

ESR 4

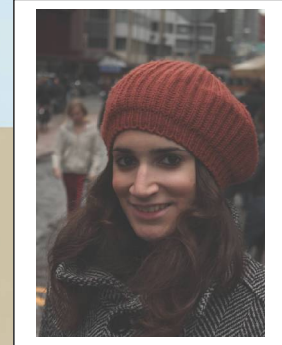
Name: Elisavet Konstantina (Ellie) Stathopoulou

Your credentials: Dipl. Eng. Rural & Surveying/ M.Sc. Geodesy & Geoinformation

Start day: 01/05/2014 **End day:** 31/10/2016

Involved in WP: WP2, WP6

Hosting Institution: NTUA-PhotoLab



My Research Training Activity in ITN-DCH

A. Summary of the Career Development Plan:

During the first weeks of the fellowship, a preliminary career development plan (CDP) was scheduled. Some short term goals were set, such as gaining theoretical and practical experience in state of the art computer vision algorithms in order to define the specific scientific field she will focus on. Training needs were also defined like the possibility of additional secondments apart from the ones already stated, the attendance to conferences and workshops, the participation to teaching activities in NTUA etc.

During her first year in the project, the main research topics ESR4 within the framework of ITN-DCH work packages (WP) are focusing in:

- 2D and 3D data capturing methods (low cost sensors, 3D scanning)
- 3D reconstruction algorithms (SfM –MVS, SLAM)
- 3D model rendering
- Image processing algorithms

The above mentioned topics are being investigated by literature research and state of the art applications.

B. Core Research Training Activity:

Special attendance will be given to her interdisciplinary training, through her secondments, visits and other ITN-DCH events. Her secondments are scheduled as such, in order to focus in integrating academia, research and industry experience. The fellow is involved in NTUA as a PhD student in the research area of photogrammetry, under the supervision of Prof. Andreas Georgopoulos and Dr. Anastasios Doulamis. Co-supervisor of her PhD is also Prof. Dieter Fritsch from ITN-DCH partner USTUTT.

During the fellowship, ESR4 will try to extend her communicational skills as well, by giving presentations and tutorials to conferences and events. As she is a native speaker of the Greek language, she will try to improve her skills in the foreign languages she already knows (English, Spanish, and German) by participating to courses offered by local institutes.

Deliverables

ESR4 is mainly enrolled in WP2 and WP6, as NTUA is the co-leading institute. She undertook the coordination and completion of D2.1 and she is supporting ESR3 in D2.2 (deliverables directly related to her topic). Moreover, she has contributed in D1.1, D.1.2, in the framework of her interdisciplinary training. Currently, she collaborating with ESR5 towards the upcoming D3.1, as the research topics of WP3 are of great interest for her.

C. Secondments:

The fellow has not participated in any secondments yet, but the following secondments are planning for 2015:

1. ArcTron3D (industry) → (from 15.06.2015 to 10.07.2015)
2. USTUTT (academia) → (4 weeks in September 2015)
3. FBK (research) → (3-4 weeks in October 2015)

D. Dissemination & Outreach:

E. Stathopoulou has participated in the following events which contributed to the dissemination of the project:

European Conference in Computer Vision (ECCV 2014)

ESR4 represented the ITN-DCH project in the ECCV event, held in Zurich, 6th-12th of September 2014. She joined the scheduled sessions and learned about the latest activities in the research areas of computer vision, image processing and image analysis that can be potentially applied also in the field of CH.

European Researcher's night in Athens (ERN 2014)

The particular event is under the call of Horizon 2020, is a Marie Skłodowska Curie Action (MSCA). One of the events of the ERN in Athens was organized by National Technical University of Athens (NTUA) on 26th of September. ITN-DCH project was present at the event, as one of the projects running in Laboratory of Photogrammetry. The main part of the demonstration was the reconstruction of 3D models. A small bust was used for that purpose, whose 3D model was reconstructed out of images taken with a compact camera. Real time reconstruction was performed with Visual SfM and Agisoft PhotoScan. Information regarding ITN-DCH and its role with respect to Cultural Heritage were gather in some slides and presented to interested groups of people, especially high school students and researchers from related fields. Young children were quite excited about their interaction with the 3D model, students were curious about the math behind the reconstruction and researchers were asking about algorithms and software. The demonstrations and project presentation were the responsibility of the ITN-DCH fellow E. Stathopoulou (ESR4) and one of her supervisors A. Doulamis.

EuroMed Conference and visit to the Church of Asinou (EuroMed 2014)

Before attending Euromed International Conference 2014 in Limassol, Cyprus (3rd -8th November 2014), the ITN-DCH partners and fellows had the unique opportunity for an excursion to visit the Asinou Church. The scope of this mission was to get familiar with the first case study monument, learn about its history, take some initial digital data and measurements and roughly plan the digitization procedure and further relevant actions from now on. As part of her work, ESR4 acquired various images of the exterior of the church were taken in order to fully reconstruct the monument in 3D with structure from motion (SfM) techniques.

3D Arch Workshop ISPRS-CIPA in Avila (3DARCH 2015)

ESR4 attended the 3DArch conference that took place in Avila, Spain (25th-27th February 2015). She followed all the sessions and presented her work within the ITN-DCH project entitled "HDR imaging for feature detection on detailed architectural scenes", answering several interesting questions and conducting fruitful discussions.

Scientific visit to the monuments of the Athens Acropolis

ESR4 visit the monuments of the Athens Acropolis organized by the Laboratory of Materials and Engineering on 16th of March. The visit included a tour to the monuments of Parthenon, Propylaia and Temple of Niki, given by the professionals (architects, chemical engineers, curators) currently working on the restoration project of the site.

Publication to VISAPP 2015 (Visual Applications 2015)

ESR4 published in VISAPP 2015 proceedings (Berlin, Germany) the article “HDR Imaging for Enhancing People Detection and Tracking in Indoor Environments”, contributing to the work of PhotoLab group members, with the experience she gained with the ITN-DCH project.

Marie Curie Alumni Association Event “MCAA arrives in Greece!”

On Friday 24th April 2015, ESR4 was invited to join the MCAA event in Athens, Greece. She had the opportunity to present a poster describing her involvement with ITN-DCH project. She received a lot of attention by the participants and had fruitful discussions with other MCAA members from Greece and other countries.

Future events that ESR4 will attend are summarized in the following table:

Event	Date	Participation
EARSeL Symposium, Stockholm	15 th -19 th June 2015	Abstract submission (accepted)
SEAHA Conference, London	15-17 th July 2015	Abstract submission (under review)
CIPA Conference, Taiwan	31 th August – 4 th September 2015	Full paper (under review)
Photogrammetric Week, Stuttgart	7-11 September 2015	attendance

Apart from the events and publications, ESR4 has been collaborating with the other fellows to the project’s newsletter as well as supporting and updating the ITN-DCH social media channels (Facebook).

E. Added Value to my Future Research Career:

By the end of this project I aim to have exceeded my knowledge and improve my skills on the fields of my PhD degree. At the same time I hope that I will have learnt new methods and technologies and have gained research and professional experience on these areas, by collaborating with research institutes as well as with the private sector partners. Moreover, I am excited about improving my communicational skills by participating in secondments, conferences and workshops. Considering all the above, ITN will be for me a good foundation and networking experience for a future career, either in an academic setting or in industry.