

A TRIBUTE TO ALEXEY AND TATIANA

by Ivan Pogildiakov



Alexey, personality

- The lack of time, a lot of points
- ADVENTURER!
- Alexey's CV is on 9 pages!
- 29 years old - a full professor (a very rare fact!)
- Bright, erudite, clever and very intuitive scientist.
- A very simple man, a nice and trusted friend.
- Responsive, very attentive, patient, kind to people.
- Delicate taste in math, art, conversation, languages, activities.
- Fantastic organizer
- And so on...

Education, erudition

- A bright student, knowing more than a post-doc.
- PhD thesis: remarkable, impressive results.
- He knew a lot of math subjects and knew exactly relations between them.
- He had a lot of impressive discussions with everybody during a conference.
- In Moscow he one of the best specialists in very difficult subjects (Algebraic geometry, advanced methods of analytic number theory, asymptotic number theory, applications to cryptography and coding theory)
- This combination is rare!

Activity

- He prepared very strong students (some of them published the first article during the baccalaureate!)
- Grant from French government (for PhD) and more ones.
- Leadership positions in laboratories.
- Organization of huge number of conferences and summer schools for Russian students
- A very active participation in conferences
- A lot of teaching...

Contribution to math

- First results:
 - Great improvements of several classical results
 - Delicate estimations in well known results, leading to ambitious improvements of another well know and powerful results!
- Intensive development of asymptotic zeta-functions.
- Lay the foundation of general asymptotic theory of zeta-function
- (SIC) Answered to the longstanding question of a great mathematician J.P. Serre, that was open for more than 20 years!
- Serre was very highly on this result!

Contribution to math

- 7 publications + at least 2 preprints + more...
- Honest and good math. Every time: a very broad context.
- Branches:
 - modular forms, invariant theory, asymptotic theory of L functions, varieties over finite fields and applications to coding theory, abelian varieties and Jacobian among them, families of global fields, families of modular forms
 - and more
- A great influence to scientists from a plenty of related subjects.

Open problems

- Alexey worked on several difficult ambitious hypothesis
 - Brauer--Siegel theorems,
 - the BSD conjecture,
 - Serre obstruction

and on a deeper understanding on problem around them applying very different science (arithmetic, geometry and deep analysis)

- A lot of projects remained unfinished.
- How much he could do else...

Collaboration

- A great influence for the collaborators.
- A very easy to work with Alexey:
 - Was precise,
 - Understood connections between the results
 - Constant search of more general picture and more wide formulations.
 - This moves them forward and very far away from initial plans.

Tania, the wife

- Love and passion – the motor and the base of her life, even before she has met Alexey.
- She was very brave.
- From a friend:
“here is one anecdote that strikes me about her: during our trip in Argentina she was very brave as she was able to do a full 6 hour trek in the mountain with a hurt ankle. She did it without complaining because as I think she wanted Alexey to be proud of her.”



Alexey and Tatiana
RIP