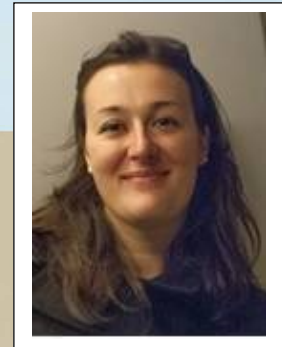


**ESR 16****Name:** Rossella Suma**Your credentials:** MSc in Computer Engineering**Start day:** 01/10/2014**End day:** 31/05/2016**Involved in WP:** WP5, WP7**Hosting Institution:** (UW)**My Research Training Activity in ITN-DCH****A. Summary of the Career Development Plan:**

Authentic relighting of the cultural heritage sites is necessary if we are to gain an insight as to how the sites may have appeared in the past. High Dynamic Range (HDR) imaging is capable of capture the full range of real world lighting in a scene. This can subsequently be used to accurately relight a virtual model of the site.

My contribution as ESR16 within The University of Warwick to this end will be the creation of detailed computer models of at least two example sites, the reconstruction and capture of light sources available at the sites and the authentic relighting of the sites using HDR imaging techniques.

**B. Core Research Training Activity:**

My primary training objective is to strengthen my scientific and technological excellence, to conduct and support novel cultural heritage research within the innovative framework of topics defined by the ITC-DCH network.

In particular, I will gain deep knowledge of HDR techniques and familiarise with Warwick's HDR low-cost video system, use the HDR system to capture the real world lighting at the example sites and integrate ancient lighting into an existing global illumination renderer in order to create high-fidelity renderings of the sites.

To learn these techniques and to understand the methods Warwick University has provided me with different training studies in HDR imaging, environment map capture techniques, and global illumination algorithms.

I am currently involved in the planning, execution and completion of different CH projects as to understand the different phases of a CH pipeline and possibly expanding the visualisation experience adding multisensory simulations in order to achieve the so-called Real Virtuality. This kind of simulations are true high-fidelity multisensory virtual environments which provide the same perceptual response from viewers as if they were actually present, or "there" in the real scene being portrayed.

**C. Secondments:**

I have not done any secondment, but the following secondments have already been planned for 2015:

1. KAAK: for three weeks (from 4.05.2015 to 22.05.2015)
2. ARCTRON 3D: for one month (from 15.06.2015 to 10.07.2015)
3. FORTH: for one month (from 01.08.2015 to 30.08.2015)
4. 7REASON: for two weeks (from 15.09.2015 to 30.09.2015 TBC )

**D. Dissemination & Outreach:**

I am responsible for the WP7, Outreaching and Dissemination and I have been active since the beginning of her training in the ITN-DCH.

In particular, I have been collaborating with the WMG Outreaching Department within The University of Warwick. Up to now I have organized several outreaching and dissemination activities with both adults and young people:

- Imagineering Fair, Coventry, UK November 2014
- Outreaching within WMG – University of Warwick December 2014
- Science & Survival – University of Warwick December 2014
- Royal Institution Masterclass @ University of Warwick, January - February 2015
- Talk for British Computer Society, February 2015
- Teaching Activity @ HDRi Training School, April 2015, Brno

Moreover I have been supporting and collaborating with the other fellows to the creation of the Newsletter, updating the ITN-DCH media channels (Facebook, Twitter) and contributing to the completion of Deliverables 1.2, 1.2 and 2.1.

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

The ITN-DCH project is allowing me to improve my research skills; it is giving me the possibility to work side by side with people from one of the finest and more active group in computer graphics and HDR imaging in the world. Moreover, through this project I am having the opportunity to work and build relationships with people from different background, learning about new technologies and all the different methods used in each one of the steps of the CH pipeline.

In addition, being responsible for the dissemination and outreaching of the project, I am constantly pushed to improve my communication skills in a research environment and polishing my knowledge of English on a daily basis.