Preface

Over four decades, Andrei Suslin has conducted inspirational research at St. Petersburg University (LOMI) and Northwestern University. Andrei's impact on algebraic K-theory, motivic cohomology, central simple algebras, cohomology of groups, and representation theory have fundamentally changed these subjects. Many of the best results in these areas are due to Andrei, many more were achieved using his ideas and guidance. Andrei's influence extends beyond his published achievements, for he has been most generous in sharing his ideas and insights. With great admiration, this volume of Documenta Mathematica is dedicated to him.

St. Petersburg memories, Sasha Merkurjev

The Boarding School # 45 was a unique special place. It collected talented pupils in the North-West region of the Soviet Union. It was the only way into mathematics for many people living outside of big cities. Suslin taught at this school during 3 years when he was an undergraduate student. His style made a tremendous impact on me that I have never experienced later. Not only on me – for example, I just recently met my class-mate Sasha Koldobskiy (he is professor at the University of Missouri) and he shares the same feelings. Needless to say that already at that time I decided to study algebra. Such early decisions were not exceptional: Nikita Karpenko asked me to be his advisor when he was a 9^{th} year student at the School # 45.

Andrei's passion for mathematics and his systematic approach were a model for us. We saw him reading algebra books like Bourbaki commutative algebra in a bus or metro. During short breaks between lessons he draw complicated diagrams in the notebook (standard thin 2 kopeks notebooks where Andrei used to record all his math) – that time Andrei was working on a problem in finite geometry and combinatorics. I guess that work was not successful and at the beginning of the senior year Andrei realized that he has nothing yet done for the diploma work to be completed in 9 months. That is how he turned to Serre's conjecture concerning modules over polynomial rings.

During boring meetings we had to sit at, Andrei would ask me to give him problems to solve from recent mathematical olympiads, and often my list ended before the meeting was over. Andrei was a winner of the International Mathematical Olympiad in 1967.

The "olympiad spirit" has an interesting consequence: Andrei considers every mathematical problem as a personal challenge. That is why there are not so many Suslin's conjectures: by making a conjecture Andrei admits that he failed to prove it himself.

Andrei's impact of mathematicians has been tremendous, not only his own graduate students but on many others fortunate to be around him. I remember spontaneous seminars (for many hours) Andrei started when people randomly get together in his room at LOMI. I remember his lectures on the foundations of motivic cohomology in the late 80's, when it was rather an improvisation at the board than lectures. Two of Andrei's graduate students, Vanya Panin and Serge Yagunov, are organizers of this birthday celebration; other people who can call Andrei an informal advisor include Sasha Smirnov, Sasha Nenashev, myself, ... During these seminars Andrei generously shared his ideas. (Markus Rost is another personality of this type.)

Immediately after his graduation, Andrei was hired as an assistant professor at the University (so he has never been a graduate student). He worked on Serre's conjecture and tried to hide from the rest of the university world – at least he did not propose themes for students' work, and I was not able to get him as thesis advisor.

Andrei liked to work at night – this habit comes from the time when he lived in an apartment shared by several families (with one bathroom and kitchen), so he could only work in the kitchen after midnight.

The most funny story about Andrei (unfortunately not for publishing) is that once he was a member of the Congress of the Young Communist League (he was the only doctor of sciences in the country younger 28) and he was given a speech to read about Brezhnev helping him to prove Serre's Conjecture. As an exchange he was promised a separate apartment but it did not work out.

Perspective of a friend and colleague, Eric Friedlander

Andrei has been my close friend for many years. We first met in Oberwolfach in the late 1970's. Andrei's English was perfect; not only did he speak and understand the language, but he understood subtle nuances which astonished me. We talked mathematics, but also about many other matters. This was the time his mathematical legend was already being established.

Perhaps few remember that Andrei was an "all Leningrad" gymnast. This showed when he lectured, for he seemed more poised at the blackboard. Some of us have never learned, despite much trying, to imitate his style of speaking slowly, writing very large symbols on the blackboard, all the while conveying elegantly and efficiently the essence of his mathematics.

A few years later, Andrei and I both visited University of Paris 7. An early memory of that year followed Andrei's talk and gold medal at the College de France. We wandered around Paris at 7:30pm looking for dinner. All restaurants were empty, but all were reserved for the night, just as had been the case of restaurants in the USSR. One morning Andrei called me to say that during the night he proved the Quillen-Lichtenbaum Conjecture for algebraically closed fields of positive characteristic and asked if I would photocopy his manuscript at IHES. Andrei stood at the entrance of the peripherique on the fringe of

Paris, handing through my car window his coffee-stained manuscript as the car briefly paused before quickly merging into traffic. What did this Russian to American exchange look like to an observer? When he first talked about this result in a Paris seminar, the audience broke tradition to give him an ovation. The 1986 ICM in Berkeley was the "Mathematical Congress of Absent Russians". The world mathematical community eagerly anticipated the remarkable, almost mythical creators of so much new mathematics. Sadly, Andrei was among those not allowed to attend, but I was given a manuscript of his plenary address. This manuscript consisted of page after page of new results on algebraic K-theory. After spending time with Andrei in Paris, I had the privilege of visiting the Suslin family in their St. Petersburg apartment; my achievement was explaining the colloquial English in a popular cartoon series, not quite equal to Andrei's explanations of mathematical lectures given in Russian which we attended in Novosibirsk. Food memories include the delicious "Russian salad" and the rich soup of cepes (from the woods near the Suslin dacha) prepared by Olga Suslina. A measure of time passing has been watching Andrei's daughters Olga and Maria grow from young girls to successful adults with children of their own.

Andrei visited M.I.T. and the University of Chicago in the early 1990's. To my overwhelming delight and benefit, Andrei decided to join the Northwestern faculty in 1995. A frequent image which comes to mine is of Andrei pacing outside my office ignoring whatever weather Chicago was throwing us, while I stayed warm and dry by scribbling on a blackboard. The best of those times was our extended effort to prove finite generation of certain cohomology rings; this was a question that I had thought about for years, and the most important step I took towards its solution was to consult Andrei. Vladimir Voevodsky was briefly our colleague at Northwestern. Indeed, a few years earlier, I had arranged for Andrei to meet Vladimir, recognizing that their different styles and powerful mathematical talents could be blended together in a very fruitful manner.

So many mathematicians over the years have benefited from Andrei's insights and confidence. If someone mentioned a result, then typically Andrei would say he is sure it is right. On the other hand, should he need the result he would produce his own proof – typically improving the statement as well as the proof – or find a counter-example. With me, perhaps Andrei was a bit more relaxed for he would occasionally tell me something was nonsense and even occasionally admit after extended discussion that he was wrong. Those interactions are among my best memories of our days together at Northwestern. Andrei's generosity extended to looking after me on the ski slopes, willingness to drive to the airport at an awful hour, and other matters of daily life. Our friendship has been the most remarkable aspect of my mathematical career.

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