Eurasian Heterocyclic Meetings

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There are several types of regular international events where heterocyclic chemists meet each other to share their results and ideas: ICHC, European colloquium, Ibn Sina, Blue Danube and Florida heterocyclic meeting. In the year 2000 a new initiative – the series of Eurasian Meetings on Heterocyclic Chemistry (EAMHCs) – has been launched in Russia. As the "inventor" of this idea, I was asked to briefly review the goals and the history of these meetings.

Eurasia and Eurasians.

Let us first clarify the common use of the term "Eurasia". Separation of Asia from Europe is an old historical tradition. Ancient Greek traders saw the known "continents" foremost as sections of coasts, and the term *continent* was defined only by the Romans as the according landmasses behind those coasts. At the ancient maps of Herodotus we can find three big pieces of land attached to Mediterranean Sea that he called Europe, Asia and Libya. This idea survived for centuries, and in Renaissance time we find Europe as a self-recognized geographical entity united by culture, religion and its civilization type and clearly differentiating itself from Asia. The question of its eastern border was open for long time until Emperor Peter the Great, who tried to join Russia to the family of European monarchies, stated this artificial border to follow along Ural Mountains.

The earliest use of toponim "Eurasia" (1850s) is linked to Semenov-Tyan-Shanskii, explorer of Central Asia and Altai (who first introduced the term "Russian Eurasia") and his teacher Alexander von Humboldt. In 1883 Austrian geologist Eduard Suess published his famous book *Das Antlitz der Erde* (discussing Gondwanaland as a proto-continent), and his definition of the Eurasian continent was immediately accepted in geographical and geological literature. This discovery, however, has insignificantly changed common use of terms Europe and Asia as two different entities (though having now an "invisible border").

In contrast to early Europeans (who artificially separated single continent watching it from the sea), the inhabitants of the continental part of Eurasia were generally indifferent to this idea: a Mongol nomad riding through Steppe, a trader of a Silk route, a Buddhist monk, or a Russian Cossack exploring Siberia never observed any inter-continental border (in contrast to common intra-continental barriers, like mountains, big deserts, rivers or internal seas). Many civilizations of the Eastern Eurasia (even more ancient than the European) were too diverse in

cultural and religious aspects to join into a specific and unified “Asian civilization” (and oppose themselves as a separate Asian sub-continent). However, from the ancient times Eurasians had deep linguistic, cultural and genetic relationships. This resulted in yet unresolved linguistic paradoxes (like Sanskrit origin of names for many European toponims). These relations caused genetic mixing especially during big conquests starting from East to West (Attila, Chingis-Khan, Arabs, Turks etc.) or in big empires spreading from the West to East (as well as in colonies and metropolises). This also resulted in many types of cultural exchange, and the inhabitants of the European part of the continent actually learned a lot of mathematics, philosophy, medicine, astronomy and even chemistry (!) from Arabs, Indians, Chinese and others from the Asian counterpart.

Cultural self-identification of continental people as “Eurasians” is relatively rare in human history, probably because of big size of the continent, its huge population and its ethnical diversity. (Comparing to other continents, Eurasia is the largest one, occupying 1/3 of the Earth’s land and having 70% of the world's human population who leave in ~100 countries.) Great historian Lev Gumilev (who called himself “the last Eurasian”) wrote several unorthodox books to draw a unified history of Eurasian ethnic groups. He explained the bloom and decay of every old and new Eurasian ethnos by geographical factors and solar activity periods (which cause for instance sudden waves of nomadic migration through the Great Steppe). The unifying Eurasian ideas from time to time become popular among some European (and also Russian) philosophers and writers. A political movement “Eurasianism” of the 1920s linked Russian civilization not to the "European", but rather to Asian (or even Eurasian) category. The neo-Eurasian movement is a specific respond to the challenge of globalization; it seeks the ways of harmonic intra-continental unification, which should be definitely based on preservation of the cultural diversity of its members. Some recent trends become visible in Central Asia (like birth of Eurasian Economic Union and other initiatives).

The more Eurasian people recognize they are forever neighbors in a common “home”, the better would be their attempts to keep this home peaceful and prosperous. Hence, appearance of new intra-continental links in different areas – like culture, industry, science – is an actual task to achieve more harmony in this home.

Eurasian heterocyclic meetings (EAHMs).

It is not surprising that the launch of the discussed Eurasian meetings happened in Russia, pure Eurasian state, where (opposing to poem of Kipling) the West and the East of the continent really meet one another. Although people here built a symbolic monument in Ural Mountains at the geographical border of its Asian and European parts, nobody here feels existence of a

physical border inside continuous Eurasian super-continent. Also the Russian heterocyclic chemistry school has long tradition and is well recognized. Our initial idea was to get better acquaintance with the science of our "continental neighbors" (who sometimes are under-represented at international scientific meetings) and to achieve maximal geographical diversity of the participants. To make a symbolic analogy, one should remember that the Eurasian continent (plus surrounding islands) is built from five huge tectonic platforms known in geology (in simplified way) as European, Arabic, Chinese, and Indian tectonic plates attached to Russian-Siberian plate.

It was not an easy task to organize the first event from this series in Russia of the late 1990s: general economical situation was unstable; many traditional scientific events were frozen due to lack of funds, many foreign scientists had poor idea what to expect from the visit to a meeting in Russia. Nevertheless, after positive experience to organize several organic chemistry symposia (in 1998-99), I had a strong belief that such international event could be also successful.

Preliminary agreements started in August 1999 during 17th International Congress of Heterocyclic Chemistry (ICHC) in Vienna. There I discussed the idea of EAHMs with several famous chemists, and they indicated warm interest in participating in such a meeting. Importantly, several of these scientists have been already experienced organizers of international heterocyclic events. Thus, Prof. F.Sauter and Prof. J.Froehlich from Austria (organizers of ICHC and also Blue Danube Heterocyclic Symposiums), Prof. J.Cavaleiro from Portugal (chaired the last European heterocyclic colloquium), Prof. E.El-Ashry from Egypt (chaired the last Ibn Sina Heterocyclic meeting), Prof. S.Abu-Orabi from Jordan (organizer of few Arabic meetings) etc. This was important, first, to share the experiences of organizers and second, as a possibility to keep this meeting for future (in case of its success) in experienced hands. International Society of Heterocyclic Chemistry adopted the initiative of this event, and its chairman Prof. Y.Yamamoto (Japan) and its secretary Prof. H.Neuenhoeffer (Germany) promised to attend. Several prominent scientists (Prof. L.Harwood from UK, Prof. H.Ila from India, Prof. Sunggak Kim from Korea and others) expanded the geographical location of potential speakers.

I will forever remember the "golden rule" of Fritz Sauter to organize a successful conference (let's call it "the 3 **P**'s" rule): "good **P**rogram (attractive speakers), good **P**lace (tourist attraction with good transportations), and good **P**rice (small registration fee)". Seeking the place for our meeting, we have naturally chosen Suzdal – an ancient and small Russian town (about 250 km from Moscow), where the atmosphere of old Russia has been preserved for centuries. Famous Suzdal ensemble of monasteries and churches and comfortable tourist center always attract a lot of visitors from abroad. This town is considered as one of the world cultural

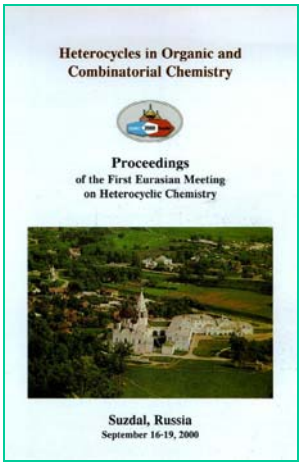
heritage sites by UNESCO commission. Also Suzdal is a part of famous “Golden Ring” (a set of ancient towns around Moscow), and this name was also featured – it may be symbolically associated not only with a heterocyclic ring, but also with a golden ring coupling East and West.

Fortunately, we also found good sponsors of this idea. That time German company Bayer AG actively tried to establish new links with Russian academic circles and universities, and we promised – in exchange of their support – to offer the opportunity of presentations, talks and round tables for Bayer scientists. Generous sponsorship was very important to stimulate many hesitating visitors to attend; it was decided *not to take* registration fee (except the cases of business participants and accompanying persons), and for selected cases – even to partially cover the flights.

EAHM-1 (Suzdal, Sept. 16-19, 2000).

In February 2000 general agreement with Bayer was achieved, and distribution of the 1st circular started. That time about 300 letters and e-mails with circular were distributed, and the number of visitors at the conference website exceeded 1000. Additional advertisements were made during local meetings worldwide in early 2000: at ISHM in Alexandria and at International meeting at Jordan (by Prof. Abu-Orabi among many arabic participants). The members of International advisory board Profs. J.Xu (China), A.De and R.Varma (India) helped to distribute the information in their big countries, and the circulars were published in Indian and Russian journals of heterocyclic chemistry.

In total we had 70 attendees from Russia, Germany, India, Portugal, Austria, Greece, Japan, Egypt, Belgium, Jordan, Armenia, Netherlands, Latvia, Switzerland, Ukraine, Korea, UK, and Iraq. We had 4 days with extremely saturated scientific program (32 plenary/invited talks



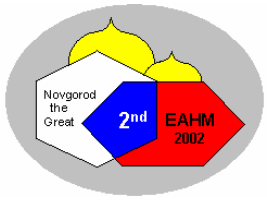
and 20 posters). The topics were highly diverse and covered synthesis of biologically active structures, heterocycles from unusual sources (like sugars and terpenes), asymmetric synthesis,

new reagents and catalysts, ring transformations and multicomponent reactions, chemistry of certain classes of heterocycles. The detailed report (in Russian) about this meeting was published [1], and the graphical abstracts of presentations are available online [2].

The meeting has brought together excellent scientists who – at other circumstances – would have no chance for so fruitful communications. Special atmosphere of the meeting was highly democratic; very prominent scientists and less-known colleagues had a lot of informal discussions. The participants highly appreciated rich cultural program, pre/post-conference tours to Moscow, folklore group, perfect Russian food, which provided very warm and private atmosphere of the meeting. The conference was finished by round table, where the participants claimed the same opinion that this initiative was very important, this meeting should be repeated in 2-3 years, and all participants voted that the next location of the meeting should be (at least for 2-3 next events) again in Russia.

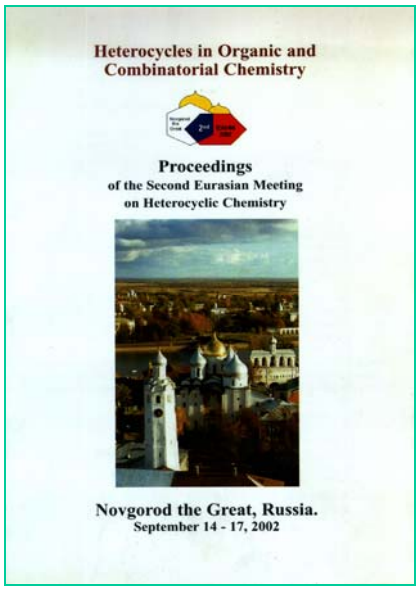
EAHM-2 (Novgorod the Great, September 14 - 17, 2002).

The chosen venue for the second conference (satisfying "the 3 **P**'s" rule) was the ancient town Novgorod the Great – small pearl of Eurasian continent, located not far from St.-Petersburg. Russians of the past called this town *His Majesty Lord Novgorod The Great*, and it is strongly linked to Russian history with its Eurasian flavor. Those were Novgorodians, who had invited Scandinavian prince Rurik to keep law and order, thus giving birth to famous Rurik dynasty that ruled over all Russian lands throughout more than 750 years. Those were Novgorodians, who in the early 10th century had moved to Constantinople to secure equal trade with Byzantine giving rise to the integration of East Slavic tribes into the ancient Kievan Russian state. And also those were Novgorodians, who had developed and used (for about 600 years) the "veche" – ancient parliament of all citizens that took all vital decisions on the life and foreign policy of the city. So, Novgorod is a symbolic cradle of Russian republican and democratic traditions! The ancient republic's special political structure, spiritual freedom and territorial independence were highly favorable to evolve culture and art. Famous Novgorod Kremlin, ensembles of monasteries and churches always attract a lot of tourists from abroad, and this town is considered as another UNESCO world cultural heritage site.



Again, as two years ago, we distributed the circulars at other earlier heterocyclic meetings (in Jordan chemistry meeting, at Blue Danube symposium in Slovakia). In March I also joined the team of International Advisory Board of another Eurasian event – 8th Eurasian Chemistry and Industry Meeting ("elder Eurasian brother" of our meeting) hold in Karachi. After the success of the Suzdal meeting, we expected that it would be much easier to organize the second in the line.

However, the tragedy 9/11 changed the world. Also our kind sponsor Bayer (after the story with Lipobay drug withdrawal) slightly limited their support of our meeting. So, we faced two unexpected problems – delay (or refusal) of visa for visitors from some countries, and our ability to provide travel support. Finally we had 60 attendees, 23 speakers and 20 posters; participants arrived from different places of Russia (many from Siberia), China and Hong Kong, Japan, Egypt, Greece, Hungary, Austria, Belgium, Germany, Latvia and Ukraine, both old and new



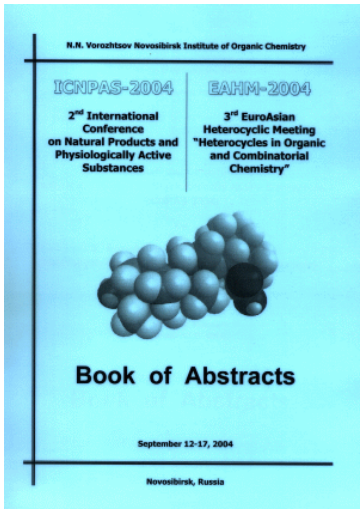
faces. That year the preference was given to younger leaders (the age of speakers was 30-45 years), and a special session was organized to PhD and undergraduate students. I remember one featured speaker Dr. Thieman, whom I introduced as a sort of “purest Eurasian” scientist (being of German origin he worked for decade at Japanese university). In the scientific program the reviews on classical topics of heterocyclic chemistry were complemented by combinatorial chemistry topics – library design, multicomponent reactions, solid phase synthesis. Again, we succeeded to keep the atmosphere of the meeting to be warm and comfortable. We had several excursions to ancient Novgorod museums, and many people enjoyed the tours to St.-Petersburg or Moscow. The report about that meeting was published [3] and selected materials appeared as full papers in Molecules [4]. I think it was GREAT meeting in Novgorod the GREAT. And again participants voted to keep the further event in Russia.

EAHM-3 (Novosibirsk, September 12 - 17, 2004).

After two events organized in European part of Russia (in close vicinities to two Russian capitals, Moscow and St.-Petersburg) we decided to shift to Asian part. My good friend and colleague Prof. Alexey Tkachev from Novosibirsk suggested organizing the third event in his city. Novosibirsk is the geographical center of Russia, the heart and capital of Siberia. The city is famous for its Scientific Center («Akademgorodok») where tens of academic institutes form a

sort of town with quite a unique atmosphere. (Sometimes nowadays this area is referred as “Silicon taiga”.) September in Siberia is mild (Golden Autumn season), and the local organizers selected a fascinating place – resort "Forest Fancy" located in beautiful pine woodland on the shore of the Ob Sea (30 km from the downtown).

The Chairman Prof. Tkachev and his young team made an excellent job to organize successful event. The EAHM meeting (co-chaired by me) was combined with another event - 2nd International Conference on Natural Products and Physiologically Active Substances (co-chaired by Prof. De Kimpe from Belgium). Joining two meetings “in one flask” was beneficial, since heterocyclic chemistry is strongly linked to natural compounds and drugs, and because of broader geography of participants. Again we felt how events in the changing world may influence the plans: the meeting started 10 days after the terror in Beslan. We afraid cancellations, however the attendees trusted the organizers, and we had 130 participants from 25 countries, now not only from Eurasia but also from Africa, Central America and Australia. The

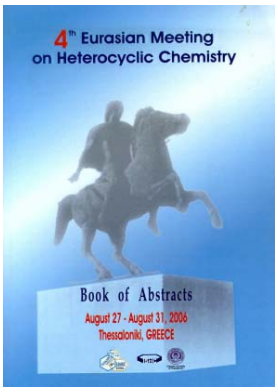


scientific program included 20 invited/plenary lectures and 4 sessions with oral communications (involving presentations given by young scientists). Several local companies supported the event, and the foreign sponsor – Swiss company Büchi – organized practical seminar to demonstrate its equipment. Rich cultural program included concerts, excursions to Novosibirsk and its museums, and acquaintance with Akademgorodok institutes. The most memorial was that participants were isolated in the forest area and got full taste of virgin Siberian nature and plenty of informal communications. As usually, we published the conference report [5] and several full papers in Molecules [6]. The interviews with participants (in Russian) were published in newspaper “Science in Siberia” [7,8] and the conference pictures remained on the web [9].

EAMHC-4 (Thessaloniki, August 27-31, 2006).

After success of three events held in Russia it was quite reasonable to attempt crossing its border and organize the meeting abroad. In early 2005 Prof. Athina Geronikaki from Thessaloniki, Greece suggested being a host of the next event. In the past she was my colleague in our joint INTAS project (acting as coordinator), and I warmly remembered her strong organizing talent and perfect communicating skills. (She is "Eurasian" in full sense: Greek origin, graduated from Tashkent University in former USSR and then repatriated to Greece where she established close personal connections to many scientists at European, Russian, Indian and Arabic universities.) In the past she organized and chaired several international events, so I felt the meeting to be in safe hands.

We slightly modified the name and abbreviation of the meeting changing from EAHM to EAMHC (Eurasian Meeting on Heterocyclic Chemistry). The meeting was advertised via ISHC website and at the international heterocyclic meetings (in India, Slovak Republic and Russia) which we attended. We decided to put timelines of our meeting as close as possible to the European heterocyclic meeting in Italy (that immediately followed our event) in order to offer our participants to join both events. Later we



recognized that the same dates have been chosen for big chemistry meetings in Hungary and Turkey. Nevertheless, about 200 participants from 36 countries attended the meeting and presented 59 invited, plenary and oral reports and 142 posters. The biggest delegations were from Russia and Iran; the heterocyclic chemistry topics were complemented mainly with medicinal chemistry issues, see report [10]. Three best posters were awarded.

The chosen place, Thessaloniki is one of the oldest cities in Europe. Many things there and around (during conference tours) memorized the name of Alexander the Great: the name Thessaloniki (originated from the name of his sister), the ancient city Pella (his birthplace), and the city Vergina (with fascinating grave of his farther Phillip). I consider this link of our Eurasian event to this famous figure of ancient times to be especially symbolic. The Alexander's empire

was one of the biggest in human history spreading from Europe to Asia, being the source of strong interaction between Hellenistic and Asian cultures.

I am very glad that the next 5th event in the line takes place in Kuwait, a prosperous Eurasian monarchy with old history and its unique cultural flavor, known for warm hospitality of its peaceful, healthy and laborious people, who succeeded to convert a deserted piece of land into modern flourishing oasis. I wish further events in this line to be always successful.

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Heterocyclic chemistry has its origin in organic synthesis, natural products chemistry and medicinal chemistry. Indeed most any heterocyclic chemist will also consider themselves organic chemists and many will consider themselves to be natural products chemists and medicinal chemists as well. This relationship between disciplines arises because heterocyclic molecules are fundamental building blocks of biological systems. In addition to its importance to biology