2022 23rd International Middle East Systems Conference

MEPCON 2022

EGYPT, 13-15 DECEMBER 2022, ORGANIZED BY Kafrelsheikh UNIVERSITY, Faculty of Engineering

مؤتمر الشرق الأوسط الدولي لنظم القوى الكهربية

33 YEARS OF MEPCON

Scientific PROGRAM

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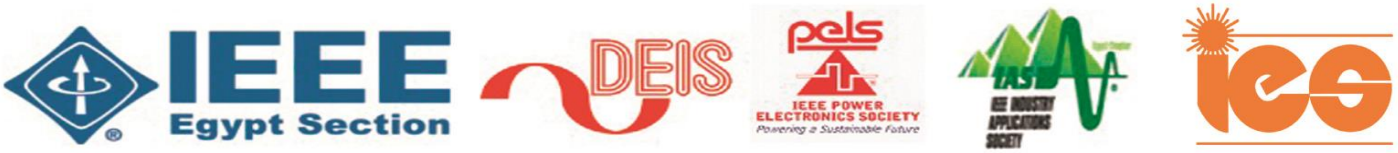

SUPPORTERS

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Scientific PROGRAM

Welcome Message

Prof. Dr. Abdel-Fattah Heliel
Conference General Chairman

On behalf of the MEPCON 2022 Organizing Committee, Kafrelsheikh University, we would like to welcome you all to the 23rd edition of the International Middle East Power Systems Conference, which will be held from December 13 to 15, 2022, at the Intercontinental Cairo Semiramis Hotel in Cairo, Egypt. MEPCON has been held twenty-two times since its inception in 1989. Each edition is hosted by an Egyptian governmental university chosen by the MEPCON steering committee. The first MEPCON was co-hosted by Cairo and Assiut Universities. MEPCON has become an annual event.

It is a great honor for us at Kafrelsheikh University in Egypt to have been chosen by the Steering Committee to organize MEPCON 2022 for the first time! This year marks the 33rd anniversary of MEPCON! During these three decades, MEPCON grew to be the largest and most prestigious international electrical power engineering event in Egypt and the Middle East. This conference provides a forum for researchers, scientists, and engineers to present their latest research and development achievements, as well as exchange useful information and experiences in all fields related to electrical power and energy. Many years ago, MEPCON established technical co-sponsorship links with the Institute of Electrical and Electronics Engineers, IEEE, which resulted in a significant improvement in paper quality. MEPCON papers are now available in IEEEXplore, one of the world's most important scientific digital libraries. MEPCON papers are now more widely cited as a result of the international exposure provided by IEEE. MEPCON 2022 has received technical co-sponsorship from two IEEE Societies, Power Electronics (PELS) and Industry Applications (IAS), as well as the IEEE Egypt Section and three IEEE Egypt Chapters, Power & Energy (PES), Power Electronics (PELS), and Industry Applications (IAS).

We would like to express our gratitude and appreciation to Prof. Abdelrazek Desouky, President of Kafrelsheikh University, for his sincere and continuous support and encouragement throughout all stages of the conference organizing process. The MEPCON 2022 Organizing Committee wishes you a pleasant stay in Cairo, Egypt, as well as a successful conference in which you will participate in interesting technical sessions and lectures. Furthermore, you will make new friends and colleagues with whom you will collaborate in the future. We are confident that you will return home with new ideas from this exciting technical field of electrical power engineering.

MEPCON Steering Committee

- Prof. Ibrahim Megahed, Alexandria University
- Prof. Mohamed K. El-Sherbiny, Assuit University
- Prof. Farouk Ismail Ahmed, Cairo University
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KAFRELSHEIKH UNIVERSITY HIGHLIGHTS

Public Overview

Kafrelsheikh University was established on April 19, 2006, by Presidential Decree No (129). It is one of the Arab Republic of Egypt's modern governmental universities. It is worth noting that the university was established in response to the requirements of Egypt's sustainable development process in terms of optimal utilization of its human and material resources and energies on the one hand, and the growing need to expand the absorptive capacity of university education from alumni of high and technical secondary schools on the other.

Historically, the nucleus of the faculties began with the establishment of the Higher Agricultural Institute in Kafrelsheikh governorate in 1957, which was affiliated with the Ministry of Higher Education. The institute was transferred to the Faculty of Agriculture, which is affiliated with Alexandria University, in 1969. Tanta University annexed the faculty after its inception in 1973. The Faculty of Education was founded in 1977. Tanta University opened a branch in Kafrelsheikh in 1983, and the Faculty of Veterinary Medicine opened in 1985. The Faculty of Special Education was established in 1988. Initially affiliated with the Ministry of Higher Education, the Faculty of Specific Education was later affiliated with Tanta University by Ministerial decree No 1187.
In 1990, the Faculties of Engineering and Commerce established a branch. A branch of the Faculty of Physical Education was founded in 1997. When the republican decision to convert the Kafrelsheikh branch into a university was issued in 2006, the faculties' branches were transformed into faculties.

Research Excellence

Kafrelsheikh University focuses on developing the research capacity of junior and senior researchers to cope with national strategic plan of Egypt as well as the United Nations 2002-2030. The University received significant funds for scientific research from several national and international funding bodies including Science and Technology Development Fund (STDF), Academy of Scientific Research and Technology, Projects Management Sector of the Ministry of Education and Scientific Research, and the European Union (Erasmus+). Tanta University established several centers of excellence in research for training next generation scientists. Overall, Kafrelsheikh University has become one of the top ranked national universities in certain research areas. Besides, the excellence in research has led to several important innovations which exceed 100 inventions.

MEPCON 2022 HIGHLIGHTS

Total number of submitted papers 170
Number of accepted papers 139
Acceptance rate 0.81
Number of reviewers 340

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COUNTRIES

Algeria, Australia, Canada, Croatia, Egypt, Finland, France, Germany, Ghana, Indonesia, Iraq, Japan, Kuwait, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, South Korea, Spain, United Arab Emirates, and United States.

HISTORY OF MEPCON

Conference	Date	Organized by	Venue
MEPCON 1989	Jan. 9-10, 1989	Cairo University	Cairo University, Giza
	Jan. 12-13,1989	Assiut University	Assiut University, Assiut
MEPCON 1992	Jan. 6-9, 1992	Assiut University	Assiut University, Assiut
MEPCON 1994	Jan. 3-6, 1994	Cairo University	Cairo University, Giza
MEPCON 1996	Jan. 3-5, 1996	Assiut University	Luxor
MEPCON 1997	Jan. 4-6, 1997	Alexandria University	Palestine Hotel, Alexandria
MEPCON 1998	Dec. 15-17, 1998	Mansoura University	Mansoura University, Mansoura
MEPCON 2000	March 28-30, 2000	Ain Shams University	Dar Al-Diafah, Cairo
MEPCON 2001	Dec. 29-31, 2001	Helwan University	University Campus Helwan, Cairo
MEPCON 2003	Dec. 16-18, 2003	Menofia University	Shebin El-Kom
MEPCON 2005	Dec. 13-15, 2005	Suez Canal University	Port Said
MEPCON 2006	Dec. 19-21, 2006	Minia University	Minia University
MEPCON 2008	March 12-15, 2008	South Valley University	Aswan
MEPCON 2009	Dec. 20-23, 2009	Assiut University	Assiut
MEPCON 2010	Dec. 19-21, 2010	Cairo University	Al-Masah Hotel, Cairo
MEPCON 2012	Dec. 23-25, 2012	Alexandria University	Hilton Hotel, Alexandria
MEPCON 2014	Dec. 23-25, 2014	Ain Shams University	Al-Salam Hotel, Cairo
MEPCON 2015	Dec. 15-17, 2015	Mansoura University	Mansoura University, Mansoura
MEPCON 2016	Dec. 27-29, 2016	Helwan University	Al-Azhar Conference Center, Cairo
MEPCON 2017	Dec. 19-21, 2017	Menofia University	Al-Azhar Conference Center, Cairo
MEPCON 2018	Dec. 18-20, 2018	Cairo University	Al-Masah Hotel, Cairo
MEPCON 2019	Dec. 17-19, 2019	Tanta University	InterContinental Cairo Semiramis, Hotel
MEPCON 2021	Dec. 14-16, 2021	Assiut University	Assiut University, Assiut

IEEE TECHNICAL SPONSORS

- IEEE Power & Energy Society
- IEEE Power Electronics Society
- IEEE Industry Application Society
- IEEE Dielectrics and Electrical Insulation Society
- IEEE Advanced Technology for Humanity
- IEEE Power & Energy Society Egypt Chapter
- IEEE Egypt Section
- IEEE Power Electronics Society Egypt Chapter
- IEEE Industry Application Society Egypt Chapter

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MEPCON'2022

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SPEAKERS

SPEAKERS

Speakers

PROF. OSAMA A. MOHAMMED
Distinguished Professor and Associate Dean of Research
Director of Energy Systems Research Laboratory
College of Engineering and Computing
Florida International University; Miami, Florida USA

B I O G R A P H Y

Dr. Osama A. Mohammed is a Distinguished Professor of Electrical Engineering and the Associate Dean of Research at the College of Engineering and Computing, Florida International University. He is also the director for the School of Electrical, Computer and Enterprise Engineering (ECEE) at FIU and is a Director of the Energy Systems Research Laboratory.

He has researched various topics in transportation electrification, power and energy systems, design optimization, and physics-based modeling in electric drive systems, and power electronics. He is world-renowned for his contributions in these areas. He has performed significant research in electromagnetic signatures, EMI, wide bandgap devices, and movable power systems modeling and analysis. He currently has active research projects with several federal agencies in these areas. In addition, he has also completed projects in power system operation, smart grid distributed control and interoperability, cyber-physical systems, and co-design of cyber and physical components for future energy systems applications. He has published more than 850 articles in refereed journals, and other IEEE refereed international conference records. Professor Mohammed holds 19 patents. His publications are highly cited, and his presentations are frequently invited, at research, academic and industrial organizations, and conferences worldwide. He also authored a book and several book chapters. Dr. Mohammed is a Fellow of the National Academy of Inventors, a Fellow of IEEE and a Fellow of the Applied Computational Electromagnetic Society. He received the prestigious IEEE Power and Energy Society Cyril Veinott Electromechanical Energy Conversion Award, the 2012 Outstanding Research Award from Florida International University, the 2017 outstanding doctoral mentor, and the university distinguished Professor honors in 2018.

Speakers

Dr Ahmed F. Zobaa,

Sc, FIET, FEI, FCIBSE, FIMechE, FAAS, SMIEEE

B I O G R A P H Y

Ahmed F. Zobaa received his BSc (Hons), MSc, and PhD degrees in Electrical Power & Machines from Cairo University, Egypt, in 1992, 1997, and 2002, respectively. He received his Postgraduate Certificate in Academic Practice from University of Exeter, UK, in 2010, and his Doctoral of Science from Brunel University London, UK, in 2017. He was an instructor from 1992–1997, a Teaching Assistant from 1997–2002, and an Assistant Professor from 2002–2007 at Cairo University, Egypt. From 2007 to 2010, he was a Senior Lecturer in renewable energy at University of Exeter, UK. From 2010 to 2019, he was a Senior Lecturer in power systems at Brunel University London, UK. He is currently a Reader in electrical and power engineering at Brunel University London, UK. His main areas of expertise include power quality, (marine) renewable energy, smart grids, energy efficiency, and lighting applications.

Dr Zobaa is an Executive Editor for the International Journal of Renewable Energy Technology and an Executive Editor-in-Chief for Technology and Economics of Smart Grids and Sustainable Energy. He is also an Editorial Board member, Editor, Associate Editor, and Editorial Advisory Board member for many international journals. He is a registered Chartered Engineer, Chartered Energy Engineer, European Engineer, and International Professional Engineer. He is also a registered member of the Engineering Council, UK; the Egypt Syndicate of Engineers; and the Egyptian Society of Engineers. He is a Senior Fellow of Higher Education Academy, UK; Fellow of the Institution of Engineering and Technology, Energy Institute, UK, Chartered Institution of Building Services Engineers, UK, Institution of Mechanical Engineers, UK, The Royal Society of Arts, UK, The African Academy of Sciences, and Chartered Institute of Edu

Speakers

Dr. Mohamed Taha Abdelkader,
University of Warwick-UK

B I O G R A P H Y

Dr Mohamed is a Principal engineer (Associate Professor) at the school of engineering, University of Warwick. He joined the Power Electronics Applications and Technology in Energy Research (PEATR) group to lead the research team in the @FutureBeV project which is led by a well-known OEM (BMW). Before Joining the PEATER group, he was a former lead engineer at Jaguar Landrover (JLR) where he lead the team to develop the drive motor and Inverter for the first Mild Hybrid Electric Vehicle (MHEV) for JLR in 2019. He has wide academic and industry experience where he has taken different positions at Warwick Manufacturing Group-UK, Ghent University-Belgium, Schneider electric-Egypt, and Cairo University-Egypt.

SiC Power Devices for Automotive Applications-Challenges and Opportunities

Silicon Carbide (SiC) power devices are driving the next revolution for power electronics applications. Automotive application is one of the most evolved applications by the SiC capabilities. SiC devices offer many advantages, including high dielectric strength which is the enabler of high voltage applications, and high thermal conductivity, which is the promoter for better thermal management, hence, high power density. By retaining a low “turn-on” resistance and switching fast, SiC devices can offer low conduction and switching losses. On the other hand, SiC devices still face many challenges. Cost is one of these challenges, nevertheless, with mass production and bigger wafer size, the cost started to reduce significantly and is expected to get reduced more. The other big question for SiC devices is reliability where the community is expecting a high reliable group of devices for all these applications. In this talk, I will discuss the challenges and opportunities for using SiC Power devices in automotive applications with a bit of focus on the reliability testing that we are developing in the reliability and robustness lab at the University of Warwick.

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Dr. Mostafa Madkour Bio

Founder and CEO of Madkour Group

Dr. Mostafa earned his B.Sc. and M.Sc. degrees in "Electrical Engineering & Machines" from Cairo University and Ph.D. degree in "Electrical Power & Machines" from New York University.

Dr. Mostafa is one of the most recognized figures in Energy sector with more than 35 years of experience in design, manage, and execute electrical and infrastructure mega projects including 20 years as the founder and CEO of market leading organization in energy and infrastructure turnkey projects and 17 years as the head of High Voltage department in Shaker Consultancy Office.

Under his leadership for the past 20 years, "Madkour Group" succeeded to achieve history full of mega projects in Egypt, Africa, and Middle East, including more than 1,500 MW of Thermal Generation plants, several substations, Solar Energy plants, Transmission projects, Water Desalination and Wastewater treatment projects.

SPONSORS

Madkour Group

Madkour Group was established in 2003 and is currently one of the leading Egyptian Corporations that provides fully integrated energy and infrastructure solutions in Egypt, Africa, and The Middle East, with a proven track record of delivering diversified mega projects, including electricity generation, renewable energy, transmission & distribution, substations, urban electricity networks, energy management, water & wastewater treatment, transportation solutions, special buildings, smart cities, and e-mobility.

Our portfolio today has four main divisions: **Madkour Projects, Madkour Research & Development, Madkour Utilities and Madkour Industries.**

Madkour Projects specialized in establishing mega energy and infrastructure projects on EPC basis and various financial schemes.

Prides itself on being instrumental in establishing a diversified range of complex energy and infrastructure projects including thermal generation plants, renewable energy, transmission & distribution, roads smart lighting, smart cities, water & wastewater treatment, construction, and transportation projects.

Madkour Research & Development invests in a highly capable young Egyptians to research and develop new patent technologies, integrated smart systems, prototypes for new innovative and green products and solutions.

Madkour Utilities is one of the market leaders licensed to manage, operate, maintain, distribute, and sell electricity and water in various Egyptian modern communities and smart cities.

Madkour Industries is a backward integration and synergistic expansion of our core business that complements our supply chain and supports our main divisions.

SMART SYSTEMS
SCIENTIFIC AND LAB EQUIPMENT

CERTIFIED ISO 9001:2015 CERTIFIED

Experts and Specialists in integrated solutions for scientific and laboratory equipment, workshops, training aids for Engineering Education, Industrial Training Centers, R&D Centers, Technical and Vocational Education Institutions, Technological Education, and Solutions of digital and interactive education and Industrial Automation Solutions.

The Company has high Qualified Engineers and Technicians

The Company has ISO 9001: 2015 Certificate.

Smart System Services are:

- Technical and Engineering Consultancy for Capacity Building and Skills development.
- Needs assessment
- Assistance in Curriculum Development
- Planning & designing for new labs & Workshops.
- Delivery, installation, Commissioning, Operation and Maintenance.
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- Training on Operation and Maintenance
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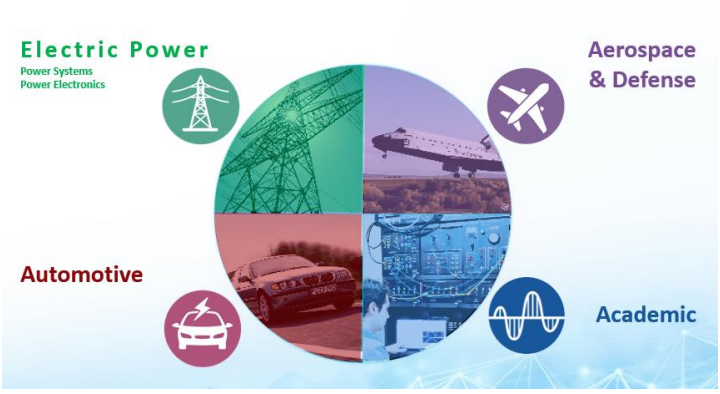
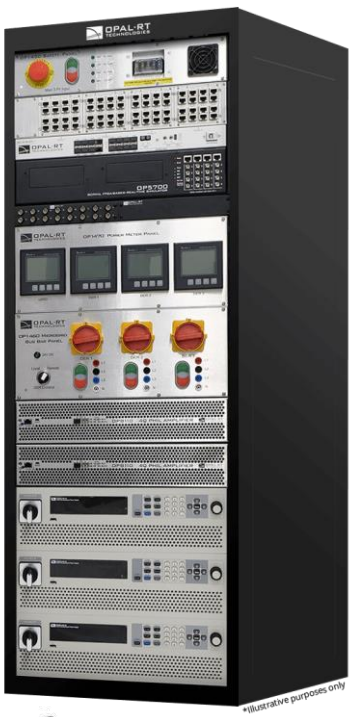
world real-time simulators, for companies, research institutes and universities.
world leader in providing pioneering wide, to help them achieve better product, research, and training quality, in various sectors, with a focus on power systems, renewable energy systems, power electronics, and energy conversion.

Whom OPAL-RT Serve:



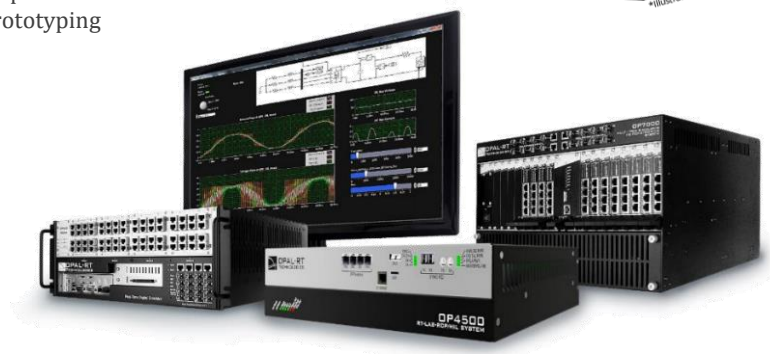


*Illustrative purposes only

OPAL-RT Products

Real-Time Simulators

- **HIL** Hardware-in-the-Loop simulation
- **PHIL** Power Hardware-in-the-Loop
- **MIL** Model-in-the-Loop
- **RCP** Rapid Control Prototyping



https://www.opal-rt.com

Vision

To be a major producer of low and medium voltage switchgear in the Middle East.

Mission

To fully cover the domestic market with a high quality Egyptian product, coupled with increasing the variety of products to provide markets that face scarcity; we aspire to be a great competitor in the international market

ESPRANZA
FOR SCIENTIFIC INSTRUMENTS

Vision:

To continue improving education in Egypt & MENA, bringing it in line with the latest worldwide technological and industrial standards.

Mission:

To provide top quality, innovative & cost-effective learning solutions to educational and vocational training sectors in Egypt in addition to providing non-stop after sales service to all our customers. This is realized through our qualified and experienced workforce as well as our international network of world-renowned business partners specializing in areas of education, didactic equipment & industry.

Values:

We value our company reputation, and we are proud of the integrity, sincerity and transparency we demonstrate every day. We thrive on our long withstanding culture of loyalty, cooperation & high performance which is daily demonstrated by our employees and continuously propagated through our organization from one generation to the next. Our customers are critical to our success, so we are driven to exceed our customers' expectations.

Services:

Espranza employs highly qualified staff enabling the company to provide the following unique set of services:

- Consultancy for providing educational and vocational training systems for undergraduates and postgraduates as well as R&D facilities in the industrial sector.
- Delivery, commissioning & installation of scientific equipment.
- After sales service & maintenance.
- Onsite & Overseas training for staff/students with our business partners
- Advice on curriculum development.
- Laboratory layout design.
- Special consultancy and supervision for turn-key projects

About us:

Lectro has manufactured and installed hundreds of thousands of meters of busducts for large and small projects since 1975, both for the domestic market and for exports around the globe.
The production takes place in a state-of-the-art facility, using latest generation precision techniques including NC, automation systems and robotics. Lectro products have been type tested by DEKRA laboratories of the Netherlands.
Lectro busduct systems contain high quality components and are trusted for their high safety factor and long life.

Vision:

We pride ourselves in delivering systems which exceed the expectations of our customers, both in terms of quality and in the level of customer service we provide.

Values:

Our company reputation is important to us, and we are proud of our integrity, sincerity, and transparency. Also, the high level of loyalty, cooperation, & performance shown by our team each day continuously propagates knowledge among our employees from one department to another generation after generation. And most importantly of all, we place a high priority on exceeding our customers' expectations because our business depends on them.

Services:

Busduct versus Cables and Trays

- Flexibility
  - Reusable
  - Expandable
- Efficiency
  - Cost savings
- Less space

Applications of busducts

- Multiple Loads.
- Vertical Riser.
- Service Entrance and Single Load

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PROGRAM

PROGRAM

PROGRAM SCHEDULE

Tuesday 13rd

09:00 -10.00	Opening Ceremony (Hall Exhibition)					
	Opening The Exhibition					
10:00-10:05	**National anthem of the Arab Republic of Egypt**					
10:05-10:10	**The Holy Quran**					
10:10 -10:20	A documentary Film about Kafrelsheikh University and The Faculty of Engineering					
10:20 -10:30	**Speech By Prof. Dr. Abdul-Fattah Heliel** Dean of Faculty of Engineering and General Chairman of the Conference					
10:30 -10:40	**Speech By Prof. Dr. Farouk Ismael** Chair of MEPCON Steering Committee					
10:40 -10:50	**Speech by Prof. Dr. Abdelrazek Youssef Desouky** The President of Kafrelsheikh University					
10:50 -11:00	**Speech By H.E. Prof. Dr. /Mohamed Shaker El-Markabi** Minister of Electricity and Renewable Energy, Egypt					
11:00 -11.10	**Speech By H.E. Prof. Dr. Mohammed Ayman Ashour** Minister of Higher Education & Scientific Research, Egypt					
11:10-11:50	Coffee Break (Hall Exhibition)					
11:50-12:20	Principal Supporter Talk: Madkour Group (Hall Cleopatra)					
12:20-13:00	**Keynote Lecture 1**: Prof. Osama Mohamed, USA (Hall Cleopatra) Operational Security and Control Challenges in Smart Energy Systems					
13:00-14:00	**Supporters Talks** (Hall Cleopatra)				Steering Committee Meeting (VIP)	
	Smart Systems - LUCAS-NULL		OPAL-RT	SPRANZA		
	13:00 -13:20		13:20-13:40	13:40-14:00		
14:00-15:00	Lunch Break (Hall Cleopatra)					
15:15-16:30	Session A-1 (R.1)	Session B-1 (R.2)	Session C-1 (R.3)	Session D-1 (R.4)	Session E-1 (R.5)	Session F-1 (R.6)
	High Voltages -1	**Renewable Energy-1**	**Electric Vehicles-1**	**Power Systems Protection-1**	**Power Systems Control-1**	**Power Systems Operation-1**

Wednesday 14th

09:00-10:20	Session A-2 (R.1)	Session B-2 (R.2)	Session C-2 (R.3)	Session D-2 (R.4)	Session E-2 (R.5)	Session F-2 (R.6)
	High Voltages-2	**Power Electronics-1**	**Electrical Machines-1**	**Renewable Energy-2**	**Power Systems Control-2**	**Smart Grid-1**
10:40-11:10	Coffee Break (Hall Exhibition)					
11:10-12:00	**Keynote Lecture 2 :** Dr Ahmed F. Zobaa (UK) (Hall Cleopatra) Hydrogen in Electricity's Future					
12:00-12:30	**Keynote Lecture 3**: (Tutorial) - OPAL-RT (Hall Cleopatra)					
12:30-13:00	**Keynote Lecture 4**: Dr. Mohamed T. Abdelkader (Hall Cleopatra) SiC Power Devices for Automotive Applications-Challenges and Opportunities					
13:10-14:10	Session A-3 (R.1)	Session B-3 (R.2)	Session C-3 (R.3)	Session D-3 (R.4)	Session E-3 (R.5)	Session F-3 (R.6)
	Power Quality 1	**Power System Control-3**	**Power System Operation-2**	**Power Systems Protection -3**	**Microgrid -1**	**Power Electronics -2**
14:20-15:20	Lunch Break (Hall Cleopatra)					
15:30-16:10	Session A-4 (R.1)	Session B-4 (R.2)	Session C-4 (R.3)	Session D-4 (R.4)	Session E-4 (R.5)	Session F-4 (R.6)
	Electric Vehicles-2	**Renewable Energy-3**	**Electric Machines-2**	**Power Systems Operation-4**	**Power Quality-2**	**Smart Grid-2**
16:20-17:20	**Egypt IEEE Chapter Meeting**					

Thursday 15th

09:00-10:20	Session A-5 (R.1)	Session B-5 (R.2)	Session C-5 (R.3)	Session D-5 (R.4)	Session E-5 (R.5)	Session F-5 (R.6)
	Control of Machines	**Renewable Energy-4**	**Power System Planning**	**Power Electronics-3**	**Power System Operation-5**	**High Voltage-3**
10:30-11:00	Coffee Break (Hall Exhibition)					
11:10-12:10	Session A-6 (R.1)	Session B-6 (R.2)	Session C-6 (R.3)	Session D-6 (R.4)	Session E-6 (R.5)	Session F-6 (R.6)
	Power Electronics-4	**Power Quality-3**	**Microgrid -2**	**Renewable Energy-5**	**Power System Optimization**	
12:20-13:20	Closing Ceremony (Hall Cleopatra)					
13:25-14:25	Lunch Break (Hall Cleopatra)					

PROGRAM SUMMARY

#	Topic		Date	Time	Session	Paper1	Paper2	Paper3	Paper4	Paper5	Room
1	High Voltage	1	13/12	15:15	A1	126	138	158	159		1
		2	14/12	9:00	A2	13	47	48	132	144	1
		3	15/12	9:00	F5	95	106	137	38		6
2	Renewable Energy	1	13/12	15:15	B1	33	123	127	59		2
		2	14/12	9:00	D2	4	19	42	72	81	4
		3	14/12	15:30	B4	22	25	39			2
		4	15/12	9:00	B5	68	75	115	148		2
		5	15/12	11:10	D6	37	98	99	157		4
3	Electric Vehicles	1	13/12	15:15	C1	67	104	155	167		3
		2	14/12	15:30	A4	102	134	156			1
4	Power Systems Protection	1	13/12	15:15	D1	34	45	111	149		4
		2	14/12	13:10	D3	54	70	77	92		4
5	Power System Operation	1	13/12	15:15	F1	116	135	150	41		6
		2	14/12	13:10	C3	64	69	84	168		3
		3	14/12	15:30	D4	96	97	141			4
		4	15/12	9:00	E5	5	11	56	113		5
		5	15/12	11:10	E6	110	151	26			**5**
6	Power Electronics	1	14/12	9:00	B2	27	120	133	140	163	2
		2	14/12	13:10	F3	35	43	71	146		6
		3	15/12	9:00	D5	30	36	49	52		4
		4	15/12	11:10	A6	109	164	60	152		1
7	Electrical Machines	1	14/12	9:00	C2	62	79	100	103	139	3
		2	14/12	15:30	C4	24	88	118			3
8	Power System Control	1	13/12	15:15	E1	124	136	143	165		5
		2	14/12	9:00	E2	29	44	50	63	169	2
		3	14/12	13:10	B3	28	82	87	160		2
9	Smart Grid	1	14/12	9:00	F2	12	18	74	83	112	6
		2	14/12	15:30	F4	117	121	131			6
10	Power System Planning		15/12	9:00	C5	10	23	125	153		3
11	Microgrid	1	14/12	13:10	E3	57	86	105	119		5
		2	15/12	11:10	C6	51	166	65	89		3
12	Power Quality	1	14/12	13:10	A3	53	80	93	101		1
		2	14/12	15:30	E4	20	91	170			5
		3	15/12	11:10	B6	8	78	114	3		2
13	Control of Machines		15/12	9:00	A5	40	90	142	85		1

FIRST DAY: TUESDAY 13th December 2022

Session A-1 (R.1)			Topic:	High Voltage -1
Paper No.	Start time	TUE 13	Chairman Coordinator	Prof. Dr. Mazen M. Abdel Salam Prof. Dr. Said Ward Dr. Manal M. Emara
126	15:15	Paper Title:		**Enhancement of Dielectric Characteristics of Contaminated Transformer Oil Using TiO_2 Nanoparticles**
		Authors:		Tarek S. Negm, Diaa-Eldin A. Mansour, and Ahmed A. Hossam-Eldin
138	15:35	Paper Title:		**Improving Dielectric Properties of Electrical Machines Insulating Varnish Using SiO_2 Nanoparticles**
		Authors:		Hanaa M. Ahmed, Nagat M. K. Abdel-Gawad, Waleed A. Afifi, Diaa-Eldin A. Mansour, and Mohamed M. F. Darwish
158	15:55	Paper Title:		**Improvement of Nanodielectrics for Power Cables**
		Authors:		S. A. Mohammed, Loai Saad eldeen Nasrat, and A. H. Shaheen
159	16:15	Paper Title:		**Machine Learning Algorithm to Evaluate Breakdown Voltage of Solid Insulators**
		Authors:		Eid J. Eid, Loai Nassart and Ahmed Hossam-Eldin

Session B-1(R.2)			Topic:	Renewable Energy-1
Paper No.	Start time	TUE 13	Chairman Coordinator	Prof. Dr. Adel Abou El-Ela, Prof. Dr. Ragab El Sehiemy Dr. Mosaad Muhyiddin
33	15:15	Paper Title:		Fitting and Time Series Neural Networks Modelling to Forecast Weather and Wind Speed
		Authors:		Saeed A. Alghamdi and Ossama B. Abouelatta
123	15:35	Paper Title:		Modeling and Experimental Determination of Lithium-Ion Battery Degradation in Hot Environment
		Authors:		Z Almutairi, Ali Eltamaly, A. El Khereiji, A. Al Nassar, A. Al Rished, N. Al Saheel, A. Al Marqabi, S. Al Hamad, M. Al Harbi, R. Sherif, G. Almutairi, F. Al-Amri and A Hassanain
127	15:55	Paper Title:		Modeling and Performance Evaluation of a Grid-Connected Photovoltaic/Wind Hybrid Power System
		Authors:		Ahmed A. Salem, Kholoud Mokhtar mohamed Mahmoud, and Abdelazeem A. Abdelsalam
59	16:15	Paper Title:		Techno-Economic Analysis of Renewable Energy Application in Oil and Gas Industry: A Case Study
		Authors:		Mahmoud Kashef, Mahmoud A. Attia, Mohamed Kamh and Mohamed Abdel-Rahman

Session C-1 (R.3)			Topic:	Electric Vehicles-1
Paper No.	Start time	TUE 13	Chairman Coordinator	Prof. Dr. Sobhy Abdelkader Prof. Dr. Elwy El-Kholy Associate Prof. Dr. Moahmed Abdelwanis
67	15:15	Paper Title:		**Optimal Allocation and Sizing of Distributed Generation and Electric Vehicle Charging Stations using Artificial Bee Colony and Particle Swarm Optimization Algorithms.**
		Authors:		Isaac Prempeh, Ragab A. El-Sehiemy, Albert K. Awopone and Patrick N. Ayambire
104	15:35	Paper Title:		**Optimal stochastic day-ahead scheduling of multi-carrier energy hub integrated with plug-in electric vehicles**
		Authors:		Ghada Abdulnasser, Abdelfattah Ali, Mostafa F. Shaaban, and Essam E. M. Mohamed
155	15:55	Paper Title:		**Inductance Sizing Of Electric Motor Emulator Using Particle Swarm Optimization For Drive Train Applications**
		Authors:		Amr Saleh, Mahmoud Adel, Philip Mawby and Mohamed Taha
167	16:15	Paper Title:		**Field-Oriented Control for PMSM in Electric Vehicles Based on 7-level CHB Multilevel Inverter**
		Authors:		Mahmoud Fouad Elmorshedy, Kotb M. Kotb, Mohamed Kamal El-Nemr, Abd El-Wahab Hassan

Session D-1 (R.4)			Topic:	Power Systems Protection -1
Paper No.	Start time	TUE 13	Chairman Coordinator	Prof. Dr. Ahmed Hossam Prof. Dr. Nagy El-Kalashy Associate Prof. Dr. Eman Saad
34	15:15	Paper Title:		Analysis of Hybrid AC/DC Distribution Network Under Adverse Conditions
		Authors:		Mohammed Ibrahim Elsaid Elmezain, Hossam A. Abdel-Ghany, Essam M. Rashad, and Eman S. Ahmed
45	15:35	Paper Title:		A Strategy for Protection System Recovery in a Topology-Changing Network with DGs
		Authors:		Akram Elmitwally, Mohamed F. Kotb, and Eid Gouda
111	15:55	Paper Title:		Fault Detection in Radial DC Distribution System Using Power Measurements
		Authors:		Sabah M. A. Abbas, Ahmed E. ELGebaly, and Diaa-Eldin Abdelsattar Mansour
149	16:15	Paper Title:		Convolution Neural Network Fault Identifier In Distribution Network In The Presence of Distribution Generation Units
		Authors:		Mohammed Aly Mohammed Ebeed and Ahmed Hossam- Eldin

Session E-1(R.5)			Topic:	Power Systems Control-1
Paper No.	Start time	TUE 13	Chairman Coordinator	Prof. Dr. Omar H. Abdalla Prof. Dr. Walaa Gabr Associate Prof. Dr. Amlak Abaza
124	15:15	Paper Title:		A Comparative Performance Analysis of DFIG and PMSG-Based WECS
		Authors:		Walid S.E. Abdellatif, Asmaa A. Elsakaan, Asmaa F. Barakat and Noura A. Nour Aldin
136	15:35	Paper Title:		A Hybrid Energy Storage System Based on Supercapacitor and Electric Vehicle Batteries for Frequency Stability Improvement of Islanded Microgrids
		Authors:		Hossam Ali
143	15:55	Paper Title:		Intelligent Control for Wind Turbines Connected to Utility Grid using MPC
		Authors:		Mostafa Al-Gabalawy, Ibrahim A. Abdel-Sattar, and Mohamed M. M. Salama and Mohamed M. F. Darwish
165	16:15	Paper Title:		Consensus-Based Tracking Control of Energy Storage for Microgrid Energy Management
		Authors:		Ehab Mohamed Ahmed Attia, Hany A. Abdelsalam, and Essam Eddin M. Rashad

Session F-1 (R.6)			Topic:	Power Systems Operation-1
Paper No.	Start time	TUE 13	Chairman Coordinator	Prof. Dr. Hussien El-Desouky Prof. Dr. Sayed El-bnna Associate Prof. Dr. Fathalla Selim
116	15:15	Paper Title:		Estimation of Technical Losses in Distribution Networks with Tie Switches Considering Repairing Periods
		Authors:		Abd EL-Faatah Hammad, Hossam A. Abd El-Ghany, and Ahmed M. Azmy
135	15:35	Paper Title:		Energy Hub Modeling and Operation, A Comprehensive Review
		Authors:		Amani Alshammari, Ahmed A.Hafez, Alaa F.M.Ali, Alaa A.Mohmoud, Mahmoud Ibrahim Mohamed and Mostafa A.Merazy
150	15:55	Paper Title:		Review: Frequency Response Analysis For Transformer's Status Diagnoses
		Authors:		Salah Mahfouz, Mohamed El-Nemran Ahmed Abu-Siada
41	16:15	Paper Title:		Optimal Day-Ahead Dispatch in Isolated AC/DC Microgrids Using Hunger Game Search Algorithm
		Authors:		Mohamed Mohamed Ibrahim Ibrahim, Walid A. Omran, and Hany M. Hasanien

SECOND DAY: WEDNESDAY 14th December 2022

Session A-2 (R.1)			Topic:	High Voltage-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Mohamed Izzularab Prof. Dr. Adel Zien Associate Prof. Dr. Fathallah Selim
13	9:00	Paper Title:		Reigniting Model of VCB for Renewable Energy Resources Transmission Systems
		Authors:		Eman A. Awad and Ebrahim A. Badran
47	9:20	Paper Title:		Optimum Spacing at Precise Magnetic field Among Power Lines in Egyptian Utility Applying Efficient Optimization Techniques
		Authors:		Mohamed Samy, Ahdab Elmorshdy, Ahmed Emam and Anas Taha
48	9:40	Paper Title:		Permanent Magnet Biased Fault Current Limiter used for HVDC Systems
		Authors:		Mohamed Eladawy and Ibrahim A. Metwally
132	10:00	Paper Title:		Comparative Inclined Plane Tests On Silicone, Porcelain And RTV Coating–Porcelain Insulators Under Various DC Voltages
		Authors:		Mohamed Ahmed Afifi Emam, Salem M. Elkhodary, and Mohamed Z. Kamh
106	10:20	Paper Title:		Impact of Aging on Dielectric Properties of Oil-.Paper Insulation System using Gas-to-Liquid Oil and Mineral Oil
		Authors:		Manal M. Emara, Eman G. Attiya andDiaa-Eldin A. Mansour
10:40-13:00		Coffee Break and Three Keynote Lectures (Halls of Exhibition and Cleopatra)		

Session B-2 (R.2)			Topic:	Power Electronics-1
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Mostfa Marie Prof. Dr. Akram Elmitwally Dr. Mossad MohyEldein
27	9:00	Paper Title:		Open-Phase Fault-Tolerant Control Approach for EV PMSM based on Four-Leg VSI
		Authors:		Mohamed Elsayed, Mostafa Hamad and Hamdy Ashour
120	9:20	Paper Title:		Extended Results for a Developed 10 kW LC-Compensated Hybrid Wireless Power Transfer System
		Authors:		Mahmoud A. Badwey, Nabil H. Abbasy and Gamal M. Eldallal
133	9:40	Paper Title:		A DC to 42.8 MHz Bandwidth Current Sensor Readout Interface using Amplifiers with Feedforward Compensation for Power Electronics Applications
		Authors:		Asma Mahar, Ayesha Hassan, Robert Murphree, Jeffrey De La Rosa Garcia, Babak Parkhideh, and H. Alan Mantooth
140	10:00	Paper Title:		A Voltage-Doubler/Marx-Generator-Based Multi-Module High-Voltage Pulse Generator with High-Frequency Charger for Electrostatic Precipitators
		Authors:		Wessam E. M. Abdel-Azim, Ahmed A. Elserougi, and Ahmed A. Hossam-Eldin
163	10:20	Paper Title:		Hybrid Wind/FC System Design and Simulation
		Authors:		Samia Abdalfatah, Ibrahim Nader, Hilmy Awad, Hossam Youssef Hegazy and E.E.El-Kholy El-Kholy
10:40-13:00		Coffee Break and Three Keynote Lectures (Halls of Exhibition and Cleopatra)		

Session C-2(R.3)			Topic:	Electrical Machines-1
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Essam Rashad Prof. Dr. Hamdy Shatla Associate Prof. Dr. Mohammed Abd Elwanis
62	9:00	Paper Title:		Nonlinear Study of SRG Configurations Using Finite Element Analysis
		Authors:		Asmaa El-Sayed Abdo Mohamed Ibrahim, Walid A. M. Ghoneim, and Hamdy A. Ashour
79	9:20	Paper Title:		Novel Two-phase 4/6 Switched Reluctance Motor Configuration used in All Electric Ships
		Authors:		Mohab Gaber, M.S Hamad and Reda Youssef
100	9:40	Paper Title:		Constant Frequency Tandem Machine for Variable Speed Generating Systems
		Authors:		Sameir abdel basset abou hashesh, M. K. El-Nemr and E. M. Rashad
103	10:00	Paper Title:		Design and performance of a magnetic gear with a gear ratio (Gr = 3.5)
		Authors:		Yasser Ahmed Abdelnaby Ali Kassab, Eid Gouda, Akram Elmitwally, and Abdelhady Ghanem
139	10:20	Paper Title:		Synchronous Reluctance Motors Torque Ripples Reduction using Feedback Cascaded P-I-I Controller
		Authors:		Aya Mohamed Abou-ElSoud, Adel Saad Ahmed Nada, Abdel- Abdel Aziz M -Aziz ahmoud, and Waheed Sabry
10:40-13:00		Coffee Break and Three Keynote Lectures (Halls of Exhibition and Cleopatra)		

Session D-2(R.4)			Topic:	Renewable Energy-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Ebrahim Megahd Prof. Dr. Hany Hassnien Dr. Hossam Abdelghny
4	9:00	Paper Title:		The Effect of Dust Accumulation on PV Solar Output and Its Mitigation Measures
		Authors:		Abdullah Al Habsi, Malik Al Shahbibi, Halima Al Ansari, Mohammed Al Rashdi and Ibrahim Al Harthi
19	9:20	Paper Title:		A Hybrid Photovoltaic/Wind Green Energy System for Outpatient Clinic Utilizing Fuel Cells and Different Batteries as a Storage Devices
		Authors:		Shimaa Barakat and M. M. Samy
42	9:40	Paper Title:		Performance improvement of a hybrid energy system feeding an isolated load
		Authors:		Mahmoud A. Mossa, Najib El Ouanjli, Olfa Ga, and Omar Makram Kamel
72	10:00	Paper Title:		Development of Fault Ride Through (FRT) Criteria from System Operator Perspective with Large-scale Wind Integration
		Authors:		Mohamed Attia Elsharnoby Hazzaa, Sayed H. A El-Bnna, and Dalal H. M Helmi
81	10:20	Paper Title:		Application of STATCOM With Photovoltaic Systems
		Authors:		Tarek A. Boghdady and Youssef Ashraf Mohamed Gad
10:40-13:00		Coffee Break and Three Keynote Lectures (Halls of Exhibition and Cleopatra)		

Session E-2(R.5)			Topic:	Power Systems Control-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Hassan Dorrah Prof. Dr. Abdul-Fattah Heliel Associate Prof. Dr. Amlak Abaza
29	9:00	Paper Title:		A Fuzzy Logic-based Expert System for generating SCADA of Caterpillar engine
		Authors:		Nerveen Fahmy, Ashraf Zein El Din and Hatem Abd Ul Kader
44	9:20	Paper Title:		Performance Enhancement of a Wind-driven Fully Superconducting Generator by Fuzzy logic Control
		Authors:		Ragaey A. F. Saleh, Noran Raafat Elkady, and Ragab A. Amer
50	9:40	Paper Title:		Optimize AVR System Performance by Using Enhanced Genetic Algorithm
		Authors:		Ahmed Abdelkhalek, Ammar Mohamed, Niveen Badra and Mahmoud Attia
63	10:00	Paper Title:		Improved Ant Lion Optimizer for Optimum Design of Fractional OrderPID Controller Based AVR System
		Authors:		Ali Abdel-Rady Ali, Ali Selim, Al-AttarAli Mohamed and Loai Nasrat
169	10:20	Paper Title:		A Novel Technique of Fuzzy Comparison for Generators' Optimal Maintenance Scheduling
		Authors:		Mohamed El-Sharkh and N. Sisworahardjo
10:40-13:00		Coffee Break and Three Keynote Lectures (Halls of Exhibition and Cleopatra)		

Session F-2 (R.6)			Topic:	Smart Grid-1
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Nabil Abbasy Prof. Dr. Ahmed Azmy Associate Prof. Dr. Eman saad
12	9:00	Paper Title:		A Proposed Wide Area Network Protocol-based Scheme for Swing Detection in Power Systems
		Authors:		Ehab A. El Metwally Hassan, Mohammed Al Hasni and Mohamed El-Shimy
18	9:20	Paper Title:		Technical and Economical Evaluation For Electrical Distribution Networks with DGs
		Authors:		Elham Mohamed Tantawy, Ebrahim A. Badran, and Mansour H. Abdel-Rahman
74	9:40	Paper Title:		Optimized Strategy for Enhancing DC-Microgrid's Performance using Local Unimodal Sampling (LUS) optimization algorithm
		Authors:		Ahmed Abdel Hady, Mohamed Mokhtar, Mahmoud A.Attia and Mariam A. Sameh
83	10:00	Paper Title:		An Overview of Smart Grid Technology Integration with Hybrid Energy Systems Based on Demand Response
		Authors:		Montaser Abdelsattar, I. Hamdan, Abdelgayed Mesalam , and Abdelrahman Fawzi Fouad Elsoghiar
112	10:20	Paper Title:		Distribution Network Reconfiguration for Reliability Improvement via Social Network Search Algorithm
		Authors:		Abdullah Shaheen , Salah Kamel, Ragab El-Sehiemy and Ali Selim
10:40-13:00		Coffee Break and Three Keynote Lectures (Halls of Exhibition and Cleopatra)		

Session A-3 (R.1)			Topic:	Power Quality-1
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Adel Abou El-Ela Prof. Dr. Ebrahim A. Badran Dr. Manal Emara
53	13:10	Paper Title:		Time Domain Analysis and Parameter Tuning of Electric Arc Furnace using Cassie-Mayr Model
		Authors:		Hazem H. Abdel-Hamid, Mohamed A. Abdel-Rahman, M. Ezzat and Mohamed Z.Kamh
80	13:30	Paper Title:		Investigation of Zero-Sequence Current in Medium and High Voltage Cable Systems
		Authors:		Shimaa Abdel-Raouf Fahmy; Ahmed Salem, Rabab R. M. Eiada, and Ebrahim A. Badran
93	13:50	Paper Title:		Detection of PQ Short Duration Variations using Wavelet Time Scattering with LSTM
		Authors:		Mohamed Ali,Abdelazeem A. Abdelsalam, Eyad S. Oda, and Almoataz Y. Abdelaziz
101	14:10	Paper Title:		Evaluating the Responsibility of Harmonic Distortion in Single-Phase Systems with Pricing Strategy
		Authors:		Ayman A. Eisa, Omar F. Fadl, and Alaa. A. Saleh
14:30-15:30		Lunch Break (Hall Cleopatra)		

Session B-3 (R.2)			Topic:	Power Systems Control-3
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Mohamed El-Sherbiny Prof. Dr. Waheed Sabry Associate Prof. Dr. Mohammed Abd Elwanis
28	13:10	Paper Title:		Hosting Capacity Enhancement for Photovoltaic Systems at Various Conditions Based on Volt-Var Control
		Authors:		I.Hamdan ,Ahmed Mohammed OmbarkAlfouly,andMohammedA.Ismeil
82	13:30	Paper Title:		A Comparison of Model-Based and Machine Learning Techniques for Fault Diagnosis
		Authors:		Balyogi Mohan Dash,BelkacemOuldBouamama, Mahdi Boukerdja and Komi MidzodziPekpe
87	13:50	Paper Title:		A Comparative Study of Auto-tuned PID Controller based on Different SMC Schemes for a DC Motor Speed Control: Practical Validation
		Authors:		Abdel Rahman Ahmed Mohamed Othman, Hamdy A. Shatla and Mohamed Hamdy
160	14:10	Paper Title:		Power Oscillation Damping using Sine Cosine Algorithm based Tilt-Derivative Tilt-Integral Automatic Voltage Regulator
		Authors:		Ahmed Yakout ,HossamKotb, and Waheed Sabry
14:30-15:30		Lunch Break (Hall Cleopatra)		

Session C-3 (R.3)			Topic:	Power Systems Operation -2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Almoataz Y. Abdelaziz Prof. Dr. Asharaf Hemida Associate Prof. Dr. Fathalla Selim
64	13:10	Paper Title:		Voltage Control of Distribution System with High Sharing of Photovoltaic Power Supply Using Grey Wolf Optimization Technique
		Authors:		Mahmoud Hussain, Mostafa Amer,TomonobuSenjyu, Salem Alkhalafand Ashraf Hemeida
69	13:30	Paper Title:		Optimal DG Allocation Based on Pay-back Period by a Proposed Modification for Coronavirus Herd Immunity Optimization
		Authors:		Tarek A. Boghdady, Howaida M. Ragab, Elsayed Tag Eldin , and Ahdab Elmorshedy
84	13:50	Paper Title:		Archimedes optimization algorithm based PI Controller for a two area Load Frequency Control
		Authors:		Mahmoud Gamal Hemeida ,Dina S. Osheba , Tomonobu Senjyu , and Mohamed Roshdy
168	14:10	Paper Title:		Integration of DSO's inputs in auction-based local energy markets
		Authors:		Lin Herencic, Tomislav Capuder, and Ivan Rajšl
14:30-15:30		Lunch Break (Hall Cleopatra)		

Session D-3 (R.4)			Topic:	Power Systems Protection-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Mousa Abdalla Prof. Dr. Diaa-Eldien Mansour Associate Prof. Dr. Eman Saad
54	13:10	Paper Title:		A Centralized Protection Scheme for Microgrids with Artificial Neural Network-Based on Fault Detection and Location
		Authors:		Mohamed Ahmed Abdel Menem kabeel, Mai M. Eladany, and Azza A. ElDesouky
70	13:30	Paper Title:		Simple Robust Line Current Differential Protection Against Cyberattacks
		Authors:		Mohamed Elsayed Ali Kotb, Ahmad Mohammad Saber, and Tarek A. Boghdady
77	13:50	Paper Title:		Communication-Free Travelling Wave-Based Method for Ground Fault Location in Radial Distribution Network with DG
		Authors:		AkramElmitwally and Abdelhady Ghanem
92	14:10	Paper Title:		Smart Management Technique of Open Conductor Faults in Distribution Systems
		Authors:		Amina I. Elezzawy, Mahmoud M. Elgamasy, Mahmoud A. Elsadd, Tamer A. Kawady and Nagy I. Elkalashy
14:30-15:30		Lunch Break (Hall Cleopatra)		

Session E-3(R.5)			Topic:	Microgrid -1
Paper No.	Start time	WED 14	Chairman: Coordinator	Prof. Dr. Hussean Anis Prof. Dr. Yasser Desouki Associate Prof. Dr. Amlak Abaza
57	13:10	Paper Title:		Intelligent Control Design and Management of AC- Microgrid System
		Authors:		Hanan Abd El Mouiz Ali AliMosalam, Adel. A. Abou El-Ela, and Ragab A. Amer
86	13:30	Paper Title:		A Droop-Based Frequency Controller for Parallel Operation of VSCs and SG in Isolated Microgrid
		Authors:		Wessam Arafa Hafez, Karar Mahmoud, Abdelfatah Ali, Mostafa F. Shaaban, PoriaHasanporDivshali, and Matti Lehtonen,
105	13:50	Paper Title:		Frequency Control of Islanded Multi-Microgrids Under Different Disurbances
		Authors:		Bassant Ahmed Elsayed, H.E. Keshta, and Mahmoud Nour ALI
119	14:10	Paper Title:		Performance Enhancement of Hybrid Renewable Energy System for AC Microgrid
		Authors:		Mohamed Selmy, H.A. AbdelHadi,Ahmed Abdulnabi, and E.M. Saied
14:30 -15:30		Lunch Break (Hall Cleopatra)		

Session F-3 (R.6)		Topic:	Power Electronics-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Ramdan Mahmoud Mustafa Prof. Dr. Ebrahim Badran Dr. Mosaad Muhyiddin
35	13:10	Paper Title:	Predictive Current Control Based Single Phase Charging of Six-Phase Integrated On-board Battery Charging System
		Authors:	Rawan Ahmed Mohamed Taha, Wessam E. Abdel-Azim, and Abdullah Shawier
43	13:30	Paper Title:	Performance Analysis of a Novel High Gain Three-phase Split Source Inverter
		Authors:	Mohamed A. Ismeil ,AhmedAbdelaleem Ahmed Ibrahim, and M. Nasrallah
71	13:50	Paper Title:	A New Four-Switch Split-Source Boosting Inverter: Analysis and Modulation
		Authors:	Mostafa wageh lofty, Sherif M. Dabour, and Ramadan Mahmoud Mostafa
146	14:10	Paper Title:	Analysis and Control of Simplified Dual-Output Single-Phase Split-Source Boost Inverters
		Authors:	Sherif M. Dabour, Ahmed A. Aboushady, I. A. Gowaid, Mohamed A. Elgenedy, andMohamed Emad Farrag
14:30-15:30		Lunch Break (Hall Cleopatra)	

Session A-4 (R.1)			Topic:	Electric Vehicles-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Hussean Anis Prof. Dr. Hamdy Shatla Dr. Fadl Issa
102	15:30	Paper Title:		Design and Operation of a Hybrid Charging Station for Plug-in Electric Vehicles
		Authors:		Ahmed Omara, Adel Shamandy and Ahmed Azmy
134	15:50	Paper Title:		Model Predictive Control for Dual Active Bridge in fast Charging Application of Electric Vehicles
		Authors:		Mohamed Elkeiy ,Ralph Kennel, Ayman Abdel-Khalik, and Mohamed Abdelrahem
156	16:10	Paper Title:		A Mathematical Model for Capacity Optimization of Electrical Vehicles Iron-Phosphate-Based Supercharged Batteries Using Bees Algorithm
		Authors:		A. Atalla, A. Yousef, D. Mourad , Mohammad M. Riad Sammany, Z. Shawa, AndA. Steef

Session B-4(R.2)			Topic:	Renewable Energy-3
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Ahmed Hossam Prof. Dr. Hany Hasanien Associate Prof. Dr. Hossam Abdel Ghany
22	15:30	Paper Title:		Comparison between Cuckoo Search algorithm and Grey Wolf Optimizer Algorithm on Photovoltaic Models Performance
		Authors:		Mohamed Elzalik, Taha Ahmed Mohamed Mohamed, Mokhtar Said and Amir Yassin
25	15:50	Paper Title:		Global MPPT Controller for a Grid Tied PV System Under Partial Shading Conditions Using Salp Swarm Algorithm
		Authors:		NourhanElbehairy, Rania Swief and Hazem Hossam
39	16:10	Paper Title:		Transient Search Optimization Based Fuzzy-PI Controller for MPPT of Standalone PV System
		Authors:		Ghazi A. Ghazi ,Essam A. Al-Ammar , and Hany Mohammed Hasanien;

Session C-4(R.3)			Topic:	Electric Machines-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Mostfa Marie Prof. Dr. Akram Elmitwally Associate Prof. Dr. Mohamed Abdelwanis
24	15:30	Paper Title:		Signal Injection Based Sensorless Online Monitoring of Induction Motor Temperature
		Authors:		Amir Yassin Hassan Soliman and Mohamed Elzalik
88	15:50	Paper Title:		Design and Implementation of A Four-Quadrant Six-Phase Induction Motor Drive
		Authors:		Ahmed H. Elmeligy ,Eid Abdelbaki Gouda, and Akram Elmitwally
118	16:10	Paper Title:		Linear Induction Motor Parameter Estimation Based on Gray Wolves Optimization Algorithm
		Authors:		Mohamed I. Abdelwanis

Session D-4 (R.4)			Topic:	Power Systems Operation-3
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Ahdab El-Morshdy Prof. Dr. Loai Nassart Associate Prof. Dr. Amlak Abaza
96	15:30	Paper Title:		Optimal Allocation and Size of FACTS Devices Using Several Optimizers: a Comprehensive Study
		Authors:		Ayman Awad, Salah Kamel, Mohamed H. Hassan, Abdalla A. Ibrahim, and Francisco Jurado
97	15:50	Paper Title:		Optimal Solar Cell Parameter Estimation Based on Sooty Tern Optimization Algorithm
		Authors:		Reem Y. Abdelghanya, Salah Kamel, Hamdy Sultan, Mohamed H. Hassan, and Loai Nasrat
141	16:10	Paper Title:		Power Loss Minimization Using Optimal Allocation of DGs Based on Wild Horse Optimizer
		Authors:		Shaimaa O. Selim ,Ali Selim Mohamed Ibrahim, Salah Kamel

Session E-4 (R.5)			Topic:	Power Quality-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Hussien El Desouky Prof. Dr. Attia El-Fergany Associate Prof. Dr. Fathalla Selim
20	15:30	Paper Title:		Harmonics Mitigation Using Passive Filters in Distribution Networks Penetrated with Photovoltaic power
		Authors:		Sayed Aldebawy, AbdelmonemDraz and Attia El-Fergany
91	15:50	Paper Title:		Enhancement of Power Quality in Industrial Distribution Systems using Photovoltaic Distributed Generation
		Authors:		Aya Medhat Elmeadawy, Amr Magdy, and Mohamed Ezzat
170	16:10	Paper Title:		Harmonic Analysis of an Arc Furnace Load Based on the IEEE 519-2014 Standard
		Authors:		Omar Abdalla, Said Elmasry, Mohamed El Korfolly and Ibrahim Htita

Session F-4(R.6)			Topic:	Smart Grid-2
Paper No.	Start time	WED 14	Chairman Coordinator	Prof. Dr. Sobhy Abdelkader Prof. Dr. Ali El-Tamely Associate Prof. Dr. Eman Saad
117	15:30	Paper Title:		Enhancement and Control of Reactive Power Sharing Utilizing Circulating Current in AC Microgrids
		Authors:		Ahmed Tazy, Mohamed Mahmoud Samy and Mohamed Ali Ghalib
121	15:50	Paper Title:		Energy Management System for Smart Microgrids Considering Energy Theft
		Authors:		Abdelfattah A. Eladl ,Mohammed A.Saeed, and Bishoy Elkis Sedhom Beshay
131	16:10	Paper Title:		Review on Energy Trading of Community-Based Projects around the World
		Authors:		Loai Nasrat, Mona Mohammed Ahmed Zedan, Al-Attar Ali, and Gaber Shabib

THIRD DAY: THURSDAY 15th December 2022

Session A-5(R.1)			Topic:	Control of Machines
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Essam Rashad Prof. Dr. Waheed Sabry Associate Prof. Dr. Mohammed Abdel Wanis
40	9:00	Paper Title:		An Improved PID Control Scheme for DC Servo Motor using Salp Swarm Algorithm
		Authors:		Alaa M. Abdel-Hamed El-sayed and Ebrahim A. Badran
90	9:20	Paper Title:		Speed Control of Single Phase Induction Motor Using New Improved Nonsingular Fast Terminal Sliding Mode Control
		Authors:		Ashraf Hagras and Ahmed Alaa Mahfouz
142	9:40	Paper Title:		Low-Cost Sensorless Scalar Control of a Brushless Motor for Automotive Fan System Application
		Authors:		Ahmed Omara, Amine Khettat,KoussailaHamiche, Romuald Morvanyand Christophe Annoepel
85	10:00	Paper Title:		Saving Energy with Automated Multi Variable Speed Drives Pumping System
		Authors:		Hamdy Ahmed Ashour
10:30-11:00		Coffee Break (Hall Exhibition)		

Session B-5(R.2)			Topic:	Renewable Energy-4
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Omar H. Abdalla Prof. Dr. Nagy El-Kalashy Dr. Fadl Essia
68	9:00	Paper Title:		Optimal Sizing of Battery/Hydrogen Renewable Enegry System With Genetic Algorithm Based on Irradiance Forecasting With LSTM Neural Network
		Authors:		Ibrahem Mohamed Mohamed Mahmoud, G El-Saady, and ENA Ibrahim
75	9:20	Paper Title:		GBO Algorithm Application for Solving OPF Problem Considering Renewable Energy Uncertainty
		Authors:		Mohamed Farhat ,Salah Kamel, and Ahmed M. Atallah
115	9:40	Paper Title:		Power Curve Estimation of a Wind Turbine Considering Different Weather Conditions using Machine Learning Algorithms
		Authors:		Mostafa Al-Gabalawy, Haitham S. Ramadan, Mohamed Ahmed Mostafa, Shimaa A. Hussien
148	10:00	Paper Title:		An Optimal Approach for Voltage Regulation and PV Hosting Capacity Enhancement Using Nodal Pricing
		Authors:		Ahmed Bedawy, Naoto Yorino, Yutaka Sasaki, and Yoshifumi Zoka
10:30-11:00		Coffee Break (Hall Exhibition)		

Session C-5(R.3)			Topic:	Power System Planning
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Ahmed Bahgat Prof. Dr. Ragab El-Sehiemy Dr. Mosaad Mohy El dien
10	9:00	Paper Title:		Optimization Assessment for 400 kV Shunt Reactors Sizing and Locations in Oman Power Grid
		Authors:		Hilal Al Zadjali ,Hisham Al Riyami Chris van Dyk, Sep Boshoff, Musabah Al Siyabi,and Mohammed Al Hasni
23	9:20	Paper Title:		A Planning Model for Hybrid AC/DC Microgrids Using Marine Predator Optimization Technique
		Authors:		Khaled Bassiony, Walid A. Omran and Almoataz Y. Abdelaziz
125	9:40	Paper Title:		Modeling and Measurement of Magnetic Signature for Different Hull and Superstructure Configurations of Marine Vessels
		Authors:		Abdalla Badr Abdalla, Ahmed Elserougi, and Ahmed A. Hossam-Eldin
153	10:00	Paper Title:		Aggregation of a Wind Farm Model for Grid Connection Planning Studies
		Authors:		Omar H. Abdalla, Hussein Magdy Mohamed Kamel, and Hady H. Fayek
10:30-11:10		Coffee Break (Hall Exhibition)		

Session D-5 (R.4)			Topic:	Power Electronics-3
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Mostafa Marei Prof. Dr. Hany Abdesallam Associate Prof. Dr. Mohamed Abdelwanis
30	9:00	Paper Title:		Active Power Filter for12-Pulse LCC Converter Employed in LCC-MMC Hybrid HVDC System
		Authors:		Abdelrahman Mohamed Farghly, Mohamed El Habrouk, and Khaled Ahmed Hany
36	9:20	Paper Title:		The Controller Design of Three-Level Boost Converter using Unified Modeling Approach
		Authors:		Jun-Hyuk Han and IL-Song Kim
49	9:40	Paper Title:		A Quartic Buck Converter for Capacitive Deionization based Water Desalination System
		Authors:		Omar Abd El Majeed, Ibrahim Abdelsalam and Mostafa Marei
52	10:00	Paper Title:		Analysis of Efficiency Characteristics in ZVS Region of DC-DC Converter using Wide Bandgap (WBG) Switching Devices
		Authors:		Bongwoo Kwak and Myungbok Kim
10:30 -11:00		Coffee Break (Hall Exhibition)		

Session E-5 (R.5)			Topic:	Power System Operation-4
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Hussein El Desouky Prof. Dr. Mohmmed Galal Associate Prof. Dr. Fathalla Selim
5	9:00	Paper Title:		Analysis of Mechanical Stress Degradation of Medium Voltage Cable Insulation
		Authors:		Ayesha Azimuddin and Shady S. Refaat
11	9:20	Paper Title:		Minimization Losses of Distribution Systems connected with Distributed Generation Units using JFPSO
		Authors:		Rabab Reda Mohammed, and Ebrahim Badran
56	9:40	Paper Title:		Review of Transactive Energy Market Models and Their Possible Financial Impact on The Utility
		Authors:		Ahmed M. Abdulmohsen, Mohamed Ezzat, Wessam El-baz, Walid A. Omran, and Mohamed Abdel-Rahman
113	10:00	Paper Title:		An improved RCGA for Parameter extraction of three-diode PV model
		Authors:		Mahmoud A. El-Dabah ,Ragab A. El-Sehiemy , and Ahmed Abdelbaset
10:30 - 11:00		Coffee Break (Hall Exhibition)		

Session F-5(R.6)			Topic:	High Voltage-3
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Osama Gouda Prof. Dr. Ebrahim A. Badran Associate Prof. Dr. Eman saad
95	9:00	Paper Title:		A Novel DGA Oil Interpretation Approach Based on Combined Techniques
		Authors:		Mohamed Badawi,Shimaa Adel Ibrahim Ahmed, and Adel EL-Faraskoury
144	9:20	Paper Title:		A New Method for Estimating Transformer Health Index Based on Ultraviolet-Visible Spectroscopy
		Authors:		Mohamed M. F. Darwish, Mohamed H.A. Hassan, Nagat M. K. Abdel-Gawad and Diaa-Eldin A. Mansour
137	9:40	Paper Title:		Impact of On-grid Photovoltaic System on Thermal Performance of the Oil-filled Transformers
		Authors:		Mohamed M. F. Darwish , Amin Samy Amin Mahmoud, and Ahmed A. Abas
38	10:00	Paper Title:		Investigating Ferroresonance in the Distribution Zone
		Authors:		Alaa M. Abdel-hamed ,Mohamed Mahmoud Abdelaziz elshafhy and Ebrahim A. Badran
10:30 - 11:00		Coffee Break (Hall Exhibition)		

Session A-6 (R.1)			Topic:	Power Electronics-4
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Ayman Abdelkhalek Prof. Dr. Ragy Refaat Associate Prof. Dr. Mohamed Abdelwanis
109	11:10	Paper Title:		Development of a High Frequency Current Controlled Grid-connected Microinverter for PV Applications
		Authors:		Amgad El Deib, Mohamed El Dodor and Alaa Ismail
164	11:30	Paper Title:		Performance Assessment of T-Source Inverter Fed Induction Motor Drives Based on Photovoltaics
		Authors:		Abdelazeem Abdelrahman Amin, Elwy E. EL-Kholy, and Mohamed E. Dessouki
60	11:50	Paper Title:		Design and Development of DC-DC Converters Based on IoT Systems for Photovoltaic Applications in Egypt
		Authors:		Omar Matar, Mahmoud Elbastawesy, Yasser Ethman, Yasmeen Mohamed, Ahmed Ehab, Islam Younes, Mahmoud Khalid, Sahar S. Kaddah, and Basem M. Badr
152	12:10	Paper Title:		Performance study of linear induction motor fed from perovskite solar cells based on GA MPPT
		Authors:		Mohamed I. Abdelwanis, Alaa A. Zaky, and Mosaad M. Ali
12:30 - 14:25		Closing Ceremony and Lunch Break (Hall Cleopatra)		

Session B-6(R.2)			Topic:	Power Quality-3
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Mustafa Saad Prof. Dr. Waheed Sabry Associate Prof. Dr. Eman Saad
8	11:10	Paper Title:		Optimal Multi-Objective Design of Anti- Resonance Fourth-Order Passive Power Filters Using TOPSIS-Based NSGA in Distorted Distribution Systems
		Authors:		NehadMokhtar ,Mahmoud M. Sayed, Tarek A. Boghdady and Shady H. E. Abdel Aleem
78	11:30	Paper Title:		Load Frequency Control of Interconnected Power System Using Artificial Hummingbird Optimization
		Authors:		Ernest Fiko Morgan, Ragab A. El-Sehiemy, Albert K. Awopone, Tamer F. Megahed, and Sobhy M. Abdelkader
114	11:50	Paper Title:		Robust Control of Unified Power Quality Conditioner for LED Lighting Using Enhanced Bald Eagle Search Optimization
		Authors:		Sally Eid Abdel Mohsen Ibrahim, Ahmed M. Ibrahim, and Ahmed I. Omar
3	12:10	Paper Title:		Power system Stabilizer with Self Tuning Based on Hierarchical fuzzy logic controller
		Authors:		F. Selim Abdel-Fatah Attia
12:30-14:25		Closing Ceremony and Lunch Break (Hall Cleopatra)		

Session C-6 (R.3)			Topic:	Microgrid -2
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Ahmed Azmy Prof. Dr. Hany Hasanien Associate Prof. Dr. Mossad Mohy
51	11:10	Paper Title:		Artificial Hummingbird Algorithm Based Optimal Secondary Control for Islanded Microgrid
		Authors:		M. A. Ebrahim, Beshoy Abdou Aziz, Ahmed Shaaban Ragab Gouda, and H. A. AbdelHadi
166	11:30	Paper Title:		Microgrids Formation for Resiliency Improvement of Distribution Systems Considering Reconfiguration
		Authors:		Shaimaa Ahmed Zalat, Hany A. Abdelsalam, and Nabil Abbasy
65	11:50	Paper Title:		Energy Management of Multi-Microgird Considering Demand Response Using Snake Optimizer
		Authors:		Nehmedo Hussein Alamir, Salah Kamel, and Tamer F. Megahed
89	12:10	Paper Title:		Technical Treating and Riding-Through Symmetrical Grid Faults for MMC-HVDC Connected Offshore Wind Farms
		Authors:		Mahmoud Mohamed Ibrahim Elgamasy, Mohamed A. Izzularab, and Xiao-Ping Zhang
12:30 - 14:30		Closing Ceremony and Lunch Break (Hall Cleopatra)		

Session D-6 (R.4)			Topic:	Renewable Energy-5
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Hussien Anies Prof. Dr. Hamdy Ashour Associate Prof. Dr. Swillam Sharsher
37	11:10	Paper Title:		Adaptive Neuro-Fuzzy Self Tuning-Based PID Controller for Stabilization of Reactor Core Power in a Pressurized Water Reactor
		Authors:		Mohamed Esmail
98	11:30	Paper Title:		A review of different control topologies of PMSG-based wind energy conversion systems
		Authors:		Mina Nabil Amin, Hany M. Hasanien, and Almoataz Y. Abdelaziz
99	11:50	Paper Title:		Optimal Techno-economic Sizing of Electrical/Green Hydrogen Generation System for Hybrid Demand Load
		Authors:		Ahmed Elnozahy, Mohamed Sayed, Alaa.F.M. Ali and Mohamed A.NayelNayel
157	12:10	Paper Title:		Low-Cost Microcontroller-Based Automatic Transfer Switch Unit Design To Mitigate Power Fluctuations
		Authors:		El Sayed F. El Tantawy, Ahmed Atallah ,Mohamed Said Abd Elbery Elshawa, and Mona.A.Bayoumi
12:30-14:25		Closing Ceremony and Lunch Break (Hall Cleopatra)		

Session E-6 (R.5)			Topic:	Power Systems Operation-5
Paper No.	Start time	THU 15	Chairman Coordinator	Prof. Dr. Ahdab El-Morshedy Prof. Dr. Loai Saa deldeen Nasrat Associate Prof.Dr. Fathallah
110	11:10	Paper Title:		A Proposed Self-Powered Smart Pole for Highways
		Authors:		Ebrahim A. Badran, Hazem Bobo, Ahmed Al-Fowaty, Ahmed Abdel-Salam, Fatma I. Mansy, Mohamed Nasr, Fouad Eissa, Mohammed Rafaat, Mariam Hussein, and Mennatullah Hegazy
151	11:30	Paper Title:		Unit commitment in presence of renewable energy using Rat and Seagull optimization algorithm
		Authors:		Eyad S. Oda, Amr A. Amr, Abdelazeem A. Abdelsalam, and Ahmed A. Salem
26	11:50	Paper Title:		Performance Enhancement of InterfacingControllers for GridConnected Wind Turbine
		Authors:		Mohamed Hussein Mostafa Bahgat, Mohamed Ezzat, and Mahmoud A. Attia
12:20-14:25		Closing Ceremony and Lunch Break (Hall Cleopatra)		

2022 23rd International Middle East Power Systems Conference

MEPCON 2022

مؤتمر الشرق الأوسط الدولي لنظم القوى الكهربية

كلية الهندسة - جامعة كفر الشيخ

KAFRELSHIEKH UNIVERSITY- FACULTY OF ENGINEERING