

24-25-26 January 2022

INSTITUTE OF ENGINEERING
UNIVERSITY OF ALGARVE, CAMPUS DA PENHA, FARO-PORTUGAL

Fourth International Conference

CONSOLFOOD2022

>Advances in Solar

>Thermal Food Processing

Many people in developing countries still burn wood, charcoal, or even garbage on open fires for cooking purposes because they do not have access to electricity or gas. The inefficient burning of wood, charcoal, dung, and plant residues causes health problems, deforestation and greenhouse gas emissions. The potential of thermal solar energy for food processing tasks like drying, cooking, and pasteurization is well understood, but adoption of this technology is not increasing as rapidly as would be desirable. In the sunny parts of the developed world, few people would recognise a solar cooker, and most still use only gas and electricity for cooking. The introduction of solar cookers in sunny areas for cooking, food drying, and water sterilization is our goal.

CONSOLFOOD 2022 is being planned for 24th, 25th and 26th January, 2022. Once again, we will focus on advances in solar cooking, solar food processing, and related topics. As usual, experts from all over the world are presenting and discussing the latest developments.

Please find below a preliminary version of our programme (Lisbon time) which contains a well-balanced list of presentations by authors from many different parts of the world. For updated information on CONSOLFOOD2022 go to www.consolfood.org



REGISTRATION DATA

Name of participant:

Phone number:

Profession:

Email address:

Company or institution:

Address:

Country:

Name of payer of registration fee:

Address:

Country:

VAT Number (if you have one):

The registration fee is 80 euros for those people using an account of a bank of any country of European Community and 100 euros for other people.

When we receive your registration data, we will let you know about payment options.

Students or other individuals really interested in attending the conference but facing financial difficulties should contact the organizing committee for a free registration.

If you want to attend this online conference, the **deadline** for registration is 20th **January, 2022**. Please send your data by email to cruivo@ualg.pt.

Additional information:

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Organizing committee:

-Celestino Ruivo, (Chairman),
Institute of Engineering, University of Algarve, Portugal
Association for the Development of Industrial Aerodynamics, Portugal
-Armando Inverno, Institute of Engineering, University of Algarve, Portugal
-Célia Quintas, Institute of Engineering, University of Algarve, Portugal
-Ajay Chandak, PRINCE Suman Foundation, India

-Dave Oxford, SLICK Solar Stove, UK
-Juan Bello Llorente, CIFP Someso, A Coruña, Spain
-Michael Bonke – LAZOLA Initiative for Spreading Solar Cooking, Germany
-Alberto Hernandez Neto, University of Sao Paulo, Brazil
-Luther Krueger, Big Blue Sun Museum of Solar Cooking, Minneapolis, USA
-Octavio García Valladares, I.E.R., Universidad Nacional Autónoma de México, México
-Eduardo Armando Rincón Mejía, Universidad Autónoma de la Ciudad de México, México

Tentative Programme of CONSOLFOD2022

Day 1: 24th January 2022

| | | | |
|--|---|--|------------------|
| 14:15 | Lisbon time | Opening Waiting Room (zoomlink) | |
| 14:30 | | Opening Conference Session | |
| Session 1, 24th Jan; Moderator: Eduardo Rincón-Mejía | | | |
| 14:50 | Solar Cooking and Food Processing for Accomplishing Sustainable Development Goals: A hands-on Experience in Central India | Janak Palta McGilligan | India |
| 15:20 | A model for sustainable and replicable solar cooker lending programs | Lorena Hegedus, Nate Dempsey, Jennifer Gasser, Mary M Buchenic | USA |
| 15:40 | Solar cooking: versatile tool to face the climate crisis | Bello J., Bello, R. | Spain |
| 15:55 | Questions and Answers | | |
| 16:15 | Break | | |
| Session 2, 24th Jan; Moderator: Michael Bonke | | | |
| 16:30 | A real cooking experience with solar concentrating cookers | Narayani A. Sagade, Atul Sagade | India |
| 16:45 | Cooking with the sun and the heart or How I got the solar cooking virus | Hannah Larndorfer | Austria/Portugal |
| 17:00 | Solar restaurants, feasibility and temporality | Pedro Serrano Rodríguez | Chile |
| 17:10 | Le Présage, first solar powered restaurant of Europe for a delicious future | Pierre-André Aubert, Benjamin Leroy | France |
| 17:20 | Solar thermal cooking and baking system and solar PV baking system of Vatsalya | Kartikey Gupta | India |
| 17:30 | Questions and Answers | | |
| 17:50 | Surprise Session | | |
| 18:10 | Closing first conference day | | |

| Day 2: 25th January 2022 | | | |
|--|---|---|-----------------|
| 14:30 | Lisbon time | Opening Waiting Room (zoomlink) | |
| Session 3, 25Jan; Moderator: Octavio García-Valladares | | | |
| 14:50 | Challenges in promoting solar dryers in India: Social acceptance, old methods and technologies | Neha Mehta, Kinjal Pandya | India |
| 15:05 | Pineapple dehydration in the Thermosolar Plant for agricultural products installed in Xochitepec, Morelos | A.L. César Munguía, O. García-Valladares, I. Pilatowsky Figueroa, A. Domínguez Niño, A. Maciel Tiburcio, E. Hernández Figueroa, J.R. Pérez Espinosa | Mexico |
| 15:15 | Development of a new solar dryer for thermal food processing | C. Brandão, G. Oliveira, C. Pereira, S. Lopes, E. Silva, I. Brás, A. Castro, D. Wessel | Portugal |
| 15:25 | Experimental study of drying peach (Prunus persica) by two different solar drying technologies | Diana Paola García Moreira, Erick César López Vidaña | Mexico |
| 15:35 | Second generation solar air heater for passive driers with sensible heat storage | Lecuona-Neumann, A.; Díaz-Infantes A., López-Gorría, A.; Anta-Gangosos, A. | Spain |
| 15:45 | Cooking- Dehydrated with asymmetric solar concentrators | Camarillo-Huerta, P., Zarate-Balderas, R., De Los Santos-Garcia, F., Saucedo-Colunga, M., Flores-Dosal, L., Nahmad-Molinari, Y. | Mexico |
| 15:55 | Questions and Answers | | |
| 16:20 | Break | | |
| Session 4, 25 Jan; Moderator: Dave Oxford | | | |
| 16:50 | Solar thermal drying plant for agricultural products | O. García-Valladares, N. M. Ortiz-Rodríguez, I. Pilatowsky-Figueroa, C. Menchaca-Valdez | Mexico |
| 17:10 | Constructal evolution of the solar oven Tolokatsin 2021 | Rincón-Mejía, E., González-Mora, E. | Mexico |
| 17:30 | A new linear concentrating solar cooker: design, construction and experiment | Famiglietti, A., Lecuona-Neumann, A. | Spain |
| 17:40 | Experimental validation of a parabolic solar stove for cooking food, desalination and purification of water in Colombia | Ramírez Gil, R., Cruz Muñoz, B., Dorantes Rodríguez, R | Colombia/Mexico |
| 17:50 | Questions and Answers | | |
| 18:10 | Closing second conference day | | |

| Day 3: 26th January 2022 | | | |
|--|--|---|----------------|
| 14:30 | Lisbon time | Opening Waiting Room (zoomlink) | |
| Session 5, 26 Jan; Moderator: Patricia Mcardle | | | |
| 14:50 | Tricycle Mounted Mobile Solar Cooker for Micro-Enterprise | Sunil Chouhan; Samir Sharma | India |
| 15:10 | Solar cooking plastic into boat parts | Katharina Elleke; Michael Macris | Germany/Kenya |
| 15:20 | Adiabatic thermos as a complement to solar cooking | Pedro Serrano Rodríguez | Chile |
| 15:30 | Recycling and solar cooking: make solar cooker under one dollar? | Bozina Komatina | Montenegro |
| 15:40 | Development of a model to predict the performance of a box solar cooker including the radiation heat transfer between its inner surfaces | Henriques Lopes, M., Ferreira da Costa, V. A., Rodrigues Ruivo, C. | Portugal |
| 15:50 | Edamame (<i>Glycine max</i> (L.) Merr.) drying: modeling, kinetics, and properties depending on solar technic | Beatriz Castillo-Téllez, Erick César López Vidaña, Rachid Marzoug, B. Melissa A. Castillo, Margarita Castillo Téllez | Mexico |
| 16:00 | Influence of solar drying on antioxidant profile on moringa leaves | Margarita Castillo Téllez, Manuel J. Chan Bacab, Beatriz Melissa Aponte Castillo, Benjamín O. Ortega Morales, Mariel Gullian Klanian, Beatriz Castillo Téllez | Mexico |
| 16:05 | Questions and Answers | | |
| 16:35 | Break | | |
| Session 6, 26 Jan; Moderator: Armando Inverno | | | |
| 16:50 | Study of the thermal dynamics of solar cookers on reunion island: techniques and uses at domestic and community scales | Guillaume Guimbretière, Alexandre Lefèvre, Sylvain Barbot, Fabrice Laurent | France |
| 17:10 | Towards professional kitchen with Scheffler reflectors: standard test of a basic solution | Gabriel Guillet, Séverine Barbosa, Thomas Fasquelle, Benjamin Kadoch | France |
| 17:30 | Introduction of a table-type solar cooker | Haru (Hideo Oguri) | Japan |
| 17:35 | Summary of two year of research on solar cookers thermal performance in Southern Iberian Peninsula | A. Carrillo-Andrés, X. Apaolaza-Pagoaga, C. Rodrigues Ruivo | Spain/Portugal |
| 17:50 | Questions and Answers | | |
| 18:15 | Closing conference Session | | |

