Elodie Brisset – MSCA-IF Researcher

2017-18  Postdoc IPHES-MSCA (MedCoRes, Spain)
   « Mediterranean Coastal Resources: benefit and constraint for Prehistoric hunter-gatherer »

2016  Postdoc IMBE-CNRS (PaleoPersepolis, France/Iran)
   « Holocene climate changes and anthropisation patterns in the Zagros mountains, Iran »

2015  Postdoc ISTerre-IRD (PaleoBOL, France/Bolivia)
   « The Lake Titicaca sediments: memory of landscape changes and decline of the andean civilisation »

2010-2014  PhD in Physical Geography, France
   « Mountain sensitivity to climate and anthropogenic forcings since the last 14,000 years in the Mediterranean Alps »
Why the MSCA?

- Most renowned by European research agencies
- Cover the salary + project cost + mobility allowance
- Importance given to enhance the fellow maturity, audience, skills
- Specific training for MSCA alumni

PhD: may 2014 - application to 6 grants (1.5 years)
  France: 3, Bolivia: 1, Canada: 1, Spain: 1

Marie-Curie IF:

- **June 2015**
  - 1 month: implementation research
  - 1 month: writing, correction
  - 2 weeks: implementation lab. support

- **September 2015**
  - Approved

- **February 2016**
  - Delayed start

- **January 2017**

ANR/DGF:

- December 2015 to 2016
  - Approved
  - Lab. IMBE (France)
Recognised Researcher (R2), Doctorate degree (PhD) holders who have not yet established a significant level of independence.

**MSCA**

**R3 Established Researcher.** This describes researchers who have developed a level of independence.

<table>
<thead>
<tr>
<th>DESCRIPTOR</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>R3D1</td>
<td>Has an <strong>established reputation</strong> based on <strong>research excellence</strong> in his field.</td>
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<tr>
<td>R3D3</td>
<td><strong>Identifies research problems and opportunities</strong> within his area of expertise Identifies appropriate research methodologies and approaches.</td>
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<td>R3D4</td>
<td>Conducts research <strong>independently</strong> which advances a <strong>research agenda</strong>.</td>
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<td>R3D5</td>
<td><strong>Can take the lead</strong> in executing collaborative research projects in cooperation with colleagues and project partners.</td>
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<td>R3D6</td>
<td><strong>Publishes papers</strong> as lead author, <strong>organizes workshops</strong> or conference sessions</td>
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<td>R3D7</td>
<td>Establishes collaborative relationships with relevant <strong>industry</strong> research or development groups</td>
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<td>R3D8</td>
<td><strong>Communicates their research</strong> effectively to the research community and <strong>wider society</strong></td>
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<tr>
<td>R3D11</td>
<td>Is committed to professional development of their own career and <strong>acts as mentor for others</strong>.</td>
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What are the aims of this funding agency?
To promote personal career, cultural exchange, public science

What I want to propose?
Impact in the field, society, my career

Which host institution?
Audience, equipment's
Support for the grant application

How to realize it?
Implementation detailed and reasonable

How all fit to my personal carrier plan?
To fill empty parts of the CV, to pave your story
To achieve the final, long-term goal
<table>
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<tr>
<th>WP 1: Phase A</th>
<th>WP 2: Phase B</th>
<th>WP 3: Transferable skills</th>
<th>WP 4: Dissemination and outreach</th>
<th>WP 5: Management and progress reporting</th>
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<tbody>
<tr>
<td>Task 1.1: Literature review</td>
<td>Task 2.1: Sedimentological analyses</td>
<td>Task 3.1: Spanish language learning</td>
<td>D.4.1 Project website</td>
<td>M.5.1 Kick-off meeting</td>
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<tr>
<td>Task 1.2: Sediment sampling on field</td>
<td>Task 2.2: Geochemical analyses</td>
<td>Task 3.2: Writing papers</td>
<td>M.4.1 Project website online accessible</td>
<td>D.5.1 Researcher's Personal Career Plan</td>
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<tr>
<td>Task 1.3: Core opening and lithology</td>
<td>Task 2.3: Aquatic fauna analyses</td>
<td>Task 3.3: Hold on public presentations</td>
<td>Task 4.1: Conference presentations</td>
<td>M.5.2 IPHES' yearly evaluation</td>
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<tr>
<td>D.1.1 Sampling strategy fixed</td>
<td>Task 2.4: Pollen, NPP, micro-charcoals</td>
<td>Task 3.4: Public science activities</td>
<td>D.4.2 Paper on Lateglacial palaeo-geographical evolution of Pego</td>
<td>D.5.2 Yearly evaluation report</td>
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<tr>
<td></td>
<td>Task 2.5: Macro-charcoal analyses</td>
<td></td>
<td>D.4.3 Dataset available for public use</td>
<td>M.5.3 Final evaluation of accomplishment</td>
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<td></td>
<td>D.2.1 Multiproxy datasets</td>
<td></td>
<td>D.4.4 Paper on the environmental changes during the Mesolithic/Neolithic transition</td>
<td>D.5.3 Closing meeting</td>
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<td></td>
<td>Task 2.2: Multivariate statistical analysis</td>
<td></td>
<td>M.4.2 Participation in Education activity</td>
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<td></td>
<td>M.2.1 Data compilation completed</td>
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<td>M.4.3 Participation in Public Science event</td>
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<td></td>
<td>Task 2.3: Comparison of the palaeoenvironments to archaeology</td>
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<td>M.4.4 Organization of workshop</td>
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<td></td>
<td>Task 2.3: Comparison of the study site of the entire Mediterranean basin</td>
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<td>Task 4.2: Public engagement activities</td>
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<tr>
<td>Technique</td>
<td>Justification</td>
<td>Training methodology</td>
<td>Places</td>
<td></td>
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<tr>
<td>Lithology / Sampling</td>
<td>The researcher <strong>has had an extensive experience</strong>, but ....</td>
<td><strong>Self-training and under the supervision of Pr., which is an international expert</strong> in ....</td>
<td>IPHES laboratory and Department of Physical Geography (UB).</td>
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<td></td>
<td>Studying ...... <strong>will significantly enlarge her research skills.</strong></td>
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<td>Prehistory</td>
<td>The applicant <strong>has limited experience</strong> on the study in ...... The researcher <strong>will expand her knowledge about .....</strong></td>
<td><strong>Training through the attendance of one course</strong> on Iberian Prehistory .... <strong>Assistance during the whole project by IPHES' experts</strong> on this period.</td>
<td>Department of History and Art History (University Rovira i Virgili, Tarragona). IPHES</td>
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</table>
# Researcher training-through-outreach activities and transferable skills

<table>
<thead>
<tr>
<th>Training activity</th>
<th>Justification</th>
<th>Training methodology</th>
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<tbody>
<tr>
<td>Specific training for the fellowships</td>
<td><strong>MSCA actions are aimed at helping the researcher to reach a mature and independent research position</strong> aligned to the European Alliance on Research Career Development.</td>
<td><strong>Specific tutoring and support to prepare applications the H2020 funding schemes (ERC-Starting Grant).</strong> In addition, she will be enrolled in the informative and <strong>training workshops</strong> offered by the URV and ...</td>
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<tr>
<td>Formal training on transferable skills</td>
<td>During the fellowship, the researcher will develop her <strong>skills of scientific communication, project management</strong> and <strong>learning Spanish</strong>.</td>
<td><strong>Training</strong> opportunities will be ensured in the framework of the <strong>Resources and Services</strong> for URV students.</td>
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<tr>
<td>Training on transferable skills (financial management)</td>
<td>The researcher has <strong>no previous similar experience</strong>.</td>
<td>He will be <strong>co-responsible for the fellowship research budget</strong>. This includes <strong>execution and organization of an International Workshop</strong>, with the assistance of the supervisor and IPHES’ –Research Management Unit.</td>
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# Effectiveness of the proposed measures for communication and results dissemination

<table>
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<tr>
<th>Outreach activity</th>
<th>Implementation</th>
<th>Objective</th>
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<tbody>
<tr>
<td>Multimedia</td>
<td>Foster an online presence through IPHES <strong>websites</strong> (<a href="http://www.iphes.cat">www.iphes.cat</a>; <a href="http://www.evoluciona.cat">www.evoluciona.cat</a>) and creating a <strong>blog-style</strong> webpage of the project. Produce <strong>interactive contents</strong> for local Natural Park...</td>
<td><strong>To offer an open and free virtual interactive space</strong> to discuss the progresses of the project and create a <strong>free-access repository</strong> with images...</td>
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<tr>
<td>Science Communication</td>
<td>Collaborating in the IPHES <strong>channels and platforms</strong>: providing interviews, news and contents at press and radio programs; participating in the IPHES notices blogs and social networks (<a href="https://twitter.com">Twitter</a>...</td>
<td><strong>To foster public interest and knowledge</strong> about the (palaeo)environmental research and human history.</td>
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</tbody>
</table>
4. CV of the Experienced Researcher

4.1. Research interest, education and experience

The researcher has obtained extensive knowledge and experience in sedimentary archives studies, analytical and numerical techniques on the fields of sedimentology, geochemistry and palynology, making her an ideal candidate for the proposed project.

Research interest

The research activities of the candidate since the 5 last years have been focused on post-millennium erosional dynamics in different geographical context: in the European Alps (France), Rif Mountains (Morocco), in Andean (Bolivia and Chile) and in the Tian-Shan (Kirgistan). For all these regions, natural hazards management (especially flood risk, soil erosion) needs a more precise understanding of long-term dynamics of the catchment, of the impact of human activities (i.e. pastoral, agriculture) and of climate changes. These palaeoenvironmental studies have required a multidisciplinary approach which positioned the candidate as an experienced researcher in physical geography, limnometry, and palaeocology.

Education

2010-2014 PhD in Physical Geography. University Aix-Marseille (France) Laboratories CEREGE and IMBE, first class distinction.
2011 Summer school: Sediments as archives of environmental change. EAAGG-ETH (Luzern, Switzerland).
2005-2010 MSc in Environmental Sciences. University Aix-Marseille (France), first class distinction.
2005 ERASMUS placement at the Frei University of Berlin (Germany).
2005-2008 Ba in Geography (Aix-Marseille University, France).

Experience

During the MSc level, the candidate has participated to the Erasmus exchange with a placement in the Frei University of Berlin in Germany for one semester. This exchange has provided a first experience of mobility to the candidate in a European country. The MSc thesis have been undertaken at the Aix-Marseille University (IMBE and CEREGE laboratory) in collaboration with the Geological reserve of the Southern French Alps aimed to investigate source-to-sink sediment transfer in highly erodible geological outcrops which induce rapid filling of water reservoir downstream. This work has been based on geomorphological mapping, sedimentological analysis, geochemistry and 3D modelling (Brisset et al., 2014a). This work has provided in situ constraint values of erosion needed to model sediment supply changes according to different climate and land cover scenarios. During the course of the MSc, the candidate have completed two engineering contracts (three weeks each) to apply her professional skills in natural risk prevention (in the Tangier-Tetouan Moroccan district).

The PhD project has been oriented on continuous lake sediment archives (Aix-Marseille University). This work have allowed to the candidate to better characterize the environmental sensitivity, resistance and resilience of the Mediterranean Alps. This project have included numerous fieldwork sampling (coring of active lake, freeze lakes, peat bogs, rock and soil sampling in catchment, water sampling), catchment cartography (geomorphological forms, processes and vegetation cover). In order to improve the understanding the respective implication of external driver (i.e. humans and climates) and the buffering role of the vegetation, the candidate have developed a multi-disciplinary approach coupling micro-sedimentology, elemental geochemistry, palynology and geochronology. Noteworthy, the infra-millimetre characterisation of sediments (e.g. texture, fabric, sequence of lamina) under microscope has allowed reconstructing the temporal evolution of torrential flood in the Southern Alps over the last 7400 years. On the whole, the PhD project came to the successful conclusion that prehistoric human impacts have profoundly amplified the reactivity of the Mediterranean Alps environments to climate extremes. The outcome of the PhD project has led to several conference papers, presentations at an academic and local level, exhibitions and peer-reviewed publications, in which the researcher is

first author (Brisset et al., 2012; 2013; 2014b; 2015; Cartier et al., 2015; Petersen et al., 2014; Wilhelm et al., 2012). Self-leadership, collaboration and teamwork were essential for the success of this project.

Since the end of the PhD, the candidate has continued to study palaeoenvironmental evolution in novel region, with climate dynamics and past human development being different than previous works, in the Andean and the Tian-Shan. Two one-month fieldworks have been done in Bolivia/Chile (November 2015) and Kirgistan (August 2015) in order to samples sediment cores from active lakes and peat-bogs. Multiproxy analyses of these sediment cores are undergoing based on the same multi-disciplinary approach (sedimentology, geochemistry, palynology and geochronology).

Professional experiences linked to the research are listed below:
2015 (1 month): Postdoc position – palynological analyses on Lake Titicaca sediment core (ISITerre, France).
Since 2015: Research volunteer – lake Chegquma (Chile) and Titicaca (Bolivia) sedimentology, geochemistry and palynology (ISITerre, France).
2008 (1 month): Student assistant - Geocarchaeological study of Felix Romuliana in Serbia (Frei University, Berlin).
2008 (3 weeks): Research engineer - landslides risk in the Rif Mountains (Univ. Abdelmalek Essaadi, Morocco).

4.2. Previous research program implication

Previous studies have necessitated numerous national and international collaboration which have been formalised by the candidate implication in 9 founded research programs. Notably, the PhD project have been conducted by pure disciplinary methods which have offer to the candidate a large networks of scientific collaboration with researchers from the University of Savoie (France), University of Nice (France), University of Aix-Marseille (France), University of Manchester (United Kingdom). Since the end of the PhD, the candidate have build an effective international network of collaboration with leader scientist of the University of Duke (USA), University of Nebraska (USA), University of Umeå (Sweden), University Major de San Andres (Bolivia) and the University of Central Asia (Kirgistan).

Since her PhD, the candidate has been involved in 3 research programs:


The candidate is also taking part in international working groups of COAT Global changes (PAGES, http://www.pages-igbp.org/ins/ wg_intro):
• Aquatic Transition (since 2015): Ecosystem sensitivity to critical transition.
• GLoss (since 2015): Global Soil and Sediment transfers in the Anthropocene.
4.3. Publications in peer-reviewed journal, conference proceedings, research reports and monographs

The researcher has shown the ability to lead research publications even though she has collaborated with others. She is the first author in a number of 8 joint-author peer reviewed journals indexed in the ISI Web of Science (including 5 in first author position), one paper in a conference proceedings, 2 research reports and 3 monographs. The total of citation in indexed peer-reviewed journals (excluding self-citation) is 55. The h-index of the candidate is of 4 (august 2015).

Article in peer-reviewed international journal (ISI Web of Science)


2. BRISSET E. et al., 2015. Late glacial/Holocene environmental changes in the Mediterranean Alps inferred from lacustrine sediments. Quaternary Science Reviews, Volume 110, p. 49-71. IF: 4.5.


Research monographs


4.4. Scientific communications

Invited presentations

The candidate has given 2 invited communications (one as speaker, one as co-author) in the international UN climate change conference COP 21.


Presentations in well-established international meetings upon peer review submission by the scientific committee

The candidate has communicated her researches in 17 oral communications (7 international) and 9 posters (8 international). The more significant are the Annual Meeting of the European Association of Archaeologists (United Kingdom), International Assembly of Geomorphology (France), International Palynological Congress (Japan), European Geosciences Union Assembly (Austria) and the International Union for Quaternary Science (Switzerland).

4.5. Research expeditions

Strong leadership qualities of the candidate have been demonstrated during fieldworks through the organization of field expedition in July 2014 in Kyrgyzstan, to obtain official authorization for technical devices importation, samples exportation and logistical transport of the team between study sites. The candidate has also organized the hiring of research colleagues in aquatic sciences in high-altitude lakes in France (above 2000 m a.s.l.) in order to collect water samples and aquatic fauna, by directing assistants in the extraction of lake and peat bog sediment cores (France, Bolivia, Kyrgyzstan), soil and rocks samples, and in mentoring students geomorphological mapping and sedimentological outcrop descriptions (Southern France). Site selection, sample extraction and sample documentation has been the prime responsibility of the researcher during her PhD fieldwork in 2009 (Lake Pett, 2200 m a.s.l.), 2010 (Lake Vens, 2300 m a.s.l.) and 2011 (Lake Allos, 2200 m a.s.l.).

4.6. Prizes and Awards

The candidate has obtained 2 prizes for the quality of her researches from researcher associations: International Federation of Palynological Society (2012) and of the Groupe Francais de Geomorphologie (2011).

4.7. Supervising, mentoring activities

The researcher has leadership skills through supervision of 6 MSc theses from 2012 to 2014 in the field of palaeo-environmental studies sites in the French Alps (Mercantour and Ecrins National Park, Lyutel and Charen Natural Reserve) and in the Mediterranean French lowlands (sediment coring, geomorphology, geochronology and geochronology). In the scholar year 2007/2008, the candidate has mentored bachelor students in Physical, Human and Quantitative Geography (Aix-Marseille University).

4.8. Public Science dissemination

The candidate, in collaboration with different project members, have previously experienced to the dissemination of her researches to a broader audience in the form of a conference on the “past landscapes evolution deciphered by sediments of Lake Allos” (Allos city, France), exposition panels and webpage for the Mercantour National Park (www.mercantour.eu/index.php/nature-et-culture/une-monaie-de-paysages/reconstitution-de-paysages), exposition panels on flooding risk of the Dranse river (France), the website RSKORIF (http://riskorif.perso.sfr.fr) on natural risks in Morocco, and two flyers on seismic and landslide risk in the city of Tetouan (Morocco).

5. Capacity of the Participating Organisations

PHES: Institut Català de Paleocologia Humana i Evolució Social (Beneficiary)

General Description

The proposed project will be based at IPHES (Institute of Human Paleoenology and Social Evolution) in Tarragona, Catalonia, Spain. It is a research centre created in 2005 within the CERCA program of the Generalitat de Catalunya, and supported by different public institutions. It is currently composed of 60 people (5 Research Professors, 26 post-doc researchers, 11 PhD granted students, 16 technicians, and 7 administrative personnel). IPHES has a strong expertise in Human Paleocology in a broad sense, since it focuses on the study of interactions between the different Homo species and their environments, through multidisciplinary research.
• Open Science Clinique: Winning Marie Curie with Open Science
• MCAA - Writing a Successful IF Application
• BSB-Webinar: Project management for MSC fellows