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Global Supramolecular Chemistry Network (GSCN)

What Does the GSCN Stand For?

MAREK PIETRASZKIEWICZ
Institute of Physical Chemistry, Polish Academy of Sciences, 01224 Warsaw, Kasprzaka 44/52, Poland, E-mail: pietrasz@ichf.edu.pl

There has been an initiative undertaken in supramolecular chemistry of global range, as a collective effort of many colleagues around the world active in supramolecular chemistry. The goal is to create more research opportunities for the younger generation of supramolecular chemists, who are creative, dynamic and skilled, and an international powerful lobby for supramolecular chemistry. Supramolecular chemistry, comprising the chemistry of non-covalent interactions, molecular physics and molecular biology, deserves special attention. An explosive growth of this scientific discipline is absolutely unprecedented in the history of modern science. Our goal may be achieved in a number of ways, provided it is perfectly organized and supported by all members of the Global Supramolecular Chemistry Network. Thus we invented the pattern of Regional Coordinators of this Network, whose commitment it is to look after the local community of supramolecular chemists in their native countries, and to create the Regional Supramolecular Chemistry Networks. We are thinking about closer relations with the business world and industry to create appropriate funds for our activity, which will include international meetings, workshops, local conferences, and, in the future, the foundation of the International Research centre for Supramolecular Science and Technology. This Centre will provide research positions for scientists from all over the globe, including developing countries. Sabbatical positions will be open for dynamic and creative chemists who would be happy to teach post-doctoral fellows. Short lecturing visits will also be greatly appreciated to upgrade the level of the Centre. This is a very short outline. We actually have a number of

persons as Regional Coordinators in Europe, the USA, Canada, Australia, India, China and Latin America.

Goals of Supramolecular Chemistry

Although supramolecular chemistry deals primarily with basic research, it has been fully demonstrated already that an enormous commercial potential exists within the scope of supramolecular technology and applied research. The severe problems humanity will face very soon will be associated with global problems of human existence and life conditions, and supramolecular chemistry may contribute substantially to tackle the problems of health, environmental protection, and alternative, clean energy sources, to enable humanity to survive. Supramolecular chemistry has exceptional possibilities in this respect, enough to mention that the annual production of nuclear magnetic resonance imaging contrast agents brings US$ 750M, and tumour targeting/therapy US$ 2B (!). Thus, the GSCN organization may serve as a good interface between the academic world and business/high-tech industries. This formula may be achieved by the following services offered by GSCN to commercial sectors:

- ordered research for those corporations concerned in solving R&D problems
- new inventions/technologies which are interesting for corporations
- information exchange about the research groups capable of conducting research for companies
- elaborations, expertises, special synthetic tasks for advanced materials
- solving customer-oriented problems
- running futuristic scientific tasks that will be of great importance in the coming years
- scientific training of young personnel for industrial recruitment

There are a few simple ways of making our initiative successful: we wish to bring younger scientists to world-wide recognition of their work, although everybody, regardless of age, political/religious/sex orientation is cordially welcome to participate in GSCN works, provided he/she has the good will to do so. By creating the Global Network, we can establish a number of cooperations with skilled people for mutual benefit. We need relatively independent financing; we have to approach potentially interested industries for sponsoring our activities, by creating a positive feedback loop between academics and high-tech industries. Supramolecular chemistry, as an interdisciplinary science, requires very bright individuals who are familiar with many branches of chemistry and physics. Thus, such high-class young individuals will be greatly appreciated for feeding modern high-tech industries. The amount of money should allow us to invite scientists from remote places, as well as to create special funds for young students and researchers still

living in less fortunate conditions. The topics must be attractive for both sponsoring institutions and for the academic world.

The Goal of the Global Supramolecular Chemistry Network

The aim of GSCN is to create a powerful lobby for supramolecular chemistry involving, in particular, the younger generation of supramolecular chemists throughout the world, including Asian nations, Latin America, Eastern and Central Europe, Africa. Talented and highly motivated people can be found everywhere. Once they have access to modern laboratories in developed countries, they will be more than happy to conduct research work to the best of their abilities, but also western sponsors will benefit from this arrangement. How to find talented individuals? One way is to organize international meetings in which younger scientists from remote areas would have access. So far, unfortunately, international events on various aspects of supramolecular chemistry are not easily accessible for scientists from post-communist, or remote countries. Our goal is to build up an independent financial system based on donations from high-tech industries interested in close cooperation with GSCN in both basic and applied research.

One of our short-term tasks is the organization of the 1st International Conference on Supramolecular Science & Technology (Zakopane, High Tatras, Sept. 27–Oct. 3rd, 1998, Hotel Kasprowy****, Poland), an initiative with the involvement of the distinguished International Union of Pure & Applied Chemistry, and the participation of Kluwer Academic Publishers, the well-recognized world leader in scientific book publishing. There are also two Polish Ministers announcing their participation in this conference: Prof. Miroslaw Handke, Minister of National Education (photochemist !), and Prof. Andrzej Wiszniewski, Minister of the Polish State Committee for Scientific Research. Press and television are also welcome to release information to the public. We will be happy to invite the industry R&D representatives for interactive participation in our conference to arrange closer relationships with advanced industries for mutual benefit. The topics of the Conference will cover:

> advanced materials, analytical chemistry/environmental protection, energy conversion/storage, medical diagnostics/therapy, new synthetic strategies.

We wish to develop a modified pattern of the international conference: a substantial number of young participants, strong ties with industrial representatives/participants and their interactive participation, and changing the main topic of each conference. The frequency of the conferences will be every 2 years.

More information is available on our WWW page: http://www.ch.pw.edu.pl/~dybko/supra.htm.

SHORT-TERM TASKS

The short-term tasks within the GSCN involve organization of local Network Structures, with e-mail addresses, personal data bases, the Local Coordinators Structure, local seminars, workshops, etc., in supramolecular chemistry, as well as involvement in organizational matters of the ICSS&T Conference.

LONG-TERM TASKS

The long-term tasks will involve the rising funds for GSCN activities, and organization of the International Centre for Supramolecular Chemistry that will develop the following activities:

1. Research work and training young supramolecular chemists from all over the world.
2. Short lecturing visits of outstanding scientists from developed countries.
3. Sabbatical visits; lectures, training, research to upgrade the level of post-docs.
4. Organization of seminars, workshops, conferences, etc.
5. Sponsorship of particularly important directions in supramolecular chemistry.
6. Integration of chemists from developing and developed countries.
7. Scientific exchange – post-doc. positions in developed countries.

There is no doubt that in many cases lack of funds prevents very bright people from being distinguished; they have no chance to manifest themselves. We can improve this situation by creating opportunities for them. Of course, we will not change the whole world, but at least we can set a good example. Short lecturing visits by distinguished scientists from developed countries will greatly help to upgrade the level of teaching for post-docs and Ph.D students. Sabbaticals will be extremely helpful in blowing fresh air into research ongoing in the Centre. Both short and long term visits will help to integrate the society of supramolecular chemists. Fellows from developed countries will also benefit because pre-trained colleagues leaving the Centre will be well-equipped with skill, knowledge and enthusiasm, thus fitting better in western laboratories. This working scheme will most probably diminish the differences between the scientific communities in developing and developed countries.

Officially Recognized Organizations Within GSCN

To make the GSCN working within civilised rules, the Regional Coordinators are expected to register their organizations as non-profit scientific units, as Foundation, or the Society. Actually, there are two already established bodies: the Romanian Society for Supramolecular Chemistry, presided by Prof. Lucia Mutihac, and the Polish Supramolecular Chemistry Network Foundation, run by the Author of this essay. Several other structures are being considered for establishing in the Czech Republic, Finland, and probably in China.

The structure of the GSCN organization is of a dendritic nature. In order to ensure the most efficient and the fastest way of mutual communication, we extensively use E-mail connections, which have a tremendous power for instant transmission of important messages. We are still looking for potential candidates for Regional Coordinators of the Global Supramolecular Chemistry Network in Greece, France, Austria, Sweden, Norway, Spain. They should be enthusiastic, skilled and motivated to run these duties on behalf of the GSCN.