

## JOB TITLE: PROJECT MANAGER OR SOFTWARE ENGINEERING EXPERT

● **BAP, national nomenclature BIATSS<sup>1</sup>:** BAP E (Computer science, statistics and scientific calculation)

**Discipline:** software engineering, HMI development, project management

**Contexte:** As part of its open science policy, the Aix-en-Provence MMSH (Aix-en-Provence University - AMU component) is leading the development of the multidisciplinary platform project ArcaDIIS (*Archaeological Data Infrastructure for Interoperability and Sharing*), an initiative of the network of archaeology laboratories in the AMU area, which aims to promote and publish data and products from archaeological and archaeosciences research. It adopts semantic web technologies and is based on international interoperability standards and specialized disciplinary vocabularies. Built around a modular chain that favours a qualitative approach, ArcaDIIS contributes, through the development of indexing tools, representations, data analysis and publication, to a better evaluation and valorisation of the products of archaeological research. Designed as an editorial hub, ArcaDIIS aims to produce associated data paper and automatically store it in open archives. The model is likely to be transferable to other disciplines on the site.

**Missions :** The research engineer conducts the project management of a portal by relying on one or more phases of the life cycle in compliance with the standards, procedures and referentials in force. He or she will lead the development of interfaces and modules related to the editorialization of data valued by the ArcaDIIS project (API, a publishing module using an XML display engine based on web data technologies). The platform will provide access to data processing tools and indexing and visualization resources.

### Main activities

- Design, in collaboration with the research team, the project portal
- Set up the platform environment and interconnection with consultation tools (reading interfaces for all XML standards), and data exploitation tools
- Write and update technical and functional documentation
- Ensure the design and development of web-oriented applications that must integrate the data from several APIs
- Collaborate with partner storage infrastructures (TGIR Humanum, IN2P3, regional data center)
- Use ontologies, repositories and disciplinary vocabularies
- Develop and test objects and components
- Ensure the evolutionary and curative maintenance of the developments carried out
- Apply a data structuring and conservation approach in accordance with FAIR principles
- Write technical specifications for the applications produced (digitization, structuring and data enrichment) according to several reading levels

### Mid-term evolution factors

- Emerging and evolving business (techniques and practices used)
- Development of Open Access to research data and products in an international open science dimension
- Convergence of information systems, content management and publishing techniques
- Coupling and integration of simulation tools with GIS tools (AI, physical simulation)
- Management, storage and interrogation of increasing volumes (large amount of distributed data, new data resolutions, collaborative platforms)
- Obligation of the European Commission (H2020) and funding agencies ("Plan S": ANR, ERC,...) to make all publicly funded research data and productions freely accessible as of 1 January 2020

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<sup>1</sup> [https://data.enseignementsup-recherche.gouv.fr/pages/les\\_bap/](https://data.enseignementsup-recherche.gouv.fr/pages/les_bap/)

### Impact on model-job

- Adapt to changes in the digital context and practices: platform development, use of collaborative tools
- As part of the development of massive data management (big data), the need for this business is increasing
- Adaptation to new web and mobile environments
- Implementation of best practice reference processes (CMMI, ITIL, COBIT) and security, accessibility and interoperability

### Transversal skills required

- Implement an approach to bring data into compliance with international norms and standards (particularly W3C)
- Mastery of Web technologies (standard Web protocols and languages)
- Mastery of databases (Relational or NoSQL)
- Knowledge of RDF/OWL technologies is a plus
- Experience with an indexing engine such as Elasticsearch, Lucene or SolR is a plus
- Know how to specify and coordinate the development of applications or services
- Experience with agile methods is a plus
- Practice of technical English, writing skills (production of technical documents)
- Ability to plan and meet deadlines
- Organizational and collective skills
- Rigour
- Sense of initiative

### Required training

The candidate must have obtained a PhD / engineering degree and come from a software engineering background, or equivalent experience

### Environment

Maison Méditerranéenne des Sciences de l'Homme - Aix-en-Provence, France.

The position is attached to USR 3125, under the authority of the Director of MMSH and the ArcaDIIS platform manager.

### Conditions of employment

Two-year fixed-term contract, renewable once, with funding from the A\*Midex Foundation.

The employer is Aix-Marseille University.

Start date: February 1, 2020 at the latest.

### Remuneration

According to profile, and according to the University's grids. Seniority bonus after 12 months.

(For an estimate of IGR's salaries, consult the ESR tables:

<http://www.enseignementsup-recherche.gouv.fr/cid23194/ingenieur-de-recherche.html#Carri%C3%A8re%20et%20r%C3%A9mun%C3%A9ration%20des%20ing%C3%A9nieurs%20de%20recherche>)

An additional grant for the engineer's work environment may be awarded by A\*Midex for an amount of €5,000 per year (networking activities, invitations, missions, workshops).

### To apply for a job

Sending by 18 October 2019 (before 17:00 - 5:00 pm CEST) a cover letter and a detailed CV to Sophie Bouffier (Director of the MMSH, [sophie.bouffier@univ-amu.fr](mailto:sophie.bouffier@univ-amu.fr)) and Stephane Renault (ArcaDIIS Manager, [renault@mmsch.univ-aix.fr](mailto:renault@mmsch.univ-aix.fr)). The selected candidates will be auditioned at the beginning of November.

### **General context/environment**

Aix-Marseille University (AMU) is an intensive research university, which has developed partnerships throughout the world, has affirmed its local roots and integration and is among the top French universities in the Shanghai World University Index (ARWU). AMU is a multidisciplinary university structured around five disciplinary sectors divided into 19 components (faculties, schools, institutes) and one multidisciplinary sector (including ESPE and IUT), and has 119 research structures (more information: <https://www.univ-amu.fr/fr/public/presentation-de-luniversite>).

The position is funded by the Aix-Marseille Excellence Initiative, A\*Midex. Aix-Marseille University has been awarded the national Initiative of Excellence label as part of the Investments for the Future programme (PIA). A\*Midex is led by Aix-Marseille University, with seven partners: CNRS, Inserm, CEA, IRD, AP-HM, Sciences Po Aix and Centrale Marseille. The objective of A\*Midex is to enhance and develop the exceptional potential of Aix-Marseille University and its area by provided them with world-class research and higher education. MMSH and "ArcaDIIS" have been selected as part of A\*Midex's "Talent Management" programme dedicated to attract high-level research engineers in Aix-Marseille (more information about the A\*MIDEX Foundation: <https://amidex.univ-amu.fr>).

The Mediterranean House of Human Sciences (MMSH) is one of the 19 components of AMU, it is a research and training campus in human and social sciences, specialized in the Mediterranean world. It brings together eleven mixed laboratories, hosts the Doctoral School 355 "Spaces, Cultures, Societies", and notably coordinates the Labex - LabexMed "Human and social sciences at the heart of interdisciplinarity for the Mediterranean".