



50th Sophus Lie Seminar, Będlewo, Poland, September 2016

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The 50th jubilee Sophus Lie Seminar took place at the Mathematical Research and Conference Centre of the Institute of Mathematics, Polish Academy of Sciences. The centre is located in a beautiful 19th century palace in the village of Będlewo near Poznań, Poland. In the wonderful surroundings of the palace, gardens and nearby forest and lakes of the Greater Poland National Park, 75 participants from 21 countries worked on various aspects of Lie theory and celebrated the 25th anniversary and 50th meeting of the renowned seminar.



Mathematical Research and Conference Center in Będlewo, Poland.
(All photos in this article by Janusz Grabowski.)

The Sophus Lie Seminar was founded around 1989–1990 after political changes in Eastern Europe made it possible to establish contact between mathematicians from the German Democratic Republic and the Federal Republic of Germany. The collaboration was initiated by mathematicians from four universities in Darmstadt, Erlangen, Greifswald and Leipzig. Initially, meetings of the seminar took place in Germany in one of the founding universities. Quite soon, however, the seminar started to grow, including researchers from more countries from both Eastern and Western Europe. Now it is clearly an international event, this year even intercontinental since participants came from Europe, North America and Asia.

Due to its special character, the 50th Seminar Sophus Lie was longer than usual. Instead of a two or three day weekend meeting, the conference lasted for full five days from Monday to Friday. There was the chance to listen to 15 invited lectures, with 12 contributed lectures and a poster session of 12 posters. There was a vote on the best poster and, on the last day, a talk from the winner. Invited speakers presented both their new achievements on various aspects of Lie theory as well as survey lectures to serve simultaneously as a summary and an introduction to research on specific topics. There were lectures on

classical subjects of Lie theory such as representations of Lie groups and Lie algebras, addressing structural and classification questions and infinite dimensional Lie groups. Fairly new branches of mathematics associated to Lie theory were represented as well, e.g. Lie groupoids and algebroids, and the even more contemporary supergeometry and supergroups. For this jubilee meeting, participants could listen to talks about aspects of Lie theory that have not been covered at previous seminars, like lectures on Lie-Sheffers systems of differential equations. This branch of Lie theory is very close to works of Sophus Lie himself, since Lie groups were initially invented as a tool for understanding and solving systems of differential equations. One of the most interesting lectures, “Short $SL(3)$ -structures on Lie algebras”, was given by this year’s European Mathematical Society distinguished speaker, Professor Ernest B. Vinberg from Moscow State University. The opportunity to listen to his lecture and discuss with him during the conference was a great honour and pleasure for all the members of this anniversary meeting. One of the invited lectures was given by Professor Karl Strambach, who was among the founders of the Sophus Lie Seminars 25 years ago. His historical lecture gave the participants an insight into this series of seminars.



Professor Ernest B. Vinberg.

It was a common opinion of many of the participants of the conference that the scientific level of the meeting was very high. It was therefore decided that it would be a good idea to share the lectures with the broader mathematical community. We will be working toward preparing a special volume of Banach Center Publications with the proceedings of the conference.

I would like to point out one more value of the 50th Sophus Lie Seminar that cannot be seen by looking at the programme of the conference or even reading the upcoming proceedings. As a member of the local organising committee, I was mostly occupied by practical matters, running from lecture room to reception and dining hall. And what I saw was that throughout the rooms of the conference centre, including the poster room, there were groups of people gathering by every piece of blackboard and discussing their work with each other. I am convinced that these informal meetings are perhaps even more important than the carefully prepared lectures and posters. I sincerely hope that besides the proceedings, there will be one more outcome of this jubilee seminar – new collaborations between people who had the chance to meet and share their interests with each other. Looking forward to future meetings of the Seminar Sophus Lie, we should keep in mind its history. It is probably unbelievable to younger participants of the seminar that not that long ago there were times when the possibility of meeting researchers with similar interests from countries from the other side of the Iron Curtain was a luxury, accessible to very few, if any.



Participants of the 50th Sophus Lie Seminar.

The organisation of the jubilee seminar would not have been possible without the financial support of several scientific institutions. The Scientific and Organising Committee is very grateful to the Banach Center of the Polish Academy of Sciences, the Warsaw Center of Mathematics and Computer Sciences, the University of Luxembourg, the European Mathematical Society and the Alexander von Humboldt Foundation for supporting this event. More details, including the programme of the conference and abstracts of all the talks and posters, can be found at the webpage <http://50sls.impan.pl/>.

Finally, let me say a few words about the International Banach Center. The centre was founded in 1972. Initially, it was established by seven academies of science of Eastern European countries. From the very beginning, it was a part of the Institute of Mathematics of the Polish Academy of Sciences. The aim of the centre has always been the promotion and stimulation of international cooperation in mathematics. After political changes, the agreement between academies was terminated but the centre continues to run successfully. Its scientific council consists of renowned mathematicians from the founding countries as well as representatives from the European Mathematical Society and the Polish Academy of Scienc-

es. The palace in Będlewo became a part of the Banach Center at the beginning of the 21st century. The palace itself was renovated and new hotel buildings were added to create a lovely and quiet place to host international mathematical conferences. The centre offers accommodation and full board for about 80 participants. The staff of the conference centre are experienced, professional and very helpful. For the typically weekly conferences, groups of scientists can apply with a detailed project, including proposed participants, scientific and local organising committees, shape of conference and budget, and the desired time period (with a possible second choice). It is advised to look for financial support. If approved, the Banach Center can cover up to one third of the planned budget. The registration fee is then decided by the organisers, depending on what kind of additional support becomes available. The fee covers all local expenses (lodging and dining). The deadline for submitting applications is 15 April for the following year. In order to avoid time conflicts, it is advisable to send proposals as early as possible. If you plan to apply for a smaller conference, two of these can run simultaneously. Shorter conference applications are also welcome. Application forms and all details about procedures are available on the webpage of the Banach Center <https://www.impan.pl/en/activities/banach-center>. More information about Będlewo, including photos of the palace and the surroundings, can be found on the webpage <https://www.impan.pl/en/activities/bedlewo-conference-center/about-center>.



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