**JOB TITLE: Software engineering and production, processing, data analysis**

* **BAP, nomenclature BIATSS[[1]](#footnote-1):** Rare profile transverse to several professional fields of activity, main skills in Computer Science, Statistics and Scientific Computation (BAP E) with sensitivity for Culture and Communication, Production and Dissemination of Knowledge to Professions (BAP F) and other skills related to Human and Social Sciences (BAP D).
* **Discipline:** software engineering, digital corpus analysis in human and social sciences, life, health and environment sciences..
* **Context**

Aix-Marseille Université (AMU) is a research intensive university, which has developed partnerships throughout the whole world, has affirmed its local roots and integration and is among the top French universities in the Shanghai World University Ranking (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 Maison Méditerranéenne des Sciences de l’Homme (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 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". (More information: http://www.mmsh.univ-aix.fr/apropos/Pages/default.aspx)

The MMSH is leading the development of the ArcaDIIS (Archaeological Data Infrastructure for Interoperability and Sharing) disciplinary platform project, an initiative of the AMU network of archaeology laboratories, which aims to promote and publish archaeological and archaeoscience research data and products. Adopting international interoperability standards and specialized disciplinary vocabularies, developing tools for indexing, image visualization or digital models, data representation and analysis, the platform is built around modular chains, and will eventually integrate, by successive additions of complementary modules, offer an interdisciplinary research and development portal to enhance the site's SHS research. It is part of an open science policy and proposes to make data management more efficient, initially, by adopting semantic web and data web technologies.

The position is funded by the Aix-Marseille Initiative of Excellence, A\*Midex. Aix-Marseille University has been awarded the Initiative of Excellence national 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 providing them with world-class research and higher education. The MMSH and “ARCADIIS” were selected in the frame of the A\*Midex programme “Talents Management” dedicated to attract high-level research engineers in Aix-Marseille. More information on the A\*MIDEX foundation can be found at: [https://amidex.univ-amu.fr](https://amidex.univ-amu.fr/en)

* **Mission**

Under the authority of the Director of the MMSH and the Director of the ArcaDIIS platform, the research engineer is committed to leading the development of interfaces and complementary modules related to the editorialization of data valued by the ArcaDIIS platform. It exploits and develops the necessary tools to ensure the optimal use of structured resources, in particular an XML display engine. It will be able to ensure the project management of projects over one or more phases of the life cycle in compliance with the standards, procedures and standards in force: analysis, development, qualification, integration, deployment; exploit and develop web, API and web data technologies taking into account new web and mobile environments; propose analysis methods and techniques; develop and conduct exploitation, database or corpus analysis methods and ensure their valorisation; implement best practice and security, accessibility and interoperability reference processes

* **Main activities**

o Design, in collaboration with the research team, consultation tools (reading interfaces for all XML standards), data enrichment and exploitation tools

o Exploit ontologies, repositories and disciplinary vocabularies

o Ensure the design, development/implementation of web-oriented applications that must integrate the data from several APIs.

o Exploit and develop methods for the analysis and processing of geographical information

o Develop and test objects and components.

o Apply a data structuring and conservation approach in accordance with FAIR principles

o Write technical specifications for the applications produced (digitization, structuring and data enrichment) at several reading levels.

o Represent the laboratories related to his/her position in the various professional networks

o Disseminate and promote research results (symposia, publications, etc.)

o Transfer skills within the framework of training actions (continuing education, research, students)

o Organize scientific events, national or international (symposiums, study days, seminars...)

o Monitor scientific and technological developments.

***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 (Artificial intelligence, physical simulation);
* Management, storage and interrogation of increasing volumes (large amount of distributed data, new data resolutions, collaborative platforms);
* New technologies for representation and interaction with geographical data (augmented reality, connected equipment, etc.);
* 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.

***Impact on model-job***

* Adapt to changes in the digital context and practices: platform development, use of collaborative tools, etc;
* As part of the development of massive data management (big data), the need for this business is increasing.
* **Transversal skills desired**

o Implement an approach to comply with international norms and standards

o Know how to specify and coordinate the development of applications or services in Sc-IG

o Managing a project

o Ability to plan and meet deadlines

o Use presentation techniques

o Explicit and prioritize needs

o Have a good understanding of the challenges of interdisciplinary research in the Humanities, Life, Health and Environment Sciences.

French : B2 level - fluency in French speaking and writing.

* **Environment**

**Place of exercise of the function:** the person concerned is attached to USR 3125 and will work at the place, at MMSH, Aix-en-Provence (France), under the authority of the Director of MMSH and the management of Stéphane Renault (IR CNRS LaMPEA), responsible for the ArcaDIIS platform.

An engineer's work environment grant may be awarded by A\*Midex for an amount of 5000 € per year (networking activities, invitations, missions, workshops).

* **Training**

The candidate must have obtained a PhD / engineering degree and come from a field of study in software engineering, corpus editing and publishing, geomatics-GIS integrating a "digital humanities" and technical dimension.

* **Conditions of employment**

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

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%20and%20r%C3%A9mun%C3%A9ration%20des%20ing%C3%A9nieurs%20de%20research)

* **To apply for a job**

Sending a letter of motivation and a CV by 31 March 2019 to Sophie Bouffier (Director of the MMSH,[sophie.bouffier@univ-amu.fr](mailto:sophie.bouffier@univ-amu.fr)) and Stephane Renault (Responsible ArcaDIIS, [renault@mmsh.univ-aix.fr](mailto:renault@mmsh.univ-aix.fr)).

1. <https://data.enseignementsup-recherche.gouv.fr/pages/les_bap/> [↑](#footnote-ref-1)