

ESR 6

Name: Anaïs Guillem

Your credentials: Architect, Archaeologist

Start day: 01/06/2014 **End day:** 30/07/2016

Involved in WP: WP1, WP2, WP3, WP4, WP7



My Research Training Activity in ITN-DCH

A. Summary of the Career Development Plan: ...

The topic of this fellowship deals with large-scale spatio-temporal reconstruction. More specifically, it aims at developing effective and efficient methods for data collection, processing and modeling for the purposes of understanding and following the processes of building evolution, taking into particular account material properties and typical patterns of decay.

My position focuses on tangible heritage and more precisely on built heritage, i.e.:

- the study of the most current approaches to the collection, formalisation, presentation and storage of built heritage data
- the study and analysis of 3D models of built heritage in relation to semantics and ontology
- the investigation of the possibility of the enrichment of 3D models with semantics as a support for simulations of such use cases as seismic and structural analysis, evacuation scenarios and/or fire events, testing particularly for the ability of such models to:
 - o facilitate built heritage maintenance strategies and procedures
 - o predict mid and long-term behavior of buildings, taking into account their particular uncertainty

B. Core Research Training Activity:

The core research training activities of my fellowship focus on the domain of reconstruction, its tools and techniques. The home institution is the Chair for testing of Materials and Structures, in the Faculty of Civil and Geodetic Engineering, University of Ljubljana. Over the past years, the team has been involved in a series of projects in cultural heritage including Histcape, Perpetuate, Eu-Chic, and Climate for Culture. The team focused on building documentation issues, putting particular emphasis on the questions of decay, the diagnostics of structures and the decision-making process. As an architect, the position offers a unique opportunity for me to enlarge my knowledge in the field of engineering, in particular seismic and structural analysis. With regards to the broader horizon of the CH field, I have become a member of the Slovene chapter of ICOMOS and attended a course on heritology offered by Jelka Pirkovic and Verena Perko, two leading experts in museum activities, archaeology and exhibition outreach, in the University of Ljubljana. Additionally, I have attended Slovene language courses in order to acquire basic knowledge of the language and to communicate in everyday life.

The results of the first year of my research were presented or submitted to several conferences in the field:

Event Name	Acronym	Paper Title	Dates
43rd Computer Applications and Quantitative Methods in Archaeology, CAA 2015	CAA	UNESCO heritage of prehistoric Pile-dwelling around the Alps, Monitoring of pile-dwelling near Ig, in the marsh of Ljubljansko Barje Park with photogrammetry and BIM approach.	20/3/2015-4/4/2015
CIPA 25th International Symposium	CIPA	Semantically Documenting Virtual Reconstruction: Building a Path to Knowledge Provenance.	31/8-4/9/2015
Digital Heritage 2015	DH	Building an Argumentation Platform for 3D Digital Reconstruction using CIDOC-CRM and Drupal	28/9-2/10/2015

C. Secondments:

-FORTH: for one month (from 10/01/2015 to 07/02/2015):

The main aim of this secondment was training in knowledge representation in CH. High-level training activities in knowledge engineering and CIDOC-CRM were provided by Dr. Martin Doerr and Maria Theodoridou in the theory and practical execution of semantics and formal ontology.

-NTUA: for 5 weeks (from 09/02/2015 to 14/02/2015):

The objective of this secondment was training in photogrammetry and its use in the reconstruction workflow. The secondment was supervised by Andreas Georgopoulos.

-Arctron: (planned for 06-07/2015):

The secondment is about archaeological survey, data acquisition in the field and processing in the lab.

D. Dissemination & Outreach: ...

As a fellow of the ITN-DCH project, I attended and participated in several events promoting its work:

Event Name	Participation Description	Dates
Histcape	Organisation, Attendance, Networking, Poster, Presentation	16/9/2015
Summer school 1 in Stuttgart , Capture and digitize static and moving objects, Handle large volume data, Information fusion by the combination and exploitation of different sensors	Attendance, Presentation	20-24/10/2015
Euromed 2014	Attendance, Networking, Presentation	3-7/11/2015
Workshop in Carnuntum , Handling massive and complex datasets for multimedia information fusion and high-resolution 2D/3D/4D surveys	Attendance, Presentation	23-28/03/2015
Summerschool 2 in Rhodos , Real-time rendering, 3D/4D modeling	Attendance, Presentation, Poster	1-6/6/2015
CIPA 25th International Symposium	ITN-DCH Workshop, Presentation	31/8/2015
Researcher's Night	Organisation, Participation	26/09/2015

Newsletter participation: I participated in writing articles for the third and fourth issues of the ITN-DCH newsletter about the FORTH secondment and the CAA conference. With regards to social media dissemination, I regularly post to the social media platforms of ITN-DCH, facebook and twitter.



E. Added Value to my Future Research Career:

The ITN-DCH project implies a change of scale in terms of work collaborations. The secondments provide a perfect illustration of this fact. The fellowships offer a great opportunity to learn from diverse research teams with very different specializations from across Europe. After only a few months in the project, I could already see marked improvement in my English, presentation and professional communication skills. The framework of the project has radically changed my everyday work and future perspectives. Today, I understand my work as a researcher from a European and international point-of-view, while even just a few months ago it would have been a more national perspective. The secondments are determinant in this process. The periods spent abroad enlarge one's perspective by exposing one to the work of other supervisors, fellows and institutions. The mobility opportunities and the events organized within the project give us the chance to meet all kind of experts and specialists in the digital and cultural heritage fields.

After the first ten months of my position, I have had the chance to develop an overview of my research interests in relation to my host institution. This initial time was required in order to understand each other cultures, backgrounds, and expertises. The process has been fruitful since the results of this first period have enabled me to adapt to this new working context. The second part of the fellowship will be dedicated to building on the results of this period, developing on the research and study bases now established. Continued work with the extended network of the ITN-DCH project offers many chances to carry my research career forward after the ITN-DCH position.

I chose to apply for membership in ICOMOS Slovenia in 2014 for 2015 in order to better understand the ongoing issues in cultural heritage in my host country and to have the opportunity to collaborate with my colleagues and apply my newly acquired knowledge in my local context.

Part of the training that the ITN-DCH project provides is in engaging fellows in research management activities. The work carried out in researching and writing the different work packages and deliverables forms the basis of the state-of-the-art in our research work. The exercise of writing the deliverables has motivated collaborative initiatives between the fellows, encouraging to auto-organize our tasks and to deploy the latest in project management and publication tools. Furthermore, during the first months of my fellowship, I was encouraged and supported by the network to apply for the Bernd Breuckmann Award. While the application was not successful, I learnt and experienced how to do an application for this kind of project. The Marie-Curie fellowship provides many opportunities to learn about the research management and application process such as Cost, Horizon2020 and Interreg. Such complementary training in research management is fully integrated in the ITN-DCH project.