

外国人客員所員を経験して

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The ISSP is internationally well known for its sophisticated experimental facilities and my key motivation to visit the institute for a research stay was two-fold. At first the opportunity to participate in pump-probe experiments which combine angle-resolved photoemission with mid-infrared excitation, which is a very recent development, got my attention. The reason is that several years ago we speculated in a paper about manipulation or control of the excited, non-equilibrium response of solid-state materials that could be achieved by tuning the excitation wavelength to suitable resonances in comparison to unspecific laser heating of the electron gas. Second, I had looked for an opportunity to experience living and working Japan for a somewhat extended time. My 6-month visit from October 2022 until March 2023 turned out to provide exactly that and I can now report that both goals were achieved. Together with the “4gouki” team of Prof. Kozo Okazaki’s group we obtained first tr-ARPES results using mid-infrared pumping and we all hope that this collaboration will remain fruitful in the coming time also after my departure.

Arriving at the ISSP was very smooth and a real pleasure due to all the preparations by the international liaison office. My apartment and office were well prepared, all formalities went well, and I was welcomed in the research group. Thus, I felt home far away from home more or less immediately, although Japan is very different from my home country. I was stunned several times by the overwhelming friendliness and help provided by the Japanese people. I will never forget such a unique experience.

Shortly after my arrival Dr. Takeshi Suzuki, the

research associate of Prof. Okazaki, approached me with the idea of a research seminar series to discuss the work of the closely related researchers and on my work. This series was not only a pleasure because I could share my work, but in particular because of the truly exceptionally high-quality discussion during and after the seminar. My interaction with the participants was every time very wide and deep. While not directly a consequence of this seminar series the current planning of mutual exchange of students between the ISSP and the Faculty of Physics, University of Duisburg-Essen may have been supported by it. Given the expertise in layered boron-based materials Prof. Iwao Matsuda and his group proposed to grow a crystal for a new table-top soft x-ray spectrometer which my group in Duisburg has developed recently. Already several weeks before my departure I received the first crystal. What a welcome surprise! So, we still had time for optimization and adjustment to the experimental limitations. Furthermore, I am very grateful for the opportunity to witness a high magnetic field experiment in the MegaGauss laboratory which broadened my experimental horizon considerably. This was a truly impressive experience.

I had various opportunities to visit collaborators and colleagues in Japan. The discussions were very interesting and promise to be fruitful in the future. I visited Prof. Ryo Shimano at Hongo campus of the University of Tokyo, who I know from his work close to my own interest and we met at several conferences already. The opportunity to discuss with Prof. Yoshihiro Iwasa, Prof. Tetsuo Hanaguri, and Dr. Christopher Butler on $1T\text{-TaS}_2$ was motivated by our mutual interest and previous work on this very interesting layered material. The chance to visit Profs. Kenta Kuroda and



Taichi Okuda in Hiroshima opened a further potential collaboration and I am grateful for the opportunity to visit the Peace Memorial. Furthermore, I visited with Dr. Hiroshi Eisaki and Dr. Kunie Ishioka, who are colleagues at the AIST and NIMS, respectively. These visits were excellent opportunities and refresh our collaboration and joint scientific interests. All in all, my stay has proven to be a great opportunity to develop new personal connections and start new collaborations. As such it was very fruitful already.

Leaving the academic aspects aside, my visit was also an unparalleled personal experience. The rich Japanese culture and heritage is very impressive as I could

experience, e.g., jointly with my wife Dörte Schreinert in Nikko. The beautiful Japanese nature is a real treasure, which I experienced during hiking on Tsukuba mountain jointly with the research group and on the occasion of a bicycle tour in Ibaraki. All this is backed with an excellent and unique cuisine and according to my own experience it is simply impossible to get bad food in Japan. Finally, I want to mention my various visits to onsen places. I will miss these relaxation times and various others, now cherished, activities. Since the success of my efforts to learn Nihongo remains limited so far, there are many reasons to return sometime in the future.

