

CONSOLFOOD 2018 is being planned for 22nd, 23rd and 24th January, 2018 at *Instituto Superior de Engenharia, Universidade do Algarve, Campus da Penha, 8005-139 Faro-Portugal.*

Many people in the developing countries are burning wood, charcoal or even garbage on open fires for cooking purposes because they do not have access to electricity or gas. Inefficient burning of wood, charcoal, dung, and plant residues is causing health problems, deforestation and greenhouse gas emissions. The introduction of solar cookers in sunny areas for cooking, food drying, and water sterilization is crucial. At the same time, there are also many people living in sunny parts of world using only gas and electricity for cooking. The potential of thermal solar energy for cooking is well understood, but adoption of this technology is not increasing as rapidly as would be desirable. Thermal solar energy has great potential for food processing tasks like drying, cooking, and pasteurization.

Advances in solar food processing and solar cooking, as well as many other related subjects, are the main topics of the Second International CONSOLFOOD Conference.

The First International Conference for solar thermal cooking and food processing - CONSOLFOOD2016 - was held at the University of Algarve, Institute of Engineering, Faro, Portugal on 22nd and 23rd January 2016. After some get-togethers with specialists from all over the world, it became apparent that the financial, educational and vocational support of grass roots workers is essential when solar food processing techniques are introduced to large populations. Such support enables more rapid dissemination of the technology.

Seventy three abstracts covering several topics have been submitted by authors from different countries as result of the first and second calls for abstracts.

Oral sessions, a round table discussion, and two poster sessions are all being planned towards the discussion of topics related to advances in solar food processing and solar cooking.

We have plenty of space for a large outdoor exhibition of different types of solar cookers, solar dryers and other related equipment. If weather permits, we will prepare "caroffee", "carotea", carob cake, and some lunch, using solar power. If you are planning to bring any equipment (e.g. solar cookers, solar dryers, solar water treatment devices) to display or demonstrate, please let me know. We hope clouds will not filter the sun rays during conference days!!

Registration: The registration fee will be 120 euros, payable in January, 2018. This includes all conference coffee breaks and lunches. If you would like to attend the conference, please register by the 15 th December 2018 at the latest. You should send us the registration data to cruivo@ualg.pt and to daveoxford@metronet.co.uk.

Registration data: a) Name of participant, Phone, Profession, Email address, Institution/Company, address and b) Name of payer of registration fee, Address and VAT Number (if you have one).

Updated information on CONSOLFOOD 2018 will be provided at www.consolfood.org.

Organizers are now confident that the success of CONSOLFOOD2016 can be repeated.

**22-23-24
January 2018**

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

Second International Conference
CONSOLFOOD2018

**>Advances in Solar
>Thermal Food Processing**



Advisory and scientific committee

Elmo Dutra da Silveira Filho, Brazil
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Shyam Nandwani, Costa Rica
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Javier Diz, Spain
Charles Muwonge, Uganda
Stewart MacLachlan, UK
Tom Sponheim, USA

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Faro international airport has good connections to other European airports. Regular flights are usually available to and from France, Germany, the Netherlands, Denmark and the UK.

Conference Venue: *Instituto Superior de Engenharia* of University of Algarve-**Campus da Penha**, located IN the city of Faro (NOT in Campus de Gambelas, which is located OUTSIDE the city of Faro towards the airport).

Accommodation: Please find below a list of hotels that you might consider when booking accommodation. Reservations can be made by email, mentioning the code CONSOLFOOD2018.

Travel visas: Visitors from some countries require a Portuguese visa. Please be sure to check if this applies to you. In some cases, a letter from the conference organisers will be required before a visa is issued. If you have registered for CONSOLFOOD2018, we will supply such a letter at your request.

Provisional programme: 22nd January 2018

08:30 Registration and reception

09:00 [Opening session](#)

[Session O1](#) (moderator: Eduardo A. Rincón Mejía)

09:15 A parabolic solar cooking device developed in Lesotho, Southern Africa, [Ivan D. Yaholnitsky](#), Lesotho

09:40 Solar concentrators for community cooking and autoclaving, [Ajay Chandak](#), [Rahul Kulkarni](#), India

10:05 Modelling, testing and parametric analysis of a parabolic solar cooking system with heat storage for indoor cooking, [N. Mbodji](#), [A. Hajji](#), Morocco

10:30 Photovoltaic solar cooking with thermal energy storage (TES), [A.Lecuona](#), [D. Victoria](#), [J.A. Perteguer](#), [E. García-Arés](#), Spain

Solar cooker as a public furniture. Thermal modeling, [A.Lecuona](#), [E. de la Rocha](#), [J. I. Nogueira](#), Spain

11:00 Break for solar "caroffee", "carotea" and carob cake

[Session O2](#) (moderator: Dave Oxford)

11:30 Innovative solar cabinet dryers for rural application in food processing products, [R. Shyamala](#), India

11:55 Application of solar technologies for the dehydration of indian walnut (marañon seed: *anacardium occidentale*) produced in the state of Campeche, Mexico, [Margarita Castillo Téllez](#), [Juan Carlos Ovando Sierra](#), [Francisco Lezama Zárraga](#), [Beatriz Castillo Téllez](#), Mexico

Experimental study of agave honey production using a solar evaporator, [Castillo T. Beatriz](#), [Pilatowsky F. Isaac](#), [Castillo T. Margarita](#), Mexico

12:20 Combined membrane and solar drying technologies for fruit preservation in Mozambique, [Ricardo Bernardo](#), [Henrik Davidsson](#), [Pia Otte](#), [Randi Phinney](#), [Lucas Tivana](#), Sewden, Norway, Mozambique (35 minutes)

12:45 Solar lunch

14:15 [Poster session P1](#) (see poster list PL1)

[Session O3](#) (moderator: Bernhard Müller)

15:30 Networking to advance the use of solar cookers as educational tools in the classroom, [Mary Buchenic](#), [Jennifer Gasser](#), USA

The task of creating programs to promote solar cooking, [Jennifer Gasser](#), [Mary Buchenic](#), USA

15:55 RECOSOL the Iberoamerican network on solar cookers and solar ovens , [Pedro Serrano Rodríguez](#), Chile

16:20 Evolution of solar cooking technology in India and way ahead, [Deepak Gadhia](#), India

16:45 Short break for solar "caroffee", "carotea" and carob cake

[Session O4](#) (moderator: Kedar Mehta)

17:00 Design and development of novel solar still for production of potable water, [Manoj S Soni](#), [Ravish Kumar](#), [Angad Singh Dhamija](#), India

17:25 From development aid towards an economic factor: sustainable production of clean cookstoves in Madagascar, [Christian Frost](#), Switzerland

Provisional programme: 22nd January 2018

09:15-15:00 Exhibition of different types of solar cookers, solar dryers and other equipment related to solar food processing outside in the courtyard, weather permitting.

Poster List PL1

- P1 - Hybrid solar cookers, two models, Pedro Serrano Rodríguez, Chile**
- P2 - The solar cooker Tolokatsin V, Eduardo A. Rincón-Mejía, Mexico**
- P3 - Concrete funnel solar cooker: experiences with making and cooking, Jignesh R. Mehta, India**
- P4 - 100 SUNS: A low-cost DIY solar cooker, Amogh Sahaje, India**
- P5 - New design of box type solar cooker, Kota Anjaneyasarma, India**
- P6 - Development of a permanent solar cooker for the UK – Convenience, reliability and safety, Dave Oxford, Stewart MacLachlan, UK**
- P7 - Simple method to measure heat transfer in solar cookers, Pedro Serrano Rodríguez, Chile**
- P8 - A comparison of Copenhagen solar cookers with other similar sized panel cookers, Sharon Clausson, USA**
- P9 - Thermal performance evaluations, energy savings and payback periods of a box-type solar cooker in Ibadan, Nigeria, Ademola K. Aremu, Olaoluwa S. Awotunde, Nigeria**
- P10 - Solar cooking using the box type and funnel type cookers under Indian conditions, Anasuya Ganguly, Saurav Mehta, Srikanth Mutnuri, India**
- P11 - Experimental comparison of different solar oven prototypes adapted to rural zones of the Ecuadoran coast, E. Delgado P, Cristina Cabo, Juan Bello, Angeles López Agüera, Ecuador, Spain**
- P12 - Design, realisation and experimentation of a solar cooker fitted with an ellipsoidal concentrator: preliminary results of cooking tests, Siaka Touré, Modibo Sidibé, Ivory Coast**
- P13 - Comparative performance of two parabolic solar cookers: influence of a glass cubic box, Modibo Sidibé, Toure Siaka, Diomande Idrissa, Ivory Coast**
- P14 - Testing the SUNTASTE, a new box type solar cooker built out of cork, Ailton Tavares, Afonso Cavaco, Manuel Collares-Pereira, Nuno Oliveira Martins, Portugal**
- P15 - Solar ovens built with very basic materials found in rural areas, Margarita Mediavilla, Spain**

Provisional programme: 23rd January 2018

[Session O5](#) (moderator: Juan Bello Llorente)

09:00 **Beam steering lens array for solar cooking**, [Håkon J. D. Johnsen](#), [Ole Jørgen Nydal](#), [Jan Torgersen](#), Norway

09:25 **Heliac solar cooker**, [Sedi L. Byskov](#), [Karsten Dupont](#), [Gideon P. Caringal](#), [Maria Matschuk](#), [Henrik Pranov](#), Denmark

9:50 **Hot stone cooking with an ultralight membrane solar concentrator**, [Fernando Chacon](#), [Douglas Baillie](#), [Daniel Müller](#), [Paul Gießler](#), Portugal

10:15 **Solar restaurant Le Presage**, [Aubert Pierre-André](#), France

10:40 **Solar Cookers International: how the performance evaluation process contributes to global gains in solar cooking**, [Alan W. Bigelow](#), [Julie L. Greene](#), USA

11:05 **Break for "caroffee", "carotea" and carob cake**

[Session O6](#) (moderator: [Stewart MacLachlan](#))

11:50 **Simulation of a solar assisted counterflow tunnel dehydrator**, [A. Carrillo-Andrés](#), [J.M. Sojo-Gordillo](#), Spain

12:15 **Development of a large capacity orange bagasse dehydrator**, [Eduardo Rincón Mejía](#), [Bernd Weber](#), Mexico

12:50 **Solar lunch**

14:15 [Poster session P2](#) (see poster list PL2)

[Session O7](#) (moderator: [Jignesh R. Mehta](#))

15:20 **Hybrid solar drying system BLACK BLOCK ®**, [Gonçalo C. Martins](#), Portugal

15:30 **DryEcoMate – An horticultural dehydrator, using solar thermal and photovoltaic energy, low cost production, modular and portable**, [João Garcia](#), [J.Pássaro](#), [R.Rosado](#), [L.Coelho](#), [M. Ley](#), [J.Rodrigues](#), [P.Madureira](#), Portugal

15:55 **Introduction of solar drying by NGO Narmada in Nimar region of Madhya Pradesh state of India under the guidance of BRAC, GOI.**, [Raghav S Deosthale](#), [Shankar Kewat](#), India

16:20 **Development of solar dryers, Cuban experience for food preservation**, [Boris Albrech Zaldívar Núñez](#), [Glensy Palay Alonso](#), Cuba

16:45 **Break for "caroffee", "carotea" and carob cake**

[Session O8](#) (moderator: [Francisco Javier Macías Fuentes](#))

17:00 **Concentrated solar thermal integration into spice roasting industry: an energy analysis of an indian masala manufacturing facility**, [Tavish W. Fenbert](#), [Vishal Sardeshpande](#), USA, India

17:25 **Father Himalaya solar furnaces: optical principles, technologies and lineage**, [Jean-Jacques Serra](#), [Jacinto Rodrigues](#), France, Portugal

Provisional programme: 23rd January 2018

09:15-15:00 Exhibition of different types of solar cookers, solar dryers and other equipment related to solar food processing outside in the courtyard, weather permitting.

Poster list PL2

- P16 - Analysis of solar cooking in relation to food sovereignty, Bailey Jannika, Quiroga V. Noelia, Raimondo Emilia, Esteves Alfredo, Argentina**
- P17 - Challenges in promoting solar cookers in India: social acceptance, cooking habits and technologies, Neha Mehta, Kinjal Pandya, India**
- P18 - Drying of solids: solar dryer with thermal reserve, Álvaro Eduardo Lentz Herrera, Alfredo Divanny López Catalán, Mexico**
- P19 - Solar drying - a gigantic opportunity to combat hunger and poverty, Bernhard S. Müller, Germany**
- P20 - Design, Construction and optimization of a renewable energy based solar dryer, E. Delgado P, Angeles López Agüera, Ecuador, Spain**
- P21 - Solar thermal panel prototype using up-cycled materials, C. Cabo, A. Lopez-Agüera, Spain**
- P22 - Enhanced methods to accelerate the dissemination of solar cookers, Faustine Odaba, Kenia**
- P23 - Sharing government perspective and participation in promoting Solar Cooking in India, Suresh Ruparel, India**
- P24 - 10th grade high school physics education via solar cooking, Hezi Yizhaq, Daniel Feuermann, Israel**
- P25 - Searching for the relevant scale for food transformation in dense urban areas in France, Cathelineau Vincent, Genin Chloé, De Maria Arnaud, Bertin Kévin, France**
- P26 - My story of solar ovens, Júlio Piscarreta, Portugal**
- P27 - Soil pasteurization in the UK – a new job for solar cookers, Dave Oxford, Stewart MacLachlan, UK**
- P28 – Purification of water using solar energy, Avinash Reddy, Srikanth Mutnuri, India**
- P29 – Design and construction of a solar stove with energy storage with PCM material, G. Sánchez-Vega, J. Pineda-Piñón, Mexico**
- P30 – Empowerment of women in the Gambia by using solar technology, Elena Steger Kassama, Annatina Foppa, Sibylle Jost, Switzerland**

Provisional programme: 24th January 2018

09:15-12:00 Exhibition of different types of solar cookers, solar dryers and other equipment related to solar food processing outside in the courtyard, weather permitting.

9:00-10:00 [Round table](#)

Dissemination of solar cooking, solar drying and other solar food processing technologies. problems, obstacles and solutions (Faro declaration of intent)

10:00-12:00 Networking between participants

09:00-12:00 Solar cookers in action preparing “caroffee”, “carotea”, carob cake and lunch

12:30 Solar lunch

14:30 [Closing session](#)

Notes:

Whenever possible, food for lunches and tea/coffee breaks will be prepared using solar thermal energy during conference days

Solar cooking users, designers, enthusiasts are encouraged to come with their solar cookers and ingredients to be cooked at Campus da Penha. Interested people should contact the organizing committee for more details.

ACCOMMODATION IN FARO

<p>Hotel Faro http://www.hotelfaro.pt/?lang=en Address: Praça D. Francisco Gomes, Nº2 8000 168 Faro phone +351 289 830 830 reservas@hotelfaro.pt, comercial@hotelfaro.pt Reservations: reservas@hotelfaro.pt http://www.hotelfaro.pt/?lang=en CODE: CONSOLFOOD2018 Single 68 euros Double 78 euros Breakfast included centre city, bus stop within walking distance</p>	<p>Hotel Eva http://www.tdhotels.com/pt/Menu/Hoteis/Portugal/Algarve/Hotel-Eva/O-Hotel.aspx Address Av. da República, n.º 1 • 8000-078 Faro phone: +351 289 001 000 Reservations book.eva@ap-hotelsresorts.com CODE: CONSOLFOOD2018 Single standard 59 euros Double standard Twin 69 euros Double Superior Couple 84 euros Breakfast included centre city, bus stop within walking distance</p>	<p>Stay Hotel Faro Centro http://pt.hoteis.com/ho187757/stay-hotel-faro-centro-faro-portugal/ Address: Rua de Portugal 17, Faro, 8000-281, Portugal, 707 201 282 phone +351 289 898 080 faro@stayhotels.pt Reservations faro@stayhotels.pt centre city, bus stop with walking distance</p>
<p>Best Western Hotel Dom Bernardo http://www.bestwestern.es/hotel-dombernardo/ Address: Rua General Teófilo da Trindade, 20. 8000-356 Faro Tlf. +351 289 889 800 - Fax: +351 289 889 809 comercial@hoteldombernardo.com Reservations comercial@hoteldombernardo.com CODE CONSOLFOOD2018 Single with breakfast 43 euros Double with breakfast 47 euros centre city, bus stop within walking distance</p>	<p>Hotel Sol Algarve www.hotelsolalgarve.com/en Address: Rua Infante D.Henrique, 52, 8000-363 Faro Ph +351 289 895 700 reservas@hotelsolalgarve.com Reservations reservas@hotelsolalgarve.com www.hotelsolalgarve.com CODE CONSOLFOOD2018 Single 34 euros Double 42.5 euros Triple 52.5euros Breakfast: included centre city, bus stop within walking distance</p>	<p>IBIS FARO ALGARVE http://www.ibis.com/pt/hotel-1593-ibis-faro-algarve/index.shtml Address: Rua Antonio Aleixo, 206 - E.N. 125 Pontes de Marchil - 8005-174 Faro - Portugal Tlf.: +351 28 98 93 800 - Fax : +351 28 98 93 801 h1593@accor.com Reservations h1593@accor.com CODE CONSOLFOOD2016 Single 39 euros (estimated) Double 39 euros (estimated) Breakfast: 6.5 euros/person Note For promotion, please consult reservation prices at www.ibis.com Periphery of Faro, bus stop within walking distance</p>
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