

XLV Winter School of the Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Kraków, Poland; „Signaling – from molecules to cells and back”

The XLV Winter School of the Faculty of Biochemistry, Biophysics and Biotechnology of the Jagiellonian University, „Signaling – from molecules to cells and back” took place on February 9th–14th, 2018, in Zakopane to mark and celebrate the 15th Anniversary of our Faculty. It was organized under the honorary patronage of the Rector of the Jagiellonian University in Cracow – Prof. dr hab. med. Wojciech Nowak. This year’s School was devoted to current topics related to the molecular mechanisms underlying communication between molecules, cells and organisms, in all aspects of signal transduction.

Our Faculty’s Winter Schools were always focused on the outcomes of the recent research conducted by the Faculty staff and the XLV Winter School was no exception. It provided an excellent opportunity for networking, synchronizing and complementing research efforts of the attendees and for forming long-lasting personal and professional bonds. These were facilitated by exceptionally rich social program of the Winter School, in particular numerous special events: Welcome Party that followed a special session to celebrate the 15th Anniversary of the Faculty, sleigh party in Chocholowska valley, a number of “beer & wine parties” and the 8th Annual Professor Zygmunt Wasylewski Memorial Ski Race Competition, which was held within the “Ski and snow fun” event. Last but not least, research conducted by the 132 School attendees and their co-workers from more than 20 scientific institutions (from Poland, Germany, Austria, USA and France) was presented at 37 lectures and 54 posters. Presentations were grouped into the following sessions:

- Stem cell-based approaches and signaling in tissue repair;
- Signaling in health and disease;
- G-protein coupled receptors;
- Signaling in regulation of transcription;
- Plants and environment;
- Varia.

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Rich scientific program of the XLV Winter School gave an opportunity to release a special issue of *Acta Biochimica Polonica*, which contains 4 articles (1 review and 3 full experimental papers) prepared on the basis of selected presentations held at the Winter School. Two of them focus on the intracellular signaling pathway regulated by the Wnt cytokines. In a review article by Dzialo and coworkers, the authors provide an outline of the Wnt signaling system principles with a special emphasis on its crosstalk with the TGF- β pathway, which seems to play an essential role in initiating profibrotic changes in the heart. Korbut and coworkers present experimental evidence that SeMet can inhibit growth of the colorectal cancer cells in a Wnt/ β -catenin-dependent manner. They also show that degradation of β -catenin may occur independently of the GSK-3 β activity. Furthermore, Anna Niewiarowska-Sendo and coworkers provide detailed characterization of cooperation between bradykinin B2 and dopamine D2 receptors in regulation of the neutrophil adhesion to endothelial cells. Finally, Podgórska and co-workers report on links between the hepatotoxic effects of calcitriol and behavioral changes observed in the calcitriol-treated hamsters.

We would like to express our gratitude to all participants, as well as to the sponsors, for their excellent contribution to this great event.

The Organizing Committee