

Lien ResearchGate: <https://www.researchgate.net/profile/Saber-Darmoul>

- **Liens en relation avec votre activité pro**

Lien LinkedIn : <https://www.linkedin.com/in/saber-darmoul-3a3b2311/>