CENTER HIGHLIGHTS 2014

The year 2014 featured a range of fresh research breakthroughs, a number of high-profile conferences and workshops, and a large crop of PhD and MS students graduating and advancing out into the world in successful career paths.

**ACTIVITIES.** After some quiet-time during the first half of the year, devoted to research and traveling, the conference-season kicked off in July with the biannual Young Topologist Meeting. Keynote speakers Jacob Lurie (Harvard) and Lars Hesselholt attracted packed auditoriums of 160 participants, with extra buzz created by the fact that Lurie had just received a 2014 MacArthur “genius” fellowship and a 3M USD cash prize. This was immediately followed by a conference on cube complexes, with lecture series by Dani Wise, leading up to the spectacular work of Agol and Wise on Thurston’s virtual Haken conjecture. The fall also saw a busy schedule with masterclasses on topological quantum field theories as well as a very large conference on applied algebraic topology, pushing into new territory.

**RESEARCH.** 43 papers were published in 2014, a new high, and 53 new preprints were added to our preprint series CPH-SYM-DNRF92 on arXiv.org, in an even wider range of areas than previous years. In particular the classification program for $C^*$–algebras paid off this year with the use of classification techniques to solve two problems outside the area: Enders proved Blackadar’s conjecture about semiprojectivity of purely infinite $C^*$–algebras, which has been a central conjecture since the mid 90s. Also Rørdam, together with Ozawa and Sato, made a breakthrough in establishing that elementary amenable groups are quasidiagonal, hence establishing Rosenberg’s conjecture from 1987 for this class of amenable groups. We had 7 papers accepted to our top-10 journals, a new record: 3 in *J. Reine und Angewandte Mathematik* by Ando–Haagerup–Winslow, Degrijse–Martinez-Perez, and Wahl, and 4 papers accepted to *Advances* by Bressler–Gorokhovsky–Nest, Foley, Henke, and Reeh. The paper by Reeh was part of his PhD thesis under the direction of Grodal, and helped him earn a 2014 Sapere Aude: DFF Research Talent prize to be held at MIT.

**EDUCATION AND OUTREACH.** We produced 8 MS students, of which 6 have continued in PhD programs, 3 abroad at KU-Leuven, Notre Dame, and MIT. 5 PhD students graduated, finding attractive employment, including postdocs at Münster, Bonn, and MIT. We likewise continued our outreach activities, including public presence at events like Culture Night—a big hit also among children.

Please visit sym.math.ku.dk for more information.