

JANIS S. RIMSHANS

(24.06.1951–11.01.2015)



Janis S. Rimshans, Doctor of Mathematical Sciences (Dr.Sc.Math.), Professor, Latvian mathematician and physicist, rector of the Liepaja University, Director of the Institute of Mathematical Sciences and Information Technology, Head of the "Mathematical modeling hydrodynamics" Laboratory in the Institute of Mathematics and Computer Sciences of the University of Latvia, died January 11, 2015.

Professor Janis S. Rimshans was a very pure soul. His main trait was boundless kindness to everything: to the people, to animals, to plants and to nature in general. This trait was so strong in Janis S. Rimshans that it was impossible to stay "unpurified" while talking with him even for 10- 15 minutes, no matter what state of mind you had before.

Janis S. Rimshans vainly dreamed for learning to say "no" and refuse people if they approached him with requests, fulfilling of which often caused an obvious material and/or moral damage both personally and indirectly to Janis S. Rimshans affairs – scientific and organizational activities, which he had breathed and lived for. In a word, Janis S. Rimshans was rock-ribbed monolithic person by spiritual and moral qualities manifested in all-consuming kindness, unlike his multifaceted scientific talent, which will be discussed below.

I met the Professor Janis S. Rimshans for the first time on April 8, 2007, in Liepaja during the second Conference of the Latvian mathematicians, organized by the Latvian Mathematical Society. On the same day, even in front of an acquaintance, I listened to the scientific report of professor Janis S. Rimshans devoted to quite complex initial-boundary problem for non-linear system modeling of the dynamics of incompressible viscous fluid in a vapor space when convective diffusion occurs at the impurity presence in liquid, which density is dependent on impurity concentration in a non-linear way. Listening to a report of Janis S. Rimshans, I was surprised by his scientific courage to "challenge" such a complicated problem, which is so far jointly studied by many research teams from world-wide known research institutes in Russia, Germany, France, etc. Looking ahead, I would like to note that in the following years, Professor Janis S. Rimshans surprised me with his scientific courage for many times: he often approached the most difficult problems in mathematical physics having global significance, inspiring with enthusiasm his numerous undergraduate, graduate and doctoral students. Getting back to the history of our acquaintance, I would like to emphasize the following: before Professor Janis S. Rimshans made his brilliant scientific report, which was mentioned above, three of his students (T.Bibinska – Doctor of Mathematical Sciences at present time; P.Morevs – a doctoral student in the University of Latvia at the moment, scientific supervisor of the thesis was Professor Janis S. Rimshans; J.Kapuča) came up with three very meaningful scientific reports on the complex problems of mathematical physics; after the report of Professor Janis S. Rimshans there has been presented a sound scientific result of one more of his students – doctoral student D.Žaime. I remember very well that after all these brave, brilliant and successful from scientific perspective reports of Professor Janis S.

Rimshans and his students, I asked two scientists, mathematicians from Riga who sat next to me, whom I knew well and collaborated with – Dr.Sc.Math., Professor of the University of Latvia, full member of the Latvian Academy of Sciences A.Buikis and Dr.Sc.Math., Professor of the University of Latvia, corresponding member of the Latvian Academy of Sciences Uldis Raitums (unfortunately deceased), and expressed my surprise and admiration for the scientific significance of the presented reports. Here it should be noted that during that time I didn't know anything regarding the existence of the Liepaja Pedagogical High School (later became the Liepaja University). To my genuine surprise and admiration, Professor A.Buikis and Professor U.Raitums replied that this provincial institute is experiencing an intensive "mathematical revival" particularly due to Professor Janis S. Rimshans contribution, where he began to work only from September 1, 2001. Moreover, they expressed an opinion that at the contemporary Latvian environment, this institute will not survive, or will be able to function only as a "folk institution" of Kurzeme region. These excellent opinions on scientific and pedagogical activity of Professor Janis S. Rimshans obtained from my two colleagues so impressed me that I have recorded it in writing on the same day. I remember well that after the end of the 6th Conference of the Latvian mathematicians, Professor A.Buikis introduced me to Professor Janis S. Rimshans, and straight at the square in front of the Liepaja Pedagogical High School we began to discuss scientific topics of our possible cooperation. Such cooperation, luckily, has started soon. The success story of this cooperation will be told later.

So, after getting opinions of scientists from the University of Latvia, 8 years have passed, and now the scientific community not only from Latvia, but also in many other countries is sufficiently aware of the results being obtained by the scientific staff of the Liepaja University:

- On the annual basis, there are published not less than 30 scientific articles in highly rated world journals by the research staff of just one of the structural units of the Liepaja University – the Institute of Mathematical Sciences and Information Technology. Journals are published under the authority of such a prestigious and well-known publishers as Springer, Elsevier, AMS, IoP, LAP, IEEE Xplore, ScienceDirect, etc. Approximately 65% of this content is included into the main databases of the WEB OF SCIENCE (Thomson Reuters), SCOPUS, etc .
- In 2010-2013 the Institute of Mathematical Sciences and Information Technology of the Liepaja University successfully carried out international projects with considerable budget being financed from ESF and ERAF funding.
- In 2008, the Institute of Mathematical Sciences and Information Technology in the Liepaja University succeeded to earn 3 scientific projects from the Ministry of Education of Latvia and successfully completed it.
- From November 1, 2014 the Liepaja University in conjunction with the Institute of Mathematics and Computer Science, University of Latvia performs state research program "NexIT": *Next generation information and communication technologies*, which deadline of completion will last till December 31, 2017.
- From January 1, 2015 the Institute of Mathematical Sciences and Information Technology, Liepaja University in collaboration with the Institute of Mathematics and Computer Science, University of Latvia prepares 4 major projects with a total budget of 25 million EUR (4.3 + 5.0 + 7.5 + 8.2 million EUR) for submission to the "HORIZON 2020 ", which is the main EU Framework Programme for Research and Innovation in 2015-2020. Topics of 4 projects are in scope of current interest for the declared EU scientific dimensions, and the formulated problems set out in the projects are considered to be the world-class problems. Together with Professor Janis S. Rimshans we were confident that our projects will be prepared and submitted in time, and will succeed in passing the established review process: we were very happy that projects will not be reviewed in Latvia, but will

be evaluated by highly qualified, independent and objective external experts from the leading scientific research institutions of scientifically developed and industrialized countries in Europe.

All these successes of employees from the Liepaja University are closely connected with the outstanding personality of Professor Janis S. Rimshans – thanks to his many-sided scientific talent, thanks to his far-sighted and consistent organizational policies and activities, thanks to his scientific courage, thanks to his amazing ability to inspire all colleagues and students, he devoted a lot of time, and scientific and everyday problems which he perceived as his personal problems. We all tried to match his scientific level, his moral criteria, his spiritual and moral qualities, efficiency and diligence. Because of the "mathematical revival" by Professor Janis S. Rimshans "mathematically vanishing" institute, which at the beginning of the XXI century was the Liepaja Pedagogical High School, it changed its name and turned first to the Liepaja Pedagogical Academy, and later turned to the Liepaja University, it successfully cooperates with various scientific, research and educational organizations operating in Latvia, Germany, France, Russia, Norway, Finland, Belgium, Spain, USA, South Korea, Japan, China, India, Azerbaijan, Ukraine and others. In addition, since 2007 the staff of the Liepaja University is regularly approached from more than 20 world-recognized scientific journals on mathematical and physical profile with requests for peer review of the received scientific papers to their editorial boards. The annual number of such requests for review exceeds 200. It should be added that the staff of the Liepaja University is regularly invited as members of the scientific and organizing committees of international conferences of different levels all over the world, and employees of the Liepaja University are invited to act as the members of editorial boards and/or committees, of the peer-reviewed reputable international journals. It should be noted that since 2009 every year from three to ten young employees from various research institutes of some developing countries are asking the employees of the Liepaja University, expressing a desire to pass scientific training at the Liepaja University on various scientific topics that are successfully investigated in the Liepaja University. These young researchers are aware of the Liepaja University, of the researched scientific topics from the scientific papers of the Liepaja University, being published in the cited international journals. In the second half of October, 2014 together with Professor Janis S. Rimshans we comprehensively discussed the "painful" issue: the fact that all these years of the Liepaja University, unfortunately, did not have and still does not have appropriate material basis for a positive response to such requests of young researchers from other countries and, therefore, all these years, the Liepaja University was forced to respond negatively to such requests, without pointing the true reason for the refusal, since the true reason would cause, say the least bewilderment – how it could be that there is "no material basis" to accept young promising researchers for training at the successful University of EU country?! Professor Janis S. Rimshans hoped and planned that in 2015 he will be able to obtain support from the municipality of the Liepaja city as well as from Latvia Ministry of Education to begin admission for training of promising young researchers from other countries. Professor Janis S. Rimshans particularly valued and hoped for support from the municipality management of the Liepaja city, which helped the Liepaja University for a number of times in solving different kind of problems.

I would like to stress it once again, that all these international successes of the Liepaja University are the results of outstanding scientific, educational and organizational activities of Professor Janis S. Rimshans. Will those successes continue developing in the future, when there is no such a unique personality with us anymore, which was Professor Janis S. Rimshans? Personally, I doubt it. Definitely it can be stated that the scientific and educational system of Latvia irretrievably lost an outstanding scientist, teacher, and organizer.

I would like to return to my scientific collaboration with Professor Janis S. Rimshans. As it has been already mentioned above, soon after we met, we have started our research cooperation. In August,

2006, we have gained the first joint outcome for the general formulation of three-dimensional spatial variables for initial-boundary problem for the linear and quasi-linear equations of heat transfer (thermal conductivity) in a bounded rectangular inhomogeneous region, which borders have the Newton type boundary conditions. We managed to get conditions in terms of a bilateral system of inequalities connecting numerical or functional coefficients of thermal conductivity with environmental temperature and with the heat transfer coefficients, which guarantee the uniqueness and stability of the direct problem. We agreed that we will postpone publishing the result, as Professor Janis S. Rimshans was willing to study the question whether the resulting system is also a necessary condition for the uniqueness and stability of the direct problem. Only at the beginning of November, 2006 we were able to answer this question in the affirmative way. Hence, binding of these two obtained results implied that we have derived the system of inequalities, which are required and sufficient for the uniqueness and stability of the studied direct initial-boundary problem. We knew that in July, 2007 in Zurich there will be held the 6th International Congress on Industrial and Applied Mathematics (ICIAM-2007, 16-20 July, 2007, Zurich, Switzerland), which takes place every 4 years and is considered to be a significant event for the scientific community all over the world, where delivering the report is regarded as very prestigious act (the selection process for reporting at this congress is the most stringent of all of the selection processes for Congress on Mathematics) for any scientist from any country. Therefore, we decided to formalize the obtained results for reporting at the congress: our joint report was accepted by the organizing committee of the Congress ICIAM-2007, we have successfully presented the results and a paper written on the basis of this report was published in a special issue of the highly valued scientific journal "Journal of Applied Mathematics and Mechanics". Our intensive research cooperation continued after the receiving of the aforementioned joint results. Just would like to note that at the beginning of the Congress ICIAM-2007, together with Professor Janis S. Rimshans we have prepared and submitted to the international scientific journals three another papers – two of which were devoted to the actual problem of the optimal control of the traffic flows in the urban environment of big cities, and one paper was devoted to the thermal transition processes in semiconductors.

The reason for such a detailed story of our scientific collaboration almost from the moment of our acquaintance April, 2006 to July, 2007 (the date of the Congress ICIAM-2007) lies in the fact that I only wanted to show a huge breadth of scientific interests and incredible ability to work of professor Janis S. Rimshans: because apart from me, he also cooperated closely with other scientists of Latvia (for example, a scientist on a European scale Dr.Sc.Phys. J.D.Kaupuzs), very effectively conducted research works with his numerous students, and, collaborated with some prominent scientists from other countries, for example, one of the greatest scientists of our time Dr.Sc.Phys. S.S.Zilitinkevich (Department of Physics, Faculty of Science, University of Helsinki, Helsinki, Finland), with world-recognized scientists Dr.Sc.Math. R.V.N.Melnik (Mathematical Modelling and Computational Sciences, Wilfrid Laurier University, Waterloo, Canada), with a very talented and productive scientists Dr.Sc.Phys. I.N.Essau (Nansen Environmental and Remote Sensing Centre, Bergen, Norway), etc. In addition to research activities, Professor Janis S. Rimshans did a great teaching job. Moreover, in the second half of 2006, he organized "from scratch" the Institute of Mathematical Sciences and Information Technology at the Liepaja University, which was successfully led by him until death. Activities of the Institute in the following years brought significant scientific advances that made the Liepaja University recognizable in other countries. We can only wonder what an exciting extraordinary personality was Professor Janis S. Rimshans!

I had the great honor to actively and effectively collaborate with Professor Janis S. Rimshans as well in subsequent years: in 2007, we have published 4 joint papers; 2008 – 9 joint papers; in 2009 – 2 joint papers; in 2010 – 18 joint papers; in 2011 – 18 joint papers; in 2012 – 8 joint papers; in 2013 – 22 joint

papers; in 2014 – 3 joint papers. Finally, in 2015 we managed to prepare and submit to a very highly recognized international magazine joint paper, which is currently in the review process.

Total for 8 years of joint research activities with Professor Janis S. Rimshans we have published 84 joint articles, and more than 50% of them were published in international scientific journals that are included in the main database and have assigned ISI International Scientific Indexing. I would like to emphasize once again that in addition to cooperation with me, Professor Janis S. Rimshans closely and effectively collaborated with many scientists from Latvia and other countries of the world; continued to lecture at the Liepaja University; fruitfully engaged in research activities with students; from 2011, acted as a rector of the Liepaja University; since 2006 headed the Institute of Mathematical Sciences and Information Technology; led the research laboratory at the Institute of Mathematics and Computer Science, University of Latvia; actively participated in the implementation of international and domestic projects; held numerous meetings with the business community of Latvia, fairly convincing that the success of the business in the modern society is largely impacted by the selection and adoption of the best strategic and tactical decisions, and to be able to make such decisions it is necessary to use modern methods of decision-making theory, the theory of multi-criteria optimization, theory of operations research, and other mathematical methods – indeed, in all developed countries there is present close cooperation between scientists and businessmen and because of such cooperation cross-use these countries are industrialized and developing innovations. Vector of business development for corporations in these countries is guaranteed free from the vagaries and/or errors of decision makers. For every presentation at such meetings there is a need of many hours of preparation in order to "translate" the language of business mathematical terms, models and methods so that, firstly, in order to make "translation" and simplification without distorting the true meaning of scientific facts, and secondly, that business people can understand and accept the importance and usefulness of the evidence-based approach to making business. Together with Professor Janis S. Rimshans we have repeatedly discussed all those things, sometimes meeting in the evenings, and sometimes, when because of his exceptional busyness it was impossible to meet face-to-face, we were talking late at night on the phone or via Skype. Professor Janis S. Rimshans really wanted the business community at least in the Liepaja and Liepaja district to taste the fruits of the successful application of a rich mathematical apparatus in business. Yes, Professor Janis S. Rimshans loved Latvia, and had a special reverential attitude towards Kurzeme in general and to Liepaja in particular, since he was confident that in the difficult 90-s of the last century particularly Liepaja became his mainstay and hope in his formation as a scientist and educator. He believed that the people of Liepaja are special people that could be trusted and can be relied on! Despite the fact that he traveled every week, and sometimes even several times a week, from Riga to Liepaja, and back, Professor Janis S. Rimshans as far back as in 2007 told me that he cannot imagine his life without teaching activities in Liepaja (he did not even think at that time that one day he will become the rector of the Liepaja University), and in May, 2009 I have faced the conversation when one of the top managers of one of the Riga universities, having heard from me that Professor Janis S. Rimshans is "ripped apart" between Riga and Liepaja, made him an offer to take the vacant position of the head of department. Professor Janis S. Rimshans has thanked that person for the offer and trust, said that he cannot leave his students and he is afraid that research processes in the direction of studying the problems of mathematics and physics in Liepaja can "die", that those were organized with great difficulty, and are developing more or less safely due mainly to his younger colleagues efforts. At the same time Professor Janis S. Rimshans made no mention of the fact that he was the initiator and the engine of the research process, and that these young colleagues were grown by him. Yes, these "little things" he was keeping silence about, but in 2009 I already knew that this is exactly the way things were happening!

I was lucky to attend together with Professor Janis S. Rimshans various international conferences and congresses, held in various countries of the world: we have participated in with the joint and/or individual scientific presentations at conferences and congresses in the United States (Boston, Chicago), Canada (Toronto, Vancouver), Belgium (Leuven), Mexico (Morelos), Germany (Dresden, Wuppertal, Darmstadt), Switzerland (Zurich), Sweden (Stockholm), the Netherlands (Amsterdam), Azerbaijan (Baku). In those scientific meetings it was always pleasant for me to listen to confident, unhurried, clearly set out and deep scientific reports of Professor Janis S. Rimshans; to look how he clearly and scientifically-reasonable answers to numerous (usually!) questions from the audience, among whom were present famous world scientists; how he intentionally raises up scientific discussions around the most complex issues that were asked after the end of his presentation. It happened quite often that at the end of the section where the Professor Janis S. Rimshans has presented his report, several scientists – both young and mature, quickly come up to him and continue to passionately discuss scientific problems, exchange business cards; invited to a conferences that are organized in the organizations in which they work. I remember well that in the conference in Belgium, after the section has finished, during which Professor Janis S. Rimshans made a brilliant report to him and many scientists approached to him with questions, that he was forced to miss one very important for him report of the famous scientist from Japan: seeing that Professor Janis S. Rimshans has been soundly "usurped" I quietly leaved and went to listen to the report, which was important for him, although even before the planning for ourselves (based on the conference program, which provides a summary of each report) I have planned to attend the another presentation. When we met later, and he found out that I was listening the report important for him, Professor Janis S. Rimshans was very happy. Unfortunately, soon I had to disappoint him, because I did not understand anything from the report of Japan scientist, because on this subject I knew nothing.

Professor Janis S. Rimshans became not only my most trusted friend; he quickly became a trusted friend of my family as well: he was genuinely upset of sad events in my family, sincerely rejoice about the successes of my family. Sometimes he called me or my wife only to dishabituate me from my night of scientific activities, although he knew that for me 4 hours of sleep a day is enough. Such calls he made, usually the next day after receipt of my regular mathematical calculations, which I sent to him by e-mail in the morning, asking him to "immediately carefully verify and inform of any errors prior to 12:00 noon." My friend was afraid that I will exhaust myself from the lack of sleep, from the sedentary lifestyle that I lead, from smoking. I am sure that he treated carefully and respectfully each of his colleagues and students. He appreciated all. He trusted everyone. He believed that there are no bad people in the world. He believed that all people are very decent. He believed in the power of science, particularly in the power of exact sciences. He lived in science. He dreamed of the prosperity of the Latvian science, especially Latvian mathematics. On Sunday evening January 11, 2015 Professor Janis S. Rimshans planned to leave with the last run of the bus from Liepaja to Riga to Monday January, 12 to meet in the Institute of Mathematics and Computer Science, University of Latvia with me, with Professor A.Reinfelds from University of Latvia, with Professor F.Zh.Sadyrbaev from Daugavpils University and Professor H.Kalis from University of Latvia to discuss the following two questions: (1) Professor Janis S. Rimshans wanted to discuss the idea of the prompt creation in Latvia of a new scientific group, which would include the most powerful mathematics, physics, biologists, ecologists, etc. of Latvia, so that it could operate as a single organism for the study of important for EU research and innovation problems, as well as to ensure that this group had the skills to write, submit, receive and realize European projects, both scientific and innovation, in particular, projects within the frames of the program "HORIZON 2020"; (2) Professor Janis S. Rimshans wanted to discuss the possibility of establishing Latvia-scale regular scientific seminar to discuss relevant to EU research and innovation problems.

The fact that this meeting has been agreed with the professors A.Reinfelds, F.Zh.Sadyrbaev and H.Kalis (on the usefulness of such a meeting, Professor Janis S. Rimshans told to me by phone on Tuesday January 6, 2015 at 00:43) Professor Janis S. Rimshans told me exactly at 14:49 on Friday January 9, 2015. He wanted to create a scientific group, which would be the body acting above the structures, i.e., that it would not be a part of any single structural unit, would not belong to any organization. He, like me, believed in the importance of this meeting and hoped that both questions will be solved positively. Professor Janis S. Rimshans was sure that after the creation of the group and organization of the workshop, he and his colleagues will be able to strengthen the scientific potential and the capacity of this group through cooperation with foreign colleagues from Germany, France, Finland, Russia, the UK, Norway, the Netherlands, Ukraine, Azerbaijan and other countries, whom he knew well and who were respected and trusted by him. Sadly, now there will be neither group nor workshop.

Professor Janis S. Rimshans was a wonderful person, a great scientist, an excellent organizer of science and education. For me, as for many others, who were lucky to closely communicate with him, he was truly a holy man. We all will be missing him. He will be missed for Latvian Science and Latvian educational system. Life of many people ends with death. Professor Janis S. Rimshans will live forever in the history of science and education, in the history of Latvian education – his outstanding scientific contribution, changes in the educational system of the Liepaja University that were finished and started by him will act as the eternal source of this life.

Never forget you, dear FRIEND, dear SCIENTIST, and dear TEACHER!

Sharif E. Guseynov
Riga–Liepaja, Latvia
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P.S. Some photographs from our joint trips to international conferences and congresses











