Journal of the German-Russian Travelling Seminar 2017 «Nanomaterials and Scattering Methods»

10th – 22nd September, 2017
Editors:

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For more info about the Travelling Seminar please visit: www.travellingseminar.uni-bayreuth.de
Dear Friends, colleagues and participants

The 7th Travelling Seminar 2017 was organized this time in Russia with visits to scientific institutions in Ekaterinburg, Kazan, Dubna, Troizk and Moscow. We were warmly received all along our way by many outstanding personalities like academician Valery Charushin, chairman of the Ural Branch of the Russian Academy of Sciences, Dr. Victor Koksharov, rector of the Ural Federal University, Dr. Sven Rost, German-Russian Institute of Advanced Technologies or Prof. Rupert Gerzer, vice director of the Skolkovo Institute of Science and Technology. All these personalities have become an integral part of the Travelling Seminar 2017 and they are now our strong supporters and friends.

Nanomaterials in a broad sense studied primarily with scattering methods to find out about their physical and chemical properties were at the heart of the scientific program. The lectures were either given by renowned scientists from universities or from institutes of the Russian Academy of Sciences, by the accompanying professors or presented by the participating students. All students showed a great dedication, which was the basis of the high scientific level of the event, although it was first experience of an international environment for many of the participants.

Cultural exchange and initiations of long lasting friendships between the Russian and German participants have for us the same level of relevance. The travelling aspect is of central importance to reach this goal and the train trip from Ekaterinburg to Kazan by the Trans-Siberian railway including lectures in the restaurant wagon was an integral part of it. Also such activities as excursions to Trinity Lavra of St. Sergius and Chernigov skit in Sergiev Posad or the farewell dinner on a motorship cruise on the Moscwa river at the end of the seminar have forged a long lasting group spirit among the students.

Let us express here our gratitude for the generous financial support by the BMBF (Bundesministerium für Bildung und Forschung), the UrFU (Ural Federal University) and by the UBRAS (the Ural Branch of the Russian Academy of Sciences) which made the Travelling Seminar 2017 possible. We do hope to receive future funding to continue this unique series which has already initiated so many long lasting contacts between German and Russian students.

The organizers of the TS 2017:

Andrey Rempel  Andreas Magerl  Mirijam Zobel  Maxim Vlasov
7th German-Russian Travelling Seminar
“Nanomaterials and Scattering Methods”

PROGRAM

10.09.17  Arrival in Ekaterinburg

11.09.17  Ekaterinburg  Ural Federal University

12.09.17  Ekaterinburg  Institute of Electrophysics of Ural Branch of Russian Academy of Sciences (IEP UB RAS)

13.09.17  Transsib train from Ekaterinburg to Kazan

14.09.17  Kazan  German-Russian Institute of Advanced Technologies (GRIAT)

15.09.17  Kazan  Arbuzov Institute of Organic and Physical Chemistry of Kazan Scientific Centre of Russian Academy of Sciences (IOPC KSC RAS)

16.09.17  Flight to Moscow
          Moscow guided bus tour
          Transfer to Sergiev Posad

17.09.17  Sergiev Posad guided tour
          Transfer to Dubna

18.09.17  Dubna  Joint Institute for Nuclear Research (JINR)

19.09.17  Moscow  Moscow State University (MSU)

20.09.17  Moscow  Skolkovo Institute of Science and Technology (Skoltech)

21.09.17  Moscow  Institute of Spectroscopy of Russian Academy of Sciences (ISAN)

22.09.17  Departure
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<thead>
<tr>
<th>Date</th>
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<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>10.09.17</td>
<td>Ekaterinburg</td>
<td>22:00</td>
<td>Arrival of participants to Ekaterinburg</td>
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<tr>
<td>Sunday</td>
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<td>Bus transfer from the airport to Grand Avenue hotel</td>
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<tr>
<td>11.09.19</td>
<td>Ural Federal University (UrFU)</td>
<td>10:00 – 10:20</td>
<td><strong>TS-2017 Opening session</strong></td>
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<tr>
<td>Monday</td>
<td></td>
<td></td>
<td>10:00-10:05 Opening speech of Organizing Committee Chairman, Corresponding Member of the RAS, Prof. Andrey Rempel</td>
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<td>10:05-10:10 Opening speech of Rector of UrFU Dr. Victor Koksharov</td>
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<td>10:10-10:15 Opening speech of Vice-president of the RAS, Chairman of the Ural Branch of the RAS, Academician of the RAS, Prof. Valery Charushin</td>
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<td>10:15-10:20 Opening speech of Organizing Committee Chairman Prof. Andreas Magerl</td>
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<td>10:20 – 10:45</td>
<td>Coffee break</td>
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<td>10:45 – 11.00</td>
<td>Prof. Andreas Magerl, Prof. Mirijam Zobel</td>
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<td>11:00 – 12.00</td>
<td>Prof. Andreas Magerl</td>
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<td>12:00 – 12:45</td>
<td>Prof. Ernst Kurmaev</td>
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<td>12:45 – 14:00</td>
<td>Lunch</td>
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<td>14:00 – 14:45</td>
<td>Dr. Sc. Maxim Ananyev</td>
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<td>14:45 – 15:15</td>
<td>Aleksey Perepelitsa</td>
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<td>15:15 – 15:45</td>
<td>Benedikt Sochor</td>
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<td>15:45 – 16:15</td>
<td>Coffee break</td>
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<td>16:15 – 17:15</td>
<td>Guided tour to NANOtech center of UrFU</td>
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<td>17:15 – 19:00</td>
<td>Walking tour in city center</td>
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<td>19:00</td>
<td>Welcome dinner</td>
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<td>12.09.19</td>
<td>Institute of Electro-physics of Ural Branch of Russian Academy of Sciences (IEP UB RAS)</td>
<td>08:00 – 09:00</td>
<td>Transfer to IEP UB RAS</td>
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<tr>
<td>Tuesday</td>
<td></td>
<td>09:30 – 09:45</td>
<td>Deputy director of IEP UB RAS, Dr. Anton Kaygorodov</td>
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<td>Opening in IEP UB RAS</td>
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<td>09:45 – 10:30</td>
<td>Dr. Anton Kaygorodov</td>
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<td></td>
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<td></td>
<td>‘Nanotechnologies in creating of advanced ceramics for different applications’</td>
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<td>10:30 – 12:00</td>
<td>Guided tour to IEP labs</td>
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<td>12:00 – 13:15</td>
<td>Lunch</td>
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<td>13:15 – 14:15</td>
<td>Prof. Mirijam Zobel</td>
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<td>‘Structure of non-crystalline substances in the X-ray beam’</td>
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<td>14:15 – 14:45</td>
<td>Eckardt Mirco</td>
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<td>Effects of Solvent-Restructuring at Solid-Liquid Interfaces in Heterogeneous Catalysis</td>
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<td>14:45 – 15:15</td>
<td>Elizaveta Derevyannikova</td>
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<td>‘Structure and catalytic properties of Rh_{x}Ce_{1-x}O_{2-δ}’</td>
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<td>15:15 – 15:45</td>
<td>Coffee break</td>
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<td>15:45 – 16:15</td>
<td>Andrey Leonov</td>
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<td>‘Luminescent sensor structures for metal ions registration in aqueous solution’</td>
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<td>16:15 – 20:00</td>
<td>Tour to Europe-Asia border</td>
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<td>20:00</td>
<td>Free time</td>
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<td>13.09.19</td>
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<td>08:00 – 08:30</td>
<td>Transfer to train station</td>
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<tr>
<td>Wednesday</td>
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<td>10:12 – 21:40</td>
<td>Train to Kazan</td>
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<td>Corresponding Member of RAS, Prof. Andrey Rempel</td>
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<tr>
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<td>‘Nanomaterials’</td>
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<td>22:00</td>
<td>Hotel check-in</td>
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| 14.09.19   | German-Russian Institute of Advanced Technologies (GRIAT)            | 09:30 – 09:45    | **Director of GRIAT, Dr. Sven Rost**  
Opening in GRIAT                                                                                                                             |
| Thursday   |                                                                       | 09:45 – 10:15    | Maxim Vlasov  
‘Optical properties of Al₂O₃ nanostructured layers prepared by pulsed electron beam target evaporation technique’                                                                 | 10:15 – 10:45 | Sebastian Krauß  
‘Introduction to neutron scattering’                                                                                                         |
|            |                                                                       | 10:45 – 11:15    | Yulia Perevozchikova  
‘Electronic transport in half-metallic Co-based Heusler alloys for spintronics’                                                                                                                |
|            |                                                                       | 11:15 – 11:45    | Anton Weiβbach  
‘Field-induced assembly of cubic iron oxide nanoparticles’                                                                                                                                        |
|            |                                                                       | 11:45 – 13:00    | Lunch                                                                                                                                   |
|            |                                                                       | 13:00 – 15:00    | Guided tour to GRIAT labs                                                                                                                  |
|            |                                                                       | 15:00 – 15:30    | Coffee break                                                                                                                               |
|            |                                                                       | 15:30 – 16:00    | Ilya Balyakin  
‘Computer simulation of the behavior of nanoparticles in aqueous solutions’                                                                                                               |
|            |                                                                       | 16:00 – 16:30    | Felix Wenzel  
‘Self-Assembly of Colloidal Monolayers’                                                                                                                                                    |
|            |                                                                       | 16:30 – 17:00    | Tobias Lauster  
‘Optical characterization of metallic nanoparticles on single particle level using darkfield spectroscopy’                                                                                      |
|            |                                                                       | 17:30            | Soccer and free time after                                                                                                                  |
|            |                                                                       | 20:00            | Kazan Kremlin tour                                                                                                                        |
| 15.09.19   | Arbuzov Institute of Organic and Physical Chemistry of Kazan Scientific Centre of Russian Academy of Sciences (IOPC KSC RAS) | 09:00 – 09:15    | **Director of IOPC, Chairman of the Kazan Scientific Centre of the RAS, Academician of the RAS, Prof. Oleg Sinyashin**  
Opening in IOPC KSC RAS                                                                                                               |
| Friday     |                                                                       | 09:15 – 10:00    | Prof. Aidar Gubaydullin  
‘X-Ray Diffraction Methods in Nanoscience’                                                                                                                                                    |
|            |                                                                       | 10:00 – 10:45    | Prof. Marina Balakina  
‘Polymer Materials with Quadratic Nonlinear-optical Activity’                                                                                                                                     |
|            |                                                                       | 10:45 – 11:15    | Coffee break                                                                                                                               |
|            |                                                                       | 11:15 – 12:45    | Guided tour to IOPC labs                                                                                                                  |
|            |                                                                       | 12:45 – 14:00    | Lunch                                                                                                                                   |
|            |                                                                       | 14:00 – 14:30    | Alessandro Greco  
‘Real-time GIXD Measurements of Two-step Conversion Reactions of Lead Halide Perovskites’                                                                                           |
|            |                                                                       | 14:30 – 15:00    | Markus Hecht  
‘Hydrogen Bond Directed Self-Assembly of Diketopyrrolopyrrole Dyes - Studies at the Interface of Supramolecular Polymers and Liquid Crystals’                                                   |
|            |                                                                       | 15:00 – 15:30    | Yaroslav Biryukov  
‘High-temperature Mössbauer spectroscopic and X-Ray diffraction study of Fe₃O₂(BO₄)’                                                                                             |
|            |                                                                       | 15:30 – 16:00    | Daniil Kozlov  
‘Enhanced photocatalytic nanocomposites based on titania and gold nanoparticles’                                                                                                               |
<p>|            |                                                                       | 16:00            | Free time                                                                                                                                  |</p>
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<th>Date</th>
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<tr>
<td>16.09.19</td>
<td>Kazan – Moscow – Sergiev Posad</td>
<td>10:35 – 12:10</td>
<td>Flight Kazan-Moscow (arrival to Sheremetyevo)</td>
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<tr>
<td>Saturday</td>
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<td>13:00 – 17:00</td>
<td>Moscow guided bus-tour with stops and lunch</td>
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<td>17:00 – 20:00</td>
<td>Bus to Sergiev Posad</td>
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<td>20:00</td>
<td>Hotel check-in (Posadskiy Hotel)</td>
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<td>17.09.19</td>
<td>Sergiev Posad</td>
<td>10:00 – 12:00</td>
<td>Sergiev Posad guided tour</td>
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<td>Sunday</td>
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<td>12:00 – 14:30</td>
<td>Free time, lunch</td>
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<td>14:30 – 16:00</td>
<td>Tour to Chernigov skete</td>
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<td>16:30 – 18:30</td>
<td>Bus to Dubna.</td>
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<td>Dubna</td>
<td>18:30</td>
<td>Hotel check-in (Resident Hotel)</td>
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### Dubna, September 18, 2017

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<tr>
<td>18.09.19</td>
<td>Joint Institute for Nuclear Research (JINR)</td>
<td>09:00 – 09:15</td>
<td>Deputy director of JINR, Prof. Egor Lychagin Opening in JINR</td>
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<tr>
<td>Monday</td>
<td></td>
<td>09:15 – 10:00</td>
<td>Prof. Egor Lychagin ‘Frank Laboratory of Neutron Physics at JINR, Dubna’</td>
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<td></td>
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<td>10:00 – 10:45</td>
<td>Prof. Viktor Petrenko ‘Structural Stability Of Bio-Macromolecules And Nanoparticles According To Small-Angle Scattering Data’</td>
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<td>10:45 – 11:15</td>
<td>Coffee break</td>
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<td>11:15 – 12:30</td>
<td>Guided tour to JINR labs (Dorota Chudoba)</td>
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<td>12:30 – 13:30</td>
<td>Lunch</td>
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<td>13:30 – 14:00</td>
<td>Ekaterina Anikina ‘Carbon-based nanostructured materials for hydrogen storage application’</td>
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<td>14:00 – 14:30</td>
<td>Maxim Syrtanov ‘Hydrogen Interaction With Cast And Additively Manufactured Titanium Ti-6Al-4V Parts’</td>
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<td>14:30 – 15:00</td>
<td>Christoph Habel Spray Coating Of Layered Silicate Nanocomposites Acting As Ultra High Gas Barrier Systems</td>
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<td>15:00 – 15:30</td>
<td>Matthias Wiecha ‘Nanophotonics. Confining light at metasurfaces’</td>
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<td>15:30</td>
<td>Transfer to hotel and then to Moscow</td>
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<td>Date</td>
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| 19.09.19   | Moscow State University (MSU)                 | 09:00 – 09:15    | **Vice-rector of MSU, Professor of RAS, Prof. Andrei Fedyanin**  
Opening in MSU               |
|            |                                               | 09:15 – 10:00    | **Professor of RAS, Prof. Igor Potemkin**  
‘Soft matter nanomaterials’ |
|            |                                               | 10:00 – 10:45    | **Prof. Olga Filippova**  
‘Tuning the structure of polymer-surfactant systems’ |
|            |                                               | 10:45 – 11:15    | **Fabian Nehr**  
‘Graphene electronics: application and fabrication’ |
|            |                                               | 11:15 – 11:45    | **Olga Saprykina**  
‘Phase transitions and thermal expansion in Na2SO4–K2SO4 system’ |
|            |                                               | 11:45 – 14:00    | **Lunch and free time**                                                               |
|            |                                               | 14:00 – 16:00    | Guided tour to Kremlin                                                                     |
|            |                                               | 16:00            | Free time                                                                                |
| 20.09.19   | Skolkovo Institute of Science and Technology (Skoltech) | 08:00 – 09:00    | **Transfer from hotel to Skoltech**                                                       |
|            |                                               | 09:30 – 10:00    | **Director of the Skoltech Centre for Photonics and Quantum Materials (CPQM), 
Prof. Ildar Gabitov**  
‘Welcome speech and Overview of CPQM’ |
|            |                                               | 10:00 – 10:30    | **Dr. Sergei Kosolobov**  
‘Modern research techniques’ |
|            |                                               | 10:30 – 11:00    | **Coffee break**                                                                         |
|            |                                               | 11:00 – 12:00    | Guided tour to Skoltech labs (*):  
1. **Dr. Mael Brossard**  
Overview of Hybrid Photonics Laboratory  
2. **Prof. Albert Nasibulin and Dr. Yuriy Gladush**  
Overview of Nanomaterials Laboratory  
(*2 groups will be organized for lab tour) |
|            |                                               | 12:00 – 13:00    | **Lunch**                                                                                |
|            |                                               | 13:00 – 13:30    | **Theresa Nemeth**  
‘Titanium dioxide and zinc oxide nanoparticles in sunscreens’ |
|            |                                               | 13:30 – 14:00    | **Sabrina Thomä**  
‘Protein-Assisted Self-Assembly of Raspberry like Core/Satellite Nanoclusters’ |
|            |                                               | 14:00 – 14:30    | **Julia Ariko**  
‘Mechanically tuned nanocomposite coating on titanium metal with integrated properties of biofilm inhibition, cell proliferation, and sustained drug delivery’ |
<p>|            |                                               | 14:30 – 15:00    | <strong>Coffee break</strong>                                                                         |
|            |                                               | 15:00            | Transfer to the hotel                                                                     |
|            |                                               | 17:00            | Free time                                                                                |</p>
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<tr>
<td>21.09.19</td>
<td>Institute of Spectroscopy of Russian Academy of Sciences (ISAN)</td>
<td>08:00 – 09:30</td>
<td>Transfer to Troitsk</td>
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| Thursday  |                                                                       | 10:00 – 10:15   | **Director of ISAN, Prof. Dr. Viktor Zadkov**  
Opening in ISAN, Welcome talk                                           |
|           |                                                                       | 10:15 – 11:00   | **Corresponding Member of RAS, Prof. Dr. Evgeny Vinogradov**  
‘Near field phonon-polariton spectroscopy as a method for studying the optical properties of nanofilms’ |
|           |                                                                       | 11:00 – 11:45   | **Professor of RAS, Prof. Dr. Andrei Naumov**  
‘Laser selective spectroscopy of single organic dye-molecules and quantum dots: basic aspects and applications in nanoscopy’ |
|           |                                                                       | 11:45 – 12:45   | *Lunch*                                                                                 |
|           |                                                                       | 12:45 – 14:15   | Guided tour to ISAN labs (*):                                                                                                         |
|           |                                                                       |                 | 1. **Atom optics and nanophotonics**  
**Dr. Anton Afanasiev; Prof. Dr. Viktor Balykin**  
Laboratory of Laser Spectroscopy, Laser Spectroscopy Dept. |
|           |                                                                       |                 | 2. **Single molecule spectroscopy and nanoscopy**  
**Dr. Ivan Eremchev; Prof. Dr. Andrei Naumov**  
Lab. of Electronic Spectra of Molecules, Molecular Spectroscopy Dept. |
|           |                                                                       |                 | 3. **Ultrafast spectroscopy**  
**Prof. Dr. Sergey Aseyev**  
Lab. of Ultrafast Spectroscopy, Laser Spectroscopy Dept. |
|           |                                                                       | 14:15 – 14:30   | *Coffee break*                                                                          |
|           |                                                                       | 14:30 – 16:00   | Transfer to the hotel  
**Prof. Andreas Magerl, Prof. Andrey Rempel**  
Closing session |
|           |                                                                       | 16:00 – 17:00   | **Farewell dinner, cruise**                                                                                                          |
| 22.09.19  |                                                                       | 19:00 – 19:30   | Transfer to the piers  
**Prof. Andreas Magerl, Prof. Andrey Rempel**  
Closing session |
| Friday    |                                                                       | 20:00 – 00:00   | **Farewell dinner, cruise**                                                                                                          |
|           |                                                                       | 11:30 – 13:00   | Bus transfer from the hotel to the airport (SVO)  
**Prof. Andreas Magerl, Prof. Andrey Rempel**  
Closing session |
|           |                                                                       | 15:35           | Flight to Germany                                                                                                                   |
Despite that I have been working in Ural Branch of Russian Academy of Sciences for already 6 years, I have never heard about this Travelling Seminar before. And this year I got involved in it purely by accident. Somewhere in the beginning of spring I was offered by Prof. Ilya Weinstein, the head of the department in UrFU I graduated from, to participate in TS-2017 and help Prof. Andrey Rempel with the organization. Firstly I said ‘No. I don’t have enough time for this because of a lot of work on primary job’. But in the next 2 months life went such way that I again came back to this. So I thought ‘Why not? If everything goes this way returning me back to the issue of participation in the seminar, then I should try’.

Now I can say that it was the right decision. These 2 awesome weeks of the seminar were full of events: meeting new people, travelling, visiting different scientific organizations, gathering knowledge from professors and making business contacts for further scientific collaboration, and in addition having fun. I got new friends, have visited marvelous places like Trinity Lavra of St. Sergius and Chernigov skete in Sergiev Posad, got new ideas for my scientific research and reconsidered my point of view on some things. Also for me, as a person who took part in organization of this event, it was a great management experience. Unfortunately, or may be luckily, not everything was in the way we planned and wanted, and sometimes unpredictable problems were popping up. But overcoming of them allowed to see the real personality of each participant, to unite all of us and make relationships of higher level. In other words, Travelling Seminar is a great event no matter how you look at it, and it’s a big luck and happiness to take part in it! Many thanks to Prof. Andrey Rempel, Prof. Andreas Magerl and Prof. Mirijam Zobel for letting me be part of TS-2017 and to Prof. Ilya Weinstein for involving me into this!
As a physics and chemistry student at the University of Bayreuth, I had always been interested in interdisciplinary topics, especially scattering methods. That’s the reason why the Travelling Seminar ‘Nanomaterials and scattering methods’ was quite appealing to me. Therefore I was very pleased to become part of the journey to Russia in the time between 10.09.17 and 22.09.17.

After the flight we arrived at our first stop: Jekatarinburg. There was the first meeting between the German and the Russian participants. We visited the Ural Federal University and the Institute of Electrophysics of Ural Branch of Russian Academy of Sciences. Furthermore we saw the Europe-Asia border. Afterwards we entered the Trans-Siberian Railway to go to Kazan, and during this trip we got the possibility to enjoy the size of Russia as well as the nature. Then, in Kazan, we visited the German-Russian Institute of Advanced Technologies (GRIAT) and the Arbuzov Institute of Organic and Physical Chemistry of Kazan Scientific Center of Russian Academy of Science. At GRIAT I was amazed of the modern equipment and the educational content. But the best thing in Kazan was the kremlin that especially fascinated me because of three reasons: first, the great view over the city we could experience from there, second, the mosque whose construction had just been completed, and third, the combination of a mosque and an orthodox church next to each other inside the kremlin as a sign of tolerance. I even used the free time one day later to see the mosque from the inside.

In the monastery of Sergiev Posad I got deeper insights in the Orthodox Church - thereby I was surprised by the colorful paintings inside as well as by the big amount of golden icons. Then, as a personal highlight I want to stress the excursion to the neutron source in Dubna. I had read a lot about the theory of neutron scattering but actually never seen an experimental setup. Also the lectures and the discussions at this place were quite informative.

The last three days we stayed in Moscow to see the Moscow State University, the Skolkovo Institute of Science and Technology and the Institute of Spectroscopy of Russian Academy of Sciences. Remarkable was the metro system of Moscow with its beautiful stations, which appeared more like a palace than a normal train stop. I also enjoyed seeing Saint Basil’s Cathedral, Cathedral of Christ the Savior and the kremlin of Moscow. In the latter case it was very interesting to see the influences of the different times which were reflected by the various buildings.

Finally, I am very happy that I had the opportunity to experience the science and culture of Russia and pleased about having been part of the Travelling Seminar.

Sebastian Krauß

Date and place of birth: 28.06.1995, Bayreuth, Germany

Institution of higher education: University of Bayreuth

Place of work and position: Bachelor student at University of Bayreuth
My intention to apply for the Travelling Seminar was especially because of the opportunity to go to Russia for the first time. I have always been fascinated by the Russian culture and the people and I had also started to learn the Russian language. The additional advantage of the scientific approach convinced me.

The group of German and Russian participants was a wild mix of many different personalities. It was very interesting to meet people from all over Russia; some of them even had a longer journey to Ekaterinburg than we had. The time in Ekaterinburg went by pretty fast; it was very exciting to meet so many new people. The shyness that affected conversations with Russian participants was overcome no later than after a great welcome dinner, where we experienced typical Russian food and the Russian love for vodka for the first time.

The scientific program was very specific about the topic ‘Nanomaterials and Scattering Methods’. I really like the idea of every participant presenting a talk about this topic. It’s a great chance to practice and at the same time it’s interesting to hear what the bachelor, master and PhD students of the seminar are working on, because most of them presented their own studies. Presentations from many different scientists from universities and institutes as well as lab tours in every facility gave us an overview of the Russian research standard and their equipment.

The seminar made it possible for me to visit different cities and learn about the Russian culture. Especially Kazan and Moscow are attractive targets for young people. Some of the Russian participants were always there to help us with any kind of problem. I learned much about the Russian mentality and politics, the educational system and I got an idea of how large this country actually is.

Moreover I was able to improve my English skills. After a few days I didn’t have to think about expressing something anymore and it became much easier for me to communicate. The seminar really helped me with this, because I’ve had some problems with talking in English mostly because I had to overcome my anxiety of making mistakes.

All in all I consider this seminar as a very successful event where you can get to know another culture, make new friends and also learn more about Russian as well as German research. It was a great experience and I definitely want to visit Russia again in the next few years.
When Professor Filatov told me about the travelling seminar to Russia I was immediately inspired and wanted to go. Having looked through the materials from web-site, I was very delighted to find the opportunity to spend two weeks on Travelling Seminar.

I was looking forward to the seminar with anticipation, and finally on September 10 my journey began. Almost two weeks we traveled around the Russia by plane, train and bus. Besides that travelling gives perfect advantage to see a lot of scientific institutes, universities, to listen to different lectures on various fields of science. Even though communication with our German colleges was arduous in the beginning, but soon we talked about plenty age-specific topics.

As to the scientific program, it was quite saturated.

Many lectures on topical problems of synthesis and application of nanostructure materials were read for us. So many events in rather short period of time. It was a good chance to strongly enrich my future studies.

Cultural activity and possibility of communication with other participants was also wonderful. I feel more confident speaking English.

At the end I wish to pay lots of compliments to all of the organizers for good atmosphere of program and travel, all participants for the good mood. The participants not only exchanged of scientific experience, but really became friends.

Many thanks to Professor Magerl, Professor Rempel and Prof. Zobel for the opportunity to participate in this amazing seminar. I wish future seminars to be held successfully.
Learning about the cultures of other countries broadens one’s horizon and lets us overcome the preconceptions that we might have about other people, consciously or subconsciously. Personally, before going to Russia I had no idea about what to expect and I was curious to find out what it would look like, how the general population is like and what kind of food they serve. The German-Russian Traveling Seminar 2017 was amazing at answering all those questions and even more. It is incredible to me how much we have been able to see and experience in such a short amount of time. We’ve visited four different cities, ranging from Ekaterinburg in the Ural Mountains over the more exotic Kazan to the very capitol of Russia, Moscow. We visited many institutes, universities, churches, monuments and historical places. During that time, I had lots of opportunities to bond with my fellow Russian participants and exchange thoughts and ideas. This infinitely improved my understanding of Russian culture and because of that I’m very happy and thankful for the opportunity to meet all those wonderful people.

Alongside this cultural aspect, scientifically the seminar was a huge success. Since we visited a new institute every day, we were able to get a broad impression of a very diverse set of scientific workplaces and techniques within the fields of nanoscience and nanotechnology. Even though many of us came from different backgrounds (e.g. physics, chemistry, engineering) everyone was able to find something they’re interested in. The talks that were given by the participants also benefited greatly from this diversity. Even though everyone’s specialization was different, we always had lively discussions, which tells me that everyone was eager and able to learn things outside their own area of expertise. Personally, I not only enriched my knowledge about X-ray and neutron scattering methods, but also learned about the synthesis and use of nanoparticles and even the medical applications of nanomaterials.

Overall, I can happily say that every day was packed with excitement and new input, both scientifically and culturally, and I’m sure I’ll be able to draw from these experiences for the rest of my life. As a result, I strongly recommend this seminar to anyone who is even slightly considering applying!
Bringing together scientists from different countries, that is what the Travelling Seminar is about. And indeed, the 7th German-Russian Travelling Seminar was a wonderful experience for both, cultural and scientific exchange.

For us, the German participants, the Travelling Seminar started at Frankfurt airport. We met there to get the flight to Ekaterinburg the next morning. I was surprised to meet many participants of different academic degree (BSc, MSc and PhD students) and of different educational background (chemists, physicists and engineers). One day later we met the Russian participants in Ekaterinburg. There, the Welcome Dinner was the first gathering of all the participants. Having traditional food, vodka and interesting talks, Germans and Russians came in contact and a group of all the participants was formed. I was grateful to joke around and to have talks about the culture, politics and everything that came to our mind. But also, talking about science was very interesting since everybody had a different background. In general, the Travelling Seminar took us to plenty of institutes in Ekaterinburg, Kazan, Dubna and Moscow where it was stuffed with inspiring scientific talks. It was very good to get an idea about all the opportunities in the field of nanomaterials and scattering methods.

In addition to the scientific experiences, we could see a lot famous attractions. I love travelling around the world and at the Travelling Seminar we combined cultural, scientific and touristic experiences. We saw the European-Asian border, travelled with the Tran-Siberian Railway and had wonderful guided tours through Kazan and Moscow. I will keep these impressions of this country that I never visited before.

Nevertheless, the best was to meet all these open-minded people that made this Travelling Seminar what it was. I think we had a fabulous time together! I hope we stay in contact. And I want to thank the organizers that made these experiences possible. Thank you!

Anton Weißbach
Date and place of birth: 01.11.1993, Dresden, Germany
Institution of higher education: University of Bayreuth
Academic degree: B.Sc.
Place of work and position: Master student at the University of Bayreuth
At the end of my master project I was encouraged by my advisor to apply for this year travelling seminar. It needed some persuasion due to the stress of an approaching deadline for thesis submission, but since he was a participant of the seminar two years prior, I also got hooked on the idea, gave in, applied and got accepted.

The 7th German-Russian travelling seminar took place from September 10th to 22nd and lead its participants to major research facilities in Yekaterinburg, Kazan, Dubna and Moscow. Everyday a densely packed program took us to Ural Federal University (Yekaterinburg), German-Russian Institute of Advanced Technologies (Kazan), Joint Institute for Nuclear Research (Dubna), Moscow State University and Skoltech (Moscow), to only name a few. On every location lectures on state-of-the-art research, fabrication and characterization methods of nanomaterials were given, which immensely expanded my current knowledge and are a great start for my future work. During our visits every participant got the chance to give a presentation in a friendly and encouraging atmosphere. Such a remarkable chance to practice giving a conference talk is a unique feature of this and prior travelling seminars. Alongside the scientific aspect of our travel was a rich sightseeing program including a ride with the trans-siberian railway from Yekaterinburg to Kazan, the visits of the border of Europe and Asia, Kazan and Moscow Kremlin as well as Sergiyev Posad, to only name a few again. The amount of activities, during these 12 days we spend in Russia, is truly remarkable.

Looking back it was the right decision to participate in the seminar. Without such opportunities it is nearly impossible to get in touch with other young scientist. Therefore my advice to all interested students is to apply for upcoming travelling seminars, since they offer an excellent chance to see extraordinary research facility and cities around the world and meet other like-minded people.

I would like to end by thanking the organizers and donors of the travelling seminar as well as its Russian and German participants for this special experience. I am sure that future collaborations and interdisciplinary discussion will result from this unique and special two weeks.
Skoltech, Moscow

Sebastian, winner of the quiz, holding his prize, bottle of vodka. Farewell dinner, Moscow
This year I had the opportunity to participate in the 7th German-Russian Travelling Seminar "Nanomaterials and scattering methods’ which was held in Russia (Ekaterinburg, Kazan, Dubna, Moscow) from 10th to 22nd of September 2017.

It was, in some way, a non-stop scientific dive into the actual topics and methods of modern science such as nanomaterials and scattering techniques. In each city listed above, we visited institutes, universities, scientific centers and facilities, where great lectures and reports were performed by professors, scientists and participants, and interesting excursions to the laboratories were also conducted. In each city, there were also guided tours to local attractions, landmarks and sightseeing. This mix of scientific and cultural aspects made this journey special. Moreover, these aspects play an important role to communication and cultural exchange between the participants from Germany and Russia. I am glad to make friends and to still stay in touch with the participants.

I am very grateful to the sponsors and organizers of this Travelling Seminar, to Prof. Mirijam Zobel, Prof. Andreas Magerl, Prof. Andrey Rempel and Dr. Maxim Vlasov, for the opportunity to participate in it and for the great organization of this journey. I would like to thank all the participants for their contribution in this scientific event.

I would also like to wish all the best to this seminar. I hope it will continue in the future.

Sincerely,
Yaroslav Biryukov
It was my first participation in a Travelling Seminar and I can say that it was an amazing experience. About Traveling Seminar I heard a few years ago from my colleagues who already took part in it. I thought then, that it is great idea to unite young scientists from different countries and introduce them to the leading scientific organizations of the country, the best laboratories and great scientists. I was very happy when I had a chance to participate in this seminar!

I really liked the choice of cities and institutes for the seminar. We visited Ural Federal University with NANOTECH Center and Institute of Electro-physics of Ural Branch of Russian Academy of Sciences in Ekaterinburg; German-Russian Institute of Advanced Technologies and Arbuzov Institute of Organic and Physical Chemistry of Kazan Scientific Centre of Russian Academy of Science in Kazan; Joint Institute for Nuclear Research in Dubna; Moscow State University and Skolkovo Institute of Science and Technology in Moscow; and Institute of Spectroscopy of Russian Academy of Sciences in Troitsk. It's unbelievable! So many places in just 12 days!

I enjoyed the cozy atmosphere of discussions during the student talks, the diversity of the presented topics. But the communication with the German guys caused difficulties in connection with my language barrier. At the seminar, I realized that it is necessary to practice English, because it is important for the international communication. I have even enrolled in a course of spoken English to eliminate this problem in the future! 😊

Besides the scientific part of our journey, we had a rich sightseeing program: Tour to Europe-Asia border in Ekaterinburg, Kazan Kremlin in Kazan, Trinity Lavra of St. Sergius and Chernigovsky skete in Sergiev Posad, and bus-tour in Moscow with visiting to the Moscow Kremlin. It was the first time for me and it was very interesting and cognitively.

I think that Travelling Seminar is the unique experience for the participants, which allows them to immerse in the brilliant mixture of science, travel and cross-cultural communication.

To sum up, I would like to thank all the people who made this travel possible, organized it, gave lectures and guided tours, especially to Prof. Dr. Andrey A. Rempel and Dr. Maxim Vlasov, Prof. Dr. Andreas Magerl and Prof. Dr. Mirijam Zobel. And thanks every participant for your interesting scientific reports and work in the discussion.
Frankly, I was not quite sure how to picture to myself a ‘Russian-German Travelling Seminar’ while reading the advertisement on the internet. These are the first thoughts to occur in my mind:

**Russian-German**: Personally I had no experience with that not very common combination of people and culture of these two countries, but thinking outside the box would not harm in any way.

**Travelling**: The prospect of visiting a foreign country and especially famous cities, as Moscow & Kazan, was very enticing.

**Seminar**: OK, science will be in the focus, but that should be easy for a curious young engineer.

Despite or perhaps rather due to my vague assumptions I applied for the seminar and in retrospect I’m very glad that I did so.

The first ‘cultural shock’ was to meet the other German participants coming from different universities and studying in various disciplines. But during travelling by train and plane, living together in the hotel and venturing tentative steps in Yekaterinburg the group consolidated yet in the first two days. So we were prepared for the third day meeting ‘the Russians’. Initially interactions were hesitant and polite, but at least after the Welcome Dinner the ice was broken and a lively group dynamic arose, which was to be the base of new contacts and friendships.

Very exciting for every participant was to present own scientific work in a report. These were given and listened to in mutual appreciation. Thus very enriching discussions emerged and everyone gained new impressions and intensified knowledge of ‘Nanomaterials and scattering methods’.

I would like to say thank you…

… to all persons responsible in universities and scientific research institutes for sharing their knowledge and showing us plant and equipment.

… to German as well as Russian organizers for planning a pleasing program and ensuring trouble-free progress. Thanks for the opportunity to take part in this seminar.

… to all Russian and German fellow students for the outstanding companionship in the two weeks of the Travelling Seminar.

I wish the ‘German-Russian Travelling Seminar’ a lot of success for future iterations and hope that many students will take their unique chance to participate.
I started into the 7th German-Russian Travelling Seminar in 2017 not sure what to expect because it was my first participation in a travelling seminar and my first time in Russia. I am currently doing the Bachelor’s Degree Programme in Nanoscience at the Eberhard Karls University in Tübingen. When the professor forwarded information material about the seminar to me, it delighted me very much. I was very excited about the opportunity to spend twelve days travelling through Russia and visiting the universities and major research facilities. The scientific talk was also a great possibility to prepare for my future professional life. Moreover, I considered this seminar as a great opportunity to get in touch with the Russian way of life such as the Russian educational system. Last but not least, I was very curious about different approaches to the nanosciences at the foreign university. The seminar specializes in interdisciplinary research of nanosciences and scattering methods. This seminar gave me the possibility to continue expanding these skills at my home university.

I grew up in Kazakhstan, a Russian-speaking country, until the age of seven. Unfortunately, I have never had the experience to travel to Russia. I have already dreamed of it for many years, and then it became real. It was a very valuable experience for me to get to know the country and the culture.

This gave me a chance to deepen my knowledge in the largest Russian universities. Furthermore, I could improve my English such as my Russian. The experience in Ekaterinburg, Kazan, Dubna and Moscow was extremely exciting and fun.

I would be glad to meet our travelling team again! Finally I’d like to say ‘thank you’ to the organization team and the sponsors as well as to all people who made this great scientific and travelling event possible!
When I saw the flyer of the 7th German-Russian Travelling Seminar at first, I was sceptical whether the seminar and its topics fit to me since my research topic differs from the main focus of the seminar. However, Prof. Zobel encouraged me to apply for the summer school and I was very grateful when I received the confirmation that my application was successful.

The summer school itself was amazing. Travelling around for nearly two weeks merged the group together. The program was very dense and even the ‘free’ times I wanted to use to see and learn as much as possible about Russia, a country I have never been before. At the end of the seminar, I was completely overwhelmed with science, experiences and impressions (and of course a little bit exhausted and tired).

All together, we were in five cities, visited eight different research facilities and laboratories and listened to over 40 scientific presentations from members of the research facilities, the participants and the organizing team. Of course, it was impossible to understand everything in all the talks, but on the other hand many talks enabled an insight in for me personally completely new research areas.

The entire summer school was planned very well. Already the arrival and flights to Russia were organized and even for the visa application we got much help. In Russia the schedule with all the transports, events and meals was planned reasonable (or improvised in a proper way very fast).

Presenting my own talk was very instructive for me as well. Although I have already had some talks in the university, it was my first time with a time limit (which I underestimated a little bit) and an unknown audience and community, which is why I spent a lot of time in thinking about how to transport my main messages comprehensible.

Beside all who enabled this seminar (the organizers, the funding organizations, …), I want to thank also the Russian participants, who guided ‘us’ Germans through their country and often helped as translators on the street, in restaurants…
Travelling Seminar 2017 – A great experience

As I heard about the German – Russian Travelling Seminar I was really exited of the idea combining science, travelling and culture. Now, after 12 days of meeting new people, having great conversations, listening to interesting scientific talks and spending hours in busses, trains and planes, I can say my expectations were exceeded.

From Ekaterinburg to Kazan, Dubna and finally Moscow it was a very fascinating trip. We visited many interesting scientific research centers and universities, where we learned a lot about nanomaterials and especially the characterization of nanomaterials using scattering methods. It was a great opportunity to listen to experts on this field and getting the chance to ask them questions at the coffee break afterwards. During the Travelling Seminar every participant also had to perform a 20min talk on a topic which contains nanomaterials or scattering. This was a unique possibility to practice presenting your own results in a conference-near atmosphere.

Beside the scientific part a very interesting cultural program was organized. We had guided tours in Sergiev Posad, Moscow and at the Kremlin at Kazan, where we could see amazing architectures and the guides thought us parts of the Russian history. Additionally, we had a lot of chances to try very delicious traditional Russian food like Borscht, Pelmeni and Solyanka.

However, the most important aspect represented by the German-Russian Travelling Seminar is the exchange between Russians and Germans. I met some really nice people and I hope there will be a time to visit those friends in Russia again.

Finally, I want so say ‘thank you’ to all organizers and sponsors, who made this seminar happen. It was a wonderful time!
I only saw the advertisement for this seminar by chance and thought, that it might be interesting for me. So, I gave it a shot and applied for it. Now, I can say that I am more than glad, that I did so. The seminar was a really great experience and I would do it again, for sure.

The special thing about it is the combination of intercultural and scientific exchange. You can not only listen to some talks from other young scientists, learn about characterization methods, discuss about science and maybe get an impression how research is done in other groups/in a different country. Yet, you are in a group with other young scientist for ten whole days travelling with them. So, besides the science you also really experience the country – the food, the culture and some great sights – and you have enough time to also chat and exchange about your private lives. I think that is what makes travelling really special – to get to know the life in a country from its inhabitants.

The programme was very full and also a little exhausting. But I am sure, that I have not gathered so many experiences in such a short time frame ever before. I really liked Russia (although it was a little too cold) – most of all Kazan. It is a beautiful city, which was really exotic for me as an European due to the Tartarian influence. The mosque in the Kremlin of Kazan was the top number one sight (soo beautiful). Moreover, it was a great pleasure to be a member of such a fabulous group of intelligent, ambitious and enjoyable young people. It felt like being on a class trip – the best one I have ever been on. Hope to see all of them again – since you always meet twice!
I have learnt about Travelling Seminar from Prof. Andrey A. Rempel during the conference in Novosibirsk, Russia. At that moment I decided that I should definitely use this chance and apply for this unique scientific event. Luckily, I was selected, and I gained unforgettable experience.

First of all, participation in this activity allowed me to broaden my knowledge in the field of experimental investigation of nanomaterials. As I am more a "theoretical" person there was a great variety of new facts for me, but because of the format of the seminar (open discussions where everybody could freely ask questions at any time, and all professors and participants were really cooperative), it was quite easy for me to grasp unfamiliar information. Also, we visited impressive experimental facilities: from huge Frank Laboratory of Neutron Physics at JINR, Dubna to stunning labs in SkolTech, Skolkovo. Consequently, now I have a better understanding of experimental techniques used in my field and contacts with researchers from various scientific centres and institutions.

Moreover, I had the first oral report, which was quite long, in front of the multicultural audience. Just in August 2017, I participated in the international school in Trieste, Italy where I presented a poster on my research, but it was less stressful and exciting. So, this is an invaluable experience for my future scientific career. And I am thankful for fruitful discussion with participants and instant feedback from Prof. Andreas Magerl and Prof. Mirijam Zobel.

In addition to the scientific part, we had a quite intense cultural program. Despite the fact, that I travelled a lot across Russia and visited Moscow, Ekaterinburg and Kazan several times, I learnt a lot of new historical details during guided tours. The most amazing part for me was the visiting of the dungeons of Chernigovsky skete.

Furthermore, one of the advantages of Travelling Seminar is a cultural exchange with German participants. It was fascinating to learn about different customs, which sometimes are unexpectedly so close to ours. I think, now, thanks to friendly German students, we know much more about traditional food, university and usual life in Germany and even German language.

The last but not the least point I would like to mention is the organization of this event. I guess, it is very time-consuming and demanding task to arrange the scientific and cultural program and travelling for a group of almost thirty participants. And I want to thank sponsors, Prof. Andrey A. Rempel and Maxim Vlasov for our smooth journey.

Participation in Travelling Seminar was the exciting and undoubtedly useful adventure. And I hope, this unique mixture of science, cultural exchange and travelling will be an annual event, so more and more students could feel its atmosphere.
I can honestly say – it was the best adventure in my life. When I was informed about 7th Travelling Seminar, I even could not imagine that it would be so amazing. I am really happy, that I’ve met so many nice people from Germany and Russia, it was great to learn differences and similarities of our countries firsthand.

The scientific part of this seminar allowed me to learn a lot about experimental technics which use X-ray and neutron beams for investigating nanomaterials. My report was focused on computer simulation of interacting nanoparticles, and all my scientific work was connected only with calculation. After this seminar, my position has changed, now, I want to add (not to replace) to my scientific work some experiments, because as I think, science is possible only as combination of experiments and theoretical works. In terms of equipment I liked Skolkovo Institute, equipment of Laboratory of Nanophotonics and equipment of Laboratory of Nanomaterials amazed every participant of this seminar. But in terms of scientific results and scientific workers I liked Institute of Spectroscopy of Russian Academy of Science – the results in Near-Field Microscopy and Femtosecond Spectroscopy impressed me.

The culture program was also great, in spite of the fact that I am from Russia, I enjoyed beautiful Russian cities, especially Moscow. It is really capital of country, impressively majestic city with rich history. The most thing I liked in Moscow is its architecture, especially Stalinist skyscrapers and Kremlin.

Unfortunately, everything has an end. It was really sad moment, when we had to say goodbye to each other. Because, despite of seminar lasted only for two weeks, everyone made friends with each other. And it was great pleasure and honor to meet such smart, funny and interesting people like participants of 7th German-Russian Travelling Seminar ‘Nanomaterials and scattering methods’.

I would thank all of organizations, which sponsored this event. And special thanks to organizers – A. Magerl, M. Zobel, M. Vlasov and my scientific supervisor A. Rempel, for an excellent organization of TS-2017 and for providing this unique opportunity for every participant!
The Russian-German School, in the form of Travelling Seminar, became a traditional scientific event. Those two weeks were a unique opportunity for me to gain further insight into scattering methods and nanomaterials, as well as to find new friends and experience the German culture.

The 7th Travelling Seminar which was in Russia covers the key Russian scientific centers: Ural, Kazan, Moscow and Dubna.

As to the scientific program, scientific topics of lectures in the most interesting and modern areas of nanoscience were very useful for me to get insight into various areas of nanotechnology. Leading scientists in nanotechnology were gave lectures on topical problems of synthesis, investigation and application of nanostructured materials. Such lectures were very useful for young scientists because they had the opportunity to choose research area or, opposite, to solve their available scientific problems. Everyone could find something interesting and important for his science work and life. Many talks, both professors and young participants, were followed by a fruitful discussion, which was going out beyond the meetings. Everyone had obtained important experience for his science work and life.

I grateful to Russian-Germany travelling seminar organizing committee, especially Prof. Andreas Magerl, Prof. Mirijam Zobel and Prof. Andrey Rempel for the possibility to present my scientific results and took part in 7th Travelling Seminar. I got invaluable experience in public speaking and self-expression.

I would like to wish the organizers very successful and fruitful activity.
For the first time, I heard about German-Russian Travelling Seminar when I was in my 3rd year of undergraduate at Ural Federal University. A.A. Rempel was one of my lecturers and he invited us to listen to some reports made by participants of that seminar. I liked it and thought that it would be nice to participate in this seminar. However, I had not some science and language experience. But in this year I decided to try my luck and sent CV and motivation letter to Andrey Rempel. And I was chosen! It was great news for me and I looked forward to the seminar.

During this seminar, I learned a lot of new and useful information for my work on scattering methods and nanomaterials. We visited many scientific and research centers such as Ural Federal University with NANOTECH Center and Institute of Electro-physics of Ural Branch of Russian Academy of Sciences with their powerful laser equipment and «music fireball» (in Ekaterinburg). In warm Kazan, we were at German-Russian Institute of Advanced Technologies and Arbuzov Institute of Organic and Physical Chemistry of Kazan Scientific Centre of Russian Academy of Science. In Dubna, we saw neutron source at Joint Institute for Nuclear Research. We visited Moscow State University and very modern scientific center Skoltech in Moscow. In Troitsk we saw good equipment at Institute of Spectroscopy of Russian Academy of Sciences. In addition to the inspection of the equipment, we heard many interesting reports from both the leading scientists and the young participants themselves. For 12 days, we get so much new knowledge!

Besides the scientific part of our seminar, we had a great cultural program! In the first day in Ekaterinburg, we had a welcome dinner. Everyone met each other and all the participants said a few words about themselves. Then the atmosphere of our seminar became more homely and cozy. During the tour, we were in Europe and Asia simultaneously (in Europe-Asia border); we saw Kazan Kremlin, Trinity Lavra of St. Sergius and Chernigovsky skete in Sergiev Posad, the Moscow Kremlin and Red Square! In Kazan, we also had a soccer game. Our journey ended on an excellent ship with delivering of certificates and songs. It was unforgettable! It was sad to part with the friendly and good German and Russian guys. I hope we will meet each other in the future!

This magnificent seminar would not have taken place without good organizers. I would like to thank Prof. A.A. Rempel, Dr. M. Vlasov, Prof. A. Magerl and Prof. M. Zobel for their great work and the opportunity to participate in this 7th German-Russian Travelling Seminar! It was a great experience! In addition, I would like to thank the participants for their friendship and interesting reports. Thank you very much!
I am glad that took part in a TS & PCnano2017. It is a cool idea to organize such scientific event that makes possibilities for young scientists from different countries to establish communication each other and to visit large scientific centers of Russia (from Ekaterinburg to Moscow).

I participate in TS for the first time and was amazed that the participant geography was so wide from Far East to West Europe. Such broadened participant geography let us to obtain a lot of useful and pleasure acquaintances. Since these days implemented international communication which allowed to check one’s foreign language skills and probably improve them. During the communications we had a possibilities to know interesting things about each other and about our countries.

Topics of scientific reports covered many fields of science which use nanomaterials and demonstrated different approaches to investigation of the structure and different properties of various nanomaterials. It was the first time when I was listening scientific reports in train and in bus during our traveling to Kazan and Moscow.

The cultural program of the TS was very saturated. We visited famous cultural places of Russia and had good walks in the night Kazan.

I grateful to organizers of TS, especially Prof. Dr. Andreas Magerl and Prof. Dr. Andrey Rempel. Such programs help and motivate us to move and reach our dreams at science.
I was fortunate enough to take part in a 7th Russian-German Travelling Seminar ‘Nanomaterials and scattering methods’ seminar that was held in Russia. Within two weeks we visited Yekaterinburg, Kazan, Dubna and Moscow. A great impression was made not only by beautiful and interesting cities, but also by unique scientific centers, especially Skolkovo Science Park. Instrument base of the park allow to conduct investigations at the highest international level.

I would like to note some of the features of this mobile seminar:

1. The scientific program contained a large number of lectures, both by leading scientists of modern scientific centers, and reports of seminar participants in the field of nanomaterials and scattering methods. This is an excellent opportunity to make new contacts with seminar participants and leading scientists. Such scientific connections will allow planning joint experiments in the future.

2. A lot of time the seminar participants stuck together, which allowed to better understand the culture and traditions of other country. For example, I got to know that the German and Russian mentalities are very similar.

3. The format of such seminar provides a good opportunity to improve your language skills. I am grateful to the organizing committee, especially Prof. Andrey Rempel, Prof. Andreas Magerl and Prof. Mirijam Zobel, for the opportunity to participate in the 7th Traveling Seminar. It was an excellent experience, which expanded my knowledge in the field of nanotechnology and scattering methods. I hope for each participant it was a useful experience that will help in scientific area in the future.
Travelling Seminar 2017- what a great experience! It was a fantastic time with great people, interesting scientific discussions and an amazing journey through parts of Russia. But let me start at the very first beginning.

Since I have heard about this special Seminar the first time there was no doubt that I want to join. What a great chance to combine social and traditional experiences and interesting scientific talks and discussions. The first time the whole group met up was in Ekaterinburg. After a long journey by bus and by plane we had the pleasure to change our money and suddenly get ‘rich’ with a lot of Russian crowns. After an amazing Welcome Dinner with our new Russian friends and the fascinating possibility to be with one leg in Europe and the other one in Asia on the Eurasian border, we had the great opportunity to travel with the trans-siberian railway to Kazan. After a great soccer match and really interesting Institutes we flight to Moscow. After a short city tour we had two scientific and cultural tours to Dubna and Sergijew Posad. This great event ended up with an amazing stay in Moscow, where we had the great opportunity to see the red square, the Kreml and a lot of more great cultural features. Well, this was just a really short overview of this amazing, well organized and really interesting travelling seminar. Let me point out the 3 main points of this great experience.

1. The participants

It was really a pleasure to meet so many great people. We had a lot of fun together and also for my English skills it was really good to talk most of the time in English. Like our guide in Moscow said: ‘Don’t be afraid of Russian people. The men always look grumpy, but they help you if you ask them! ’. And that is totally right. I just can say I met a lot of funny, intelligent and helpful people within the seminar and in Russia. I hope the contact will stay for a long time.

2. The travelling

What a fantastic road trip through parts of Russia. Great landscapes, great institutes and universities and a really good mixture of cultural trips and scientific input. A lot of different cities with different kind of people and different cultures. In just two weeks we had the chance to see Ekaterinburg, Dubna, Kazan, Sergijew Posad and Moscow.

3. The scientific part

‘Great discussions with intelligent researchers’. I think that is the best summary for this point. There were a lot of participants from different kind of research areas. Physics, Chemistry, Biology…a lot of different topics, but always really good, interesting and progressive discussions and even the chance for the participants to be in the role of a chair(wo)man.

A big thanks to the organizers and I hope we meet up some time and can talk again about all these great experiences we made together! A big ‘Thank you’ to everybody!
I heard from the 7th German-Russian Traveling Seminar when Prof. Zobel joined the University of Bayreuth this year. Immediately I was sure that I want to apply because since my bachelor time I was always interested in Nanomaterials and Nanoscience. That, in combination with the opportunity to get to know other young scientist in a country I have never been before got me really excited and I was super happy when I was chosen to be part of this seminar.

When we had just arrived in Russia I was a little bit worried because I could neither read nor understand the language and especially, to order dinner the evening of our arrival was not that easy. But as soon as we were travelling together with the Russian participants there was always someone to ask and I did learn a lot about the Russian way of life during that time. In addition to the scientific program we were also doing cultural activities in the cities we visited. My highlight of the trip was the train ride with the trans-Siberian railway and the tour through the Kremlin of Kazan at night.

From a scientific point of view the communication was also sometimes difficult because people from several different disciplines were together and had to find a common language. Of course, this was sometimes challenging but also lead to good discussion after the scientific presentations of researchers and participants. We visited many different research facilities and I was surprised and happy on how close and often the Russian scientist are collaborating with German research groups. My scientific highlight was the visit of the German Russian Institute of Advanced Technology (GRIAT). An institute which especially benefits from the good scientific exchange of our countries.

Overall the Travelling Seminar was a very interesting experience for me and I am thankful that I could be a part of it. I especially want to thank all the organizers for the work they did in advance to make this event possible.
The concept of the Travelling Seminar protrudes from the conventional idea of summer schools which are usually stationary. As a seminar ‘on the road’ it gives opportunity to visit research facilities in different cities without being restricted to a certain place. This furthermore allows getting deeper insights into the culture of the country being visited.

The potential of this concept was fully exploited in the 7th iteration of the Travelling Seminar. Visiting eight major research and/or educational institutes enabled the participants to advance their knowledge in various fields of nanomaterials and scattering methods. The visited facilities included the Institute of Electro-Physics of the Ural Branch of the Russian Academy of Sciences in Ekaterinburg, the Joint Institute for Nuclear Research in Dubna and the Skolkovo Institute of Science and Technology as well as the Institute of Spectroscopy of the Russian Academy of Sciences in Moscow to only mention a few. The variety of research that is carried out in mentioned institutes perfectly shows the broad scope of topics that are discussed in this summer school.

The talks given by 16 professors and researchers in the various institutes offered the possibility to broaden one’s horizon and provided stimuli for new ideas which might help to improve the research carried out by the individuals participating. The presentations given by the 26 participants with an educational background reaching from the last year of the bachelor studies to the first year of the PhD studies also made a major contribution to this.

Concluding it is to say that the aim to set itself apart from other summer schools is utterly achieved by the concept of the Travelling Seminar due to the great organization carried out by Prof. Andreas Magerl, Prof. Andrej Rempel and Prof. Mirijam Zobel.
When I heard about Travel Seminar at first time, I didn’t know what it was. I didn’t suggest that I could have these two amazing weeks: leaving daily routine, making a lot of new acquaintances and getting a lot of new information. The idea of Travel Seminar seemed to me unusual. I thought that the visiting of so many cities and new places was unrealistic task. But we have done it!

The first city in our trip was Ekaterinburg. I have never been to Ekaterinburg before, but after the night in a train I was there. Although Ekaterinburg met us by cold weather, but it appeared to me very beautiful and modern city. Nevertheless, the weather was not the main thing. During the day we were listening to interesting lectures, visiting scientific laboratories and presenting our works. Besides Ekterinburg, we have been to two another big cities: Kazan and Moskow. It was not the first time for me in these cities, however, every time I can find some new interesting places in these cities.

Especially I want to note the organization of this Travel Seminar. Everything was done at the right level and worked as a watch. I would like to thank organizers for that. Speaking about scientific part, I would like to note the very cognitive and helpful lectures for my PhD work. Also I have learned about the different methods and how they are used for samples investigation in a different fields of science.

Finally, I would like to say that I have spent the time with wonderful people. Travel Seminar brings together people from different parts of Russia and Germany, which make TS unique. All participants were friendly and affable. I expect that we would continue our relations and find a possibility to meet again.
TS-2017 was a wonderful and interesting event this September. Travelling Seminar doesn't seem for me ONLY a conference or a scientific school. Here everything was balanced and saturated: official part with lectures and guided tours and unofficial part with excursions and restaurants. TS started in Yekaterinburg, which met participants with not very warm weather; other cities such as Kazan, Moscow, Dubna were much sunny and warmer. During the whole seminar, our large group was guided to different scientific centers and laboratories. It was demonstrated a lot of both measuring equipment (such as electron microscopes, X-ray equipments, spectrometers and even nuclear reactor with whole set of beamlines) and technological lines (thin films, ceramics production equipment, cells for anodizing and nanotubes formations). In every scientific center lectures were given not only by local scientists, speaking about the scientific work of institutes and centers, but also participants of the seminar. This format seemed to me quite interesting and productive. I would like to especially note that the lectures of the participants were very different and included the most top investigations in scientific field of TS-2017. Many scientific fields and approaches were presented: synchrotron and neutron studies, mathematical modeling, self-assembly, catalysis, quantum dots and much more ... Thus, the scientific part of the seminar was arranged at a high level.

The unformal part of the seminar was also diverse. Especially I would like to note the football match, organized like a professional, including the tribunes with fans, referee, hymns of the countries of participants and a few very good football playing participants, unfortunately only German participants.

I think that Traveling Seminar is a very unusual, but useful scientific event. Unfortunately, there is not enough information about this event, which causes a slightly narrow distribution of participants. I hope that in the future this event will become more popular. In conclusion I want to thank Professors for organization TS-2017, and certainly Russian and German participants for nice conversations and real perfect time.

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During my chemistry studies, I learnt a lot about different scattering techniques and could do some basic measurements. I also worked on a couple of topics about nanoparticles and nanocomposites. Therefore, I applied to the German Russian Travelling Seminar 2017 to learn more about advanced scattering methods and nanomaterials – which I definitely don’t regret.

In the two weeks of the Travelling Seminar I was shocked from the sheer number of different techniques and topics I never heard about before. Out of the twelve days we enjoyed nine days of pure Science and listened to over fifty lectures. That was – honestly, often really demanding, but still a great opportunity. Many of the speakers introduced completely new ideas to me, which might help me in my scientific future. The possibility to give a presentation in such a friendly and productive environment is also a great experience and will probably help all of us with future presentations.

Beside the scientific part, the cultural component was also very important. I never visited Russia before and could only speak a couple of words. So, I was bit anxious about two things: how to communicate and the typical preconceptions. But neither was a problem. After a couple of days, the difference between Germans and Russians was marginal. I had many very interesting and surprising conversations about life, work and politics in Russia. My image about Russia and Russians completely changed during those two weeks and I hope to keep in touch with a couple of my new Russian friends (which works fine so far).

Furthermore, it was a unique opportunity to see Russia. We visited the main places of interest in Moscow, but also a lot of lesser known sights in Yekaterinburg and Kazan. As a counterpart to the demanding lectures we also visited different bars every night. That way we could try many different typical Russian foods and drinks – mainly one drink to be honest.

In the end, I’m very grateful for taking part in the Travelling Seminar. It was a great once-a-lifetime experience, which I will never forget. That’s why, I want to thank all the professors, organizers and the sponsors, who made the Travelling Seminar possible.
Having break, New Arbat street, Moscow

On the guided tour, Old Arbat street, Moscow

On the boat during farewell dinner, Moscow
Looking forward to the Travelling Seminar 2018
www.travellingseminar.uni-bayreuth.de