



**MIE2015**

*Medical Informatics Europe*

*Digital healthcare empowering Europeans*

**MADRID**

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Figure 1: A picture of me in front of MIE2015 banner

## Acknowledgment

I am obliged to acknowledge the NUUG Foundation for covering my travel expenses to Medical Informatics Europe Conference (MIE) 2015. I would like to assure that my participation at the conference has achieved more than I expected, which is demonstrated by the technical content I learned and the research networks I was able to start at the conference. I would like to take this chance to spread the mission of the NUUG Foundation (<http://www.nuugfoundation.no/en/>).

## Introduction

The Medical Informatics Europe Conference (MIE) is the main meeting place for the medical informatics community mainly in Europe. The conference is a conference series that is annually organized by The European Federation for Medical Informatics Association (EFMI) for the 24<sup>th</sup> time. MIE2011 took place in Oslo and this year's conference took place in Madrid, Spain.

I have a BSc. degree in Electrical engineering and MSc. degree in Telemedicine and eHealth. Currently, I am a PhD student at Department of Computer Science, UiT The Arctic University of Norway. My research focuses are privacy-preserving techniques and distributed systems for reuse of health data distributed across health institutions and patient devices for epidemiological and health services research. Data provide a huge evidence base to generate knowledge that can be used to improve healthcare systems' effectiveness, efficiency, and quality of care, which is the aim of the concept learning healthcare system (LHS).

This report is based on my experience at MIE2015. I should say that the report is not intended to cover everything about the conference. Yet, it is a brief highlight of topics I found interesting or related to my research area. Interested readers can find more at the conference web site <http://www.mie2015.es/index.html>

## **Technical contents of the conference**

The conference was organized into four keynote speeches, parallel presentation and workshop sessions and posters. The focus of the keynote speeches includes mobile health (mHealth) challenges in the EU context, Internet of Things, and Ambient Assisted Living.

The healthcare systems in Europe and economically developed countries outside Europe are facing new challenges such as the ageing of the population, and limited budget. The uses of information and communication technologies are considered to enable to improve quality of life, in particular for the ageing population and effectiveness and efficiency of healthcare system. I think, the keynote speeches are also interrelated to these objectives. In addition, the theme of this year's conference was Digital healthcare empowering Europeans.

Researchers at UiT The Arctic University of Norway and Norwegian Center for Integrated Care and Telemedicine (NST), University Hospital of North Norway who are in the same group as me have published a paper. The paper is entitled "privacy-preserving Statistical Query and Processing on Distributed OpenEHR data". It is based on a technique called secure multi-party computation and openEHR specifications. The focus of the paper is pretty much inline with my research focus. It was interesting listening to the presentation and had a useful talk with one audience after the presentation at the conference.

I get to know more about an FP7-TRANSFoRm project at a workshop session. "The project has over the past 5 years developed a digital infrastructure to support a LHS in European Primary Care. We have developed a model - based system to 1. Enable simultaneous queries and data extraction from multiple heterogeneous clinical and genotype datasets; 2. Integrate the requirements of a randomised controlled trial

(recruitment, consent, data collection, follow up) into routine health record systems; and 3. Develop a decision support system for diagnosis in primary care.”(<http://person.hst.aau.dk/ska/MIE2015/Papers/EUWS02-ID412.pdf>)

Availability of a patient-centric and comprehensive health record to clinicians at the point of care is considered very useful to improve quality of care and save costs by avoiding unnecessary repetition of laboratory tests. However, often the patient data are distributed across health institutions where the patients received care and not easily available at a point of care. At a workshop organized by IMIA Health Record Banking Working Group I was introduced to a concept called health record banks to enable ease access to comprehensive health record at point of care. Unlike commercial banks, the banks store all health records on behalf of patients in a secure location and make the records available to authorized parties. I think, there are a lot of challenges that needs to be solved before that can become a reality. Yet, it was interesting to know that people are working in that direction.

Interoperability of Health Information Systems, in addition to privacy, is considered as the main challenge for availability of patient-centric health record and wide health data reuse for research. There were several presentations and workshop sessions on interoperability. Although my current research does not have direct focus on interoperability, it is an area that is very important and I would like to strengthen my knowledge.

## **Research Networking**

The benefits of creating research networks is widely acknowledged and also encouraged by many. And attending conferences is the main place to create such networks. However, I assume networking is a skill set that develops through experience. I have attended other conferences before, but I felt that I was better at MIE2015 than before. I was able to talk to three professors from Finland, Australia, and Germany who are working on security and privacy in healthcare. They have shown willingness to send me publications relevant to my research and/or to further discuss on my research topic after the conference.