

„Czech - Austrian Magnetic Resonance Workshop 2019”
(Project number: 84p6)

Final Report

The goal of this project was to organize international workshop on Magnetic Resonance for Czech and Austrian research fellows and students with the main goal to familiarize the audience with the scientific projects and recent advances on eight medical research sites focused on magnetic resonance imaging and spectroscopy. These traditional workshops are organized by participating groups from Vienna and Prague since 1995. In 2017 we have reached out towards participants from Charles University in Prague, Institute for Clinical and experimental Medicine, Medical University of Vienna, Technical University Graz, Medical University Graz, Karls Franzens University Graz and Institute of Scientific Measurement, Czech Academy of Sciences, Brno. Following their active participation and enthusiastic feedback the preparation of workshop this year we have widened our group by participants from Medical University Innsbruck.

The workshop took place in Frein an der Mürz, Hotel Freinerhof from 18th till 20th September 2019. It was attended by 55 scientists from both countries. Representatives from MR-diagnostics -research companies (Dr. Marx, Ergospect Ltd, Innsbruck, Dr. Reiter and Dr. Gröger, Siemens Healthcare, Graz and Erlangen) took also part in our program and presented recent development in their respective field. Overall, a great mix of young scientist at all graduation levels visiting and participating at the workshop for first time up to senior scientist returning to the workshop regularly was achieved and sparked lively presentations and discussion from different fields of biomedical MR research. This year twenty-two graduate or undergraduate student could present their research ideas or results of their work to international audience again (total number of presentations 36, see attached program of the workshop). For the first time in our meeting we have introduced a “Poster Power Pitch & Discussion” session, which was well accepted by students and audience. They especially valued the possibility to give their talks within this motivated and friendly platform. Feedback from some of the students but also senior participants is also enclosed.

The emphasis of scientific part of the meeting was given to senior guest lecturers Dr. U. Reiter and Dr. G. Reiter talking about recent development in quantitative parametric Cardiac MRI and further presentations given by graduate and postgraduate students on the topic of their projects in six scientific sessions. The focus was laid on:

- i) Cardiac MRI/MRS
- ii) MRI/MRS Data handling and processing on different platforms
- iii) Advances and new approaches in MR hardware and software – coil design
- iv) Parametric quantitative MRI/MRS characterization of brain disease
- v) Dynamic and cardiac ³¹P MR spectroscopy
- vi) Improvements in MRI data acquisition and post processing

The complete program of the workshop with the list of participants is attached (Program_Aktion_2019_final.pdf).

The talks of Martin Burian (Prg) and Diana Bencikova (Vie) drawn special attention as they have has presented the results of cooperation supported by Wissenschaftlich-Technische Zusammenarbeit (WTZ) Österreich-Tschechien 2018-2019 grant scheme the “Improvement in liver disease diagnosis using advanced quantitative methods of magnetic resonance”. Further steps of this were discussed by Drs. Dezortová, Hájek and Krššák.

Similarly Fabian Niess (Vie) and Peter Sedivy (Prg) presented results on ^{31}P MRS of skeletal muscle which is another focus of our long term collaboration sparked at previous international workshops sponsored by Aktion.

The workshop further aimed at discussions and consultations of problems with MR sequences and data evaluation, design and construction of radiofrequency coils and preparation of joint projects.

The workshop was complemented by short hiking tours to nearby Wildalpe and Roßlochklamm and social event for all participants in the evening of Sep 19th. Total price for accommodation of participants from Austria and Czech Republic, hire charge of conference room, sound system, and transport participants and data projector was 7422,- EUR (Austrian partner) and 102621 CZK (Czech partner) from which the most was covered by the support from this Grant Scheme (EUR 6025,- / CZK 40 000,-)

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