**Final scientific report**

1. **Purpose of the visit**

Main purpose of the visit was presentation of results (*“MALDI imaging of cell walls polysaccharides in wheat grain endosperm”*) arising from my post-doc project at the 10th Carbohydrate Bioengineering Meeting, from 21st-24th April 2013 in Prague, Czech Republic.

Also, attending this conference I want to see the new trends in carbohydrate chemistry and carbohydrate bioengineering, to meet more people which deals with similar topic as I do at my post-doc project, and to take some advices for solving my experimental problems.

1. **Description of the work carried out during the visit**

During the visit I present my results at the poster session (P-165, page 233 in the Book of Abstracts) of 10th Carbohydrate Bioengineering Meeting. During poster session, lot of scientists were interested in my work, so we had great discussion about way how using MALDI mass spectrometry imaging it is possible to localize and to characterize carbohydrates in intact tissues.

Although, main part of the meeting was not about analytical carbohydrate chemistry, but more about enzymes which process carbohydrates, I was very delighted with the lectures at the Meeting because whole my PhD project was dealing with carbohydrate hydrolases- enzymes which hydrolyze carbohydrates. At the other hand, in MALDI imaging of polysaccharides, activity of hydrolytic enzymes plays crucial role in production of oligosaccharides which are visible by MALDI apparatus. According to this, the Meeting was “connection” between my PhD project and my post-doc project. So, I was very active in asking question during oral presentations, and answer which I received will be very helpful for my future work.

1. **Description of the main results obtained**

As this visit was conference, and no some special research project, results I obtained are more in terms of exchanging knowledge with other scientist. Now, I have information about the most recent researches in carbohydrate science, I make contacts with great scientist, and most important I presented results about application of MALDI imaging technique in analyze of polysaccharides. To our best knowledge this is first attempt to characterize cell wall polysaccharides in intact tissue by mass spectroscopy. We found out different segregation of polysaccharides in accordance to wheat development, but also that during maturation intensive accumulation of polysaccharides occur. Also, we found out that during maturation of wheat, main carbohydrates of wheat cell wall (arabinoxylans) alter their structure.

1. **Future collaboration with host institution**

Professor Vladimir Kren is dealing with transglycosylation activity of different glycosyl hydrolases and I am sure that in future we will have some kind of cooperation because, as I said, my PhD project was exactly utilisation of glucosyl hydrolases in synthesis of different glycosides by transglycosylation reaction.

1. **Projected publications / articles resulting or to result from the grant**

Paper which contains results presented at the Meeting is in writing process right now.