



ITE'18

2018 international conference on Innovative Trends in Energy (ITE'18)

Hammamet-Tunisia, May 10-12, 2018

Program



LARATSI-ENIM



الشركة التونسية للكهرباء والغاز للطاقة المتجددة
STEG Energies Renouvelables

Welcome Message

On behalf of the organizing committee, we would like to extend a warm welcome to all the participants of the international conference on Innovative Trends in Energy, (ITE'18) being held at the Vincci Maillia Hotel, Hammamet-Tunisia, May 10-12, 2018.

We consider ourselves fortunate to have the opportunity to organize ITE'18 in Tunisia and offer you a taste of the Tunisian hospitality.

In addition to the regular papers, ITE'18 includes exciting plenary keynotes. We have received around 105 papers writing by 230 authors from 16 countries worldwide that yielded 55 valid papers. The acceptance rate for this conference was around 50%. Authors from all continents honored us by reporting their original work, in all areas of world on recent developments in the fields of Innovative Trends in Energy. We thank them for submitting their work to our conference.

We would like to thank all the members on the organizing committee for their extraordinary efforts to ensure that this conference will be a successful one.

We would like to express our gratitude to our sponsors, ATTeDD, the University of Sousse, Gazi university and the University of Monastir, as well as to our technical sponsors, IEEE RAS Tunisia chapter, and our partner LARATSI-ENIM, CRMN.

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Accommodation and Venue

ITE'18 will be held at **Vincci Marillia Hotel** in Hammamet-Tunisia.

Website: <https://www.vinccihoteles.com/fre/Hotels/Tunisie/Hammamet/Vincci-Marillia>



The hotel Vincci Marillia 4 * offers you all the comfort of a luxurious hotel, near one of the most prized tourist resorts of Tunisia.

The hotel Vincci Marillia 4 *, a 4-star hotel of international class, with its suites and spacious rooms, its terraced (hanging) swimming-pool and its view onto the sea, will make your stay in Hammamet even more pleasant.

The hotel Vincci Marillia 4 * is located in Yasmine Hammamet , a place characterized by the jasmine plantations that give its name to the locality. It is in a privileged place imbued with Arab culture that is the Vincci Marillia 4 *, an enclave in the middle of the paradisiacal Tunisian beaches from where one can enjoy the cultural environment of the region thanks to its good location, only 60 km from Tunis, 8 km from the old district of Hammamet and 500 meters from the main shops.

Guests have free use of the fitness room and indoor and outdoor swimming pools. The Spa & Wellness Centre provides a hammam and steam bath.

The hotel Vincci Marillia 4 * offers free Wi-Fi in public areas and free on-site parking.

Carthage Airport is 60 km away.

Hammamet is the epitome of the relaxation city where sea, sand, sky, sun, orange and palm trees meet, making of this resort an ideal holiday destination.

The city of Hammamet, with its remparts dating back to the XVth century and its medina consisting of winding lanes, has bewitched so many celebrities and world renowned writers, painters and artists.

Travel Informations

[Hammamet city](#) is located at 60km from Tunis international airport and 90km from Monastir airport. To arrive at the conference hotel, two possibilities are available :

Solution 1

From the airport you can get a taxi (approx. cost 25 euro). Special taxis allow joining the conference site (**Vincci Marillia 4** * Hammamet hotel).

Information About Taxi transportation:

Tel:+216 98 30 93 48, +216 27 30 93 48

Email: info@taxitunisie.com

Website: http://www.taxitunisie.com/default_ang.htm

Solution 2

You can follow this path:

From the Tunis international airport take a taxi to the Tunis train station then take the train from Tunis to BIR BOU REKBA. Finally take a taxi from Hammamet to **hotel Vincci Marillia 4** * (approx. cost 5 euro).

For the train schedules informations please visit the following website: <http://www.sncft.com.tn>

You can take a taxi from BIR BOU REKBA train station to **The hotel Vincci Marillia 4** * if available.

Conference Registration

Thursday - May 10, 2018

(8.00 – 17.30)

Friday - May 11, 2018

(8.00 – 17.30)

Saturday - May 12, 2018

(8.00 – 10.00)

Program

Thursday - May 10, 2018	Registration (8.00 – 9.00)
	Technical Session 1 (9.00 – 10.30)
	Coffee break (10.30 – 11.00)
	Opening Ceremony (11.00 – 11.30)
	Keynote 1 (11.30 – 12.30) <i>Speaker : Prof. Mahir Dursun - Turkey</i> <i>Title: An Optimized Design and Implementation of A Solar Powered Drip Irrigation Systems by using Genetic Algorithm and Artificial Neural Network</i>
	Lunch break (12.30 – 14.30)
	Technical Session 2 (14.30 – 16.00)
	Coffee break (16.00 – 16.30)
	Technical Sessions (16.30 – 18.00) SSS'18
Friday - May 11, 2018	Registration (8.00 – 9.00)
	Technical Session 3 (9.00 – 10.30)
	Coffee break (10.30 – 11.00)
	Keynote 2 (11.00 – 12.00) <i>Speaker : Prof. Kamel Besbes - Tunisia</i> <i>Title: Industry 4.0, the new industrial revolution</i>
	Keynote 3 (12.00 – 13.00) <i>Speaker: Dr. Wael Dghais - Tunisia</i> <i>Title: Simultaneous Wireless Power Transfer and Data communication via Resonant Inductive Channel: Challenges and Solutions</i>
	Lunch break (13.00 – 14.30)
	Technical Session 4 (14.30 – 16.00)
	Coffee break (16.00 – 16.30)
	Technical Sessions (16.30 – 18.00) SSS'18
Saturday - May 12, 2018	Registration (8.00 – 9.00)
	Technical Session 5 (9.00 – 10.30)
	Coffee break (10.30 – 11.00)
	Closing Ceremony

Sessions Scheduling

Title	Papers	Room
Technical Session 1	40, 76, 64, 43, 23, 60	<i>Sousse</i>
Technical Session 2	75, 33, 35, 63, 72, 22, 52	<i>Sousse</i>
Technical Session 3	25, 39, 58, 41, 21, 47, 59	<i>Sousse</i>
Technical Session 4	74, 48, 44, 54, 73, 42	<i>Sousse</i>
Technical Session 5	83, 89, 101, 90, 95	<i>Sousse</i>

Opening Ceremony	<i>Carthage</i>
Keynote 1, Keynote 2, Keynote3	<i>Carthage</i>
Closing Ceremony	<i>Carthage</i>

DAY 1: May 10, 2018

08:00 – 09:00: Registration

Room Sousse: 9:00-10:30

Chair: Prof. Hassani Messaoud & Prof. Fatih Saltuk

ID	Authors & Title
40	<i>Comparative study of modified and conventional P&O method for PV system</i>
	Rabiah Gammoudi, Houda Brahmi, Othman Hasnaoui
76	<i>Implications of renewable energy utilization in AlGaIn/GaN HEMTs</i>
	H.MOSBAHI, M.GASSOUMI, C.GAQUIERE, M.A. ZAIDI
64	<i>Variable speed control of wind turbines based on the optimal discrete sliding mode control</i>
	Wafa boukadida, Anouar Benamor and Hassani Messaoud
43	<i>Adaptive Sliding Mode Control of a Photovoltaic Array in a Hybrid Electric Generation System</i>
	Rihab Bkekri, Anouar Benamor and Hassani Messaoud
23	<i>Experimental Investigation of Variable Expansion Device on Air Conditioning Performance</i>
	Eric Vella and Mario Farrugia
60	<i>Energetic Technical Management Of Smart Building: Meteorological Forecast</i>
	Sondes GHARSELLAOUI, Hassani MESSAOUD, Laurent DELAHOUCHE and Bruno MARHIC

10:30-11:00: Coffee Break

11:00-11:30: Opening ceremony

11:30-12:30: Keynote 1

12:30-14:30: Lunch

Room Sousse: 14:30-16:00

Chair: Prof. Mahir Dursun & Prof. Hassen Mekki

ID	Authors & Title
75	<i>Numerical simulation of the dispersion of atmospheric pollutants generated by road traffic</i>
	A. Jbara
33	<i>Detecting of spatial exciton localization in BGaAs epilayers for optoelectronic applications</i>
	Tarek HIDOURI and Faouzi Saidi
35	<i>State And Sensor faults Estimation Using Proportional Multiple Integral Observer For Uncertain Takagi-Sugeno</i>
	Ilyes Elleuch, Atef Khedher and Kamel Ben Othmen

63	<i>Fault detection for nonlinear system using dynamic KPCA methods</i>
	Radhia Fezai, Majdi Mansouri, Okba Taouali , Mohamed Faouzi Harkat and Nasreddine Bouguila
72	<i>Diagnosis of a boost converter for a water treatment system by Bond Graph</i>
	Elouaer Leila, Zitouni Naoufel and Abdelkader Mami
22	<i>Design and implementation fuzzy logic control algorithm in embedded systems. Application for drive pneumatic systems and electric furnace</i>
	H. Fekhar
52	<i>Experimental Investigation of the Performance of a Commercial Inverter AirConditioner with Frequency</i>
	Owen Vassallo and Mario Farrugia

16:00-16:30: Coffee Break

16:30-18:00: Technical Sessions SSS'18

DAY 2: May 11, 2018

Room Sousse: 9:00-10:30

Chairs: Prof. Abdelkader Chaari & Prof. Kais Bouzrara

ID	Authors & Title
25	<i>Numerical simulation of double diffusive natural convection in a cubic cavity filled with micropolar AL2O3/water nanofluid</i>
	Nessrin Manaa, M. Naceur Borjini and Awatef Abidi
39	<i>The Comparative THD Analysis of Neutral Point Clamped Multilevel Inverter based on PDSPWM Control Techniques</i>
	Omar Dlal and F. Zidani
58	<i>Comparative study of nonlinear process monitoring based on KPCA with reduced complexity: Application to a Chemical Stirred Tank Reactor (CSTR)</i>
	Hajer LAHDHIRI, Majdi MANSOURI and Okba TAOUALI
41	<i>Principle of Modified Incremental Conductance Sliding Mode MPPT Control Applied of Photovoltaic system</i>
	Rabiaa Gammoudi, Houda Brahmi, Othman Hasnaoui
21	<i>Sensorless Control of Induction Motor by Differential Flatness method</i>
	Beddiaf Yassine, Zidani Fatiha and Larbi Chrifi-Alaoui

47	<i>Modeling of the Energy Behavior of a Building and Analysis of a RES system</i>
	Marwa Hamdi, Nasreddine Bouguila and Larbi Chrifi-Alaoui
59	<i>Fingerprint Curve Reconstruction By Fractal Interpolation</i>
	Hichem Guedri and Hafedh Belmabrouk

10:30-11:00: Coffee Break

11:00-12:00: Keynote 2

12:00-13:00: Keynote 3

13:00-14:30: Lunch

Room Sousse: 14:30-16:00

Chair: Prof. Hassan Mekki & Prof. Anis Khouaja

ID	Authors & Title
74	<i>Modeling and Control UPFC to Enhancing Dynamic Performance of AC Grids with Wind Farm Integrations</i>
	Sahia Saoudi, Salah Nasr and Hsan Hadj Abdallah
48	<i>Nonlinear process monitoring using a new kernel principal component analysis index</i>
	Hajer Lahdhiri, Majdi Mansouri, Mohamed Faouzi Harakat and Okba Taouali
44	<i>A New Robust Discrete Sliding Mode Controller Of Nonlinear MIMO Systems Applied To Induction Motor</i>
	Rihab Bkekri, Anouar Benamor, Boukadida Wafa and Hassani Messaoud
54	<i>Fault Diagnosis for dynamic nonlinear system based on Variable Moving Window</i>
	Radhia Fezai, Majdi Mansouri, Okba Taouali, Mohamed Faouzi Harkat and Nasreddine Bouguila
73	<i>Numerical investigations concerning the design and performance of gas-gas ejectors</i>
	Doniazed Sioud, Ahmed Bellagi and Mahmoud Bourouis
42	<i>Numerical Analysis of a Modified-Dipole Optical Antenna for Solar Energy Harvesting</i>
	W. Amara, D. Oueslati, H. Rmili, A. Alghamdi and T. Aguli

16:00-16:30: Coffee Break

16:30-18:00: Technical Sessions SSS'18

DAY 3: May 12, 2018

Room Sousse: 9:00-10:30

Chairs: Dr. Walid Ben Mabrouk & Dr. Anouar Benamor

ID	Authors & Title
83	<i>Robust Adaptive Backstepping Control for nonlinear systems</i>
	Nassira Meryeh
89	<i>New approach for tolerant-fault control of Discrete Event Systems</i>
	Anas Farhat, Kmaies Korchid
101	<i>Identification and Control Systems by using GAM</i>
	Mansour Timoumi and Jamel Najjar
90	<i>Control of wind turbine disturbed system in presence of uncertainties</i>
	Nizar Machfar and Hichem Hamad
95	<i>New approach of Temperature control by using PID.</i>
	K. B. Mansour

10:30-11:00: Coffee Break

11:00-11:15: Closing Ceremony