Arc Physics Engineer in Roztoky, Czech Republic

The Arc Physics Engineer – is a member of the Corporate Global Research & Technology Department Power Systems and Architectures functionally reporting to the Manager Research & Technology of the Arc Physics and Switching Devices Team.

The candidate is expected to become an expert in arc physics and its industrial applications, to support the development of new technologies and products involving arc phenomena, hybrid switching and arc fault detection in various applications for AC and DC electrical power systems including aerospace, photovoltaic systems, and others.

Essential functions:
Provide technology leadership in arc interruption, hybrid switching, and electrical fault detection, especially arc fault detection and mitigation.
Lead the development and implementation effort of AC/DC power test systems to enhance Eaton’s new technology and product evaluation capabilities.
This position will require close interaction with Eaton electric group development and outside technology experts and consulting firms.
Stay on the leading edge of arc interruption, hybrid switching, arc fault detection and mitigation fields that will drive new technology development with decisive competitive advantage for Eaton.
Working with Eaton government contracts personnel, identify, develop and submit proposals for external and government funding related to this growth opportunity.
Generates value added intellectual property. Maintains and defends existing patents that cover the technology needs of the businesses.
Find and incorporate best practices in assigned technology area from outside Eaton Corporation. Cultivate and manages relationships with institutions of advanced learning and maintain a linkage to leading peer corporations and Universities to accomplish this.
Develop next generation technologies for AC and DC circuit interruption, hybrid switching and arc fault detection for electric utility, industrial, automotive, and truck applications as a global team member.

Basic Qualifications:
Master’s Degree (PhD preferred) in Mechanical Engineering, Electrical Engineering or Applied Physics with arc physics or electromechanical switching devices background and minimum of 3 years related engineering experience. Possess experience in arcing phenomena, new product development, program management and innovation processes. Advanced degree may be substituted with working experience in the arc switching and
arc fault detection field. Knowledge about data acquisition system, instrumentation and design of experiments is preferred.

Technical Expertise in:
• Arc physics and arc interruption
• Electrical fault detection and mitigation, especially arc fault detection
• Electrical power control and distribution switching products
• Electrical power test setup design using high power AC/DC systems for new technology and product evaluation

Arc Physics Simulation Engineer in Roztoky, Czech Republic

The Arc Physics Simulation Engineer – is a member of the Corporate Global Innovation Center Department Power Systems and Architectures functionally reporting to the Manager Research & Technology of the Arc Physics and Switching Team.

The Arc Physics Simulation Engineer creates innovative product ideas based on breakthrough technologies in the area of arc physics and switching. The primary function is to be an expert in arc physics simulation and modeling, to supporting the development of technology and products required to manage arc switching and current limiting phenomena in various applications for AC and DC electrical power systems including Aerospace, photovoltaic systems, and others.

Essential Functions:
Provide Technology Leadership in arc physics numerical simulation, develop global strategies for technology roadmaps that are linked to and supportive of the overall Innovation Center Strategy.
Drive development and implementation of new arc simulation models (physical and numerical) to enhance Eaton’s simulation capabilities.
This position will require close interaction with Eaton electric group development and outside technology suppliers.
Stay on the leading edge of arc physics and switching behavior that will drive new technology development with decisive competitive advantage for Eaton.
Working with Eaton government contracts personnel, identify, develop and submit proposals for external and government funding related to this growth opportunity.
Generates value added intellectual property. Maintains and defends existing patents that cover the technology needs of the businesses.

Identify, analyze, and validate technology applications in the areas of breakers, contactors, switches, LV and MV, electromechanical and hybrid devices.

Find and incorporate best practices in assigned technology area from outside Eaton Corporation. Cultivate and manages relationships with institutions of advanced learning and maintain a linkage to leading peer corporations and Universities to accomplish this.

Develop models for AC and DC circuit interruption, prototypes/concepts in numerous component and system opportunities for electric utility, industrial, automotive, and truck applications as technical lead and as a team member.

Basic Qualifications:

Master’s Degree (PhD preferred) in Electrical Engineering or Applied Physics with minimum of 3 years related engineering experience (in arc physics simulation). Possess experience in switching devices design, applied research, new product development, program management and innovation processes. Advanced degree may be substituted for some experience.

Technical Expertise in:

• Plasma physics and numerical modeling, especially for arc discharges
• Arc behavior in switching devices
• Interruption of AC and DC circuits
• Interaction between arc plasma and different insulation materials and gases
• Consolidated knowledge in numerical methods for fluid dynamics and electromagnetics
• Proficient use of ‘state of the art’ simulation tools, e.g. Ansys, Fluent
• Advanced programming skills, e.g. in C, Fortran, Perl
Eaton Global Innovation Center in Prague is the first Global Innovation Center in Europe and the fifth in the company's global network. It will serve Eaton’s global customers to develop next generation power management solutions that make electrical, hydraulic and mechanical power operate more efficiently, effectively, safely and sustainably. For more information, visit www.eaton.com/eeic.

Eaton is a diversified power management company providing energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power. The company is a global technology leader in electrical products, systems and services for power quality, distribution and control, power transmission, lighting and wiring products; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulics and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety. Eaton acquired Cooper Industries plc in 2012. Eaton has approximately 100,000 employees and sells products to customers in more than 150 countries. For more information, visit www.eaton.com.

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