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COMMENTARY

The Russian Mass Spectrometry Interest Group at ASMS: Over 20 Years of Science and Water Polo

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Abstract. The Russian Mass Spectrometry Interest Group (RMSIG) emerged in 1998 during the annual ASMS meeting in Orlando, FL. The original goal of the group was to help assimilating mass spectrometrists from the former Soviet Union countries into the West. Following the fulfillment of this objective, the RMSIG continues nowadays as a social and scientific club of 200+ members, to the benefit of mass spectrometry at large. Herein, we share with you the tale of the RMSIG: its history, accomplishments, and present days activities—all in a close relation to ASMS.

Keywords: Russian Mass Spectrometry Interest Group, ASMS, Water polo, Singing

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Introduction

After the Soviet Union collapsed in 1991, funding for science decreased dramatically and support for mass spectrometry and related fields were not spared either. Quickly worsening economic conditions led to a wave of scientists from the former Soviet Union to seek new opportunities abroad, if they wanted to stay in science. Many joined university laboratories and companies in the USA and Europe. This was a big change for them, to put it mildly. Not surprisingly, some of the scientists experienced cultural shock, followed by anxiety and the feeling of uncertainty for their present and especially for their future situation and their families. They had great scientific backgrounds; some of them were already well established in the field of mass spectrometry, whereas some of them were fresh out of school and eager to start a new life, but the new work and life environment added to their distress. What are the rules here in the West? How does one get into and through graduate school and afterwards find a postdoc position and/or a job in academia or industry? What are the opportunities for spouses and children? Such prominent questions were constantly on their minds. In other words, how does one become successful in the West and take full advantage of a great opportunity offered by the Western societies to contribute to science and industry on the international level?

Several years have passed, and many of those newcomers managed to establish themselves in science and industry and in their new life. The general anxiousness receded; the West turned out to be not that scary after all. Their newly obtained confidence and understanding of the needs and worries of former compatriots led to the creation of the self-organized (not registered officially) Russian Mass Spectrometry Interest Group (RMSIG). The purpose was to facilitate a smooth transition for the newcomers and maintain communications among the members on the various topics related to mass spectrometry. RMSIG

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Figure 1. At the 48th ASMS Conference (Long Beach, CA, June 2000). The early days of the Russian MS Interest Group. Standing: Raznikov, Mamyrin, Shainskaya, Gusev, Doroshenko, Artaev, Mordehai, Tolmachev, Berkut, Makarov. Sitting: Podtelejnikov, Kiselar, Taranenko, Loboda, Dodonov, Moskovets, Shevchenko, Bondarenko, Chernushevich, Laiko, Nesaty, Kovtoun, Fishman and others.

helped to establish scientific and personal links, exchange experiences about different jobs, provide advice on how to adapt, and to become an integrated part of Western society while still preserving some unique cultural features.

RMSIG at ASMS

RMSIG emerged almost by chance over 20 years ago. The 1998 ASMS meeting in Orlando, FL, took place in a major conference hotel with nice outdoor swimming pools. At night (and the nights were balmy), the scientific discussions transitioned into friendly water volleyball games and then makeshift water polo games spontaneously emerged in the pools, offering more physical activity yet still enjoining being in the water under the stars. Somehow, one night it was "discovered" that most participants of those nightly activities were from the former Soviet Union. The swimming pool games were then followed by singing of Russian songs around a piano (some mass spectrometrists are very good with piano, naturally) in one of the hotels. Singing was accompanied by sampling genuine Russian food and beverages (conveniently found in the local international food stores or providently brought to the conference). The feeling of brother/sister-hood emerged. On the last night of the meeting, it was decided to create an informal society/group and keep communicating through the year until the next meeting. And that was the beginning of a great tradition of meeting old and new friends, sharing scientific and life experience, and having fun, including friendly (but quite competitive) water polo games, and enthusiastic choir performances, which members of RMSIG look forward to ever since, at every ASMS conference (Figures 1 and 2).

Almost immediately, these late-night gatherings became famous in some ASMS circles and notorious in others. Many

Figure 2. At the 49th ASMS Conference (Chicago, IL, May 2001). The 3-year young RMSIG around the piano—one of the signature traditions that was established. Mikhail Gorshkov performing

Figure 3. At the 51st ASMS Conference (Montréal, Québec, June 2003). The 5-year-old RMSIG with more members: Belov, Ivanov, Frankevich, Laskin, Lebedev, Nikolaev, Rozynov, Sudakov, Tsybin(s), Verenchikov, and others

ASMS members of (apparently) non-Soviet descent have joined the swimming pool matches and the piano gatherings at every opportunity they have had. They once-upon-a-time welcomed the "Russians" to the West, and now they were curious about them. The RMSIG-ASMS "collusion" has continued over the years. When Cathy Costello was ASMS President in 2002–2004, her large presidential hotel suite hosted lively gatherings where RMSIG members were mixing with the rest of the ASMS community, enjoying the fun and great company (Figures 3 and 4).

The RMSIG Today

RMSIG was established as a representative democracy. Over the 20 years of its existence, nine members have served as the group's president, some of them multiple times. All of them are well known to their peers: Pavel Bondarenko, Viatcheslav "Slava" Artaev, Vladimir Doroshenko, Evgeny "Eugene" Moskovets, Igor Chernushevich, Yury Tsybin, Mikhail "Misha" Gorshkov, Alexander Ivanov, and Alexander Mordehai. The president is the only officer of the RMSIG and he/she serves a one-year term volunteering his/her time and enthusiasm. The president's responsibilities include the following: keeping track of the group's e-mail list, sending e-mails to the group with news, disseminating requests from job seekers and vacancy announcements, methods or instrumentation questions, or any other information relevant to the group. The president is also in charge of the election process of the

Figure 4. At the 52nd ASMS Conference (Nashville, TN, May 2004). Cathy Costello receives the signed "ballon d'or" for her great performance in the Water Polo games. The trio around Cathy: Bogdan Budnik, Alexander Ivanov, Pavel Bondarenko

Figure 5. At the 53rd ASMS Conference (San Antonio, TX, June 2005). Mikhail Gorshkov is at the piano, Julia Laskin is the lead (and great!) singer, with support from Pavel Bondarenko, Alexander Makarov, and Eugene Moskovets. The first Orbitrap is released at the conference, and Alexander Makarov shaved his beard

Figure 6. At the 66th ASMS Conference (San Diego, CA, June 2018). The 20-year-old RMSIG with more young members joining the team of mature mass spectrometrists

new president, organizing an annual "business meeting," and coordinating the group's social activities at ASMS.

Today, the RMSIG member list includes about 200 mass spectrometrists from all over the world. The annual gathering takes place during the ASMS annual conferences and starts with a "business meeting" to update the members on the state of the group, make some relevant announcements, welcome new members, and elect the new president. Then, the social part of the gathering follows. As always, the latter is known for enthusiastic but fun water polo games, when the opportunity presents, and emotional yet cultural singing around the piano (Figures 5 and 6). Sometimes it continues well past midnight.

The West provided great opportunities in science and life, and for the last quarter century, many mass spectrometrists from the former Soviet Union, mainly from Russia and Ukraine, have found new homes here. The "old" generation, including Victor Talroze (who, among many other contributions, identified and characterized the methonium ion, CH_5^+, which triggered the development of chemical ionization), Boris Mamyrin (who invented reflectrons for time-of-flight mass spectrometers), Alexander Dodonov (who developed the first ESI reflecting time-of-flight mass spectrometer with orthogonal ion extraction), Lydia Gall (who has designed many high-performance mass analyzers and is known also for developing an electrospray ionization-like ion source at the very same time, if not before, an electrospray ion source was described by John Fenn), and many others, made their main discoveries while in the USSR, and became recognized by ASMS for their contributions [1–4]. The new generation of Russian scientists, who flourished while being already in the West, has also greatly contributed to the field of modern mass spectrometry; their work has been recognized with multiple ASMS and International Mass Spectrometry Foundation (IMSF) awards [5–8]. The ASMS awards were given to Prof. Roman Zubarev (ASMS Biemann Medal for his discovery and development of electron capture dissociation in Fourier transform ion cyclotron resonance mass spectrometry), Prof. Alexander Makarov (ASMS Distinguished Contribution Award for his discovery and development of the Orbitrap™ mass analyzer), and Prof. Julia Laskin (ASMS Biemann Medal for her contributions to better understanding the activation, fragmentation, and deposition of large molecules when they collide with surfaces). The IMSF's Curt Brunnée Awards "for outstanding contributions to the development of instrumentation for mass spectrometry by a person under the age of 45 at the time of the award" have been given to Roman Zubarev, Alexander Makarov, and Yury Tsybin.

The RMSIG has become part of the fabric of the ASMS and the international mass spectrometry community at large. Currently, the majority (70%) of RMSIG members work and live in the USA and Canada, with 17% in the former Soviet Union (Russia—16% and Ukraine—1%), 10% in Europe (including the UK), and the rest spread throughout the rest of the world (3%). It is thus not surprising that the group rarely gathers outside the ASMS Conference, with occasional gatherings at other international mass spectrometry meetings, such as the International Mass Spectrometry Conference (IMSC).

To a large degree, RMSIG fulfilled its goal of assimilating mass spectrometrists from the former Soviet Union countries into the West. The RMSIG continues now as a social and scientific club, to the benefit of mass spectrometry at large. Supporting and guiding younger generations of mass spectrometrists and maintaining connections between the members, wherever they are doing great mass spectrometry, remain the main objectives of the group nowadays.

Science does not and should not have borders. It is multicultural, tolerant, fun, and a great place to be. If one late night at an ASMS meeting, passing through a hotel hallway, you hear piano playing and enthusiastic voices singing loudly, you are welcome to stop by and join your scientific colleagues; you may (pleasantly) discover their other side.

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