

# Donald Garlotta

## Rubber Chemist

Jenkintown, PA - Email me on Indeed: [indeed.com/r/Donald-Garlotta/08297646ea087d5f](https://www.indeed.com/r/Donald-Garlotta/08297646ea087d5f)

Dedicated, versatile, results-oriented, and customer-focused PhD-level Polymer Scientist/Materials Engineer with over 10 years of experience in successful new product and process development and optimization of plastics and rubber materials and processes to create quality, value and reduce waste, analytical materials chemistry, organic and polymer synthesis, and documentation of results in reports and peer-reviewed journal articles. Primary and co-author of five technical publications three presentations and one patent. Developed and maintained strong business relationships with vendors and clients. Experienced in writing standard operating procedures (SOP's) and managing and mentoring scientists, technicians, production personnel and marketing professionals. Proven track record and success in increasing corporation's profitability by effectively decreasing operating expenses through Scrap Reduction, Process Improvement, and implementation of operational processes and systems. Able to thrive in fast-paced environment while remaining focused, resilient, accountable, versatile and practical.

Willing to relocate: Anywhere

Authorized to work in the US for any employer

## WORK EXPERIENCE

### Polymer Chemist

Aerrotek Scientific - Wallingford, CT - February 2016 to August 2016

#### Responsibilities

Polymer Chemist, Aerrotek Scientific, Hamden, CT 2016

= Currently perform analytical testing of acrylic polymers at Evonik Corporation's technical service lab in Wallingford, CT.

#### Skills Used

GPC, GC, FTIR, UV-VIS, Color Analysis, Vicat testing, Rheology, Mechanical Testing.

### Analytical Chemist

Synerfac Technical Staffing - West Chester, PA - May 2015 to June 2015

#### Responsibilities

Contract Analytical Chemistry Study Director, Synerfac Technical Staffing, West Chester, PA 2015

= Analysis and validation of Contract Research Organization (CRO) data, including TOC, EDS, FTIR and cytotoxicity reports of implants and medical instruments. Remediated analytical test reports and documented the remediations in analytical reports for Depuy Synthes, a Johnson and Johnson Company.

#### Skills Used

FTIR spectroscopy, Energy Dispersive X-Ray Microscopy

### Rubber Chemist

Pelmar Laboratories, Incorporated - Newtown, PA - 2014 to 2015

\* Managed the physical and mechanical quality control testing of new and existing rubber compounds, repair and rework of failed rubber compounds and development, customization and qualification of new rubber compounds.

- Interfaced with external customers to identify rubber materials needed to fit their specific applications. Provided technical support to existing customers.
- Converted manual calculations for specific gravity, compression set and volume swell to MS EXCEL-generated calculations for the purpose of expediency and accuracy.
- Managed the repair and rework of failed rubber production batches to meet quality control specifications and saved

Donald V. Garlotta

the company in excess of \$20,000 in material and labor costs.

- Revised instrumental procedures and work instructions in order to improve efficiency and update ISO 9001 manuals.
- Developed and qualified over 25 new rubber formulations which met or exceeded customer specifications or adapted to new customer applications. Recommended and made formulation changes as necessary to existing compounds.
- Communicated with customers and cross-functional teams regarding the status of development work, project evaluation, establishment of project schedules for completion, raw material/component issues, existing product issues, and production problems. Maintained contact with suppliers to obtain materials for new product applications.
- Educated laboratory personnel on proper laboratory procedures. Developed and executed experimental trials. Managed quality control testing to ensure safety and accuracy, and analyzed laboratory test data. Composed, reviewed, approved and maintained Certificates of Analysis.

### **Inbound Call Center Representative**

Potpourri Group, Incorporated - North Billerica, MA - 2010 to 2014

- Appropriately handled inbound telephone calls for a multi-title catalog company for the purpose of selling home decor gifts, jewelry, clothing and home, office, and garden accessories.
- In addition to taking orders, gained hands-on experience with data entry, catalog inquiries and removals, and providing exceptional customer service and support for new and existing customers.
- Used existing resources for customer resolution. Evaluated customers concerns and resolved problems to customer satisfaction.

### **Staff Scientist**

Trelleborg Offshore Boston - Mansfield, MA - 2008 to 2009

- \* Managed the new product and process development, product design improvement and related qualification testing program of polypropylene syntactic foam composites for thermal insulation systems utilized in subsea oil flowlines.
- Planned and led trials on processing equipment to produce new materials, evaluated the thermal, mechanical and physical properties of the new materials, adjusted the materials formula to meet customer requirements, as directed by management, and provided technical support to all existing and future subsea oil flowline insulation products.
- Performed troubleshooting of material and process related problems, and implemented positive effects of new processing conditions into production.
- Supervised one technician and two extrusion operators. Conducted quality control training sessions as needed.
- Developed five (5) new formulations with better thermal and mechanical properties and dimensional stability than previous formulations. Analyzed and interpreted experimental data to drive development projects forward.
- Introduced three new grades of polypropylene resins, new extrusion dies, and modified extrusion process conditions.

- Oversaw the qualification testing program and improved the testing program. Proposed, investigated and persuaded Trelleborg to invest in pressure vessels suitable for simulated testing conditions. Modified presentation of data to customers. Introduced new test methods. (flexural modulus testing, and simulated service testing in seawater)
- Met with customers to discuss qualification testing, new product development and product issues.
- Designed an analytical testing lab for future qualification testing, under budget.

### **Polymer Chemist**

Massachusetts Materials Research, Incorporated - West Boylston, MA - 2004 to 2008

- \* Managed and performed analytical chemical testing of organic, polymeric and metallic materials and compositional analyses involving polymers, elastomers, petroleum products, medical devices, wire, cable and electronic parts, aerospace components, failure analysis, and quality control related to organic, inorganic and polymer chemistry (Completed over 1000 materials analysis reports) in an independent materials testing lab. Operated, calibrated, and maintained instrumentation such as DSC, TGA, LECO Carbon/Sulfur Analyzer, UV-VIS and FTIR spectrometer.
- Utilized strong communication, customer service and organizational skills to generate repeat and referral business, which resulted in 100% on-time delivery of assigned projects.
- Generated approximately \$500,000 annually of revenue from testing. Marketed the services of the lab to clients.
- Revised instrumental procedures and work instructions in order to improve efficiency and update ISO 9001 manuals.
- Performed minor maintenance and scheduled calibrations as necessary on the analytical instrumentation.
- Performed metallic sample preparation for ICP analysis and RoHS testing of metallic samples for Chromium(VI) levels.
- Discussed internal and external customer issues and test results via face-to-face and telephone contact. Analyzed and interpreted experimental results, reached meaningful conclusions, and documented them in detailed written reports.
- Generated quotes for customers as necessary for analytical testing to be performed.
- Provided technical service to in-house engineers, customer service manager, marketing staff, and clients.
- Medical Device clients were Vapell and Teleflex Medical (PVC catheters), Smith and Nephew (PLA orthopedic anchors), NP Medical (PMMA filter housings), NMT Medical (Nylon sutures and tethers; PP surgical mesh) and Innovative Spinal Technologies (Thermoplastic Polyurethane Polycarbonate implants for spinal stabilization systems)
- Some of the polymers that were dealt with were PEEK, PTFE, PCTFE, ULTEM, Nylons, PET, PBT, epoxies, Polyolefins, various elastomers such as Viton, Nitrile, EPR, Silicone, and EPDM, polycarbonate, PVC, PPS, and so forth.

### **X-Ray Diffraction Specialist**

Volt Services Group - Peoria, IL - 2003 to 2004

- \* Performed contract analytical testing of metallic components at Caterpillar metallurgical testing lab in East Peoria Illinois.
- Prepared metallic samples such as gears, pins, and bearings for X-Ray Diffraction and ICP-OES analyses.
- Conducted combustion analysis, ICP-OES and X-Ray Diffraction analyses, Tensile testing, Surface hardness determination, and Micro-hardness testing for failed engine block cylinders, crankshafts and gears.
- Performed Magnetic Particle testing, and Liquid Penetrant testing on gears, bearings, and pins
- Performed residual stress analysis and phase fraction measurements on cast, forged, and heat-treated components, using X-ray diffraction, with direct support to a manufacturing and research environment.
- Generated reports, documented the results in LIMS database and reviewed the results with Caterpillar engineers.

Donald V. Garlotta

### **Research Chemist**

United States Department of Agriculture - Peoria, IL - 1998 to 2002

\* Managed new compound and product development, polymer processing activities, and polymer compound characterization of biodegradable polymers, starch- filled polymer composites and polymer blends, in order to provide quality and value to agricultural-based products to reduce costs to a level competitive with commodity thermoplastics.

- Developed over 60 biodegradable polymer blends and composites. Reduced costs by incorporating starch into blends.
- Composed standard operating procedures for multi-angle laser light scattering, differential scanning calorimetry, x-ray diffraction and mechanical tensile testing instrumentation.
- Project management included managing and mentoring two full-time technicians and two student technicians.
- Spearheaded collaborative biodegradation studies of polymer blends and composites at the USDA in Beltsville MD.
- Actively involved in biodegradation studies of polymer blends and starch-filled bioplastics in soil and a compost.
- Initiated and facilitated collaborative injection molding studies of these polymer blends and composites at the National Industries for the Blind in Hazlehurst, Mississippi.
- Primary author or co-author on four publications in peer-reviewed journals, two presentations, and one patent.
- Developed biodegradable polymer composite formulations for use in coffee stirrers for McDonald's Corporation, films, cutlery, pencil cups, foam trays, and planter pots using extrusion, blown film, injection molding, and thermoforming processes, complemented with spectroscopic, structural, mechanical, and thermal properties characterization.
- Planned and led trials on the processing equipment in order to determine the optimal processing conditions.
- Chemically modified corn starch and a biodegradable polyester / epoxy adhesive for compatibilization studies.
- Documented and presented results on development projects in lab notebooks, presentations and journal articles.

### **Chemistry Research Associate**

University of Massachusetts-Lowell - Lowell, MA - 1990 to 1998

- Conceptualized, synthesized and characterized novel water-soluble graft copolymers and hydrogels based on hydroxyethylcellulose and sulfopropylbetaine compounds for personal care, water treatment, drag flow reduction, and oil recovery applications as part of my doctoral dissertation research.
- Utilized analytical techniques such as NMR, FTIR, and UV-VIS spectroscopy, Gel Permeation Chromatography, static laser light scattering, and shear-dilution and Brookfield viscometry in polymer characterization.
- Conducted analytical instrumentation training for graduate students and post-doctoral Research Associates

### **Chemistry Laboratory Instructor**

Saint Anselm College - Manchester, NH - 1997 to 1997

- Supervised and assisted 90 students with Organic Chemistry experiments.
- Taught the underlying principles behind each specific organic chemistry experiment.

### **Analytical Chemist, The Massachusetts Toxics Use Reduction Institute**

University of Massachusetts-Lowell - Lowell, MA - 1993 to 1995

\* Educated Massachusetts client companies how to substitute solvent-based cleaners with aqueous-based cleaners in their manufacturing processes. Evaluated the effectiveness of environmentally-friendly aqueous-

based cleaners for various cleaning applications using established analytical techniques such as FTIR, OSEE, microscopy, gravimetry, and goniometry.

- Performed surface cleaning experiments on a wide variety of metals, polymers, and ceramics in order to enhance client companies' manufacturing procedures, including cost reduction, and industrial hygiene programs.
- Analyzed and interpreted experimental data to drive development projects forward.
- Active in many client and vendor interactions, marketing the services of the laboratory, obtaining aqueous cleaner samples, actively participating in TURI-sponsored workshops and providing technical service to the clients.

### **Teaching Assistant**

University of Massachusetts-Lowell - Lowell, MA - 1989 to 1993

- Supervised and supported approximately 50 students per semester with General and Organic Chemistry experiments.
- Taught the underlying principles behind each specific chemistry experiment.

### **Polymer Chemist**

Greene, Tweed and Co., Inc - Kulpsville, PA - 1988 to 1989

\* Performed the physical, spectroscopic and mechanical quality control testing of new and existing rubber compounds, repair and rework of failed rubber compounds, and development, customization and qualification of new rubber compounds. Performed failure analysis studies on field failure and in-production seals. Managed the equipment maintenance, synthesis, rheological testing, casting and injection molding of polyurethane compounds used to make seals.

- Developed and implemented a float tank system to separate accidentally-mixed seal compounds by density.
- Persuaded company to purchase an FTIR spectrometer to identify various rubber compounds and additives.
- Recommended, investigated and persuaded the company to purchase thermal analysis equipment such as DSC and TGA to further enhance their analytical testing capabilities.
- Managed one laboratory technician and one chemical operator. Conducted quality control training sessions as needed.
- Analyzed and interpreted experimental data to drive development projects forward.
- Provided technical service to in-house engineers, marketing staff, and clients.
- Involved in customer service interaction with vendors and external clients.

Donald V. Garlotta

## **EDUCATION**

### **Doctor of Philosophy in Polymer Science/Plastics Engineering**

University of Massachusetts - Lowell, MA

May 1998

### **Master of Science in Polymer Science**

University of Massachusetts - Lowell, MA

May 1992

### **Bachelor of Science in Polymer Science**

The Pennsylvania State University - University Park, PA

May 1987

## SKILLS

Polymer Chemist (10+ years)

## ADDITIONAL INFORMATION

### TECHNICAL SKILLS

Expertise in instrumental methods and processes that include:

- FTIR spectroscopy • 1-D and 2-D NMR spectroscopy • Raman Spectroscopy • UV-VIS spectroscopy • X-Ray Diffraction • Thermogravimetric Analysis
- Gas Chromatography • Optically Stimulated Electron Emission • Shear-Dilution Viscometry • Brookfield Viscometry • Multi-Angle Static Laser Light Scattering • Thermal Conductivity • Gel Permeation Chromatography • Differential Scanning Calorimetry • Contact Angle Goniometry
- Surface Tensiometry • Optical Microscopy • Scanning Electron Microscopy
- Capillary Rheometry • Single and Twin-Screw Extrusion • Instron Tensile Testing
- Polymer and Rubber Compounding • Blown Film • Thermomechanical Analysis
- Compression Molding • Injection Molding • LECO Carbon/Sulfur Analyzer

### CORE COMPETENCIES

- Quality & Quality Systems • Chemical Principles and Techniques • Rubber Technology
- Laboratory Personnel Training • Polymer Processing Operations • Polymer Physics
- Polymer Compounding • Organic and Polymer Synthesis • Failure Analyses
- Non Conformance & CA/PA • Product Inspection • Technical Report Writing • Microsoft Office Suite • Polymer Blends and Composites • Customer Service
- Environmental Health and Safety • Syntactic Polymer Foams • Polysaccharide Chemistry
- Thermoplastics and Thermosets • Environmentally-Friendly Polymers • Water-Soluble Polymers