



**Name:** Usama Khaled

**Current Title (including department and university):** Professor - Head of Electrical Engineering Department  
Department of Electrical Engineering, Faculty of Energy Engineering, Aswan University, Aswan

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### **FIELDS OF SPECIALIZATION**

Nanocomposite materials and dielectric nanofluids, Preparation and surface functionalization of nano-materials, Water treatment using pulsed power technology, Renewable Energy, Electric Vehicles, Experiments and simulation of high voltage technologies, Ozone generation using dielectric barrier discharge DBD, Discharge phenomena including atmospheric corona discharge, Micro plasma streamer discharge underwater, and Electrostatic applications.

### **DEGREES**

- **Ph.D.**, Degree (Electrical Power and Machines Engineering) , Faculty of Engineering- Cairo University, Giza, Egypt and Graduate school of information science and electrical engineering- Kyushu University, Japan, 2009, "Advanced Study on the Soluble Carbon Nanotubes Using High Voltage Electrical Discharge Techniques"
- **M.S.**, Degree (Electrical Power Engineering), Faculty of Energy Engineering, Aswan, Egypt, 2003, "Grounding of High Voltage Substations by using Unequally Spaced Grounding Grids"
- **B.S.**, Degree (Electrical Power Engineering), Faculty of Energy Engineering, Aswan, Egypt, 1998

### **ACADEMIC AND INDUSTRIAL POSITIONS**

- **PhD visiting researcher** for two years at department of electrical and electronic systems engineering- Graduate school of information science and electrical engineering- Kyushu University, Japan.
- **Internal mission** granted from Egyptian Government (Cultural Affairs & Missions Sector) for studying PhD, 2007-2009 at College of Engineering - Cairo University.
- **Post-doc Fellow** at Department of Electrical Power Engineering, Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic, October, 2010 - February, 2011.
- **Assistant professor** 2010: Faculty of Energy Engineering, Aswan University, Aswan, Egypt.
- **Assistant professor** 2013: College of Engineering, King Saud University, Riyadh, Saudi Arabia.
- **Associate professor** 2017: Faculty of Energy Engineering, Aswan University, Aswan, Egypt.
- **Associate professor** 2018: College of Engineering, King Saud University, Riyadh, Saudi Arabia.
- **Professor** 2022: Faculty of Energy Engineering, Aswan University, Aswan, Egypt.

### **RESEARCH PROJECTS**

- PI of Undergraduate Research Support Program, no. URSP-3-17-42, "Efficient solution of the DC-link hard switching inverter of the PV system", 50,000 SAR, Deanship of Scientific Research, King Saud University, Saudi Arabia, 2018.
- PI of Research Project, no.216-35 م - ص "Improvement of Dielectric Properties of Nanocomposite Insulators used in Power Cables", 135,000 SAR, King Abdul-Aziz City for Science and Technology (KACST), Saudi Arabia, 13/11/2015 – 01/11/2016.
- PI of Undergraduate Research Support Program, no. URSP-3-17-42, "Influence of soil conductivity on lightning breakdown voltage of rod – plane air gaps", Funding of 50,000 SAR, Deanship of Scientific Research, King Saud University, Saudi Arabia, 2019.
- PI of Initiative of DSR Graduate Students Research Support, Funding of 20,000 SAR, Deanship of Scientific Research (DSR), King Saud University, Riyadh, Saudi Arabia, 2019.
- PI of International Scientific Partnership Program (ISPP), Partnership Agreement no. (ISPP-0047), Funding of 75,000 SAR, Vice-Rectorate for Graduate Studies and Research, King Saud University, Saudi Arabia, 2016.
- PI of International Scientific Partnership Program (ISPP), Partnership Agreement no. (ISPP-0047)", Funding of 200,000 SAR, Vice-Rectorate for Graduate Studies and Research, King Saud University, Saudi Arabia, 2018.
- PI of "Research Groups Program (RGP), no. RG-1439-70", Funding of 150,000 SAR, Vice-Rectorate for Graduate Studies and Scientific Research, Deanship of Scientific Research, King Saud University, Saudi Arabia, 2018.
- CO. I. of "Research Groups Program (RGP), no. RG-133", Funding of 150,000 SAR, Vice-Rectorate for Graduate Studies and Scientific Research, Deanship of Scientific Research, King Saud University, Saudi Arabia, 2018.
- PI of Undergraduate Research Support Program, no. URSP-3-17-42, "Efficient solution of the DC-link hard switching inverter of the PV system", 50,000 SAR, Deanship of Scientific Research, King Saud University, Saudi Arabia, 2018.
- PI of Research Project, Funded from Center of Excellence for Energy (COE) –Arizona State University, "3D Printing of Multilayered, Multi-Material Membrane for Single-step Water Purification", Feb. 2023 (Under review)

### **Diploma, Skills, Training, Activities, and Qualifications**

- PhD visiting researcher for two years at department of electrical and electronic systems engineering- Graduate school of information science and electrical engineering- Kyushu University, Japan, June, 2007 up to June, 2009
- Post-doc Fellow researcher at Department of Electrical Power Engineering, Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic, , October, 2010 up to February, 2011.
- English: Excellent (speaking-writing-listening) - International & Local TOEFL certificates.

- ICDL (International Computer Driving License) certificate.
- Fundamentals of programming by MATLAB software certificate.
- Training course certificate of using DREAMWEAVER software.
- Certificate of Information and Communication Technology Project (ICTP) from central unit of ICT-Training at South Valley University.
- Certified trainer from SIEMENS Co. for training on Programmable Logic Controllers (PLC basic, HMI, SCADA systems, Drives).
- Certificate of Participation on Industry Academia Annual Competition "INDAC 2010" organized by cooperation between SIEMENS S.A.E. together with the Industrial Training Council "ITC".
- Certificate of Participation on Industry Academia Annual Competition "INDAC 2011" organized by cooperation between SIEMENS S.A.E. together with the Industrial Training Council "ITC".
- Attendance a training course "Ethics of Scientific Research" at Faculty and Leadership Development Center, Aswan University, Egypt, from 18/2/2013 to 20/2/2013.
- Attendance a training course "E-Learning and Effective Teaching" at Faculty and Leadership Development Center, South Valley University, Egypt, from 18/5/2013 to 20/5/2013.
- Attendance a training course "Technology Using in Teaching" at Faculty and Leadership Development Center, South Valley University, Egypt, from 15/6/2013 to 17/6/2013.
- Attendance a training course "Credit Hours System" at Faculty and Leadership Development Center, Aswan University, Egypt, from 2/7/2013 to 4/7/2013.
- Certificate of Appreciation for Participation as a referee in "2nd Conference of Young Researchers", Aswan University, 2013.
- Participation as a referee in "5th Scientific Conference for Students of King Saud University", King Saud University, Riyadh, Saudi Arabia, 22- Feb. 2014.
- Certificate of Participation on "Electrical Industry Seminar", SABIC Company, Riyadh, Saudi Arabia, 20th May, 2014.
- Certificate of Participation on "Using of Smart Classes", King Saud University, Riyadh, Saudi Arabia, 16- Feb. 2014.
- Certificate of Participation on "3rd Saudi International Nanotechnology Conference 2014, 3SINC", King Abdulaziz City for Science and Technology KACST, Riyadh, Kingdom of Saudi Arabia, 1-3 Dec. 2014.
- Certificate of Participation on "6th International Conference on Water Resources and Arid Environments ICWRAE", King Saud University, Riyadh, Kingdom of Saudi Arabia, 16-17 Dec. 2014.
- Participation as a referee in "6th Scientific Conference for Students of King Saud University", King Saud University, Riyadh, Saudi Arabia, 29-30 Dec. 2014.
- Certificate of Participation on "4th Series of Short Lectures in Sustainable Energy", Sustainable Energy Technologies center "SET", King Saud University, Riyadh, Saudi Arabia, 20th Oct. – 15th Dec. 2015.
- Certificate of appreciation and gratitude Awarded from BAE systems Co. and College of Engineering, King Saud University for supervising best final year graduation project in the Department of Electrical Engineering, Jan.2015.
- Certificate of Attendance on "38th Scientific Symposium of Water Treatment using Nanotechnology", King Abdulaziz City for Science and Technology KACST, Riyadh, Kingdom of Saudi Arabia, 17th April 2016.
- Certificate of Attendance on "8th International Conference on Water Resources and Arid Environments ICWRAE'8", King Saud University, Riyadh, Kingdom of Saudi Arabia, 22-24 January 2019.

- Attending a workshop of 2nd Scientific Research Forum “Understanding research integrity, ethics, and plagiarism”, College of Medicine, King Saud University, Riyadh, KSA, 17 Feb. 2019.
- Attending a workshop of 2nd Scientific Research Forum “Writing and structuring a manuscript to impress SCI journal editors”, College of Medicine, King Saud University, Riyadh, KSA, 17 Feb. 2019.
- Attending a workshop of 2nd Scientific Research Forum “Responding to peer reviewer comments” College of Medicine, King Saud University, Riyadh, KSA, 19 Feb. 2019.
- Attending a workshop of 2nd Scientific Research Forum “Practical uses of databases in scientific research” College of Medicine, King Saud University, Riyadh, KSA, 21 Feb. 2019.
- Attending a workshop of 2nd Scientific Research Forum “Promoting your research for better visibility- Selecting the right journal for your manuscript” College of Medicine, King Saud University, Riyadh, KSA, 21 Feb. 2019.
- Attendance a training course “Ethics of Scientific Research” at Faculty and Leadership Development Center, Aswan University, Egypt, from 18/7/2019 to 20/7/2019.
- Certificate from Information Technology and Training Center ICTC on (PPT- Word Processing- Using Computers and Managing Files) at Aswan University, Egypt, on 14/7/2019.
- Participation in the second training camp for entrepreneurship at Aswan University, July 15-18, 2021
- Certificate of passing an online training course in "Skill Search for Information" from Deanship of e-Transactions & Communications, King Saud University, 10/2019.
- Certificate of passing an online training course in "Design tests and activities" from Deanship of e-Transactions & Communications, King Saud University, 03/2020.
- Certificate of Future Consultant Training Course Entitled; “General requirements for the competence of testing and calibration laboratories ISO/IEC 17025:2017”, Aswan University, Egypt, 2 - 6/1/2021.
- Certificate of Completion workshop “Communicating Science to the Public”, Nature Research Academies, 5 January 2022.
- Attendance a training course “Ethics of Scientific Research” at Faculty and Leadership Development Center, Luxor University, Egypt, from 22/03/2022 to 24/03/2022.
- Certificate from Information Technology and Training Center ICTC on (Training program for candidates for position of college's dean) at Aswan University, Egypt, from 2-4/10/2022.

### **MEMBERSHIPS & Scientific Committees**

- Member in Institute of Electrical Engineers in Japan (IEEJ).
- Member of Egyptian Syndicate of Engineers (36/08009).
- Member of Arab Materials Science and Nanotechnology Network (AMSN).
- Member in Saudi Arabian Standards, Metrology, and Quality Organization (SASO).
- Reviewer in many scientific Journals such as: Electrical Engineering & Technology “JEET”, Journal of King Saud University - Engineering Sciences “JKSUES”, IET SMT, IEEE Access, Energies, Alex. Eng. J. (AEJ), and IEEE-TDEI.
- **Member of several committees at the EE Dept. Faculty of Energy Engineering, [Aswan University](#):**
- Head of Electrical Engineering Department
- Member of the board of directors and laboratories training and consulting unit
- Manager of the security and safety unit
- Technical manager of high voltage oil testing lab
- Academic advisor and head of control for students of preparatory year 2021, 1st year 2022.
- Editorial board and technical office member of the International Journal of Applied Energy Systems (IJAES)
- Member of the faculty's council on behalf of the associate professors 12/12/2021.
- Member of the faculty's accreditation committee.

- Head of quality and development standard at the quality assurance and accreditation unit
- Head of purchasing equipment committee for high voltage and insulators laboratories.
- Member of the Entrepreneurship Club at Aswan University 2020-2021
- **Coordinator and member of several committees at the EE Dept. and College of Engineering, [King Saud University](#):**
- Coordinator of electrical power group members
- Manager of HV oil insulators lab
- Member of selection committee of graduate students
- Member of department's council

## AWARDS

- University Awards of the Scientific Research, Aswan University, 2014, 2017, 2018, 2019, 2020 and 2021.
- PhD visiting researcher for two years at department of electrical and electronic systems engineering- Graduate school of information science and electrical engineering- Kyushu University, Japan.
- Internal mission granted from Egyptian Government (Cultural Affairs & Missions Sector) for studying PhD, 2007-2009 at College of Engineering - Cairo University.
- Post-doc Fellowship at Department of Electrical Power Engineering, Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic, October, 2010 - February, 2011.

## PUBLICATIONS

### Journal papers:

- Abderrahmane Beroual, **Usama Khaled**, "Effect of Nanoparticles' Mixtures on AC Breakdown Voltage of Mineral Oil", IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 28, No. 4, pp. 1216 - 1222, August 2021.
- Abderrahmane Beroual, Hocine Khelifa, **Usama Khaled**, "Comparison of Electrostatic Charging Tendency of Jarylec and Mineral oil", Electrical Engineering, Vol. 104, pp. 1389 - 1394, June 2022.
- **Usama Khaled**, Abderrahmane Beroual, "DC Breakdown Voltage of Natural Ester Oil-Based Fe<sub>3</sub>O<sub>4</sub>, Al<sub>2</sub>O<sub>3</sub>, and SiO<sub>2</sub> Nanofluids", Alexandria Engineering Journal (AEJ), vol. 59, No. 6, pp. 4611-4620, Dec. 2020.
- **Usama Khaled**, Abderrahmane Beroual, "Lightning Impulse Breakdown Voltage of Synthetic and Natural Ester Liquids-Based Fe<sub>3</sub>O<sub>4</sub>, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> Nanofluids", Alexandria Engineering Journal (AEJ), vol. 59, pp. 3709–3713, June 2020.
- Abderrahmane Beroual, **Usama Khaled**, Aassem AlGhamdi, "DC Breakdown Voltage of Synthetic Ester Liquid-based Nanofluids", IEEE Access, vol. 8, pp. 125797-125805, July 2020.
- Abderrahmane Beroual, **Usama Khaled**, "Statistical Investigation of Lightning Impulse Breakdown Voltage of Natural and Synthetic Ester Oils-Based Fe<sub>3</sub>O<sub>4</sub>, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> Nanofluids", IEEE Access, vol. 8, pp. 112615-112623, June 2020.
- **Usama Khaled**, Abderrahmane Beroual, Yasin Khan, "Influence of Electronic Scavenger Additives on AC Breakdown Voltage of Synthetic Ester", IET Science Measurement & Technology, Volume 14, Issue 6, pp. 684 – 687, August 2020.

- Yeping Peng, **Usama Khaled**, Abdullah A. Alrashed, Rashid Meer, Marjan Goodarz, M. Sarafraz, "Potential application of Response Surface Methodology (RSM) for the prediction and optimization of thermal conductivity of aqueous CuO (II) nanofluid: A statistical approach and experimental validation", *Physica A: Statistical Mechanics and its Applications*, Vol. 554, Article No. 124353, Sep. 2020.
- **Usama Khaled**, Abderrahmane Beroual, Yasin Khan, "Statistical Investigation of AC Breakdown Voltage of Natural Ester with Electronic Scavenger Additives", *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 26, No. 6; pp. 2012 - 2018, Dec. 2019.
- **Usama Khaled**, Abderrahmane Beroual, "Statistical Investigation of AC Dielectric Strength of Natural Ester Oil-Based Fe<sub>3</sub>O<sub>4</sub>, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> Nano-Fluids", *IEEE Access*, Vol. 7, No. 1; pp. 60594-60601, May 2019.
- **Usama Khaled**, Abderrahmane Beroual, "AC Dielectric Strength of Synthetic Ester -Based Fe<sub>3</sub>O<sub>4</sub>, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> Nanofluids – Conformity with Normal and Weibull Distributions", *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 26, No. 2; pp. 625-633, April 2019.
- **Usama Khaled**, Abderrahmane Beroual, Salman Alissa, Omar Aldrainli and Abdulrahman Abanmi, "Influence of Soil Conductivity and Rod-to-Earth Gaps on Lightning Breakdown Voltage and Peak Current of Rod-to-Plane Air Gaps", *Journal of Engineering and Applied Sciences*, Volume 14, Issue 22, pp. 8362-8367, 2019.
- Suresh Sagadevan, A. R. Marlinda, Mohd. Rafie Johan, Ahmad Umar, H. Fouad, Othman Y. Alothman, **Usama Khaled**, M. S. Akhtar, M. M. Shahid, "Reduced graphene/nanostructured cobalt oxide nanocomposite for enhanced electrochemical performance of supercapacitor applications", *Journal of Colloid and Interface Science*, Vol. 558, pp. 68-77, 15 December 2019.
- Z.X. Li, **Usama Khaled**, Abdullah Al-Rashed, Marjan Goodarzi, M.M. Sarafraz, Rashed Meer, "Heat transfer evaluation of a micro heat exchanger cooling with spherical carbon-acetone nanofluid", *International Journal of Heat and Mass Transfer*, Vol. 149, Nov. 2019.
- Zahid Hussain, Maria Imtiaz, Khalid M. Khan, Muhammad Yasin Naz, **Usama Khaled**, Yasin Khan, "White cement and burnt brick powder catalyzed pyrolysis of waste polystyrene for production of liquid and gaseous fuels", *Asia-Pac. J. Chem. Eng., Wiely*, Vol. 15, Issue 1, e2391, 2020.
- Mohammad mohsen Sarafraz, Mohammad Reza Safaei, Arturo S. Leon, **Usama Khaled**, Marjan Goodarzi, and Rashed Meer, "Energetic Analysis of Different Configurations of Power Plants Connected to Liquid Chemical Looping Gasification", *Processes*, Vol. 7, Issue 10, pp. 763, 2019.
- **Usama Khaled**, Abderrahmane Beroual, "AC Dielectric Strength of Mineral Oil-Based Fe<sub>3</sub>O<sub>4</sub> and Al<sub>2</sub>O<sub>3</sub> Nanofluids", *Energies- Electrical Power and Energy System*, Vol. 11, no. 12, pp. 3505, December 2018.
- **Usama Khaled**, Abderrahmane Beroual, "The Effect of Electronic Scavenger Additives on the AC Dielectric Strength of Transformer Mineral Oil", *Energies- Electrical Power and Energy System*, Vol. 11, no. 10, pp. 2607, September 2018.
- **Usama Khaled**, Abderrahmane Beroual, Falah Elotaibi, Yasin Khan, A. Al-Arainy, "Experimental and Analytical Study for Performance of Novel Design of Efficient Two-Stage Electrostatic Precipitator", *IET Science Measurement & Technology*, Volume 12, Issue 4, pp. 486 – 491, July 2018.
- **Usama Khaled**, Rashid Meer, Abderrahmane Beroual, "A Novel Design of Three-Phase Transverse Flux Linear Motor to Minimize Force Ripples", *Arabian Journal for Science and Engineering (AJSE)*, Springer, Volume 43, Issue 6, pp. 2853–2858, June 2018.

- **Usama Khaled**, Hassan Farh, Salman Alissa, Abdulrhman Abanmi, Omar Aldrainli, “Efficient solution of the DC-link hard switching inverter of the PV system”, Journal of King Saud University - Engineering Sciences (JKSUES), Volume 32, pp. 425–431, Oct. 2020.
- Abderrahmane Beroual, **Usama Khaled**, “Influence of Hydrostatic Pressure on Creeping Discharge Characteristics over Solid/Liquid Insulating Interfaces under AC and DC voltages”, IET Generation, Transmission & Distribution, Volume 12, Issue 2, pp. 267 – 271, 30 January 2018.
- Mohamed F. El-Amin, **Usama Khaled**, and Abderrahmane Beroual, “Numerical Study of the Magnetic Field Effect on Ferromagnetic Fluid Flow and Heat Transfer in a Square Porous Cavity”, Energies-Electrical Power and Energy System, Vol. 11, no. 11, pp. 3235, November 2018.
- Mohamed Abdel-Rahman, Osama M. Haraz, Nadeem Ashraf, Muhammad Fakhar Zia, **Usama Khaled**, Ibrahim Elshafiey, Saleh Alshebeili, and Abdel Razik Sebak, “Properties of Silica-Based Aerogel Substrates and Application to C-band Circular Patch Antenna”, Journal of Electronic Materials, Volume 47, Issue 3, pp. 2025–2031, March 2018.
- Ashique Kotta, Sajid Ali Ansari, Nazish Parveen, H. Fouad, Othman Y. Alothman, **Usama Khaled**, H. K. Seo, S. G. Ansari, Z. A. Ansari, “Mechanochemical synthesis of melamine doped TiO<sub>2</sub> nanoparticles for dye sensitized solar cells application”, Journal of Materials Science: Materials in Electronics, Volume 29 Issue: 11, pp. 9108-9116, June 2018.
- Basheer A. Alshammari, Othman Y. Alothman, H. Fouad, Yasser A. Elnakady, Abd-Elkader O. Mohamed, Shaban Rushdy M. Sayed, Mohamed Hashem, and **Usama Khaled**, “Characterization of the Viscoelastic, Dielectric, and Biological Behavior of Porous Polyethylene for Hard Tissue Replacement”, Science of Advanced Materials, American Scientific publisher (ASP), Volume 9, Number 12, pp. 2073–2081, December 2017.
- Abderrahmane Beroual, **Usama Khaled**, Mamadou-Lamine Coulibaly, “Experimental Investigation of the Breakdown Voltage of CO<sub>2</sub>, N<sub>2</sub>, and SF<sub>6</sub> Gases, and CO<sub>2</sub>-SF<sub>6</sub> and N<sub>2</sub>-SF<sub>6</sub> Mixtures under Different Voltage Waveforms”, Energies- Electrical Power and Energy System, Vol. 11, no. 4, pp. 902, April 2018.
- **Usama Khaled**, Mohammed Qais, “Evaluation of V–t characteristics caused by lightning strokes at different locations along transmission lines”, Journal of King Saud University, Engineering Sciences (JKSUES), Volume 30, Issue 2, Pages 150-160, April 2018.
- Adel Z.El Dein, Noura Farah, **Usama Khaled**, “Back Flashover Analysis of 500kV Transmission Lines Including Effect of Surge Arresters”, Journal of King Saud University - Engineering Sciences (JKSUES), 23 July 2018. (Accepted- In press).
- **Usama Khaled**, Ali M. Eltamaly, Abderrahmane Beroual, “Optimal Power Flow Using Particle Swarm Optimization of Renewable Hybrid Distributed Generation”, Energies- Electrical Power and Energy System, vol. 10, no. 7, pp. 1013-1026, 2017.
- Abderrahmane Beroual, **Usama Khaled**, Phanuel Seraphine Mbolo Noah, Henry Sitorus, “Comparative Study of Breakdown Voltage of Mineral, Synthetic and Natural oils and Based Mineral Oil Mixtures under AC and DC Voltages”, Energies- Electrical Power and Energy System, vol. 10, no. 4, pp. 511-527, 2017.
- **Usama Khaled**, Mohamed Qais, Saad Alghuwainem, Abderrahmane Beroual, “Security Enhancement of Differential Protection of Power Transformers Based on Second Order Harmonics”, Journal of Energy and Power Sources (JEPS), Vol. 4, No. 1, pp. 9-15, 2017.
- **Usama Khaled**, Saeed Alzahrani, Yasin Khan, “Dielectric properties improvement of LDPE based on nano fillers”, IEEE International Conference on High Voltage Engineering and Application (ICHVE 2016), Chengdu, China, September 19-22, 2016.

- Mohammed Qais , **Usama Khaled**, Saad Alghuwainem, “Improved differential relay for bus bar protection scheme with saturated current transformers based on second order harmonics”, *Journal of King Saud University-Engineering Sciences (JKSUES)*, Vol. 30, Issue 4, pp. 320-329, October 2018.
- **Usama Khaled**, "Advanced Study on the Soluble Nano-Carbon Using Electrical Discharge", LAP LAMBERT Academic Publishing, ISBN 978-3-659-24736-1, 2014.
- **Usama Khaled**, Adel Z. Eldein, “Experimental study of V-I characteristics of wire-plate electrostatic precipitators under clean air conditions”, *Journal of Electrostatics*, Volume 71, pp. 228-234 (2012). DOI: 10.1016/j.elstat.2012.12.023
- **Usama Khaled**, Kiminobu Imasaka, Junya Suehiro, “Enhancement of microplasma generated in water by adding carbon nanotubes”, *Journal of Plasma and Fusion Research*, Volume 8, pp. 603-607 (2009).
- Adel Z. Eldein, **Usama Khaled** “Experimental and Simulation Study of V–I Characteristics of Wire–Plate Electrostatic Precipitators under Clean Air Conditions”, *Arabian Journal for Science and Engineering*, Volume 39, pp. 4037–4045 (2014). DOI 10.1007/s13369-014-1046-2
- Kiminobu Imasaka, Yuki Kato, **Usama Khaled**, Junya Suehiro, “Effects of pH on water-solubilization of carbon nanotube using microplasma in aqueous solution”, *Jpn. J. Appl. Phys.*, Volume 48, 065004 - 7 pages (2009).
- Wei Sun, **Usama Khaled**, Hironari Tomita, Zhenyu Li, Kiminobu Imasaka, Junya Suehiro, “Solubilization of single-walled carbon nanotubes using ozone generated by dielectric barrier discharge”, *Jpn. J. Appl. Phys.*, Volume 49, 055002 (5 pages), (2010).
- Kiminobu Imasaka, Wei Sun, Hironari Tomita, Yuki Kato, **Usama Khaled**, Junya Suehiro, “Enhancement and stabilization of pulsed streamer discharge in water by adding carbon nanotubes”, *Jpn. J. Appl. Phys.*, Volume 49, 086203 (7 pages), (2010).
- Soubhi Hassanein, **Usama Khaled**, Waleed Abd-Fadeel, “An experimental investigation of temperature distribution in different urban locations in Aswan, Egypt of hot and dry climate”, *Journal of Computational Water, Energy, and Environmental Engineering (CWESEE)*, Volume 2, No. 2, pp. 69-75 (2013).
- Wei Sun, **Usama Khaled**, Hironari Tomita, Kiminobu Imasaka, Junya Suehiro, “Effects of ozone generated by dielectric barrier discharge on water-solubility of single-walled carbon nanotubes”, *Pure and Applied Chemistry series*, (under review)
- Kiminobu Imasaka, **Usama Khaled**, Wei Sun, Hironari Tomita, Junya Suehiro, “pH dependence of water-solubility of single-walled carbon nanotubes treated by microplasma in aqueous solution”, *Pure and Applied Chemistry series*, (under review)

### Conference publications:

- **Usama Khaled**, Abderrahmane Beroual, “AC Breakdown Voltage of Mineral Oil, Synthetic and Natural Esters – Based Fe<sub>3</sub>O<sub>4</sub> Nanofluids”, 40<sup>th</sup> IEEE Electrical Insulation Conference (EIC), Knoxville, Tennessee, USA, June 19-22, 2022.
- A. Alghamdi, **U. Khaled** and A. Beroual, "Optical and electrical characterization of creeping discharges propagating at solid/nano- fluid interfaces", World Research Forum for Engineering and Researchers (WRFER), Medina, Saudi Arabia, pp. 1-5, 14<sup>th</sup> May 2020.
- M. AlAnazi and **U. Khaled**, "Investigation of Pre-breakdown Phenomenon in Nanofluids under Different Voltage Waveforms", World Research Forum for Engineering and Researchers (WRFER), Medina, Saudi Arabia, pp. 6-9, 14<sup>th</sup> May 2020.



- **Usama Khaled**, Abderrahmane Beroual, "Influence of Conductive Nanoparticles on the Breakdown Voltage of Mineral Oil, Synthetic and Natural Ester Oil-based Nanofluids", 20th IEEE International Conference on Dielectric Liquids (ICDL), Roma, Italy, 23-27th June 2019.
- **Usama Khaled** and Abderrahmane Beroual, "Comparative Study on the AC Breakdown Voltage of Transformer Mineral Oil with Transformer Oil-based Al<sub>2</sub>O<sub>3</sub> Nanofluids", IEEE International Conference on High Voltage Engineering and Application (ICHVE), Athens, Greece, Sept. 10-13, 2018.
- Abderrahmane Beroual and **Usama Khaled**, "Evidencing of the capacitive effects on the development of creeping discharges at solid/fluid interfaces", IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Cancun, Mexico, pp. 305-308, Oct. 21-24, 2018.
- Abderrahmane Beroual, **Usama Khaled**, Mbolo Noah, Henry Sitorus, "Comparative study of breakdown voltage of based mineral oil mixtures with natural and synthetic esters under AC and DC voltages", IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Fort Worth - USA, 22 - 25 Oct. 2017.
- **Usama Khaled**, Saeed Alzahrani, Yasin Khan, "Dielectric properties improvement of LDPE based on nano fillers", IEEE International Conference on High Voltage Engineering and Application (ICHVE 2016), Chengdu, China, September 19-22, 2016.
- **Usama Khaled**, Falah Alotaibi, Yasin Khan, "Performance evaluation of two stages electrostatic precipitator novel design under loading conditions", IEEE International Conference on High Voltage Engineering and Application (ICHVE 2016), Chengdu, China, September 19-22, 2016.
- Mohammed Qais, **Usama Khaled**, "Evaluation of Lightning Performance on Transmission System Sag", IET- 50th International Universities Power Engineering Conference (UPEC 2015), Staffordshire University, UK, September 1st - 4th, 2015.
- **Usama Khaled**, "Ozone production by AC surface dielectric barrier discharge enhanced by TiO<sub>2</sub> photocatalyst", *15th International Middle East Power Systems Conference (MEPCON'12)*, p. 172, 23rd ~ 25th Dec. 2012 Alexandria, Egypt.
- **Usama Khaled**, Radek Procházka, Josef Tlustý, "Experimental study of corona discharge in wire- plate electrostatic precipitator", *17th International Symposium on High Voltage Engineering (ISH)* August 26th 2011 Hannover, Germany.
- Stanislav Pekarek, **Usama Khaled**, "Ozone generation by surface dielectric barrier discharge with TiO<sub>2</sub> photocatalyst", *30th International Conference on Phenomena in Ionized Gases (ICPIG)*, August 28th to September 2nd 2011, Belfast, Northern Ireland, UK.
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