

First BMS Newsletter 2010

Welcome,

It is my pleasure to present to you today the first BMS newsletter in 2010.

During the winter semester 2009/10, we honored our PhD graduates for their excellent dissertations, BMS Alumnus Raman Sanyal received the Tiburtius Prize, and we had our first "Meet the Postdocs-Lunch".

Furthermore we'll join the HU Berlin in celebrating its 200th anniversary and our student representative Mimi Tsuruga reports about her experiences in Berlin.

Enjoy and please feel free to forward this to anyone interested in Mathematics.

Sincerely yours,

Professor Jürg Kramer

Chair of the Berlin Mathematical School

1. Inside BMS: Students were honored with BMS Certificates

Three graduates received their BMS certificates: Evelyn Dittmer, Leif Döring and Ebrahim Nasrabadi. Congratulations!

For Evelyn Dittmer her BMS fellowship has been highly rewarding in many ways. "First of all, the BMS Fridays have been a good opportunity to broaden my mathematical horizon, and have been a source of inspiration for my own research as well. I enjoyed their open atmosphere, as it was easy to get in touch with other BMS students since the BMS organized several social events beyond the BMS Fridays. Last but not least, I am grateful to the BMS and especially to my supervisor Professor Schütte for supporting me in maintaining a balance between my PhD studies and my family."

The BMS supported Leif Döring in attending conferences and summer schools abroad and helped him organize a conference for PhD students in Berlin. "The BMS enabled me to start interacting with the international academic community at a very early stage of my career. In addition, my personal mentor from a different working group turned out to help me in getting better connected within the university and I had the chance to discuss problems in a relaxed atmosphere."

Ebrahim Nasrabadi was very lucky to finish his PhD at TU Berlin as a member of the BMS. "Its staff, students and faculty have made the school an ideal environment to study and do research. BMS offers a broad range of courses and research options such that students can follow their interests and deepen their knowledge in various areas. One of the valuable benefits of membership in BMS is the opportunity to have close contact to many excellent students and professors at all three universities in Berlin. I would like to take this opportunity to thank the One-Stop Office of the BMS and the Combinatorial Optimization and Graph Algorithms group of TU Berlin. They have offered me a lot of support, guidance and counseling throughout my study and have made my stay in Germany memorable and a wonderful experience."

2. Life in Berlin: Mimi's report about becoming a Berliner

BMS student Mimi Tsuruga left New York City in August 2008 for studying at the BMS.

"I prepared myself to leave New York City — where I was born and raised, the place where my family and friends live, the only city I ever called home. At that point, I had seen Europe just once only a few months before for the BMS Days 2008. With a nearly blank passport and a box full of unread math textbooks, I ventured forth into the next chapter of my life.

I arrived in Berlin without speaking a word of German. I knew nearly nothing of its history or customs. I often noticed people staring at me having been the only Asian face on the train or bus. And worst of all, I was completely and utterly underprepared for what I thought would be the easiest part: the mathematics. I never realized how little I knew of my favorite subject. I felt so lost.

But I never felt alone. My fellow BMS students quickly became my best friends. We spent hours together in the libraries and cafés discussing problems. With beer in hand, we complained about the perpetually baffling German bureaucracy. We shared doubts in our futures as often as we shared words of encouragement. Together, we braved through this tough beginning.

Looking back, I know that the hardships I faced in my first several months in Germany were necessary for my current success. It took me a year before I could follow an entire lecture. But now, I even know what type of math I want to research, just in time for my qualifying exam. I am the only Phase I BMS student representative. I am also a member of the organizing committee for the "What is …?" student seminar series. Speaking German will probably take quite a bit longer, but I now live very happily and comfortably in my new home as a Berliner."

3. Special feature: First BMS "Meet the Postdocs-Lunch"

In December 2009, the BMS Managing Director Nadja Wisniewski introduced a new idea: The "Meet the Postdocs-Lunch". The first one took place on February 12, 2010.

BMS student Inder remarked that it was "excellent. We should have more of these." Laura is not afraid about her future anymore. "I have a better outlook. I learned I can let things happen and don't always need to plan everything." Jenny acquired important information, "I'm interested in going to Berkeley later." Kaie was relieved to learn that "taking some time off for travelling after the PhD is not exclusive to submitting successful Postdoc applications."

Postdoc Heike commented, "I was surprised about the variety of topics concerning Postdoc life the BMS students were interested in, and I really enjoyed the discussions." For Postdoc Noemi it was interesting to meet the BMS students, and discuss their career options with them. "For me, it was important to get to know some students, since except for the probability group I don't know them well, and I think contacts between the different groups of people (students, postdocs, faculty) is beneficial for everybody. I hope that I managed to convey some of my experience to them." Postdoc Aaron found that "the lunch was a great opportunity to meet a diverse group of students and fellow junior faculty members of the BMS. I also enjoyed the formidable challenge of answering the students' well-posed and wide-ranging questions while chewing on a soup-soaked Berliner Schrippe."

Good news: The next "Meet the Postdocs-Lunches" will take place on July 23, 2010 and November 19, 2010.

4. BMS Alumnus Raman Sanyal Receives Tiburtius Prize 2009

BMS alumnus Dr. Raman Sanyal was awarded the Berlin Tiburtius Prize 2009 for his outstanding dissertation. In his dissertation titled "Constructions and Obstructions for Extremal Polytopes", Raman Sanyal looked at the properties and constructions of polytopes.

Generally, very little is known about the properties of higher-dimensional polytopes with $\dim > 3$. There are construction mechanisms, which take well-understood, high-dimensional polytopes ($\dim > 20$) and transform them into lower-dimensional polytopes without losing certain properties, e.g. number of vertices. This is one way of constructing 4-dimensional polytopes with interesting properties. However, these mechanisms don't always work. Raman Sanyal tried to understand when and why they fail and developed effective methods to describe the situations in which they fail. With that understanding of their geometry a lot of applications, e.g. in linear optimization, can be improved.

Raman Sanyal finished his "Diplom" in Computer Science in 2005 and was one of the first BMS Phase II students. He wrote his dissertation with Prof. Günter M. Ziegler in the RTG "Methods of Discrete Structures" from 2005-2008. Since January 2009 he is a Postdoctoral Fellow at the University of California, Berkeley.

The Tiburtius Prize was named after the former Berlin Senator for Science and Education Joachim Tiburtius, who served from 1951 until 1963. The prize is awarded annually for outstanding theses and dissertations by the presidents of the Berlin universities. In 2009, three theses and three dissertations were honored and three dissertations received an honorary mention.

5. Did you know HU200?

For the 200th anniversary, Humboldt Universität zu Berlin launched the campaign "HU 200. The Modern Classic".

HU Berlin was founded in 1810 by the initiative of the educational reformer Wilhelm von Humboldt and quickly gained a worldwide reputation as a well-known "reform university". The Humboldt model became the leading example to which many new universities aspired. Between 1901 and 1956 Berlin's first university was the proud home of 29 Nobel Prize winners.

After the German reunification in 1990 the HU Berlin faced great challenges including major changes in the structure of the university. Today, it is one of Germany's Top Ten research universities and the nationwide "Initiative for Excellence"; currently funds three Research Clusters and four Graduate Schools. One of them is the "Berlin Mathematical School".

Phase II student Katja Krol was the student speaker at the kickoff event for the HU anniversary year: "From my own experience, I can say the BMS is doing an excellent job bringing Humboldt's ideal to life into the 21st century." Katja continued speaking about how the HU's rich history influenced her studies: "Professor Naumann, who was giving a lecture about Analysis just as Weierstraß had done 150 years ago, was watching the young students, then stopped lecturing and told us how Karl Weierstraß had given an Analysis lecture in exactly this room. He described how crowded the room had been at the time, how the students had travelled from all over Germany to attend his lectures and how quiet the audience was. I was very impressed by this picture of Karl Weierstraß and his students and kept it in my mind throughout my studies. By and by, we realized just how much history and tradition there is here in this building and behind these walls. Humboldt-Universität is not only carrying the names of Alexander and Wilhelm von Humboldt but is also bearing their ideas, which over time became the incarnation of the modern research university".

For the full text of Katja Krol's speech in German look at:

<http://www.hu200.de/interviews/>

6. The upcoming BMS Fridays

Typically, there is a BMS Colloquium every other Friday afternoon in the BMS Loft at Urania during term time. BMS Friday Colloquia start at 2:00 pm.

April 23, 2010: Lex Schrijver (CWI)

May 7, 2010: Andrew Stuart (U Warwick)

May 21, 2010: Marcus du Sautoy (U Oxford)

May 28, 2010: Euler Lecture Potsdam: Wendelin Werner (U Paris-Sud)

June 4, 2010: Ciro Ciliberto (U Roma 2 - Tor Vergata)

June 18, 2010: Doron Zeilberger (Rutgers U)

July 2, 2010: Alison Etheridge (U Oxford) Kovalevskaya Colloquium

June 4, 2010: Ciro Ciliberto (U Roma 2 - Tor Vergata)

July 16, 2010: Aner Shalev (Hebrew U Jerusalem)

For further seminars and colloquia, see also the Berlin-Potsdam Mathematics Calendar. Directions on how to get to the BMS Loft at Urania can be downloaded [here](#).

Imprint

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