

Personal report for the GIANT research internship

Duration of the stay: 07.09 – 01.11.2025

Research area: FN-MC 1 in the group of Prof. Dr. Hariharan

By: Sven Kisker, Chemistry from JMU Würzburg

Laboratory work

I joined the Group of Prof. Hariharan to learn more about time resolved spectroscopy measurements, specifically femtosecond transient absorption spectroscopy (fsTA). In Figure 1 on the left the fsTA-setup is shown that was introduced to me, and I was able to observe the PhD students perform measurements and thus gain a deeper understanding of the spectroscopic technique. Since the setup is shared with two other groups the time for possible measurements was limited. The laser lab is well equipped. But as can be seen in Figure 1 on the left the safety of the laser beam is not entirely optimal and future GIANT students should be made aware of this.

In the meantime, I focused on the theoretical understanding of the spectroscopy as well as the analysis of the fsTA-data utilizing the Glotaran software. I was generously provided with my own office space for this task which can be seen in Figure 1 on the right.

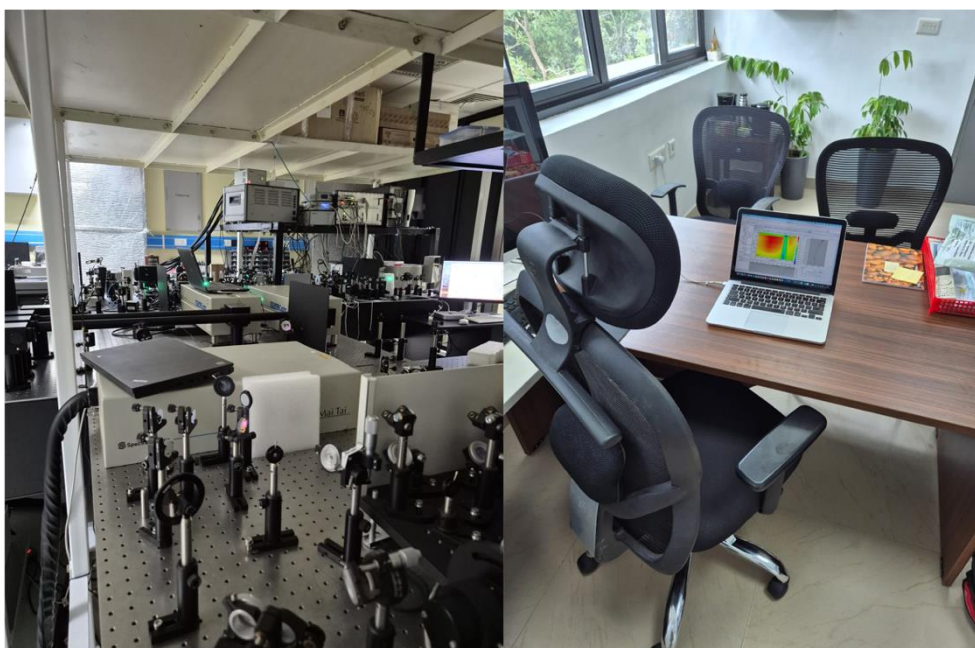


Fig. 1 Picture of the fsTA-setup (left) and the provides office space (right).

Free time

There are many diverse free time activities that can be experienced around Thiruvananthapuram. On the campus itself the possibilities are limited and because the campus is in a remote area, a taxi needs to be taken to visit the different tourist places.

One possible activity is a visit to the nearby hill station, Ponmudi, which can be seen in Figure 2. You can go on a short hike, enjoy the view and escape from the heat since the station is at an elevation of 1100 m.



Fig. 2 Group photo (top left) showing Fathima, me, Tamizharasan, and Phillip from left to right; view of the surrounding mountain area at Ponmudi (bottom left); and a photo of me at Ponmudi (right).

Another activity is visiting a very famous temple called Sree Padmanabhaswamy Temple (Figure 3). Unfortunately, it is very difficult to see the temple from inside as a foreigner. If students wish to go into the temple, they need to give notice at least a month in advance to get all the necessary paperwork done. There are many other places you can visit as well; however, I would like to include a word of caution about the elephant rehabilitation center, which the Indian students are often very eager to show foreign visitors. Based on my experience, I found that it reflects some animal

cruelty disguised as tourism, and I personally believe it is something that should not be supported.

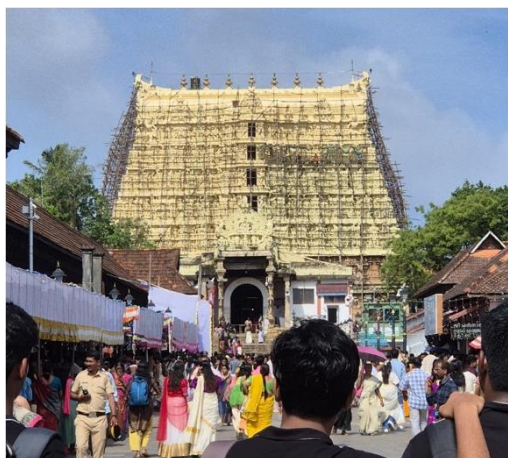


Fig. 3 Photo of the Sree Padmanabhaswamy Temple taken from a distance, as close-up photography was not permitted.

Teaching activity

I attended a variety of lectures on different topics. One example can be seen in Figure 4 below, which is the lecture series held by Prof. Dr. Würthner from JMU Würzburg for the GIANT–SPARC project.

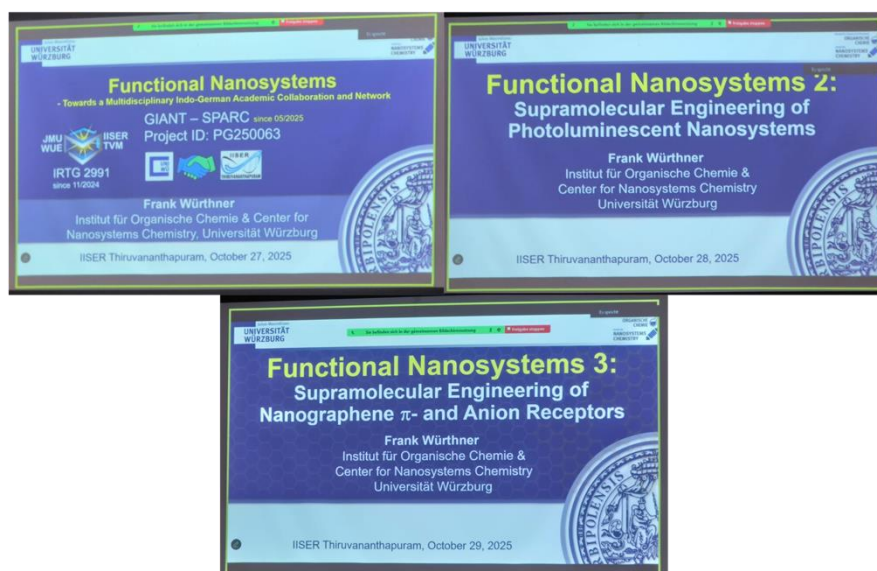


Fig. 4 Title slides of the three lectures held by Prof. Würthner.

Additionally, I was very fortunate to be able to attend the Asian and Oceanian Photochemistry conference in Kochi.

Lodging

I would like to include a note about the accommodation provided to students at IISER TVM. I, along with several other GIANT students, was placed in the Visitor's Forest Retreat (VFR) guest house (see Figure 5). However, this was not the case for all GIANT participants — some were housed in the PhD student residences, where the accommodation conditions were significantly less comfortable with rooms that did not even have a window.



Fig. 5 Pictures of the room that was provided to me at the Visitor's Forest Retreat (VFR) guest house.

I very much enjoyed my time at IISER TVM and was able to obtain insights about femtosecond spectroscopy. Beyond that I was able to experience and learn about the Indian culture as well as the challenges that arise with that. I would thus highly recommend this experience to people who are curious to learn about cultural differences and to obtain insights into spectroscopy techniques they are not familiar with.