

**ESR 9****Name:** Marleen de Kramer**Your credentials:** Bsc Architecture, Msc Heritage Science**Start day:** 1<sup>st</sup> September 2013**End day:** 28<sup>h</sup> February 2017**Involved in WP:** WP 3, WP 5, WP 7**Hosting Institution:** 7reasons**My Research Training Activity in ITN-DCH****A. Summary of the Career Development Plan:**

Modern information technology provides myriad ways to visualise heritage, up to and including photorealistic reconstruction of destroyed sites and objects. They provide a valuable tool not only for research, allowing scientists to test different theories and better see spatiotemporal relations and proportions, but also make research data more accessible to a wider audience. However, they natively allow little room for vagueness, and care must be taken to clearly differentiate known facts, hypotheses, and degrees of certainty.

As an ER, I will focus on this interface between art and science, finding new ways to use techniques and technologies co-opted from film, computer gaming, and other new media with data acquired from more traditional heritage research techniques. The role of ESR 9 is defined as “interactive media production, real-time rendering, and perceptualisation”.

**B. Core Research Training Activity:**

This project will provide not only research experience and theoretical knowledge, but concrete training with a variety of relevant tools and techniques. The main areas I seek to improve are:

**Technical expertise:** This includes relevant software packages for 3d and 4d visualisation and animation, dissemination/publishing to different media as well as selecting, using and designing for the required hardware/input and output devices. I will also be learning the basics of computer programming.

**Research skills:** I will be learning how to quickly gain the necessary background knowledge for attempting a visualisation, and how to work with experts in different fields to transfer their knowledge to my projects. This also includes best practice for communication with interdisciplinary teams through documentation/annotation of reconstruction and visualisation process to show the decision-making process and scientific basis.

**Communication skills:** Besides learning how to present information graphically and practicing my writing and presentation skills in scientific papers and presentations at conferences, I will be working with end users, interdisciplinary groups, experts and non-experts, and in international groups with varying degrees of language proficiency. At an industrial partner, this also means client relations and integrating the end user into the process.



### C. Secondments:

1. KAAK: for 4 weeks (17.11.14-21.11.14 and 9.1.15-28.1.15; in two halves to facilitate data processing)

The main mission of this particular secondment was to work with the German Archaeological Institute to produce a visualisation based on real-life excavation data - it served to teach me how to communicate with experts in a specific field who were not knowledgeable about visualisation themselves.

2. 7reasons: 2 weeks (9<sup>th</sup> March 2015 to 20<sup>th</sup> March 2015, hosting other fellows at my institution)

Three fellows from three different fields worked together to create a prototype for an integrated 3d heritage viewer based on Case Study 1.

3. CNRS: for 4 weeks ( from 4<sup>th</sup> May 2015 to 28<sup>th</sup> May 2015)

During this secondment, I will be learning about the work of CNRS, but also working together with several other fellows of different backgrounds on a common project/pipeline.

4. Upcoming: ARCTRON for 5 weeks (June/July 2015), Warwick University (dates to be determined), MiraLab (dates to be determined), FORTH for 2 weeks (August/September 2015)

The secondments will help me not only with insight into the research methods of other institutions, but also show how international, interdisciplinary projects work in practice and provide valuable networking opportunities with partners, hosting institutions and other fellows. The chance to learn and practice further languages is also a valuable form of training for working in a connected Europe.

### D. Dissemination & Outreach:

While 7reasons is not a work package leader and not directly responsible for any deliverables, as a media production company, it can greatly contribute to the dissemination and outreach aspects of the project.

I will be producing visualisations of data generated through the project, which will help to illustrate publications and lectures, provide an interface between experts and lay audiences, and provide a kind of general accessibility that cannot easily be achieved through raw data. With previous experience and expertise in proofreading, publishing, and editing, as well as graphic design and layout, I will also help to make the public face of ITN-DCH look its best, where such work is not undertaken by outside experts through CUT.

Furthermore, I am the primary fellow responsible for the ITN-DCH Facebook page and its general social media strategy, which will be augmented with appropriate online outreach tools as required.

### E. Added Value to my Future Research Career: ...

Digital cultural heritage is still an emerging field, and as such, formal training opportunities are rare. However, this project allows me, for the first time, to build on all my previous experience and interest and solidify it into a better-defined area of expertise, helping me to clarify what it is that I want to do with my career and providing me with the tools to get there.

Besides training, it will give me a network of peers and connections to experts in related fields, allow me to experience first-hand the cutting edge of augmented 3d technology, and provide a framework in which to do further research.