

This lecture trip was a great opportunity for myself pondering much on the basic research principles and philosophies. By communicating with many people having their own background, ambition, perspectives, I deeply felt that what is really important for being a researcher is a power to question him/herself to be self-motivated and joy their life from doing so. I toured 3 places in the Netherlands - Eindhoven, Nijmegen, Groningen and visited the laboratory of professor Bert Meijer, professor Roeland Nolte, professor Alan Rowan and professor Ben Feringa. My lecture was covering my recent research progress of GroEL protein based materials.

## Eindhoven University of Technology (TU/e)

I stayed in Eindhoven University of Technology for 2 weeks (20<sup>th</sup> Sep. 2014 - 4<sup>th</sup> Oct. 2014) and had a collaborative research there as well. As Meijer laboratory is equipped with Stochastic Optical Reconstruction Microscopy (STORM), I could observe GroEL fibers with good resolution of STORM. Meanwhile, I gave a lecture (25<sup>th</sup> Sep.) regarding my experimental achievements on magneto-induced organization of protein fibers, Adenosine triphosphate (ATP) responsive release of superparamagnetic nanoparticles and the research proposal on my collaboration with Meijer laboratory. Many specialists of supermolecular polymerization including professor Meijer, particularly studying the kinetics and dynamics, gave many valuable comments and we discussed a lot on the polymerization of colloidal system.

## Radboud University Nijmegen

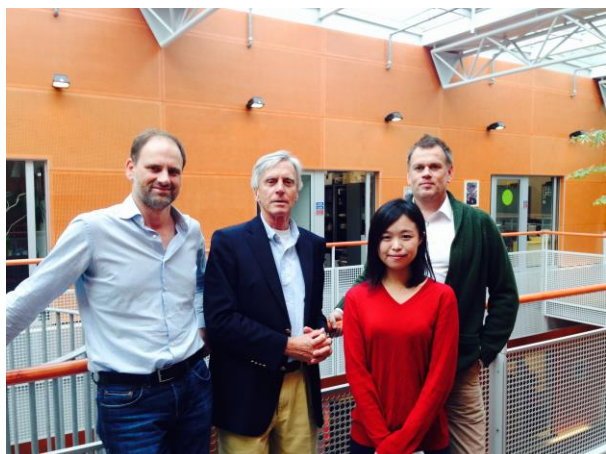


Figure 1. Picture with Professor Paul Kower, Professor Roeland Nolte, Professor Alan Rowan (from the left).

Radboud University Nijmegen is one of the oldest universities in Europe. Here, I visited professor Roeland Nolte, professor Alan Rowan to give a talk to their co-workers and students. They have specialties in a broad scope including peptide-based hydrogel, single-molecule dynamics and designed catalytic systems, not to mention, one of the most famous pioneers in those fields. I presented my recent progress (30<sup>th</sup> Sep.) on superparamagnetic nanoparticle and protein hybrid

system here, had a fruitful discussion on my researches and a laboratory tour. In particular, professor Rowan gave me a lot of valuable comments on my current research. It was impressive that they have such a great infrastructure that supports students and researchers in a various aspects. All of the group members were kind and helpful that I could indeed enjoy this trip to Nijmegen.

## University of Groningen



Figure 2. Picture with Professor Ben Feringa in his office (above) and the newly built biochemistry building (bottom).

Groningen is a beautiful Dutch city with long history. I visited professor Ben Feringa laboratory in University of Groningen and gave a presentation there. Feringa laboratory is one of the well-known frontiers in the field of molecular motors, catalysts and switches and furthermore recently broadened their research scope to controlling biological system with optical switches. I could meet some people and they kindly gave me an introduction to their current research progress before my presentation so that I could get the general image of almost all of the major topics in Feringa Lab. After presenting my current protein-based nanotube system, I met personally several students and postdocs who are now working on nanotube systems or bio-inspired switching systems. It was indeed joyful to communicate the members in Feringa laboratory and shared the idea and knowledge.

I am very grateful for this opportunity that would eventually become an asset to be an independent researcher and would like to thank the professors who welcomed me with their warm hospitality, professor Aida and the MERIT office that kindly arranged this whole journey.