**TONATIUH WORKSHOP**

CENER within the activities that are being performed in WP12 of STAGE STAE is organizing two webinars. The goal of this webinars is the capacity building of designers and programmers willing to contribute to the development of new concepts and ideas of CSP systems.

The webinars are focused in the use and development of TONATIUH. TONATIUH is an open source Monte Carlo ray tracing computer program that enables the design, simulation, analysis of a large variety of solar concentrating systems, providing detailed information regarding the flux distributions incident upon its surfaces.

**FIRST TONATIUH WEBINAR**

The first webinar will take place on the 16th and 17th of September, 5 hours course per day starting at 10:00 (GTM+1) and taking and one hour break for lunch.

The main aim of this tutorial is explain how to design and analyze using TONATIUH different CSP technologies. R applications will be used for post-processing of TONATIUH's output binary files, in order to transform raw photon data into flux distributions estimates, and to present those fluxes estimates as graphs.

**First session 16th of September: Introduction to Tonatiuh**

Main objective: Introduce to TONATIUH.

1. General aspect of Tonatiuh
   1. How to model the system:
   2. Simulation
   3. R analysis
   4. Automation: how to use a script
2. Concentrating solar systems examples:
   1. Parabolic Dish example
   2. Parabolic Through collector

**Second session 17th of September: Central receiver system**

Main objective: different ways to generate a heliostat field in TONATIUH.

1. Heliostat field manual generation
2. Heliostat field component wizard
3. Create heliostat field layout using scripting

**SECOND TONATIUH WEBINAR**

Advanced level workshop. The main aim of this webinar is resolve user doubts about TONATIUH and introduce users in the development of the code. After these sessions the attendants will be able to modify the code of the tool and they will be able to develop new plug-ins for TONATIUH.

It will take place on the 11th and 12th of November.

**TEACHER**

Mrs. Amaia Mutuberria is a CENER senior researcher with more than 8 years of experience in the field of design and development of software for CSP systems simulations.