



European Association of Thermology



Physical Activity and Sports Faculty (INEF). U.P.M.



POLITÉCNICA

XIII European Association of Thermology Congress



**Thermology in Medicine:
Clinical Thermometry and Thermal imaging**

FINAL PROGRAMME

More info: www.eat2015.info and www.europanthermology.com



The EAT and the Faculty of Physical Activity and Sports Sciences (INEF) have the pleasure of inviting you to participate in the XIII EAT Congress in Madrid between the 3rd and 5th of September, 2015.

The target of this Congress is integrating professionals and researchers from different fields who are working daily with medical thermography, introducing the latest advances in infrared technology and the new applications arising from them.

The Congress will appeal not only to end-users of medical thermography but also to researchers and developers. The congress will focus on free communications and posters in the areas of Human Applications, Animal Applications, and Engineering.

We look forward to seeing you in Madrid in September 2015.



Manuel Sillero Quintana.
Chairman of the Organizer committee.



James Mercer
President of the EAT.

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Manuel Sillero-Quintana (SPA). Congress Chairman

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SCIENTIFIC PROGRAMME

	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00
Wednesday 2-9-15	PRE-CONGRESS COURSE More info: www.eat2015.info Registration: http://goo.gl/forms/UtY9aJivpy													
							Late Registration and Accreditation at the Hotel Florida Norte							
Thursday 3-9-15	Late Registration and Accreditation at INEF	OPENING Ceremony + Session 1-1 Technical Applications	Coffee Break	Poster 1	Session 1-2 Biomedical Applications	LUNCH (Cafetería INEF)	Session 1-3 Animal	Session 1-4 Biomedical	Coffee B.	Session 1-5 Biomedical Applications	EAT General Assembly			
Friday 4-9-15		Invited Session 2-1 Biomedical Applications		Poster 2	Session 2-2 Biomedical Applications			VISIT TO A PINTORESQUE CITY AND GALA DINNER (*) Departure: 15:30 (Florida Norte Hotel) Arrival: 23:00 aprox.						
Saturday 5-9-15		Invited Session 3-1 Biomedical Applications		Poster 3	Session 3-2 Biomedical Applications		Closing Ceremony and EAT Awards							

Thursday, 3rd of September, 2015

9.00 Opening

9:00	A. Rivero (Dean of INEF): "Greeting address on behalf of INEF Madrid" (Spain) J. Mercer: "Greeting address on behalf of EAT" (Norway) M. Sillero: "Greeting address on behalf of the organization (Spain)"
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9:15 Session 1.1. "Hardware and software solutions for IR imaging" Chair: R. Vardasca (Portugal)

9:15 S1-1-1	R. Vardasca, J. Gabriel. "From thermal radiation at skin surface to image temperature values" (Portugal)
09:30 S1-1-2	B. Kluwe, P. Plassmann. "Mobile Medical Infrared Imaging Devices on Embedded Computing Platforms" (UK)
9:45 S1-1-3	G. Chernov, V. Chernov, C. Davila-Peralta, R. Rodriguez-Carvajal, M Barboza-Flores. "3D infrared thermography system for biomedical applications" (Mexico)
10:00 S1-1-4	S. Sanchez-Carballido, M. Salas, A. De Castro, F. López. "Cutaneous medical analysis through active thermography supported on a thermal model of the skin. (Spain)"
10:15 S1-1-5	A. Merla, D Cardone, P.Pinti, L Di Donato. "IRI - ImagePro©: A software tool for advanced processing of thermal IR imaging data". Italy

10:40 Coffe Break

11:10 Poster Session 1. "Miscellaneous animal and biomedical applications" Chair: K. Ammer (Austria)

P1-1	C. Ferraz, J. Moreira da Silva, L. Mendes "Assessment of stress recovery by thermography" (Portugal)
P1-2	M. Kobayashi. "The effectiveness of thermography as an assessment tool for flap engraftment in a dog" (Japan)
P1-3	S. Nica, L. Meiu, B. Mitoiu, M. Moise. "Case report-Thermographic evaluation of a patient with lymphedema of the upper limb, after mastectomy". (Romania)
P1-4	P. Rodrigues de Andrade, I. V. Vanessa Evangelista Maia, J. Almeida Ferreira, C. Franco de Medeiros Neto. "Absence of alterations in cutaneous temperature during the phases of menstrual cycle". (Brazil)
P1-5	O. Horie, H. Shibata, C. Okamoto, M. Natsuaki, M. Koshiba. "Assessment of fever for infection control using thermography facial thermography in patients with fever". (Japan)
P1-6	L.Laino, A Di Carlo "Possible application of telethermography in the non invasive study of the Canceration Field". (Italy)
P1-7	E. Mota Silva, D. Casal, I. Iria, A. Farinho, S. Marques, E. Rodrigues, C. Pen, L. Mascarenhas Lemos, M. Angélica Almeida, D. Pais, J. Goyri O'Neill, V. Vassilenko1. "Evaluation of the efficacy of IR Thermography in assessing peripheral nerve regeneration in a rat model"



12:00 Session 1-2. Biomedical Applications “Thermography in Surgery” Chair: H. Usuki (Japan)

12:00 S1-2-1	M. Leal Brioschi, E. Borba Neves, V. Machado Reis, G. Galindo Reisemberger. “Estimating the normal breast reference temperature in young women: a thermographic equation” (Brazil)
12:15 S1-2-2	B. Rustecki, M. Mozański, J.Klimkiewicz, W.Machura, B.Kalicki, A.Jung. “Evaluation of paravertebral block for mastectomy by infrared imaging”. (Poland)
12:30 S1-2-3	J. Mercer, T. Sjøberg, L.de Weerd. “Pre-, intra- and postoperative use of dynamic infrared thermography (DIRT) in breast reconstruction using a fascio-cutaneous pedicled perforator flap”. (Norway)
12:45 S1-2-4	C. Di Maria, P. Hainsworth, J. Allen. “Microvascular imaging for the intra-operative evaluation of bowel perfusion”. (UK)
13:00 S1-2-5	C. Vicari Nogueira, C. De Barros Fernandez, M. Brioschi, J. Pere Barret. “Infrared Thermography in Plastic Surgery: A Comparative Study of Pre and Postoperative in different techniques of Abdominoplasty”. (Brazil/Spain)
13:15 S1-2-6	A. Urakov, N. Urakova. “Thermography provides information on the oxygenation of the fetal brain in the final stage of childbirth”. (Russia)

13.30 LUNCH (Cafeteria INEF)

14:30 Session 1-3. “Animal applications with a focus on equine medicine”. Chair: J. Mercer (Norway)

14:30 S1-3-1	M. Soroko, K. Howell. “Thermography in equine medicine”. (Poland/UK)
14:45 S1-3-2	K. Howell, M. Soroko, K. Dudek, E. Jodkowska. “Thermographic evaluation of racehorse performance”. (Poland/UK)
15:00 S1-3-3	K. Howell, M. Soroko, K. Dudek. “Influence of breed, age, gender, training intensity level and ambient temperature on back and forelimb temperature in racehorses”. Poland/UK
15:15 S1-3-4	A. Hoffmann, C. Dumke, M. Bernau, P. Kremer. “Infrared thermography - new concepts for refinement and reduction in animal use for testing of biological”. (Germany)

Session 1-4. “History and Future of Infrared Imaging” Chair: E.F.J. Ring (UK)

15:30 S1-4-1	K. Ammer. “Human Skin Temperature Measurement Based on Radiometry- A historical review”. (Austria)
15:45 S1-4-2	A. Jung. “Twenty years activity of The Centre for Clinical Thermology of The Military Institute of Medicine in Warsaw, Poland”. (Poland)
16:00 S1-4-3	M. Sillero-Quintana, J. Arnáiz-Lastras, I. Fernández-Cuevas, P. Gómez-Carmona. “Proposals to standardize results in human thermography”. (Spain)
16:15 S1-4-4	C. Chandler. “Why thermography?” (USA)

16:30 Coffee break

17:00 Session 1-5. “Temperature measurement at the head or face” K. Howell (UK)

17:00 S1-5-1	C. Di Maria, J. Allen, J. Dickinson, C. Neoh. “Analysis of thermal images to quantify inflammation in Graves’ orbitopathy”. (UK)
17:15 S1-5-2	M. Sund-Levander, E. Grodzinsky. “Ear body temperature in healthy individuals . A population study on small children to elderly adults”. (Sweden)
17:30 S1-5-3	F. Ring, D. Pascoe, R. Vardasca. “Lack of compliance to International Standards Organisation recommendations for Fever Screening with Thermography”. (UK/USA/Portugal)
17:45 S1-5-4	F. Ring, R. Vardasca. “The development of an infrared thermography pandemic fever screening course for the non-researcher/scientist operator”. (USA/UK/Portugal)
18:00 S1-5-5	H. Usuki, B. Nishiura, Y. Wada, J. Uemura, S. Noge, N. Maeda, M. Nishimura, E. Asano, M. Ohshima, N. Yamamoto, S. Akamoto, M. Fujiwara, K. Okano, Y. Suzuki. “Thermographic examination for hypothermia in high altitude”. (Japan)
18:15 S1-5-6	D. Cardone, A. Merla. “The thermal dimension of social interactions”. (Italy)
18:30 S1-5-7	E. Salazar-Lopez, E. G. Milán. “The mental and subjective skin: thermography applied to psychology”. (Spain)

19:00 EAT General Assembly



Friday, 4th of September, 2015

9:00 Invited lecture. Chair: E.F.J. Ring. **Blood flow in diabetes.** P.R.J. Vas (UK). “Neurological and Microcirculatory Challenges of the Diabetic Foot: Clinicians Perspective”.

9:30 Session 2-1. “Foot temperature”. Chair: Anna Jung (Poland).

9:30 S2-1-1	J. Klaessens, A. van der Veen, R. Verdaasdonk. “Thermal Imaging, a clinical diagnostic tool for non-contact monitoring of tissue perfusion, applied in clinical trials”. (The Netherlands)
9:45 S2-1-2	V. Veikutis, K. Stasiukynaitė, E. Monstavičius, A. Sakalauskaitė. “Plantar thermography as a diagnostic and prognostic tool for diabetic foot” (Lithuania)
10:00 S2-1-3	R. Vardasca, A. Marques, R. Carvalho, J. Gabriel. “Thermal Physiological Characterization of Diabetic Foot” (Portugal)
10:15 S2-1-4	J. Allen, C. Di Maria, K. Anderson. “Study of the thermovascular characteristics in patients with Willis-Ekbom disease” (UK)
10:30 S2-1-5	S. Melgosa. “Correct Toes & Circulation: Visualized through infrared camera”. (Spain)
10:45 S2-1-6	J. Teixeira Oliveira, R. Vardasca, M. Pimenta, J. Torres. “Thermal imaging as a potential complimentary diagnosis method for ankle sprain lesions” (Portugal)

11:00 Coffee Break

11:30 Poster Session 2. “Facial temperature and applications in surgery”. Chair: K. Howell (UK).

P2-1	D. Sabbagh Haddad, M. Leal Brioschi, R. Vardasca, E. Saito Arita. “Study of the facial surface skin thermal distribution by infrared thermography: facial thermoanatomy”.(Brazil/Portugal)
P2-2	A. Seixas, V. Häussler, Monteiro, R. Vardasca, J. Gabriel, S. Rodrigues. “Experimentally induced pain elicits autonomic arousal in healthy subjects”. (Portugal)
P2-3	C. De Barros Fernandez Nogueira, C. Vicari Nogueira, M. Brioschi, N. Maestro. “Case Report: Thermal Anatomic Aspects In Facial Palsy, And Use Of Thermography As A Healing Evaluation Method (Brazil/Portugal).
P2-4	V. Bernard, T. Andrašina, V. Mornstein, E. Staffa, V. Válek. “Infrared thermography as a tool for monitoring of radiofrequency tissue ablation inside of metal stent”. (Czech Republic)
P2-5	E. Staffa, V. Bernard, L. Kubíček, V. Žižlavský, R. Vlachovský, D. Vlk, V. Mornstein, R. Staffa. “Thermal imaging to assess changes of foot skin temperature in patients treated with percutaneous transluminal angioplasty” (Czech Republic)

Session 2-2. “Temperature Changes after Cold Challenge”. Chair: J. Mercer (Norway)

12:00 S2-2-1	A. Norheim, E. Borud, J. Mercer, L. de Weerd. ““Normal” thermography among 122 soldiers in the Norwegian armed forces”. (Norway)
12:15 S2-2-2	K. Howell, M. Adams, G. Hartnell, R. Smith. “Finger cooling during cold stress and surface area-to-volume ratio in healthy subjects, and patients with primary and secondary Raynaud’s phenomenon”. (UK)
12:30 S2-2-3	K. Leijon-Sundqvist, N. Lehto, U. Juntti, K. Karp. “Cold-water provocation of hands: an evaluation of different provocations”. (Sweden)
12:45 S2-2-4	A. Urakov, M. Nasyrov, L. Chernova. “How fingers became warm after cooling”. (Russia)
13:00 S2-2-5	T.D. Conwell, K.E. Lind. “Comparison of the Diagnostic Accuracy of Three Infrared Imaging Methods in Evaluating Patients with Presumptive CRPS”. (USA)
13:15 S2-2-6	M. Clemente, R. Correia, D. Coimbra, R. Vardasca, J. Gabriel. “The contribution of medical thermal imaging in the study of Temporomandibular disorders (TMD) disorders in clarinet players”. (Portugal)

13.30 LUNCH (Cafeteria INEF)

A bus will depart 2:45 from INEF Madrid to the Hotel Florida Norte (Arriving 3:00). Attendants will have 15 minutes for changing clothes.

15:15 VISIT TO TOLEDO AND GALA DINNER.

A bus will depart 3:155 from Hotel Florida Norte. After the dinner buses will arrive hotel Florida Norte about midnight.

XIII EAT CONGRESS 3rd to 5th of September 2015, Madrid.



Saturday, 5th of September, 2015

9:00 Invited lecture. Chair: K. Howell (UK). Infrared remote earth sensing and global climatic change. J. A. Sobrino (Spain). *“Surface urban heat island effect by thermal remote sensing”*.

9:30 Session 3-1. “Thermography and physical exercise”. Chair: M. Sillero (Spain)

9:45 S3-1-1	R. Vardasca, A. S. Domingues, F. Barbosa, A. Seixas, J. Gabriel, J. Vilas-Boas. “Thermographic evaluation of swimming techniques”. (Portugal)
10:00 S3-1-2	J. Adamczyk, D. Boguszewski, P. Reaburn, D. Białoszewski. Is it possible to create a thermal model of warm-up? Monitoring the training process in athletic Decathlon. (Poland)
10:15 S3-1-3	I. Fernández-Cuevas, L. Grams, J. Marins, M. Sillero-Quintana. “Skin temperature differences between aerobic and anaerobic training”. (Spain/Germany/Brazil)
10:30 S2-1-4	H. Rossas, S. Rodrigues, A. Seixas. “Skin temperature changes over the medial gastrocnemius and total work during exercise”. (Portugal)
10:45 S2-1-5	A. Seixas, S. Rodrigues, V. Soares, T. Dias, R. Vardasca, J. Gabriel. “Changes in skin temperature and thermal symmetry induced by a physiotherapy occupational task”. (Portugal)

11:00 Coffee Break

11:30 Poster Session 3. “Evaluation of exercise or disorders of the locomotor system”. Chair: D. Pascoe (USA)

P3-1	H. Honorato dos Santos, Y. de Araújo Silva, B. Herculano dos Santos, J. de Almeida Ferreira. “Thermographic analysis of the anaerobic exercise post-recovery by cold water immersion”. (Brazil)
P3-1	A. Seixas, S. Rodrigues, R. Vardasca, J. Gabriel. “Skin temperature is correlated with symptoms in patients with patellar tendinopathy”. (Portugal)
P3-2	J. Alencar, M. Freire, R. Cardoso, J. Ferreira. “Thermographic changes in workers with shoulder disorders”, (Brazil)
P3-4	J. de Almeida Ferreira, U. Franco de Oliveira, L. Caldas Araújo, B. Herculano dos Santos. “Thermographic profile of the hamstring muscles during static stretching” (Brazil)
P3-5	J. de Almeida Ferreira, B. Herculano dos Santos, Y. de Araújo Silva, U. Franco de Oliveira. “Thermographic analysis of the effect of different modalities of exercise: Aerobic and eccentric exercise”. (Brazil)
P3-6	C. De Barros Fernandez Nogueira, C. Vicari Nogueira, M. Brioschi, N. Ribeiro. “Case Studies - How Thermography Can Assist Clinical Examination In Various Stages Following Trauma. ” (Portugal/Brazil)
P3-7	J.I. Priego Quesada. “Core and Local Skin Temperatures During Aerobic Cycling Exercise” (Spain)

12:15 Session 3-2. “Pain syndromes of the locomotor system” Chair: A. Seixas (Portugal).

12:15 S3-2-1	D. Boguszewski, J. Adamczyk, A. Ślupik, D. Białoszewski. “Using thermovision in evaluation the effect of isometric and classical massage on selected physiological and biomechanical parameters of lower limbs”. (Poland)
12:30 S3-2-2	J. Gabríhel, Z. Popracová, H. Tauchmannová, Z. Chvojka. “Painful leg syndrome in thermal, ultrasound and X-Ray imaging” (Slovakia).
12:45 S3-2-3	M. Leal Brioschi, E. Borba Neves, V. Machado Reis, G. Galindo Reisemberger. “Thermographic evaluation of risk factors for hip pain”. (Brazil)
13:00 S3-2-4	I. Rossignoli, M. Sillero-Quintana, A. Herrero. “Infrared thermography and shoulder pain in wheelchair users”. (Spain)
13:15 S3-2-5	M. Leal Brioschi, E. Borba Neves, V. Machado Reis, G. Galindo Reisemberger. “Thermographic evaluation of lateral epicondylitis in patients with fibromyalgia syndrome”. (Brazil)

13.30 LUNCH (Cafeteria INEF)

14.30 CLOSING CEREMONY AND CONGRESS AWARDS.



EAT CONGRESS AWARDS

Prizes will be awarded for the best overall communication, best poster (Kurt Ammer prize) and best student (Francis Ring prize) presentations. The authors of best communications will be invited to submit an extended version of their abstracts for publication in Thermology International.

REGISTRATION FEES

	Early Registration (Until 30-4-15)	Late Registration (Until 31-7-15)	Last-minute Registration (After 31-7-15)
EAT MEMBER ⁽¹⁾	300 €	360 €	400 €
Non EAT member ^(1 & 2)	350 €	410 €	450 €
1-day registration ⁽³⁾	125 €	150 €	170 €
Student ⁽³⁾	150 €	200 €	240 €
Accompanying person ⁽⁴⁾	200 €	260 €	300 €

- (1) Full inscription include registration pack, coffee breaks, lunches, Gala Dinner, and 10 tickets for public transports (metro and bus).
- (2) Annual EAT fee = 50 € (including one year subscription to the journal Thermology International). To get information about how to apply to the EAT as ordinary or extraordinary member, visit <http://www.europanthermology.com> (membership).
- (3) 1-day registration will include registration pack and coffee breaks and lunch of the day. **Gala Dinner not included.**
- (4) A certificate with ECTS credits will be provided by U.P.M. Gala Dinner not included.
- (5) Accompanying person registration will include 2 one-day excursions (9:00 - 16:00) with lunch (3rd and 5th of September) and Gala Dinner.

OFFICIAL HOTEL OF THE CONGRESS

Hotel Florida Norte**** is the official hotel of the congress. Most of the activities will depart from there.

The special fees for the last minute registration and fees depends on the availability of the hotel. The Florida Norte Hotel is about a 25 minutes walk or a 5-10 minute bus ride to the venue. The city centre is a 10 minute walk from the hotel.

ACCOMPANYING PEOPLE PROGRAM

We have programmed an interesting program for accompanying people:

+ **DAY 1 (3-9-15): 8,30:** Departing from the Hotel to take a bus (15-20 min walking) to a one-day excursion to two nice cities: Segovia and Avila. The bus, tickets and lunch are included) Arriving 18:00 aprox.

+ **DAY 2 (4-9-15): MORNING: FREE...** You can visit Madrid, doing some shopping, taking the tourist bus (not included), seeing the Prado... But at 3:15 you should be ready in the hall of the hotel for going to visit TOLEDO and the Gala Dinner.

+ **DAY 3 (5-9-15): 8,30:** Departing from the Hotel to take a bus (15-20 min walking) to a one-day short excursion to El Escorial. The bus and tickets are included). Arriving 14:00 aprox.

TECHNICAL OFFICE

For any enquire, you can contact the office of the congress by email eatmadrid2015@gmail.com or by phone: +3491336-4021 or -4081, +34687044034 (mobile).