Let’s Solve the World’s Greatest Challenges Together
DuPont Science & Technology Information Session – Wednesday, September 17
Room 66-110 at 6:00 – 7:30 pm (pizza & soda will be served)

We have many exciting and challenging opportunities available for Ph.D.s from Courses 3, 5, and 10. Please stop by to learn about our job opportunities and to discuss your interests. We look forward to talking with you – bring your resume!

Apply at dupont.com/careers

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2014 – 2015 Ph.D. Materials Science/Engineering Positions

1) Materials Science – Soft Materials – Wilmington, DE
2) Materials Science – Metals – Wilmington, DE
3) Materials Science – Ceramics – Wilmington, DE
4) Materials Engineer – Wilmington, DE

Instructions

Attached are the positions that we are actively recruiting for over the Fall recruiting season. Please apply individually to all the positions that you believe you are qualified for. The instructions on how to apply are in the individual postings: 1) The resume needs to be emailed (dupont@nc3.com) with an indication on the school and which position and 2) All candidates must apply at dupont.com/careers (see link).
**PhD Scientists/Engineers (Entry Level) – Materials Scientists (Soft Matter)**

**Description:**

DuPont Central Research and Development (CR&D) is seeking entry level Ph.D. Materials Scientists with experience in polymeric materials science, polymeric composites, polymer blends, rheology, biomaterials, and nanomaterials. The candidates should have a strong understanding of structure/property relationships, and should have experience with the interactions between different types of materials (e.g., transport phenomena in composites and across interfaces).

Preference will be given to candidates with experience and skill set (in addition to the above) related with biomaterials, biocomposites, natural polymers, biodegradable polymers or synthetic polymers compatibilized with biologics including proteins, enzymes, etc.

One key component of DuPont Science and Technology is the effort of Central Research and Development (CR&D), which employs more than 1,000 people at the Experimental Station and other research sites in Northern Delaware. CR&D is the foundation of our science efforts and has been responsible for many of our major product breakthroughs. CR&D provides both leveraged scientific services and long-term research activities to the corporation.

**Qualifications:**

Ph.D. in Materials Science/Engineering, Chemistry, Chemical Engineering or related discipline.

Familiarity with the following is desirable:

- Biomaterials
- Polymer composites and Biocomposites
- Dispersions and Nanomaterials
- Polymer Blends
- Surface and Interfacial Science

**How to Apply:**

**Step 1:** Submit resume to: dupont@nc3.com

In the email subject, indicate “name of your school” – “discipline”


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Ph.D. Scientist/Engineer – Materials Scientist (Metalurgy)

Description:
DuPont Central Research and Development is seeking an entry level Ph.D. Materials Scientist with experience in metals and metal alloys, specifically those currently used in electronic devices, and those with the potential to be used in that field, such as gold, silver, copper, aluminum, and their alloys with other metals. A strong experimental program and mechanistic understanding of structure/property relationships must be demonstrated. The candidate should have experience with the interactions between metals/alloys and other classes of materials (e.g. polymers, semiconductors, glasses, or ceramics). The candidates should also have familiarity with a broad array of characterization techniques such as thermal analysis, impedance measurements, diffusion characterization, inorganic phase analysis, and electron microscopy.

Over the 200 plus year rich history of DuPont, our science has not only met demands of the time, but has also helped define our future. With a growing world population and increased global demands on resources, we are focused on increasing food production, decreasing dependence on fossil fuels, protecting lives and the environment, and meeting emerging market demand for value-added science based solutions. Scientists and engineers within CR&D work within multi-disciplinary teams alongside DuPont businesses to develop novel products and processes across a spectrum of applications in line with our 2015 corporate sustainability goals. One key component of DuPont Science and Technology is the effort of Central Research and Development (CR&D), which employs more than 1,000 people at the Experimental Station and other research sites in Northern Delaware. CR&D is the foundation of our science efforts and has been responsible for many of our major product breakthroughs. CR&D provides both leveraged scientific services and long-term research activities to the corporation.

Qualifications:
Ph.D. in Materials Science/Engineering or related discipline
Familiarity with standard metal and semiconductor processing techniques is also desirable.

Experience in the following areas of interest will be considered a plus:

- Novel metallic nanoparticle production and processing
- Interdiffusion with other metallic phases
- Interactions with semiconductors, glasses and ceramics
- Phase diagrams, phase separation, and analysis of non-equilibrium phases
- Electrical properties of grain boundary and alloy phases
- Oxidation and chemical resistance

Preference will be given to candidates who have experience working in a multidisciplinary team environment and have demonstrated the ability to lead program segments in order to meet team objectives.

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PhD Scientist/Engineer – Materials Scientist (Ceramics)

Description:

DuPont Central Research and Development is seeking an entry level Ph.D. Materials Scientist with experience in ceramics and glasses, specifically those currently used in electronic devices, and those with the potential to be used in that field, such as silicates, titanates, phosphates and borates. A strong experimental program and mechanistic understanding of structure/property relationships must be demonstrated. The candidate should have experience with the interactions between ceramics and glasses and other classes of materials (e.g. polymers, metals, semiconductors). The candidates should also have familiarity with a broad array of characterization techniques such as thermal analysis, impedance measurements, diffusion characterization, inorganic phase analysis, and electron microscopy.

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Qualifications:

Ph.D. in Materials Science/Engineering or related discipline

Familiarity with standard ceramic and semiconductor processing techniques is also desirable.

Experience in the following areas of interest will be considered a plus:

- Novel ceramic nanoparticle production and processing
- Solid state sintering, liquid phase sintering, Ostwald ripening and grain growth
- Interactions with semiconductors and metals
- Solid state synthesis, phase diagrams, phase separation, and analysis of non-equilibrium phases
- Electrical properties of grain boundaries and interfaces, and ionic and thermal conductivity
- Oxidative/reductive stability and chemical resistance

Preference will be given to candidates who have experience working in a multidisciplinary team environment and have demonstrated the ability to lead program segments in order to meet team objectives.

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Ph.D. Scientists/Engineers (Entry Level) – Materials Engineer

Description:

DuPont Titanium Technologies (DTT) is currently seeking an engineer with a specialization in materials to join its Process Development Group at the Experimental Station in Wilmington, DE. As the world’s leading producer of titanium dioxide pigment, DTT encompasses 5 major manufacturing sites, including 3 in the United States, 1 in Mexico, and 1 in Taiwan, as well as product, process, and business units located in Wilmington, DE and throughout the world. The successful candidate will support and extend the competitive advantage of this best-in-class business by developing & implementing new materials solutions to technical challenges throughout the manufacturing process.

The responsibilities of this position include, but are not limited to, the following:

• Develop and implement new technologies that provide improved resistance to the highly erosive and corrosive environments found within the titanium dioxide manufacturing process.
• Develop and implement materials upgrades that improve thermal resistance and/or heat transfer capabilities in liquid, gas, and mixed phase systems.
• Provide expertise on materials selection and use for reaction vessels, conveying systems, separation equipment, filtration technologies, burner systems, mixing equipment, grinding systems, packaging equipment, etc.
• Drive business initiatives for world class performance in safety, yield, reliability, uptime, quality, capacity, and minimization of environmental footprint.
• Lead improvements from definition and research of opportunities, through laboratory and plant testing, and ultimately to design of capital equipment.
• Coordinate technical projects and communicate findings with colleagues across the circuit.
• Continually evaluate and bring to light industry trends that pertain to materials science and engineering.

Successful performance will open a wide variety of career paths and most directly leads to involvement in circuit technology projects and leadership of circuit technology teams.

Qualifications:

Requirements:

• Ph.D. or (MS with equivalent experience) in Materials, Mechanical, or Chemical Engineering
• Experience with bulk ceramic / refractory materials
• Ability to guide formulation strategies for ceramics
• Ability to develop / modify manufacturing processes for ceramics
• Understanding of structure – property relationships for ceramics
• Capability to perform finite element analysis on complex ceramics parts
• Expertise in characterization especially as related to mechanical failure
• Familiarity with other materials systems (metals, plastics, etc.)

Preferred:

• Experience with fiber-reinforced plastics
• Experience with metals and hard facing technologies
• Experience with corona / plasma treatment
• Experience at a commercial manufacturing facility
• Experience in process development
• Six Sigma certification or training in statistical analysis

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2014 – 2015 Ph.D. Chemical Engineering Positions

1) Chemical Engineering – Wilmington, DE
2) Fermentation Engineering – Wilmington, DE
3) Finishing Engineer - Computational Modeling – Wilmington, DE
4) Reaction Engineer – Thermodynamics – Wilmington, DE
5) Process Development Engineer – Wilmington, DE

Instructions

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Ph.D. Scientists/Engineers (Entry Level) – Chemical Engineer

Description:
DuPont Central Research and Development (CR&D) is seeking entry level Ph.D. Chemical Engineers that combine a hands-on experimental background with a demonstrated knowledge of engineering fundamentals. The candidates should have strong backgrounds in applying engineering dynamics to polymer processes, ability to work with chemical or biochemical type reactions or to deal with chemical based process creation and development. Typical project assignments entail novel chemical and/or material process development in an innovative research environment.

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Qualifications:
Ph.D. in Chemical Engineering

Experience in process development, lab scale feasibility setup and process scale-up is desirable.

Experience in the following areas is a plus:

- process and product design
- process synthesis
- reaction engineering
- homogeneous and/or heterogeneous catalysis
- surface science
- separation technologies
- polymer properties and polymer rheology
- polymer processing
- polymer composites and nanocomposites

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Ph.D. Engineers (Entry Level) – Fermentation Engineers

Description:

DuPont Central Research and Development has an immediate opening for Biochemical Engineers with a strong background in fermentation based process research and development. Successful applicants will have excellent communication, project management, and leadership skills as well as strong theoretical knowledge and hands-on experience in one or more areas including metabolic engineering, systems biology, bioreactor design, fermentation optimization, and fermentation scale-up. The position also requires conceptual design and experimental validation of fermentation-based processes within a collaborative and multidisciplinary team of molecular biologists, biochemists, and engineers.

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Qualifications:

Specialized Training: Ph.D. Biochemical or Chemical Engineering

- Experience in fermentation process development and knowledge of microbial physiology or metabolic engineering.
- Strong desire to commercialize technology and a results-oriented mentality.
- Excellent project management, planning, prioritization and leadership skills.
- Experience with process equipment and lab to pilot scale processing issues.
- Strong analytical, technical, and computer skills.
- Experience working on or leading multi-disciplinary teams.
- Excellent documentation and communication skills.
- Experience in developing strong team interactions.

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Ph.D. Computational Modeling/Finishing Engineer

Description:
DuPont Titanium Technologies (DTT) is currently seeking a chemical engineer with a specialization in computational modeling to join its Process Development Group at the Experimental Station in Wilmington, DE. As the world’s leading producer of titanium dioxide pigment, DTT encompasses 5 major manufacturing sites, including 3 in the United States, 1 in Mexico, and 1 in Taiwan, as well as product, process, and business units located in Wilmington, DE and throughout the world. The successful candidate will support and extend the competitive advantage of this best-in-class business by developing and applying various state of the art computational tools for modeling fluid dynamics, process dynamics, multi-phase equilibria, and chemical reaction engineering.

The responsibilities of this position include, but are not limited to, the following:
• Develop & implement incremental improvements & new technologies for titanium dioxide pigment manufacture.
• Provide engineering expertise on reaction vessels, mixing equipment, separation/filtration technologies (i.e., gas/solid and liquid/solid separations), grinding systems, and conveying systems.
• Drive business initiatives for world class performance in safety, yield, reliability, uptime, quality, capacity, and minimization of environmental footprint.
• Lead improvements from definition and research of opportunities, through laboratory and plant testing, and ultimately to design of capital equipment.
• Coordinate technical projects and communicate findings with colleagues across the circuit.
• Continually evaluate and bring to light industry trends that pertain to titanium dioxide pigment manufacture.

Successful performance will open a wide variety of career paths and most directly leads to involvement in circuit technology projects and leadership of circuit technology teams.

Qualifications:
Requirements:
• Ph.D. in Chemical Engineering
• Expertise in computational fluid dynamics (CFD) modeling
• Familiarity with CFD modeling packages (e.g. Ansys CFX and Fluent)
• Familiarity with chemical process modeling packages (e.g. Aspen Plus)
• A record of applying modeling tools to multiphase reactive systems

Preferred:
• Familiarity with pipe flow modeling packages (e.g. AFT Fathom and Arrow)
• Experience in Discrete Element Methods
• Familiarity with engineering tools such as Mathcad and Mathematica
• Skilled in computing languages such as C++ and Matlab
• A strong foundation in surface / particle science and colloidal systems
• Familiarity with principles of granular flows and powder mechanics
• Working knowledge of inorganic chemistry and materials science
• Experience with lab or pilot scale experimental apparatus
• Experience at a commercial manufacturing facility
• Experience in process development
• Six Sigma certification or training in statistical analysis

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Ph.D. Scientists/Engineers (Entry Level) – Thermodynamics/Reaction Engineer

Description:
DuPont Titanium Technologies (DTT) is currently seeking a chemical engineer with a specialization in thermodynamics to join its Process Development Group at the Experimental Station in Wilmington, DE. As the world’s leading producer of titanium dioxide pigment, DTT encompasses 5 major manufacturing sites, including 3 in the United States, 1 in Mexico, and 1 in Taiwan, as well as product, process, and business units located in Wilmington, DE and throughout the world. The successful candidate will support and extend the competitive advantage of this best-in-class business by applying thermodynamic principles to high temperature and aqueous systems.

The responsibilities of this position include, but are not limited to, the following:

• Develop and implement incremental improvements and new technologies for titanium dioxide pigment manufacture.
• Generate models of observed process phenomena that increase understanding and guide modification of operating conditions or design.
• Provide engineering expertise on reaction vessels, conveying systems, separation equipment, filtration technologies, burner systems, mixing equipment, grinding systems, packaging equipment, etc.
• Drive business initiatives for world class performance in safety, yield, reliability, uptime, quality, capacity, and minimization of environmental footprint.
• Lead improvements from definition and research of opportunities, through laboratory and plant testing, and ultimately to design of capital equipment.
• Coordinate technical projects and communicate findings with colleagues across the circuit.
• Continually evaluate and bring to light industry trends that pertain to titanium dioxide pigment manufacture.

Successful performance will open a wide variety of career paths and most directly leads to involvement in circuit technology projects and leadership of circuit technology teams.

Qualifications:
Requirements:

• Ph.D. in Chemical Engineering
• Strong foundation in thermodynamics and chemical reaction engineering
• Demonstrated capabilities in chemical thermodynamic or kinetic analysis of reacting systems
• Working knowledge of inorganic chemistry

Preferred:

• Familiarity with thermodynamics modeling packages (e.g. OLI AQ or MSE, FactSage, Thermo-Calc, MTDATA)
• Familiarity with chemical process modeling software (e.g. Aspen Plus)
• Familiarity with fluidized bed reactor technology
• Experience modeling non-ideal solutions
• Experience with lab or pilot scale experimental apparatus
• Experience at a commercial manufacturing facility
• Experience in process development
• Six Sigma certification or training in statistical analysis

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Ph.D. Engineers – Process Development Engineer – Fluorochemicals Technology

Description:

DuPont Fluorochemicals is a >$1 billion dollar highly profitable business in DuPont. The Process Development Engineer position requires strong technical leadership and interpersonal skills to develop, design and implement the processes for scale-up and commercialization of next generation, low global warming fluorochemical products, and to ensure the safe operation of process development facilities. The position is located at the Experimental Station and broadly supports process development for the DuPont Fluorochemicals Business. The individual will be responsible for training others and working with a team of Principal Investigators and Associate Investigators.

The Process Development Engineer will work with a multidisciplinary team focused on developing and commercializing next generation products for the Fluorochemicals Business.

Responsibilities will involve, but are not limited to, the following.

- Lead in the technology, design and operation of scale-up facilities
- Lead in the development, execution and transfer of complete basic data packages containing process flow diagrams, flowsheets, heat and mass balances, equipment design, materials of construction, physical properties, process chemistry, process control and process analytical.
- Develop and implement new and novel techniques to generate basic data in the areas of reaction kinetics, catalysis and separations.
- Provide technical support to the operation of process development facilities. For example, provide input on safety reviews, generate standard operating conditions and operating procedures and train operating personnel.
- As needed, provide technical support to existing manufacturing sites

Qualifications:

Minimum Skills Required:

- MS or PhD in Chemical Engineering
- Experience with Highly Toxic Materials (HTMs) and/or Highly Hazardous Processes (HHPs) is preferred.
- Demonstrated experience with chemical processes for small molecules
- Experience with both batch and continuous processes
- Experience on capital project teams and/or manufacturing operations strongly preferred.
- Demonstrated problem-solving/troubleshooting and data analysis skills.
- Demonstrated skills in multi-tasking and planning
- Strong customer focus
- Excellent written and verbal communication skills
- Training in Six Sigma methodology (Green Belt or Black Belt) is preferred
- Some travel may be required depending on state of project work and support of facility commissioning and startup

Preferred Skills:

- Background in Fluorine-based technologies
- Research experience in fluorine chemistry or in developing fluorochemical manufacturing processes

How to Apply:

Step 1: Submit resume to: dupont@nc3.com In the email subject, indicate “name of your school” – “discipline”

Step 2: Apply online at http://careers.dupont.com/jobsearch/posting.php?id=5866140804#sthash.yQ0Nb0zV.dpuf

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2014 – 2015 Ph.D. Chemistry Positions

1) Analytical Chemistry – Fluorochemicals Technology – Wilmington, DE
2) Chemistry – Bio-Organic Chemistry – Wilmington, DE
3) Polymer Chemistry - Ion Exchange Materials – Wilmington, DE

Instructions

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Ph.D. Scientists (Entry Level) – Analytical Chemist Fluorochemicals Technology

Description:
DuPont Fluorochemicals is a >$1 billion dollar highly profitable business in DuPont. This role will support the Fluorochemicals Process Development Group and lead analytical initiatives to support the development and commercial introduction of next generation products. The individual, in partnership with an associate investigator, will be responsible for an analytical lab and lead improvement programs across many lab and pilot facilities at the Experimental Station. This individual will be integrated into cross functional teams developing long term sustainable routes to next generation fluorochemical products. This position at times will be asked to support existing business and solve analytical related issues in support of operations and business teams. Come join our team in the role of Analytical Chemist!

The Analytical Chemist Principal Investigator will be responsible for providing analytical support to the Fluorochemicals Process Development Group including supervising an analytical lab and several lab and pilot facilities.

Responsibilities will involve, but are not limited to, the following.
- Analytical support of next generation fluorochemical R&D programs
- Supervising analytical lab and analytical associate investigator
- Drive continuous improvement and solve analytical problems for a number of lab and pilot facilities
- Understand key issues for R&D programs that could be addressed by optimized analytical support, initiate improvement programs and drive those programs to deliver positive results.
- Establish and maintain capability to address analytical needs through connections to people and equipment outside of the Fluorochemical business.
- Supervise maintenance program for analytical equipment

Qualifications:
- Strong adherence to DuPont core values
- Good interpersonal relationship skills
- Demonstrated written & oral skills – ability to present information and ideas in an articulate & organized way
- Ability to work well with colleagues at all levels in the organization while creating/maintaining a respectful work environment
- Self-motivated, with strong organizational skills to independently complete tasks and to also work well in a team environment
- Ph.D. in chemistry or analytical chemistry with a minimum of 5 years experience working in an analytical or research & development laboratory.
- Experience with analytical method development, validation, calibration, statistical analysis, compliance with standard methods, such as ASTM or AHRI, experience with analytical instrumentation, such as GC, MS, IR, IC, troubleshooting, managing data systems, interpreting data, documenting and reporting results.
- Ability to work in a team environment as well as manage and coach a team of technical personnel; prioritize, organize, and oversee testing ensuring alignment with business need and deadlines.
- Six Sigma Green Belt certified.
- Some flexibility for business travel, although minor (10%).

Preferred Skills:
- Background in Fluorine-based technologies
- Background in competitive intelligence, and patent strategy development
- Research experience in fluorine chemistry or in developing fluorochemical manufacturing processes

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Ph.D. Scientists/Engineers (Entry Level) – Bio-organic Chemists

Description:

DuPont Central Research and Development (CR&D) is seeking entry level PhD Bio-organic Chemists with experience in the area of synthetic carbohydrate/biochemistry. The position involves working in a team environment to provide solutions in the emerging areas of carbohydrate chemistry/biochemistry directed toward bio-based material and nutritional applications and in areas involving plant signaling molecules. The program involves chemical and biochemical synthesis of oligosaccharides of biological interest and the study of their biological properties.

One key component of DuPont Science and Technology is the effort of Central Research and Development (CR&D), which employs more than 1,000 people at the Experimental Station and other research sites in Northern Delaware. CR&D is the foundation of our science efforts and has been responsible for many of our major product breakthroughs. CR&D provides both leveraged scientific services and long-term research activities to the corporation. Scientists and engineers within CR&D work within multi-disciplinary teams along side DuPont businesses to develop novel products and processes across a spectrum of applications.

Qualifications:

- Ph.D. in Organic Chemistry or related discipline, principally in the area of carbohydrate chemistry.
- Post-doctoral experience in using enzymes for the synthesis of carbohydrates and hydrolysis of polysaccharides is preferred.
- Training in the purification of complex mixture of carbohydrates is expected.
- A strong and fundamental knowledge in structural characterization of small oligosaccharides and polysaccharides by modern analytical techniques, including NMR spectroscopy and mass spectrometry is required.
- Good publication record is a requirement for job consideration.
- Strong writing and oral communication skills

Preference will be given to candidates who have experience working in a multidisciplinary team environment and have demonstrated the ability to lead program segments in order to meet team objectives.

How to Apply:

Step 1: Submit resume to:
In the email subject, indicate “name of your school” – “discipline”


DuPont is a global Fortune 100 company, operating in 90 countries today. As a multinational company tackling some of the most complex global challenges, DuPont offers a great degree of diversity and stimulation for those who are problem solvers at heart. We create careers for people who want to make a difference with science-powered solutions, created through collective ingenuity, inspiring exceptional careers. For more than 200 years, DuPont has brought world-class science and engineering to the global marketplace through innovative products, materials and services for markets as diverse as agriculture, nutrition, electronics and communications, safety and protection, home and construction, transportation and apparel. Today, DuPont is working to solve the unprecedented challenges as world’s population climbs up to 9 billion in 2050. Together, we believe we can provide nutritious food for people everywhere, decrease dependence on fossil fuels, and protect people and the environment for generations to come. DuPont is an equal opportunity employer and an E-Verify employer.
Ph.D. Scientists/Engineers (Entry Level) – Polymer Chemist in Ion Exchange Materials

Description:

The Ion Exchange Materials (IXM) business serves a diverse group of customers in the chloralkali, catalyst, sensor, fuel cell, gas drying, water hydrolysis and other electrochemistry markets. Our primary market offering is finished membranes for the production of chlorine and caustic.

We seek a Fluoropolymer Chemist or Polymer Chemist to be located at the Experimental Station in Wilmington, DE. The primary responsibility of this position is to develop new polymers, processes, and technologies for the IXM business. This will involve proposing, synthesizing, analyzing, and characterizing these materials in various stages from raw materials through finished products. The candidate will be required to interact with internal research, marketing, safety and environmental, and production organizations as well as external suppliers and customers. The candidate will be expected to be able to direct the activities of one or more technicians and use shared resources for polymerization. This position reports to the IXM Technical Manager and requires approximately 10% travel (domestic and international).

Qualifications:

- Ph.D. in Polymer Chemistry or Fluorine Chemistry preferred. Ph.D. in Organic, Inorganic, Analytical or Physical Chemistry or Chemical Engineering with relevant experience will be considered.
- 3 years’ experience in Polymer R&D or Polymer Technical Service is preferred.
- Must possess a strong analytical background including the development of new test methods.
- Must have working understanding of polymerization processes and laboratory scale polymerization.
- Proven ability to work independently
- Proven ability to work in a team environment
- Proven ability to use creative problem solving
- Knowledge of statistical methodologies
- Demonstrated ability to use planning and organizing skills
- Strong interpersonal and communication skills.

Preferred attributes:

- Experience with fluoropolymer chemistry and safety
- Experience with patents and intellectual property assessments
- Experience working with various global functions - Marketing, Sales, Operations & Technology organizations

How to Apply:

Step 1: Submit resume to: dupont@nc3.com

In the email subject, indicate “name of your school” – “discipline”


DuPont is an equal opportunity employer and an E-Verify employer.