CHANYEOP PARK, PH.D.

Associate Professor
Dielectric Resiliency & Electrical Aging Mitigation Lab — Homepage
School of Electrical, Computer and Energy Engineering — 404-450-2353
Arizona State University — chanyeop@asu.edu

EDUCATION & TRAINING

Georgia Institute of Technology — 06/2018 – 07/2019
Electrical and Computer Engineering — Postdoctoral Fellow

Georgia Institute of Technology — 08/2013 – 05/2018
Electrical and Computer Engineering — Ph.D.

Hanyang University — 08/2011 – 07/2013
Electrical Engineering — M.S.

Hanyang University (includes 2-year military service) — 03/2005 – 07/2011
Electrical Engineering — B.S.

PROFESSIONAL APPOINTMENTS

Arizona State University — 08/2024 – Present
Electrical, Computer and Energy Engineering — Associate Professor

University of Wisconsin-Milwaukee — 08/2022 – 08/2024
Electrical Engineering — Assistant Professor

Mississippi State University — 08/2019 – 08/2022
Electrical and Computer Engineering — Assistant Professor

HONORS & AWARDS

Best Presentation Award ($72,000)
Hyundai Motors Global Top Talent Forum — 08/2015

Global Fellowship ($300,000)
Kwanjeong Educational Foundation — 07/2013

Best Intern Award
National Instruments — 03/2012

Best Engineering Presentation Award
Hanyang University — 11/2010

RESEARCH SUPPORT

Research Interests

(U)WBG Power Electronics, Packaging, High-Frequency Transformer, Transportation Electrification, Switchgear, Circuit Breaker, Partial Discharge, Space Charge, High-Temperature Electret, Soft Dielectrics, Composites, Supercritical Fluids, Machine Learning, Multiphysics Modeling.

Funding Summary

Funding Total:	$11,385,932
Park's Share Total:	$4,200,590

Gifts Awarded

1. Development of Electrets for Cryogenic Power Applications
   Source: Raytheon
   Amount: $49,000 (Park's share $49,000)
   Grantees: Chanyeop Park (Single PI)
   Performance Period: N/A

Projects Selected for Funding

1. Characterizing and Modeling ZnO Microvaristors for Environmentally Friendly Power Applications
   Source: G&W Electric
   Amount: $110,000 (Park's share $110,000)
   Grantees: Chanyeop Park (Single PI)
   Performance Period: 09/16/2024 – 09/15/2025

Projects Awarded

15. NiPEC-PEPDS Solution Space Exploration Digital Twin Based Dielectric Scaling Law and Health Prognosis
    Source: Office of Naval Research (ONR)
    Amount: $1,200,000 (Park's share $624,369)
    Grantees: Chanyeop Park (Co-PI), Rob Cuzner (PI, UW-Milwaukee)
    Performance Period: 05/15/2024 – 05/14/2029

14. Heterogeneously Integrated Power Modules
    Source: Advanced Research Projects Agency-Energy (Arpa-e)
    Amount: $2,931,177 (Park's share $315,000)
    Grantees: Chanyeop Park (Co-PI), Alan Mantooth (PI, University of Arkansas)
    Performance Period: 03/12/2024 – 03/11/2027

13. Novel Electrical Insulators and Partial Discharge Detection Techniques for Resilient Medium Voltage Distribution Systems
    Source: GRid-connected Advanced Power Electronic Systems (GRAPES)
    Amount: $53,892 (Park's share $53,892)
    Grantees: Chanyeop Park (Single PI)
    Performance Period: 01/01/2024 – 12/31/2024

12. High-Temperature Inorganic Thin Film Electrets for Partial Discharge Free High-Voltage Power Modules (Award # N00014-23-1-2673)
    Source: Office of Naval Research (ONR)
    Amount: $762,380 (Park's share $762,380)
    Grantees: Chanyeop Park (Single PI)
    Performance Period: 07/01/2023 – 6/30/2028

11. Elucidating the Dielectric Properties of Diamond-Like Carbon and Electret as Electrical Insulators for High-Voltage Power Electronics
    Source: GRid-connected Advanced Power Electronic Systems (GRAPES)
    Amount: $96,261 (Park's share $96,261)
    Grantees: Chanyeop Park (Single PI)
    Performance Period: 01/01/2023 – 12/31/2023

10. TESLA: Tough and Ecological Supercritical Line Breaker for AC (Award # DE-AR0001524)
    Source: Advanced Research Projects Agency-Energy (Arpa-e)
    Amount: $4,288,669 (Park's share $1,052,635)
    Grantees: Chanyeop Park (Co-PI), Lukas Graber (PI, Georgia Tech)
    Performance Period: 05/19/2022 – 05/18/2025

9. Collaborative Research: Identifying the Dielectric Properties of Liquid-Metal Polymer Composites to Ensure the Dielectric Integrity of Deformable Electronic Applications (Award # 2124933)
    Source: National Science Foundation (NSF)
    Amount: $599,874 (Park's share $299,874)
    Grantees: Chanyeop Park (PI), Amanda Koh (PI, University of Alabama)
    Performance Period: 9/1/2021 – 8/31/2025

8. Development of Electrets as a Solution to Partial Discharge in Power-Electronics-Driven Shipboard Power Systems (Award # N00014-21-1-2797)
    Source: Office of Naval Research (ONR)
    Amount: $509,997 (Park's share $509,997)
    Grantees: Chanyeop Park (Single PI)
    Performance Period: 8/1/2021 – 7/31/2025

7. Detection of Electrical Discharge Phenomena by Fiberoptic Sensors
    Source: NEC Labs America
    Amount: $24,517 (Park's share $24,517)

Grantees: Chanyeop Park (Single PI)
Performance Period: 5/1/2021 – 4/30/2022

6. Development of Epoxy and Silicone Based Nonlinear Resistive Field Grading Materials for SF6-Free Power Applications
   Source: G&W Electric
   Amount: $100,000 (Park's share $100,000)
   Grantees: Chanyeop Park (Single PI)
   Performance Period: 3/1/2021 – 4/30/2022

5. Multi-Modal Threat Detection (M2TD) System
   Source: Air Force Civil Engineer Center (AFCEC)
   Amount: $150,000 (Park's share $37,500)
   Grantees: Chanyeop Park (Co-PI), Daniel Carruth (PI, Mississippi State University)
   Performance Period: 3/1/2021 – 6/30/2022

4. Evaluating the lightning strike tolerance of radar absorbing multifunctional composites
   Source: Gyeongsang National University
   Amount: $33,165 (Park's share $33,165)
   Grantees: Chanyeop Park (Single PI)
   Performance Period: 11/1/2020 – 12/31/2022

3. Dielectric Characterization of Silicone Liquid Metal Composites for Soft Electronics
   Source: Mississippi State University
   Amount: $2,000 (Park's share $2,000)
   Grantees: Chanyeop Park (Single PI)
   Performance Period: 9/1/2020 – 8/31/2021

2. Cryogenic Power Converter Technologies for Aircraft Applications
   Source: Airbus
   Amount: $350,000 (Park's share $75,000)
   Grantees: Chanyeop Park (Co-PI), Lukas Graber (PI, Georgia Tech)
   Performance Period: 7/1/2019 – 6/30/2021

1. The long-term impact of corona discharge / partial discharge (PD) on the physical properties of CO_2-NOVEC 4710 and N_2-NOVEC 4710 mixtures
   Source: G&W Electric
   Amount: $125,000 (Park's share $55,000)
   Grantees: Chanyeop Park (Co-PI), Lukas Graber (PI, Georgia Tech)
   Performance Period: 2/1/2019 – 12/31/2020

PEER-REVIEWED PUBLICATIONS

Journal Articles

42. B. Biswas et al., "Trends in Diagnostics and Monitoring of High-Voltage Insulation," IEEE Electrical Insulation Magazine, vol. 40, no. 4, pp. 6–26, Jul. 2024, **IF 2.6, My Contribution: 5%, Citations: 0**
Note: I wrote a section of this paper.

41. A. M. Juberi, P. C. Saha, O. Faruqe, and **C. Park**, "Partial Discharge Characteristics of SiO2/Si3N4 Electret Incorporated AlN Substrates," IEEE Transactions on Transportation Electrification, pp. 1–1, 2024, **IF 7.0, My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

40. Woods, T. W., Genareau, K., and **Chanyeop Park**, "A Raman Spectroscopic Study of Lightning-Induced Glass Produced From Five Mineral Phases," Earth and Space Science, 2024, **IF 3.1, My Contribution: 30%, Citations: 0**
Note: I conducted lightning impulse experiments.

39. Pradip Chandra Saha, Omar Faruqe, and **Chanyeop Park**, "Preventing Space Charge Induced Breakdown Using Electrets at Various Temperatures," IEEE Transactions on Transportation Electrification, 2024, **IF 7.0, My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

38. Farhina Haque and **Chanyeop Park**, "Mitigating PWM Voltage Induced Partial Discharge by Electrets," IEEE Transactions on Dielectrics and Electrical Insulation, 2024, **IF 3.1, My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

37. Pradip Chandra Saha, Omar Faruqe, and **Chanyeop Park**, "Mitigating Partial Discharge Caused by Steep Voltage Pulses at High Temperatures," IEEE Transactions on Dielectrics and Electrical Insulation, 2024, **IF 3.1, My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

36. Omar Faruqe, Anh Hoang, Pradip Chandra Saha, Amanda Koh, and **Chanyeop Park**, "Preventing Partial Discharge in Liquid Metal Polymer Composites Under Steep Voltage Pulses," Elsevier Composites Part B, pp. 1–1, 2024, **IF 13.1, My Contribution: 90%, Citations: 0**
Note: UA provided the LMPC samples.

35. Pradip Chandra Saha, Omar Faruqe, and **Chanyeop Park**, "Increasing Partial Discharge Inception Voltage at High Temperatures Using Parylene-HT Electrets," IEEE Transactions on Transportation Electrification, pp. 1–1, 2023, **IF 7.0, My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

34. Pradip Chandra Saha, Omar Faruqe, and **Chanyeop Park**, "Preventing Space Charge Induced Breakdown in MVDC Systems by Electric Field Cancellation," IEEE Trans. Dielect. Electr. Insul., pp. 1–1, 2023, **IF 3.1, My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

33. Anh Hoang, Omar Faruqe, Elizabeth Bury, **Chanyeop Park**, and Amanda Koh, "Homogeneity of liquid metal polymer composites: impact on mechanical, electrical, and sensing behavior," Soft Matter, vol. 19, no. 37, pp. 7202–7215, 2023, **IF 3.4, My Contribution: 50%, Citations: 0**
Note: My team conducted numerical analysis, PD, and breakdown experiments.

32. Taylor W. Woods, Joshua Feinberg, Kimberly Genareau, **Chanyeop Park**, Jay Won, and Yang Ki Hong, "Magnetic Properties of Lightning-Induced Glass Produced From Five Mineral Phases," Journal of Geophysical Research: Solid Earth, vol. 128, no. 9, p. e2023JB026561, 2023, **IF 3.9, My Contribution: 40%, Citations: 0**
Note: I conducted lightning impulse experiments.

31. Pradip Chandra Saha, Yanjun Shi, Michael Steurer, Peter Cheetham, Chul Kim, Sastry Pamidi, Jonathan Goldman, Brian German, Zhiyang Jin, Lukas Graber, **Chanyeop Park**, "CLEAN: Cryogenic Link for Electric Aircraft Propulsion," IEEE Transactions on Applied Superconductivity, pp. 1–6, 2023, **IF 1.949, My Contribution: 70%, Citations: 2**
Note: My team did most of the work. Others helped develop the scope of work.

30. Vipin Kumar, Wenhua Lin, Yeqing Wang, Ryan Spencer, Subhabhrata Saha, **Chanyeop Park**, Pritesh Yeole, Nadim S Hmeidat, Cliff Herring, Mitchell L Rencheck, Deepak Kumar Pokkalla, Ahmed A Hassen, Merlin Theodore, Uday Vaidya, Vlastimil Kunc, "Enhanced through-thickness electrical conductivity and lightning strike damage response of interleaved vertically aligned short carbon fiber composites," Composites Part B: Engineering, vol. 253, p. 110535, Mar. 2023, **IF 13.1, My Contribution: 30%, Citations: 2**
Note: I conducted lightning impulse experiments.

29. Pradip Chandra Saha, Omar Faruqe, Farhina Haque, **Chanyeop Park**, "Preventing Space Charge Accumulation by Incorporating Electrets," Advanced Materials Interfaces 2023, 2201046, **IF 6.389, My Contribution: 100%, Citations: 2**
Note: This work was done by my team.

28. Omar Faruqe, Farhina Haque, Pradip Chandra Saha, Ivan Jovanovic, Nenad Uzelac, **Chanyeop Park**, "Partial Incorporation of Nonlinear Resistive Field Grading Materials: A Strategy for Enhanced Field Reduction and Safety," IEEE Transactions on Dielectrics and Electrical Insulation, pp. 1–1, 2022, **IF 3.1, My Contribution: 100%, Citations: 3**
Note: This work was done by my team.

27. Wenhua Lin, Yeqing Wang, Kamran Yousefpour, **Chanyeop Park**, Vipin Kumar, "Evaluating the Lightning Strike Damage Tolerance for CFRP Composite Laminates Containing Conductive Nanofillers," Appl Compos Mater, vol. 29, no. 4, pp. 1537–1554, Aug. 2022, **IF 2.539, My Contribution: 30%, Citations: 7**
Note: My team conducted lightning impulse experiments.

26. Farhina Haque, Omar Faruqe, **Chanyeop Park**, "Effects of Fabrication Conditions on the Partial Discharge Mitigation Performance of Electrets for Power Electronic Driven Systems," IEEE Transactions on Industrial Electronics, pp. 1–11, 2022, **IF 8.162, My Contribution: 100%, Citations: 5**
Note: This work was done by my team.

25. Chuanyang Li, Yang Yang, Guoqiang Xu, Yao Zhou, Mengshuo Jia, Shaolong Zhong, Yu Gao, **Chanyeop Park**, Qiang Liu, Yalin Wang, Shakeel Akram, Xiaoliang Zeng, Yi Li, Fangwei Liang, Bin Cui, Junpeng Fang, Lingling Tang, Yulin Zeng, Xingtao Hu, Jiachen Gao, Giovanni Mazzanti, Jinliang He, Jianxiao Wang, Davide Fabiani, Gilbert Teyssedre, Yang Cao, Feipeng Wang, Yunlong Zi, "Insulating materials for realising carbon neutrality: Opportunities, remaining issues and challenges," High Voltage, vol. n/a, no. n/a, 2022, **IF 4.967, My Contribution: 10%, Citations: 46**
Note: I contributed to a section of this paper.

24. Robert E Calabrese, Elizabeth Bury, Farhina Haque, Amanda Koh, **Chanyeop Park**, "Effects of filler composition, loading, and geometry on the dielectric loss, partial discharge, and dielectric strength of liquid metal polymer composites," Composites Part B: Engineering, vol. 234, p. 109686, Apr. 2022, **IF 13.1, My Contribution: 70%, Citations: 13**
Note: UA provided the samples.

23. Kamran Yousefpour, Mojtaba Rostaghi-Chalaki, Jason Warden, David Wallace, **Chanyeop Park**, "Design and Construction of an Impulse Current Generator for Lightning Strike Experiments," International Journal of Electrical and Computer Engineering, vol. 15, no. 11, pp. 372–375, Nov. 2021, **IF 0.376, My Contribution: 100%, Citations: 1**
Note: This work was done by my team.

22. **Chanyeop Park**, "Electrets: A Remedy for Partial Discharge Caused by Power Electronics Switching," IEEE Transactions on Industrial Electronics, vol. 68, no. 12, pp. 12947–12952, Dec. 2021, **IF 8.162, My Contribution: 100%, Citations: 20**
Note: This work was done by myself.

21. Pralhad Lamichhane, Dilli R Dhakal, Siddhesh Chaudhari, Ishan N Jayalath, Toby Nelson, **Chan- yeop Park**, Kamran Yousefpour, Frank D Blum, Ranji Vaidyanathan, "Polyaniline doped graphene thin film to enhance the electrical conductivity in carbon fiber-reinforced composites for lightning strike mitigation," Journal of Composite Materials, p. 00219983211041751, Aug. 2021, **IF 3.191, My Contribution: 30%, Citations: 4**
Note: My team conducted lightning impulse experiments.

20. Vipin Kumar, Pritesh Yeole, Ahmad Majed, **Chanyeop Park**, Kai Li, Michael Naguib, Pruthul Kokkada Ravindranath, Charl Jafta, Ryan Spencer, Brett Compton, Uday Vaidya, Vlastimil Kunc, "MXene Reinforced Thermosetting Composite for Lightning Strike Protection of Carbon Fiber Reinforced Polymer," Advanced Materials Interfaces, p. 2100803, Aug. 2021 **IF 6.389, My Contribution: 40%, Citations: 9**
Note: I conducted lightning impulse experiments.

19. Jeong H Choi, **Chanyeop Park**, Peter Cheetham, Chul H Kim, Sastry Pamidi, Lukas Graber, "Detection of Series Faults in High-Temperature Superconducting DC Power Cables Using Machine Learning," IEEE Transactions on Applied Superconductivity, pp. 1–1, 2021, **IF 1.949, My Contribution: 30%, Citations: 8**
Note: I helped develop numerical models.

18. Mojtaba Rostaghi-Chalaki, Kamran Yousefpour, Joni Klüss, Mehmet Kurum, J Patrick Donohoe, **Chanyeop Park**, "Classification and comparison of AC and DC partial discharges by pulse waveform analysis," International Journal of Electrical Power & Energy Systems, vol. 125, p. 106518, Feb. 2021, **IF 5.659, My Contribution: 100%, Citations: 18**
Note: This work was done by my team.

17. Farhina Haque, Jia Wei, Alfonso Cruz, Lukas Graber, **Chanyeop Park**, "Modeling cluster formation driven variations in critical electric field of He and Xe near critical point based on electron scattering cross sections," Physics of Fluids, vol. 32, no. 12, p. 127106, Dec. 2020, **IF 4.980, My Contribution: 50%, Citations: 3**
Note: GT helped with breakdown measurements.

16. Mojtaba Rostaghi-Chalaki, Kamran Yousefpour, J Patrick Donohoe, Mehmet Kurum, **Chanyeop Park**, Joni Klüss, "Design of Transmission Line and Electromagnetic Field Sensors for DC Partial Discharge

Analysis," IEEE Transactions on Dielectrics and Electrical Insulation, vol. 27, no. 6, pp. 2138–2146, Dec. 2020, **IF 3.1, My Contribution: 100%, Citations: 7**
Note: This work was done by my team.

15. Kamran Yousefpour, Wenhua Lin, Yeqing Wang, **Chanyeop Park**, "Discharge and ground electrode design considerations for the lightning strike damage tolerance assessment of CFRP matrix composite laminates," Composites Part B: Engineering, vol. 198, p. 108226, Oct. 2020, **IF 13.1, My Contribution: 100%, Citations: 22**
Note: This work was done by my team.

14. Jia Wei, Alfonso Cruz, Farhina Haque, **Chanyeop Park**, Lukas Graber, "Investigation of the dielectric strength of supercritical carbon dioxide–trifluoroiodomethane fluid mixtures," Physics of Fluids, vol. 32, no. 10, p. 103309, Oct. 2020, **IF 4.980, My Contribution: 50%, Citations: 11**
Note: My team helped develop numerical models.

13. Taylor Stamm, Peter Cheetham, **Chanyeop Park**, Chul Han Kim, Lukas Graber, and Sastry Pamidi, "Novel gases as electrical insulation and a new design for gas-cooled superconducting power cables," IEEE Electrical Insulation Magazine, vol. 36, no. 5, pp. 32–42, Sep. 2020, **IF 2.939, My Contribution: 30%, Citations: 9**
Note: I wrote a section on gas modeling.

12. Farhina Haque, Jia Wei, Lukas Graber, **Chanyeop Park**, "Modeling the dielectric strength variation of supercritical fluids driven by cluster formation near critical point," Physics of Fluids, vol. 32, no. 7, Jul. 2020, **IF 4.980, My Contribution: 50%, Citations: 10**
Note: GT helped with breakdown experiments.

11. Jia Wei, **Chanyeop Park**, Lukas Graber, "Breakdown characteristics of carbon dioxide–ethane azeotropic mixtures near the critical point," Physics of Fluids, vol. 32, no. 5, p. 053305, May 2020, **IF 4.980, My Contribution: 50%, Citations: 15**
Note: I helped develop numerical models.

10. **Chanyeop Park**, "Electret: An Entirely New Approach of Solving Partial Discharge Caused by Triple Points, Sharp Edges, Bubbles, and Airgaps," IEEE Access, pp. 1–1, 2020, **IF 3.476, My Contribution: 100%, Citations: 20**
Note: This work was done by myself.

9. **Chanyeop Park**, Lukas Graber, Peter Cheetham, Aws Al-Taie, Srikar Telikapalli, Sastry Pamidi, "Versatile Paschen's model for the dielectric strength estimation of binary and ternary gas mixtures," IEEE Transactions on Dielectrics and Electrical Insulation, vol. 26, no. 5, pp. 1569–1576, Oct. 2019, **IF 3.1, My Contribution: 70%, Citations: 4**
Note: FSU helped with breakdown experiments.

8. Aws Al-Taie, Peter Cheetham, Sharath Satyanarayana, **Chanyeop Park**, Jia Wei, Chul H Kim, Lukas Graber, Sastry Pamidi, "Understanding Surface Flashover Strength in Cryogenic Helium Gas for Superconducting Devices," IEEE Transactions on Applied Superconductivity, vol. 29, no. 5, pp. 1–5, Aug. 2019, **IF 1.949, My Contribution: 10%, Citations: 4**
Note: I helped develop numerical models.

7. **Chanyeop Park**, Sastry Pamidi, Lukas Graber, "The dielectric strength of dissociated cryogenic gas media," Journal of Applied Physics, vol. 124, no. 10, p. 104104, Sep. 2018, **IF 2.877, My Contribution: 100%, Citations: 8**
Note: This work was done by myself.

6. **Chanyeop Park**, Sastry Pamidi, Lukas Graber, "Evaluating the dielectric strength of helium-nitrogen gas mixtures by plasma parameter measurements," Physics of Plasmas, vol. 25, no. 4, p. 043520, Apr. 2018, **IF 2.357, My Contribution: 100%, Citations: 5**
   Note: This work was done by myself.

5. **Chanyeop Park**, Sastry Pamidi, Lukas Graber, "The critical electric field of gas mixtures over the extended range of cryogenic operating conditions," Journal of Applied Physics, vol. 122, no. 15, p. 153301, Oct. 2017, **IF 2.877, My Contribution: 100%, Citations: 24**
   Note: This work was done by myself.

4. **Chanyeop Park**, Lukas Graber, Peter Cheetham, Jose G Viquez, Chul H Kim, Sastry Pamidi, "A versatile modeling technique for predicting dielectric strength improvements in gas mixtures for superconducting applications," IEEE Transactions on Dielectrics and Electrical Insulation, vol. 24, no. 5, pp. 2755–2764, Oct. 2017, **IF 3.1, My Contribution: 70%, Citations: 0**
   Note: FSU helped with breakdown experiments.

3. **Chanyeop Park**, Sastry Pamidi, Lukas Graber, "Boltzmann Analysis of Cryogenic He-H2 Gas Mixtures as Dielectric Media for High-Temperature Superconducting Power Devices," IEEE Transactions on Applied Superconductivity, vol. 27, no. 4, pp. 1–6, Jun. 2017, **IF 1.949, My Contribution: 100%, Citations: 26**
   Note: This work was done by myself.

2. **Chanyeop Park**, Lukas Graber, Sastry Pamidi, "The dielectric properties of gaseous cryogen mixtures of He, H2, Ne, and N2 in a temperature range of 50-80 K at pressures up to 2.0 MPa," Journal of Applied Physics, vol. 121, no. 8, p. 083304, Feb. 2017, **IF 2.877, My Contribution: 100%, Citations: 42**
   Note: This work was done by myself.

1. Hyun-Jong Park, Ho-Joon Lee, Su-Yeon Cho, Han-Woong Ahn, Ki-Doek Lee, **Chan-Yeop Park**, Sung-Hong Won, Ju Lee, "A Performance Study on a Permanent Magnet Spherical Motor," IEEE Transactions on Magnetics, vol. 49, no. 5, pp. 2307–2310, May 2013, **IF 1.848, My Contribution: 30%, Citations: 44**
   Note: I conducted numerical analysis and experiments.

Conference Proceedings

70. V. Tewari, S. Al Sufi, S. Benet, and **C. Park**, "Predictive Modeling of Surface Flashover Using Deep Learning," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 100%, Citations: 0**
    Note: This work was done by my team.

69. S. A. Sufi, K. Lee, W. Lee, and **C. Park**, "Identifying the Influence of Skin Effects on PWM-Induced Partial Discharges," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 80%, Citations: 0**
    Note: This work was mostly done by my team.

68. P. C. Saha, O. Faruqe, A. M. Juberi, and **C. Park**, "Preventing Space Charge Injection and Accumulation Using Electrets Under Steep Voltage Pulses with Varying Duty Cycle," in 2024 IEEE Electrical Insulation Conference (EIC), Jun. 2024, **My Contribution: 100%, Citations: 0**
    Note: This work was done by my team.

67. P. C. Saha, O. Faruqe, A. M. Juberi, and **C. Park**, "Mitigating Space Charge Injection and Accumulation Using Electrets in Low Pressures," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

66. P. C. Saha, O. Faruqe, A. M. Juberi, and **C. Park**, "Increasing Partial Discharge Inception Voltage at Low Pressures Using Electrets," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

65. A. M. Juberi, O. Faruqe, P. C. Saha, and **C. Park**, "Mitigating Partial Discharge in Power Module Using Functional Capacitive Field Grading Material," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

64. A. M. Juberi, O. Faruqe, P. C. Saha, and **C. Park**, "Dielectric and Thermal Analysis of Diamond-Like Carbon Incorporated Power Substrates," in 2024 IEEE Electrical Insulation Conference (EIC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

63. A. M. Juberi, P. Chandra Saha, O. Faruqe, and **C. Park**, "SiO2/Si3N4 Electret Incorporated AlN Substrates for Partial Discharge Mitigated WBG Power Electronics," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

62. F. Haque and **C. Park**, "Statistical Analysis of Partial Discharge Mitigation Performance of Electret in High Power Density System," in 2024 IEEE Electrical Insulation Conference (EIC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

61. O. Faruqe, P. C. Saha, A. Muhammad Juberi, and **C. Park**, "Mitigating Partial Discharge in Motor Winding Under Steep Voltage Pulses," in 2024 IEEE Transportation Electrification Conference and Expo (ITEC), Jun. 2024, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

60. O. Faruqe, P. C. Saha, A. Muhammad Juberi, A. J. Morgan, W. Sung, and **C. Park**, "Mitigating High Electric Field Stresses in Power Modules Utilizing Field Grading Materials," in 2024 IEEE Electrical Insulation Conference (EIC), Jun. 2024, **My Contribution: 95%, Citations: 0**
Note: This work was mostly done by my team.

59. A. J. Cruz Felicaino et al., "Preliminary Investigation of Arc Quenching in Supercritical CO2," in 2024 IEEE Electrical Insulation Conference (EIC), Jun. 2024, **My Contribution: 30%, Citations: 0**
Note: My team estimated the dissociated products of CO2.

58. Anh Hoang, Elizabeth Bury, Omar Faruqe, **Chanyeop Park**, and Amanda Koh, "Homogeneity of Liquid Metal Polymer Composites: Impact on Mechanical and Electrical Properties of Composites," 2023 AIChE Annual Meeting, Nov. 2023, **My Contribution: 10%, Citations: 0**
Note: My team did the modeling.

57. T. W. Woods, K. Genareau, J. Feinberg, H. Won, **C. Park**, and Y.-K. Hong, "Destruction and Creation of Minerals in Lightning-Affected Atmospheric Dusts," presented at the 103rd AMS Annual Meeting,

AMS, Jan. 2023, **My Contribution: 40%, Citations: 0**
Note: I conducted lightning impulse experiments.

56. Subhabrata Saha, Nadim Hmeidat, **Chanyeop Park**, Pritesh Yeole, S.L.J. Millen, Adrian Murphy, Brian Knouff, Merlin Theodore, Uday Vaidya, Ahmed Arabi Hassen, Vlastimil Kunc, Vipin Kumar, "Enhanced lightning strike protection using vertically oriented carbon fiber melded with conventional carbon fiber-reinforced composite and its validation through damage analysis," American Society for Composites (ASC) 38th Annual Technical Conference: Proceedings, Sep. 2023, **My Contribution: 40%, Citations: 0**
Note: I conducted lightning impulse experiments.

55. F. Haque, O. Faruqe, and **C. Park**, "Mitigating Partial Discharge in PWM Voltage Systems Using Electrets," in 2023 IEEE Electric Ship Technologies Symposium (ESTS), Alexandria, VA, USA: IEEE, Aug. 2023, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

54. P. C. Saha, O. Faruqe, and **C. Park**, "Mitigating Space Charge Accumulation at Various Temperatures Using Electrets," in 2023 IEEE Electric Ship Technologies Symposium (ESTS), Alexandria, VA, USA: IEEE, Aug. 2023, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

53. K. Genareau, T. W. Woods, **C. Park**, and J. Feinberg, "Lightning Effects on Airborne Mineral Dust: An Overview," presented at the 103rd AMS Annual Meeting, AMS, Jan. 2023, **My Contribution: 40%, Citations: 0**
Note: I conducted lightning impulse experiments.

52. P. C. Saha, O. Faruqe, and **C. Park**, "Prevention of Space Charge Accumulation and Space Charge Induced Breakdown Using Electrets," in 2023 IEEE Electrical Insulation Conference (EIC), Jun. 2023, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

51. Mohd. S. A. Hossain, T. Li, J. Jin, L. Graber, and **C. Park**, "High Voltage Inductor Design for Synthetic Testing of a Supercritical CO2 Circuit Breaker," in 2023 IEEE Electrical Insulation Conference (EIC), Jun. 2023, **My Contribution: 90%, Citations: 0**
Note: Co-authors helped review the paper.

50. F. Haque and **C. Park**, "Electret Based Partial Discharge Mitigation in High Switching Frequency PWM Voltage Systems," in 2023 IEEE Electrical Insulation Conference (EIC), Jun. 2023, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

49. O. Faruqe, P. C. Saha, N. Uzelac, and **C. Park**, "Fabrication and Simulation of Nonlinear Resistive Field Grading Materials for Electric Field Tailoring of HVDC Cable Joint," in 2023 IEEE Electrical Insulation Conference (EIC), Jun. 2023, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

48. R. E. Calabrese, E. Bury, R. B. Green, A. Koh, and **C. Park**, "Effects of Droplet Size and Dispersion Homogeneity on the Dielectric Integrity of Liquid Metal Polymer Composites," in 2023 IEEE Electrical Insulation Conference (EIC), Jun. 2023, **My Contribution: 90%, Citations: 0**
Note: UA provided LMPC samples.

47. M. T. K. Niazi, M. R. Hussain, and **C. Park**, "Confidence-Level-Based Semi-Supervised Machine Learning Approach for Partial Discharge Signal Classification," IEEE Transportation Electrification Conference & Expo (ITEC), Jun. 2022, **My Contribution: 100%, Citations: 1**
Note: This work was done by my team.

46. O. Faruqe, F. Haque, P. Saha, A. J. Morgan, W. Sung, and **C. Park**, "Development of Nonlinear Resistive Field Grading Materials for Electric Field Mitigation in Power Electronic Modules," IEEE Energy Conversion Congress and Exposition (ECCE), Oct. 2022, pp. 1–5, **My Contribution: 90%, Citations: 2**
Note: SUNY Poly provided power substrate samples.

45. S. Keenan, J. A. Cartwright, K. D. Genareau, and **C. Park**, "Experimental Formation of Chondrules by Nebular Lightning," vol. 2678, p. 2714, Mar. 2022, **My Contribution: 40%, Citations: 0**
Note: I conducted lightning impulse experiments.

44. F. Haque, O. Faruqe, and **C. Park**, "Multilayer Electret Based Electric Field Neutralization under Pulse Width Modulated High Voltage Waveforms," IEEE Electrical Insulation Conference (EIC), Jun. 2022, **My Contribution: 100%, Citations: 1**
Note: This work was done by my team.

43. F. Haque, O. Faruqe, and **C. Park**, "Electret Based Mitigation of Partial Discharge in PWM Inverter Driven System," IEEE Transportation Electrification Conference & Expo (ITEC), Jun. 2022, pp. 503–506, **My Contribution: 100%, Citations: 2**
Note: This work was done by my team.

42. R. E. Calabrese, E. Bury, A. Koh, and **C. Park**, "Effect of Particle Geometry on Electric Field Distribution, Partial Discharge, and Dielectric Strength of Iron-Polymer Composites," IEEE Electrical Insulation Conference (EIC), Jun. 2022, pp. 90–93, **My Contribution: 70%, Citations: 1**
Note: UA provided composite samples.

41. F. Haque and **C. Park**, "Epoxy Electret: A Remedy for Partial Discharge at Cryogenic Temperature," IOP Conf. Ser.: Mater. Sci. Eng., vol. 1241, no. 1, p. 012005, May 2022, **My Contribution: 100%, Citations: 0**
Note: This work was done by my team.

40. F. Haque, O. Faruqe, and **C. Park**, "Electret Fabrication Under Various Temperatures and Partial Discharge Mitigation Performance," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Dec. 2021, pp. 175–178, **My Contribution: 100%, Citations: 7**
Note: This work was done by my team.

39. A. West, J. Wei, A. Cruz, F. Haque, **C. Park**, Z. Jin, L. Graber, "Viscosity Measurement of Gaseous and Supercritical Fluids as a Dielectric Medium," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Dec. 2021, pp. 635–638, **My Contribution: 20%, Citations: 1**
Note: My team wrote a section on modeling.

38. J. Wei, A. Cruz, A. West, F. Haque, **C. Park**, and L. Graber, "Theoretical Modeling and Experimental Testing on the Electrical Breakdown in Supercritical Fluids," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Dec. 2021, pp. 179–182, **My Contribution: 50%, Citations: 1**
Note: My team wrote a section on modeling.

37. O. Faruqe, F. Haque, and **C. Park**, "Electret: A Method to Increase Critical Flashover Voltage in Power Dense Applications," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Dec. 2021, pp. 109–112, **My Contribution: 100%, Citations: 3**
Note: This work was done by my team.

36. K. Yousefpour, Y. Aider, Y. Wang, M. Rostaghi-Chalaki, and **C. Park**, "Validating Discharge and Ground Electrode Effect on the Lightning Strike Damage of Materials and its Implication to Composite Structures by Modeling Lightning Discharge," IEEE Electrical Insulation Conference (EIC), Jun. 2021, **My Contribution: 70%, Citations: 0**
Note: Co-authors helped with lightning discharge modeling.

35. M. Rostaghi-Chalaki, F. Haque, K. Yousefpour, and **C. Park**, "Application of D-dot Sensor for Partial Discharge Waveform Measurement," IEEE Electrical Insulation Conference (EIC), Jun. 2021, **My Contribution: 100%, Citations: 1**
Note: This work was done by my team.

34. F. Haque and **C. Park**, "Electret Fabrication Under Various Discharge Conditions of Triode Corona Charging and the Partial Discharge Mitigation Performance," IEEE Electrical Insulation Conference (EIC), Jun. 2021, **My Contribution: 100%, Citations: 7**
Note: This work was done by my team.

33. P. Cheetham, B. Darbha, S. Telikapalli, C. H. Kim, S. V. Pamidi, **C. Park**, L. Graber, "Characterization of a Superconducting Gas Insulated Cable Under AC and DC Voltages," IEEE Electrical Insulation Conference (EIC), Jun. 2021, pp. 222–225, **My Contribution: 30%, Citations: 0**
Note: I wrote a section on modeling.

32. S. Yin, M. Mehrabankhomartash, A. Cruz, L. Graber, M. Saeedifard, S. Evans, F. Kapaun, I. Revel, G. Steiner, L. Ybanez, **C. Park**, "Characterization of Inductor Magnetic Cores for Cryogenic Applications," IEEE Energy Conversion Congress and Exposition (ECCE), Oct. 2021, pp. 5327–5333, **My Contribution: 30%, Citations: 9**
Note: I helped with inductor characterization.

31. M. Mehrabankhomartash, S. Yin, A. Cruz, L. Graber, M. Saeedifard, S. Evans, F. Kapaun, I. Revel, G. Steiner, L. Ybanez, **C. Park**, "Static and Dynamic Characterization of 650 V GaN E-HEMTs in Room and Cryogenic Environments," IEEE Energy Conversion Congress and Exposition (ECCE), Oct. 2021, pp. 5289–5296, **My Contribution: 30%, Citations: 7**
Note: I helped with double pulse tests.

30. F. Haque, O. Faruqe, and **C. Park**, "Electret: A Solution to Partial Discharge in Power Electronics Applications," IEEE Energy Conversion Congress and Exposition (ECCE), Oct. 2021, pp. 5573–5577, **My Contribution: 100%, Citations: 4**
Note: This work was done by my team.

29. O. Faruqe, F. Haque, J. P. Donohoe, and **C. Park**, "Design and Analysis of EMI Absorbing Composites for Electric Aircraft.," in AIAA Propulsion and Energy 2021 Forum, American Institute of Aeronautics and Astronautics, **My Contribution: 70%, Citations: 0**
Note: Co-author helped with EM analysis.

28. F. Haque, O. Faruqe, and **C. Park**, "Electret: A Remedy for Partial Discharge and Surface Flashover in Shipboard Power Applications," IEEE Electric Ship Technologies Symposium (ESTS), Aug. 2021, **My Contribution: 100%, Citations: 6**
Note: This work was done by my team.

27. O. Faruqe, F. Haque, H. Berdiyev, and **C. Park**, "Surface Flashover Characteristics of Solid Dielectrics in Shipboard Atmospheric Conditions," IEEE Electric Ship Technologies Symposium (ESTS), Aug. 2021, pp. 1–5, **My Contribution: 100%, Citations: 3**
Note: This work was done by my team.

26. K. Yousefpour, W. Lin, Y. Wang, and **C. Park**, "Protection of Carbon Fiber Reinforced Polymer Matrix (CFRP) Composite Laminate Against Lightning Strike Using Nano-Fillers," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Oct. 2020, pp. 35–38, **My Contribution: 50%, Citations: 1**
Note: My team conducted lightning impulse experiments.

25. J. Wei, A. Cruz, F. Haque, **C. Park**, and L. Graber, "Electrical Breakdown Characteristics of Supercritical Trifluoroiodomethane-Carbon Dioxide (CF3I-CO2) Mixtures," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Oct. 2020, pp. 427–430, **My Contribution: 50%, Citations: 5**
Note: My team wrote a section on modeling.

24. W. Lin, B. Jony, K. Yousefpour, Y. Wang, **C. Park**, and S. Roy, "Effects of Graphene Nanoplatelets on the Lightning Strike Damage Response of Carbon Fiber Epoxy Composite Laminates," 2020, **My Contribution: 40%, Citations: 8**
Note: My team conducted lightning impulse experiments.

23. V. Kumar, S. Kore, M. Theodore, Y. Wang, K. Yousefpour, W. Lin, **C. Park**, U. Vaidya, V. Kunc, "Low Cost Carbon Fiber as Potential Lightning Strike Protection for Wind Turbine Blades," presented at the American Society for Composites 2020, Sep. 2020, **My Contribution: 50%, Citations: 0**
Note: My team conducted lightning impulse experiments.

22. K. Yousefpour, M. R. Chalaki, W. Lin, F. Haque, Y. Wang, and **C. Park**, "The Impact of Lightning Channel Diameter on the Damage of Carbon Fiber Reinforced Polymer Matrix (CFRP) Composite Laminates," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 100%, Citations: 7**
Note: This work was done by my team.

21. J. Wei, **C. Park**, N. Uzelac, and L. Graber, "Analysis of Decomposition Products of SF6 and C4F7N under Low Energy Corona Discharge," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 50%, Citations: 1**
Note: I wrote a section on modeling.

20. J. Wei, A. Cruz, C. Xu, F. Haque, **C. Park**, and L. Graber, "A Review on Dielectric Properties of Supercritical Fluids," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 30%, Citations: 13**
Note: My team wrote a section on modeling.

19. S. Telikapalli, M. Kvitkovicova, P. Cheetham, **C. Park**, C. H. Kim, L. Graber, S. Pamidi, "Effect of Non-Uniformity of Electric Field on Breakdown Strength of Cryogenic Gaseous Insulation Media for Superconducting Power Applications," IOP Conf. Ser.: Mater. Sci. Eng., vol. 756, p. 012006, Jun. 2020, **My Contribution: 10%, Citations: 2**
Note: I wrote a section on modeling.

18. T. Stamm, J. H. Choi, P. Cheetham, **C. Park**, C. Kim, L. Graber, S. Pamidi, "Electrical faults in high temperature superconducting power cables for MVDC power systems of all-electric ships," IOP Conf.

Ser.: Mater. Sci. Eng., vol. 755, p. 012135, Jun. 2020, **My Contribution: 10%, Citations: 4**
Note: I wrote a section on modeling.

17. **C. Park**, O. Obadolagbonyi, and L. Graber, "Cryogenic Power Electronics: Capacitors and Inductors," IOP Conf. Ser.: Mater. Sci. Eng., vol. 756, p. 012010, Jun. 2020, **My Contribution: 50%, Citations: 11**
    Note: Co-authors helped with experiments.

16. **C. Park**, M. J. Mauger, T. Damle, J. Huh, S. Steinhoff, and L. Graber, "Cryogenic Power Electronics: Press-Pack IGBT Modules," IOP Conf. Ser.: Mater. Sci. Eng., vol. 756, p. 012009, Jun. 2020, **My Contribution: 50%, Citations: 3**
    Note: Co-authors helped with double pulse tests.

15. F. Haque, J. Wei, L. Graber, and **C. Park**, "Electron Scattering Cross Section Data of Supercritical CO2 Clusters," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 80%, Citations: 5**
    Note: GT helped with breakdown experiments.

14. F. Haque, M. Rostaghi-Chalaki, K. Yousefpour, and **C. Park**, "Distinct Representations of Hot Gas Dielectric Strength and Their Impact," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 100%, Citations: 0**
    Note: This work was done by my team.

13. J. H. Choi, N. Guo, T. Damle, J. Ding, R. Nguyen, **C. Park**, L. Graber, "Testbed to Study the Surface Charge Distribution along DC Standoff Insulators for All-Electric Ships," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 20%, Citations: 4**
    Note: I helped design the experiment.

12. M. R. Chalaki, K. Yousefpour, Z. Ahmed, and **C. Park**, "Transmission Line Design for Individual Partial Discharge Waveshape Measurement," IEEE Electrical Insulation Conference (EIC), Jun. 2020, **My Contribution: 100%, Citations:**
    Note: This work was done by my team.

11. A. Al-Taie, P. Cheetham, C. H. Kim, **C. Park**, L. Graber, and S. V. Pamidi, "Understanding Surface Flashover in Helium Gas Cooled High Temperature Superconducting Devices," IOP Conf. Ser.: Mater. Sci. Eng., vol. 756, p. 012011, Jun. 2020, **My Contribution: 30%, Citations: 1**
    Note: I wrote a section on modeling.

10. T. Damle, **C. Park**, J. Ding, P. Cheetham, M. Bosworth, M. Steurer, R. Cuzner, L. Graber, "Experimental setup to evaluate creepage distance requirements for shipboard power systems," IEEE Electric Ship Technologies Symposium (ESTS), Aug. 2019, **My Contribution: 30%, Citations: 13**
    Note: I wrote a section on surface conditioning.

9. P. Cheetham, H. Ravindra, T. Stamm, **C. Park**, C. Kim, L. Graber, M. Steurer, S. Pamidi, "High Temperature Superconducting Power Cables for MVDC Power Systems of Navy Ships," IEEE Electric Ship Technologies Symposium (ESTS), Aug. 2019, **My Contribution: 10%, Citations: 18**
    Note: I wrote a section on modeling.

8. **C. Park**, J. Wei, S. Singh, S. Narra, L. Graber, and M. Imperatore, "The Characteristics of Film Capacitors at Room Temperature and in Liquid Nitrogen," AIAA/IEEE Electric Aircraft Technologies Symposium (EATS), Jul. 2018, **My Contribution: 90%, Citations: 8**
    Note: Co-authors helped with the experiments.

7. Y. Tian, J. Wei, **C. Park**, Z. Wang, and L. Graber, "Modelling of electrical breakdown in supercritical CO2 with molecular clusters formation," 12th International Conference on the Properties and Applications of Dielectric Materials (ICPADM), May 2018, **My Contribution: 30%, Citations: 11**
Note: I helped with numerical modeling.

6. **C. Park**, J. Wei, P. Cheetham, C. H. Kim, S. Pamidi, and L. Graber, "The influence of temperature on the dielectric strength of gaseous cryogens," 12th International Conference on the Properties and Applications of Dielectric Materials (ICPADM), May 2018, **My Contribution: 50%, Citations: 16**
Note: FSU helped with breakdown experiments.

5. **C. Park**, P. Cheetham, C. H. Kim, S. Pamidi, and L. Graber, "Effect of magnetic field on the dielectric strength of gaseous cooling media for superconducting applications," 12th International Conference on the Properties and Applications of Dielectric Materials (ICPADM), May 2018, **My Contribution: 70%, Citations: 2**
Note: FSU helped with breakdown experiments.

4. **C. Park**, S. V. Pamidi, and L. Graber, "Langmuir probe plasma diagnostics to investigate the dielectric properties of cryogenic gas mixtures," IOP Conf. Ser.: Mater. Sci. Eng., vol. 278, p. 012039, Dec. 2017, **My Contribution: 100%, Citations: 1**
Note: This work was done by myself.

3. L. Graber, M. Saeedifard, M. Mauger, Q. Yang, **C. Park**, T. Niebur, S. Pamidi, S. Steinhoff, "Cryogenic power electronics at megawatt-scale using a new type of press-pack IGBT," IOP Conf. Ser.: Mater. Sci. Eng., vol. 279, p. 012011, Dec. 2017, **My Contribution: 50%, Citations: 22**
Note: I conducted double pulse tests.

2. P. Cheetham, **C. Park**, C. H. Kim, L. Graber, and S. V. Pamidi, "Dielectric properties of cryogenic gas mixtures for superconducting power applications," IOP Conf. Ser.: Mater. Sci. Eng., vol. 278, p. 012040, Dec. 2017, **My Contribution: 50%, Citations: 26**
Note: FSU helped with breakdown experiments.

1. **C. Park**, L. Graber, W. Kim, P. Cheetham, C. Kim, S. Pamidi, H. Rodrigo, "A versatile model for estimating breakdown voltage and its application for cryogenic gas mixtures," IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Oct. 2016, **My Contribution: 70%, Citations: 6**
Note: FSU helped with breakdown experiments.

PATENTS

2. **Chanyeop Park**. "Inorganic Electrets for Power Electronic Applications." US Patent 63/516895

1. Lukas Graber, **Chanyeop Park**, and Jia Wei. "Mixtures of supercritical fluids as a dielectric material." US Patent 2021/0383944 A1

SCIENTIFIC LEADERSHIP

Professional Membership

Senior Member
Institute of Electrical and Electronics Engineers (IEEE) 2021 – Present

Organizing Committee

IEEE Electric Ship Technologies Symposium (ESTS) 2023

IEEE Transportation Electrification Conference (ITEC) 2023

IEEE Transportation Electrification Conference and AIAA/IEEE Electric Aircraft Technologies Symposium (ITEC+) 2022

Technical Committee

IEEE Dielectrics and Electrical Insulation Society – Nanodielectrics 2020 – Present

IEEE Dielectrics and Electrical Insulation Society – Diagnostics 2020 – Present

Working Group

Cigre D1.64 – Cryogenic Dielectrics 2018 – 2021

Journal Reviewer

AIP Journal of Applied Physics 2023 – Present

IEEE Transactions on Transportation Electrification 2022 – Present

IEEE Transactions on Dielectrics and Electrical Insulation 2021 – Present

IEEE Journal of Emerging and Selected Topics in Power Electronics 2021 – Present

IEEE Access 2021 – Present

IEEE Transactions on Industrial Electronics 2018 – Present

IEEE Transactions on Applied Superconductivity 2018 – Present

IEEE Transactions on Power Delivery 2018 – Present

IOP Superconductor Science and Technology 2018 – Present

INVITED TALKS & LECTURES

8. **C. Park**, "Electric Field Neutralization: Rethinking Insulation for WBG Power Electronics," Focus Session: High-Voltage Materials for Advanced High Power Electrical Applications, NASA, ICACC, 01.28.2024

7. **C. Park**, "Electric Field Neutralization: Rethinking Insulation for WBG Power Electronics," NASA Glenn Research Center, 10.10.2023
6. **C. Park**, "Solutions for Dielectric Resiliency & Electrical Aging Mitigation," University of Wisconsin-Milwaukee, 05.05.2022
5. **C. Park**, "Solutions for Dielectric Resiliency & Electrical Aging Mitigation," University of North Carolina at Charlotte, 03.29.2022
4. **C. Park**, "Solutions for Dielectric Resiliency & Electrical Aging Mitigation," Florida State University, 02.24.2022
3. **C. Park**, "Securing the Dielectric Integrity of Conventional and Emerging Power Applications," IEEE Tallahassee PES Chapter Presentation, 01.21.2021
2. **C. Park**, "Securing the Dielectric Integrity of Conventional and Emerging Power Applications," Mississippi State University ECE Research Seminar, 10.16.2020
1. **C. Park**, "High Voltage and Dielectrics Research at Mississippi State University," Joint Seminar of Tallahassee IEEE PES Chapter & CAPS, 12.19.2019

TEACHING

EEE 241 – Fundamentals of Electromagnetics Fall 2024
Enrollment: 70
Evaluation: TBD

EE 490(890) – Dielectrics and Electrical Insulation (New Course) Spring 2024
Enrollment: 27
Evaluation: TBD

EE 572(G) – Power Electronics Fall 2023
Enrollment: 29
Evaluation: TBD

EE 330 – Electronics 1 Fall 2023
Enrollment: 19
Evaluation: TBD

EE 490(890) – Dielectrics and Electrical Insulation (New Course) Spring 2023
Enrollment: 42
Evaluation: 4.8/5.0

EE 572(G) – Power Electronics Fall 2022
Enrollment: 28
Evaluation: 4.6/5.0

ECE 8990 – Emerging Dielectric Challenges and Solutions (New Course) Fall 2021
Enrollment: 13
Evaluation: 4.7/5.0 (3.7/4.0)

ECE 4673/6673 – Fundamentals of High Voltage Engineering Spring 2021
Enrollment: 33
Evaluation: 4.0/5.0

ECE 4663/6663 – Insulation Coordination of Power Systems Fall 2020
Enrollment: 11
Evaluation: 4.1/5.0

ECE 4673/6673 – Fundamentals of High Voltage Engineering Spring 2020
Enrollment: 29
Evaluation: 4.2/5.0

ECE 3413 – Introduction to Electronic Circuits Fall 2019
Enrollment: 98
Evaluation: 4.1/5.0

STUDENT & POSTDOC ADVISING

Postdoctoral Associates

[1] Hamed Shabani Spring 2023 – Present

Ph.D. Students (GRAs)

[10] Vedant Tewari Spring 2025 – Present

[9] Isaac Dowling Fall 2024 – Present

[8] Suaib Al Sufi Summer 2023 – Present

[7] Asif Juberi Spring 2023 – Present

[6] Sadeed Hossain Fall 2021 – Present

[5] Pradip Chandra Saha Fall 2021 – Present

[4] Omar Faruqe Spring 2021 – Present

Ph.D. Students Graduated

[3] Farhina Haque (Assistant Professor at the University of Akron) Defended in August 2022

[2] Kamran Yousefpour (Lead Engineer at GE Aerospace) Defended in June 2021

[1] Mojtaba Rostaghi-Chalaki (Sr. Engineer at ComEd) Defended in August 2020

M.S. Students (GRAs)

[1] Lakshmi Jayant Fall 2024 – Present

Undergraduate Researchers

[12] Chi An Tseng	Spring 2024
[11] Jack Wolak	Fall 2023
[10] Sean Benet	Summer 2023 – Present
[9] Samuel Catania	Summer 2023 – Present
[8] Nemanja Asanin	Spring 2023
[7] Daniela A. Gutierrez Centeno	Fall 2022
[6] Connor Patrick Zastrow	Fall 2022
[5] Avri O'Daniel	Fall 2021
[4] Joseph Westerfield	Fall 2020
[3] Han Berdiyev	Spring 2021
[2] Bobby Calabrese	Fall 2020 – Spring 2021
[1] Byron Cole McCullough	Fall 2019 – Spring 2020

Ph.D. Students Co-advised

[5] MD Rashid Hussain (Mississippi State University)	Fall 2021 – Present
[4] Tahir Khan (Florida State University)	Fall 2021 – Present
[3] Bobby Calabrese (Mississippi State University)	Fall 2021 – Present
[2] Anh Hoang (University of Alabama)	Fall 2022 – Present
[1] Elizabeth Bury (University of Alabama)	Fall 2020 – Spring 2022