

COLLOQUIUM

Towards the Main Formal Principles of Mathematical Creativity

“... To create consists precisely in not making useless combinations and in making those who are useful and which are a small minority. Invention is discernment, choice... It is time to penetrate deeper and to see what is happening in the very soul of the mathematician...Is not the subliminal self superior to the conscious self?... What is the cause that, among the thousand products of our unconscious activity, some are called to pass the threshold, while others remain below?

Henri Poincare (Mathematical Creation)

What are the structural main processes taking place on the human mind during the discovery (or solution) of a mathematical conjecture?

In order to address this kind of questions, we want to listen to professional mathematicians telling us about their self-awareness during the key point of discovery of their mathematical main results. Besides, we also will listen to cognitive scientists telling us how to understand and interpret correctly the self-awareness processes concerning abstract information on the mind. Furthermore, we will open a free discussion searching for concrete and precise commonalities during these invention processes. In particular, our discussions will involve topics like the analogies and metaphors made, the importance of the notation used, the influence of the personal surroundings, the images and/or visions involved, among others...

Speakers

Prof. Dr. Holger Brenner (University of Osnabrück)

Dr. Georgios Raptis (University of Regensburg)

Dr. Danny Arlen de Jesus Gomez Ramirez (IKW University of Osnabrück)

M. Sc. Stefan Schneider (IKW University of Osnabrück)

Organizers

Prof. Dr. Markus Spitzweck (University of Osnabrück)

Dr. Danny Arlen de Jesus Gomez Ramirez. Artificial Intelligence Group (IKW University of Osnabrück)

Date and Place

Saturday October 11-th, 2014

EW-building Room 15/134

Seminarstrasse 20

49074

Osnabrück

Germany

Schedule

Saturday October 11-th 2014

9:00 a.m First Talk: Dr. Gomez-Ramirez.

10:00 a.m. Second Talk: Dr. Holger Brenner.

11:00 a.m. Third Talk: Mr. Schneider

12:30 p.m. Launch Break

2:00 p.m. Forth Talk: Dr. Raptis and open discussions in small groups

5:00 p.m. End.

Audience

Master students, Ph d students, Postdocs, Professors of the Institute of Mathematics and Cognitive Sciences of the University of Osnabrück and the members of the COINVENT project.