

PLASMASURF 2017



The Plasma Surf initiative is a summer school in plasma physics, intense lasers and nuclear fusion for BSc or MSc students. That is how it is defined in its website; however that doesn't include all of what Plasma Surf has meant to all its participants.

We all came to the hostel as young strangers under the sun of the South of Portugal and we left as something that we could call a much extended international family. That is the key of the Plasma Surf experience, the transformation of a couple of tens of brilliant students into a team of extraordinary people capable of work together to achieve whatever they set their minds to. It doesn't matter if the challenge is learning how to catch a wave in Caparica beach or figuring out the instabilities of the plasma confined in a tokamak.



During the five days of the program we combined the physics lessons during the morning with different activities in the afternoon. This format allows the participants to focus on what they are doing at every moment, without having to worry about planning what they could do or where they could go the next day or the same afternoon.



Lectures very often looked more like open discussions, since all of the lecturers took their time and patience to answer our further questions, thereby showing that the main goal in this summer school was expanding our knowledge and awaking our interests. Aside from that, it was a great experience to exchange knowledge with other students, who are also passionately engaged in science.

The first day the given lectures were focused on introduction of plasma physics and computational physics, and they made us aware about the difficulties and complexities of plasma modeling. These topics were our introduction to the world of plasmas, and our introduction to Portuguese nature was climbing and the ocean of Sesimbra.



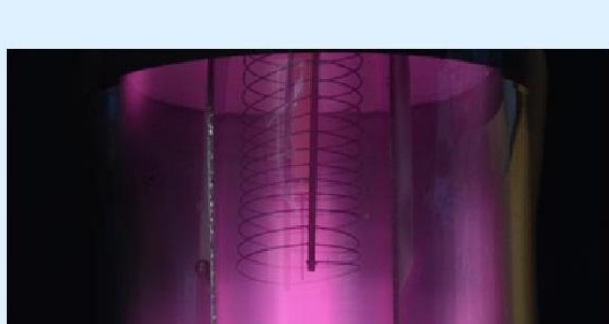
The second day the lectures were focused on nuclear fusion (both magnetic and inertial), and in the afternoon we were shown the incredible facilities of the IST laboratories. Taking advantage of the location of the IST laboratories, after the visit we set out to explore the amazing city of Lisbon, the capital city, where we enjoyed a wonderful evening in Barrio Alto.

On Wednesday the magneto-hydrodynamic description of the plasma and the basis of laser-plasma interactions were presented along with some remarks about signal analysis. In the afternoon we travel to the beautiful town of Cascais to spend some hours kayaking and visiting Boca do Inferno, and in the evening we explored Almada, the town where our hostel is located.



The Thursday lectures were very diverse. Subjects as different as the ITER project, re-entry plasmas, or the remotely operations of experiments were very well presented by the guest lecturers. In the afternoon we were taken to Sintra to practice mountain board with our friends from APP Mountainboard and after the exciting experience we visited Cabo da Roca, the most Western spot of continental Europe.

During the lectures of the last day of the Plasma Surf experience we learnt to analyze the data we retrieve from the remote experiment the previous day, the challenges of the discharge lamps design, and the usefulness of plasmas in nanotechnology applications. In the afternoon activities we fully understood the denomination of Plasma Surf thanks to the good waves we found in Caparica, and in the evening we had an amazing dinner in Almada and a farewell party where we listened to live music, before heading to the beach to spend the final night listening to the waves.



This brief and objective description isn't at all enough to transmit everything that we have lived during this amazing five days in the Portuguese summer, however this is the best we can do so persons who weren't part of this can try to began to understand the spirit of Plasma Surf.



Plasma Surf summer school is such an open program that we would recommend it not only to people that already have interest in plasma, but to every physics student with passion for learning new things and pushing their limits far beyond expected.

The bottom line is that people should be creative in order to start feeling like a plasma surfer, and once they have achieved that, they will start to behave like one of us.