Please, consider sharing this call for postdoc among colleagues, post-docs and last-year PhD students.

*** **CONTEXT AND MAIN PURPOSE** ***

The Connected Environment & Distributed Energy Data Management Solutions (OpenCEMS) industrial chair addresses the issues that businesses and communities encounter when handling data management in their distributed energy and connected environments. The OpenCEMS research group aims at designing, implementing and deploying software solutions within Small and Large Scale Distributed/Connected Environments for better data collection/aggregation, information retrieval, and knowledge extraction. To achieve its objectives, OpenCEMS is developing an open framework capable of scaling and optimizing power grid operations.

*** **DESCRIPTION OF THE POSTDOC ACTIVITIES** ***

- The global objective of this postdoctoral fellowship is the design and implementation of the following modules in the existing OpenCEMS platform: (i) Smart mobility module that simulates the intelligent mobility of objects in a real and simulation world; (ii) Smart communication module including peer-to-peer, self-forming and ad-hoc networks characterized by highly dynamic and autonomous topology, and (iii) Data analysis module based on machine learning, deep learning and reinforcement learning techniques.

- The postdoc activities also target the interaction between users and the platform. This entails providing a monitoring dashboard: (ii) to model and interact with the mobile devices, (ii) to detect and repair issues that may occur in such connected environment, and (iii) to monitor the performance of the environment's services (e.g., network overhead, network management, environment behavior, simulations, event/collision detection and handling).
- The postdoc is required to provide support to ongoing PhD student projects, and activities that evolve around the same research area.
- The postdoc will be also involved in small load teaching activities related to Computer Science subjects.

*** **REQUIREMENTS** ***

- The candidate should hold a PhD in Computer Science. His/her work should be related to smart mobility, distributed systems, and ad hoc networks.
- Proven experience in machine learning, smart mobility, mobile ad hoc networks and simulations.
- Excellent scripting and coding skills.
- Excellent Communication skills.
- Autonomous and team working capabilities.

*** **OFFER DETAILS** ***

- The postdoc will have the opportunity to work in a research group that gathers academic, and industrial partners. This environment allows the postdoc to participate in research gatherings, conferences, and visiting/working in different environments (e.g., in a research lab, partner institutions, and companies).
- Contract duration: 12 months (with a contract extension possibility).
- Gross Salary: 2300-2600 euros/month (depending on the candidate's profile)
- Main host institution: LIUPPA/OpenCEMS research group.

*** **APPLICATION INSTRUCTIONS** ***

Please send your applications (in PDF format) to the following contacts: richard.chbeir@univ-pau.fr, philippe.arnould@univ-pau.fr.
The application (written in English) should include:

- A Curriculum Vitae (including your contact address, work experience, publications, software repositories)
- A cover letter
- Two recommendation letters
- Two of your best publications/implementations

Deadline for applications: May 15th 2020.
Start date: September 1st, 2020 (negotiable).
Screening of applications starts immediately and will continue until a candidate is selected. Therefore, early applications are encouraged.

*** **REFERENCES** ***

Here are some recent papers that correspond with the scope of the OpenCEMS project:

1. Elio Mansour, Richard Chbeir, Philippe Arnould: HSSN: an ontology for hybrid semantic sensor networks. IDEAS 2019: 8:1-8:10
2. Sabri Allani, Richard Chbeir, Khouloud Salameh: Towards Better Data Management/Gathering in Connected Environments. Q2SWinet 2019: 53-59
3. Khouloud Salameh, Richard Chbeir, Haritza Camblong: SSG: An Ontology-Based Information Model for Smart Grids. T. Large-Scale Data- and Knowledge-Centered Systems 40: 94-124 (2019)
4. Lara Kallab, Richard Chbeir, Michael Mrissa: Automatic K-Resources Discovery for Hybrid Web Connected Environments. ICWS 2019: 146-153
5. Lara Kallab, Michael Mrissa, Richard Chbeir, Pierre Bourreau: Using Colored Petri Nets for Verifying RESTful Service Composition. OTM Conferences (1) 2017: 505-523
6. Chinnapong Angsuchotmetee, Richard Chbeir, Yudith Cardinale, Shohei Yokoyama: A pipelining-based framework for processing events in multimedia sensor networks. SAC 2018: 247-250
7. Chinnapong Angsuchotmetee, Richard Chbeir, Yudith Cardinale, Shohei Yokoyama: A dynamic event detection framework for multimedia sensor networks. APCC 2017: 1-6
8. Elio Mansour, Richard Chbeir, Philippe Arnould: EQL-CE: an event query language for connected environments. IDEAS 2019: 7:1-7:10
9. Elio Mansour, Richard Chbeir, Philippe Arnould: EQL-CE: An Event Query Language for Connected Environment Management. Q2SWinet 2019: 43-51
10. Khouloud Salameh, Richard Chbeir, Haritza Camblong, Ionel Vechiu: A Digital Ecosystem Cooperative Model: An Application on Microgrids. T-SUSC 3(4): 221-235 (2018)