

## Institute of Solid State Physics, University of Latvia

### Minutes of International Advisory Board Meeting on October 3, 2018

*Radisson Blue Latvia Conference&Spa Hotel, Elizabetes Str 55, Riga, Latvia*

(3 appendices)

#### Participants:

**Robert Evarestov** – professor of the St.Petersburg State University, Russia, works with nanostructures;

**Vladimir Shur** - professor of Ural Federal University, Russia, working with nanotechnologies; emphasizes that his university enters the number of 20 best scientific infrastructures in Russia;

**Ming-Chi-Cho** from National Sun Yat-sen University, Taiwan (one of top-7 universities in Taiwan);

**Jūras Banys** - professor of Vilnius University, Lithuania and president of the Lithuanian Academy of Sciences;

**Marco Kirm** from University of Tartu, Estonia- works with experimental physics;

**Dag Høvik** from DH Consulting represents industry (formerly: The Research Council of Norway), working in company *Funzionano* on manufacturing of nano-structured materials, for improving fire retarding and barrier properties, water repellence, interested in nanotechnology and materials;

**Jiri Kulda** - scientist emeritus at Institut Laue-Langevin, France, and freelance consultant, interested in large-scale science facilities and neutron spectroscopy;

**Gunnar Niklasson** professor in solid-state physics at Uppsala University, Sweden;

**Maija Kuklja** - program director at National Science Foundation, USA, interested in advanced materials;

**Andris Ozoliņš** from ISSP UL, Latvia, responsible for industry development in CAMART<sup>2</sup>;

**Laima Trinkler** from ISSP UL, Latvia, chairperson of research council;

**Andris Anspoks** from ISSP UL, Latvia, responsible for innovation in CAMART<sup>2</sup>;

**Andrejs Siliņš** - secretary general in Latvian Academy of Sciences, interested in physics of glasses, optical fibers, photonics;

**Andris Šternbergs** - deputy director of research at ISSP UL, Latvia and chairman of the International Advisory Board of ISSP UL;

**Ieva Siliņa** from ISSP UL, Latvia, chairperson of the board of the Association of Latvian Young Scientists (taking the minutes);

**Mārtiņš Rutkis** - director of the ISSP UL, Latvia, interested in photonics and organic materials.

### 1. Organizational matters

**Andris Šternbergs** opens the meeting and asks participants to introduce themselves.

**Andris Šternbergs** reviews the lists of the members of the International Advisory Board and of the meeting participants:

**Gunnar Niklasson** is replacing **Claes Goran Granqvist** and **Maija Kuklja** replaces **Juris Upatnieks**. **Andris Ozoliņš** and **Andris Anspoks** participate as observers.

**Andris Šternbergs** proposes to elect **Juris Upatnieks** as an Honorary member of the board and to elect **Maija Kuklja** and **Mārtiņš Rutkis** as regular board members.

The board votes unanimously YES to all propositions.

**Andris Šternbergs** then proposes **Jiri Kulda** to chair the current meeting.

The meeting participants agree unanimously.

**Jiri Kulda** chairs the rest of the meeting according to the proposed agenda.

### 2. The ISSP UL and CAMART<sup>2</sup> progress report.

The report has been presented by **Mārtiņš Rutkis**, the corresponding PDF file is attached as Appendix 1.

**Jiri Kulda** thanks in the name of the IAB to **Mārtiņš Rutkis** for his presentation and congratulates him and his collaborators to the amount and quality of the work accomplished at the ISSP UL, involving also the first two years of the CAMART<sup>2</sup> project.

### 3. Discussion on the CAMART<sup>2</sup> project in the context of the general ISSP UL activities

**Jiri Kulda** proposes to structure the discussion in two parts: the Activity report of ISSP UL and the CAMART<sup>2</sup> project and its implementation. For obvious reasons the subsequent questions and answers could not, however, avoid certain overlap of the two topics. Two IAB members, **Annette Bussmann-Holder** and **Paul Stradins**, have mailed in comments and questions to the presentation, raising points similar to those coming up in the discussion. The full texts are attached as Appendix 2 and 3, respectively.

*The ISSP activity report:*

**Marco Kirm** asks about governmental plans of inviting back Latvian scientists working abroad. **Mārtiņš Rutkis** answers that at present there is not sufficient financial support for that. One of the best tools available is the currently active "PostDoc Latvia" program. **Ieva Siliņa** adds that the Ministry of Education and Science is executing their remigration plan for inviting back

500 Latvian scientists working abroad, but the plan focuses on communication, there is no monetary support or grants.

**Jiri Kulda** asks how ISSP plans to deal with the decreasing numbers of students in physics? Similar questions and doubts are raised also in the mailed comments of **A. Bussmann-Holder** (cf. Appendix 2). **Mārtiņš Rutkis** suggests that promotion has to be improved and scientists should talk to school students and engage them in choosing a career in physics. Courses developed within CAMART<sup>2</sup> project should help. **Jiri Kulda** asks then whether more physics students are really needed by the Latvian society. **Mārtiņš Rutkis** says that definitely yes, and we should promote STEM more.

**Gunnar Niklasson** has noticed that there were 20 PhD students but just a few thesis defended; should more be expected? **Mārtiņš Rutkis** says that it usually takes 4 years to get to the defense, but not all students make it. The number fluctuates. **Andris Šternbergs** adds that best rate of defended thesis was in time when ESF stipends for PhD students were available.

**Jūras Banys**: how many students have started bachelor studies in physics this year? **Mārtiņš Rutkis** answers that around 30, and half of them will continue to master's degree studies. **Jūras Banys** adds that ISSP should work more closely with schools to attract more students for bachelors' studies. **Andris Šternbergs** reminds that there is monetary motivation program for attracting students in place.

**Dag Høvik** says that he is astonished that there is no funding for recruitment and/or contracting the students. **Mārtiņš Rutkis** responds that the purpose of CAMART<sup>2</sup> is the development of ISSP instrumentation and infrastructure but not for recruiting. Recruitment may come up, as capacity will be increased. For now the greatest problem is the lack of resources to choose from. **Dag Høvik** suggests that ISSP should invite school kids to the institute to present its activities to raise interest in them.

**Maija Kuklja**: if you would have access to unlimited pool of students, are there any restrictions to accommodate them? **Mārtiņš Rutkis**: we are not the university, so we can just accommodate doctoral students at our facilities. Moreover there is problem with studies in Latvian language, which is obligatory for state funded positions. **Jiri Kulda** comments that in Prague it is usual to have PhD courses in English. **Andrejs Siliņš** notes there will be elections in three days, which could change this situation in Latvia.

#### *Questions and answers on CAMART<sup>2</sup>*

**Robert Evarestov** asks a question for all the board members: what we, as members of the advisory board, could do for the project? **Robert Evarestov** himself is ready to give lectures. **Vladimir Shur** can offer access to very modern infrastructure at the Ural Federal University.

**Mārtiņš Rutkis** asks for redirecting promising students for research at ISSP, for example, via "PostDoc Latvia" program, what has competitive salary for three years or PhD studies.

**Maija Kuklja** says that "PostDoc Latvia" program is not attractive for US students, but they could be interested in study exchange semester in LV, in getting unique knowledge. ISSP results are on par with the state-of-the-art at US institutions. She offers to send out materials to all US universities on opportunities, they could use (cf. Appendix 4).

**Jūras Banys** offers using the European “Erasmus” program. **Mārtiņš Rutkis** replies that there is a legal barrier: ISSP not being a teaching organization cannot participate in Erasmus directly. **Jūras Banys** then suggest using “Erasmus practice” for example, in summer.

**Jiri Kulda**: “PostDoc Latvia” program could be liked by Eastern Europe countries, ISSP have to promote it more.

**Andrejs Siliņš** continues on what advisory board could do for ISSP. Next year will be executed next evaluation of research institutions and international cooperation will be measured, the advisory board could help ISSP in this.

**Vladimir Shur** says that a lots of students in Russia choose to complete do their thesis and exams in English. For ISSP increasing number of publications is very important, we should do more joint publications. Cannot reach great results alone.

**Jiri Kulda** gives a warning from his experience: as investment in infrastructure doesn't necessary lead to increase of publications. In the ILL experience 5x investment actually resulted in drop of publications, as people were busy in other matters than experiments (cf. also **A. Bussmann-Holder** in Appendix 2). **Mārtiņš Rutkis** says it was the same in ISSP UL last year as people were busy with tenders, paperwork, etc. That is why we need more people in the institute, what will grant synergic rise of publications.

**Dag Høvik**: cooperation program “program “EEA Financial Mechanism 2014 – 2021 Baltic Research Program” <http://www.etag.ee/en/funding/partnership-funding/eea-financial-mechanism-2014-2021-baltic-research-programme/> should be used, focusing on Environmentally friendly solutions.

**Gunnar Niklasson** tells about “AIM DAY” concept, used in Uppsala where enterprises and scientists meet. It is important as ISSP has ambition of using equipment for commercial purposes.

**Andris Anspoks** says that ISSP is successful in innovations development. There are three real second stage projects. The “Aim Day” of Uppsala is a good concept and ISSP is planning a closer visit to explore the concept. At the same time ISSP together with its partners RISE is targeting Innovation Due Diligence as a primary tool. ISSP has implemented an innovation development system to identify and develop research outcomes suitable for commercialization, in total 10 proposals submitted, 4 of them received financing for the 1<sup>st</sup> stage and 3 of them passed to the second stage. Growth of the industrial projects is slower than initially expected, as direct investments from national industry are much smaller. At the same time a voucher system was started in Latvia, being a bit slow at the moment, but usable. ISSP has received 1 of out of 5 granted vouchers in Latvia. ISSP is also preparing a proposal of what could be offered to industry abroad in package with Latvian high technology industry offers, for example, in fields of fiber optics, vacuum coating, LCD technologies. The ISSP foresees largest growth in H2020 applications in cooperation with industry, for example, in the field of Li batteries. In general, the ISSP is placed in the central part of the innovation ecosystem in Latvia.

**Marco Kirm** says that certain tasks should be better carried out by the education system, i.e. universities and not institutes; for example study programs and cooperation with industry.

**Andris Anspoks** replies that because ISSP has resources for it, it is doing it and university will

benefit. In case of cooperation with companies, the university is too slow so this matter should be better taken in our own hands.

**Jūras Banys:** ISSP had great success rate in FARP contest, 6 granted projects out of 24 project applications, what was average success rate? **Andrejs Siliņš:** 15%.

**Dag Høvik** asks whether ISSP did approach the industry (there are 280 companies in Latvia listed within electrical engineering and electronics industry), in particular the largest players in the field. **Andris Anspoks:** yes, for example, “SAF tehnika” using PCB printing and assembling are the largest electronics buyers here, they have spin off in the internet of things and we are part of it. We are looking for opportunities to add a value.

**Dag Høvik** asks if ISSP could offer an education program for the industry partners. **Andris Ozoliņš** mentions that this is a good idea; the ISSP team can do it by addressing the companies in its field in cooperation with the university. **Andris Anspoks** notes that ISSP misses resources to provide comprehensive training for industry. It can better concentrate on dedicated workshops, ideators and innovation development.

**Andris Šternbergs** suggests that development of competence centers is also an opportunity for ISSP and **Andris Anspoks** adds that ISSP is in contact with relevant associations.

#### 4. Next FM&NT conference

**Jiri Kulda** raises question of the next FM&NT conference. As the IAB member appear happy with the late practice of rotating the conference between the Baltic countries. After Vilnius – 2015, Tartu – 2017 and Riga – 2018 it would be turn of Lithuania for the next edition again.

**Jūras Banys** offers to organize it in Vilnius in May-June 2020 with the exact timing choice taking into account other relevant events in the field. There will be also the International Workshop on Relaxor Ferroelectrics organized in Vilnius in July 2020, involving some 60 persons. **Vladimir Shur** together with several other IAB members suggest to join the two events, which have a partly overlapping attendance. **Andris Šternbergs** agrees and the IAB encourages **Jūras Banys** to explore the possibilities to organize the two events jointly.

#### 5. Concluding part

**Andris Šternbergs** and **Jiri Kulda** thank all the present IAB members for their active participation in the meeting as well as those who have mailed in their comments and suggestions. **Andris Šternbergs** reminds that the board recommendations are very important to the ISSP for next year’s evaluation process. Therefore he asks for recommendations arising from the IAB discussion and suggests **Jiri Kulda** to summarize them. **Jiri Kulda** promises to conclude and summarize them after **Ieva Siliņa** sends out minutes of the meeting. He also asks all the board members to send him short summaries of their notes before till next Friday, October 12th.