Curriculum Vitae

Abdeslam BOUTI

3 Howard Estate
Saint Albans, Vermont, USA 05478

Tel : (802) 309-8841
E-mail : bdslmbouti@yahoo.com

Skills and Fields of Competence

- **Product Development/Design:** Rapid product development (Art-to-Part) using "Time Compression Technologies" (CAD/CAM/CAE, rapid prototyping/tooling, 3D printing, concurrent/collaborative engineering); Innovation methods (VAVE, Functional Modeling, Morphology Matrix, TRIZ, Lean thinking); QFD, Risk management using D&P FMEA; CAD and GD&T; CAE (FEA, Moldflow); "Design-Material-Processing-Tooling" interactions in product development. Design Thinking, Lean Startup, Lean Canvas, Value Proposition Canvas, Stage-Gate, and APQP product development processes; DFX (Design for Manufacturability/Assembly/Reliability/Maintainability/Cost/Leadtime). Product accelerated testing; Root Cause Analysis; Product Improvement, Systems digitalization/integration using TIC/Industry-4.0 and ML/AI.
- **Processing:** Plastics and composites processing with common industrial techniques (e.g., Injection Molding, Hot runner molding, Multi-layer coinjection molding, Extrusion, Blow Molding, Compression Molding, etc..); Polymers and composites "Processing - Structure - Property" relationships and process selection/engineering/optimization; Injection molding and mold/hot-runner setup and troubleshooting; Scientific molding for hot runner molding; Process optimization using CAE; Equipment instrumentation for process monitoring and control/optimization; Intelligent/Adaptive molding systems using ML/AI.
- **Materials:** Formulation/Deformulation of thermoplastics/thermosets and their composites; "Formulation-Processing-Structure–Property" relationships. Structure/morphology characterization; Thermal/Thermomechanical analysis of polymers/composites; Aging and environmental testing; Rheological properties characterization; "Rheology-Processing" relationships; Mechanical properties characterization of plastics/composites, metals, and ceramics; Mechanical behavior modeling of polymers/composites; Failure analysis; Metals/ceramics/plastics/composites materials selection (good vs. bad application analysis); Tribology and coatings and surface engineering of materials.
- **Tools, Dies, and Molds:** Materials and Surface-engineering/coatings for tools, molds, and dies; Injection and compression mold design, making, and troubleshooting; Hot runner design, making, and troubleshooting; Rapid/Prototype tooling techniques for injection molding and low-pressure molding processes, including modular aluminum molds, 3D printing, soft tooling, etc…
- **Project/Team Leadership/Management and Communication:** Technical and motivational leadership of multiple cross-functional and globally (NA, Asia & Europe) spread teams; Coaching/training of teams and mentoring junior engineers; Concurrent management of multiple projects; Project resources alignment and Scope/Cost/Leadtime optimization in a matrix team organization; Project partnership and project supply chain management. Project risk management/analysis/mitigation; Public oral communication and presentation proficiency; Networking skills and fluent oral and written communication in 3 languages.

Work Experience

INSULET CORP. **Acton, MA**
Principal Engineer, Molding Solutions ***03/24 To Date***

In this role I serve as a subject matter expert (SME) in advanced solutioning of processing, tooling, and automation, supporting NPI with plastic part design focused on manufacturability. As part of a team of

SMEs I have the mandate to develop a vision for streamlined molding processes across the global supplier base and drive continuous improvement and advanced technologies. I collaborate with commodity managers to create cost savings initiatives and work on advanced technologies for plastics and automation. Additionally, I participate in DFM projects to allow efficient scaling, work with suppliers to understand manufacturing processes, analyze plastic part designs, coach team members, and proliferate Industry 4.0 solutions such as instrumentation and cavity pressure technology. I also provide cost-effective solutions, specify and review designs, apply advanced engineering theories, lead technical aspects of complete molding cells, troubleshoot manufacturing issues, create standards, work with NPD managers on new designs, source prototypes, evaluate current methods for improvements, propose new platforms for Insulet parts, ensure suppliers have accurate prints/BOM, support component issues, and perform other duties as assigned.

Projects & Programs:

- Engaged in multiple projects focused on substituting materials to reduce the risk associated with single-sourced raw materials for standard part production.
- Partnered with a mold maker, an injection molding machine manufacturer, and an automation supplier to develop a novel molding process that combines insert molding and over-molding to create a highly functionalized part.
- Developed an innovative solution in collaboration with a hot runner supplier, resulting in a breakthrough for the injection molding of small medical parts by direct side gating.
- Developed a standard outlining the specifications and guidelines for managing the life cycle of hot runner systems, from the RFQ to design, manufacturing, preventive maintenance, and end-of-life.

HUSKY INJECTION MOLDING SYSTEMS LTD. **Milton, VT**
Advanced Solutioning Specialist ***05/09 To 03/24***

- My work consists of scouting, monitoring, and evaluating technologies, mainly the ones with acceptable TRL (Technology Readiness Level), to select the most relevant ones for development and implementation to advance hot runner products and/or their manufacturing processes. Most often this leads to directing Advanced Product Development projects to produce innovative solutions that reduce waste and variability in the injection molding process and/or to ensure the producibility of hot runner products within specified costs and deadlines. Activities in this position include: Contribution to strategic planning, i.e., Hot Runners Technology and Product road-mapping; organizing and analyzing research data; defining objectives and generating overall research/development plans for key technologies; managing time according to these plans from start to finish including definition, concepting, prototyping, testing, and final technology implementation; project communication throughout the various phases including schedules, design reviews, development updates and risk assessment reports; conducting engineering analysis during the design process, e.g., stress, thermal, laboratory and physical and electrical testing; evaluating product performance through testing in the development lab and at possible customer sites; constructing test models/cells for the verification of design concepts in a team effort; transferring the new technologies to product development teams and supporting those teams to integrate them in new products; contributing to the vulgarization and marketing of the newly developed technologies; developing and maintaining contacts with customers, industrial partners, universities and other research institutions. In addition, I have the responsibility to mentor junior engineers to facilitate their integration into product development teams and supervise their work while providing them with valuable, experience-based, insights to help them internalize Husky culture and acquire new skills critical to their job success.

Projects & Programs:

- Led a cross-functional team for developing multiple methods of adaptive injection molding process control using Industry 4.0 technologies including Machine Learning. The product, entitled "Transparent Hot Runner", is a highly instrumented hot runner mold that enables the monitoring and adaptive control of the molding process by automatically modulating machine and/or hot runner processing parameters/setups in real-time to maximize the OEE of the molding system. The adaptive system uses Machine Learning (ML) to produce control models that enable the machine and/or hot runner to adapt to any process and/or material variation, such as when molding PCR (Post-Consumer Recycled) materials, to maintain high OEE. Accordingly, new/improved Scientific molding procedures were also developed.
- Developed a novel non-intrusive mold cavity pressure sensing to use in the 5-stage decoupled injection molding. This innovation was protected with a patent application.
- Led a cross-functional team to develop an Industry 4.0 solution for injection molding. This solution consisted of using SCADA/HMI software and Edge devices to integrate the injection molding machine and its auxiliary equipment (drier, thermolator, color feeder, hot runner controller, and many sensors). This solution enables wireless use of many different communication protocols through Edge/Gateway devices. This Industry 4.0 solution enables the monitoring/control and data management of all the molding cell components using an Edge PC and its touch screen and/or auxiliary wireless handheld devices (laptop, tablet, cell phone).
- As a technical advisor to the Multilayer co-injection team contributed to the resolution of several service issues including barrier layer distribution, flowline, and barrier material degradation.
- Lead contributed to the development of a new high-margin market space for Husky by producing an innovative nozzle for molding metallic/pearlescent-colored aesthetic bottles. This innovation uses technology crossbreeding of melt mixing and multilayer injection molding. The revenue of this innovation reached in the first year of launch a $12 million mark from a single early adopter.
- As a technical lead contributed to the development of a robust, better-performing, solution for color change of valve-gated hot runners. This project was a spinoff of the project on PC degradation since the same solution applies to both issues, degradation, and color change. Novel empirical models for predicting color change as a function of residence and temperature were developed.
- Led a cross-functional team to develop a new hot runner and molding solution that produces high-quality polycarbonate parts that remain free of any degradation or contaminants during a wide processing window, i.e., service calls for PC degradation were reduced from 4% to 0% since the roll out of the Robust PC Product. The success of this project translated for Husky into doubling the PC applications market share and the return of a former customer with $3.5 million yearly PC business. This great success was achieved by the development of a novel degradation measurement method using a new automated system was developed to measure even the invisible degradation. This innovative method reduced drastically the cost and lead-time of PC degradation characterization. This innovation enables the characterization of polycarbonate degradation as a function of residence time and temperature. Accordingly, prediction models of PC structural integrity as a function of residence time and temperature were developed. The project resulted in a substantial increase of Husky's market share in PC applications (e.g., medical, automotive, consumer electronics, technical).
- Led a team for the development of a specific hot runner technology for molding cell phone parts for a key customer. This application is characterized by very demanding requirements such as ultra-high pressure (40,000 psi), flat hot runner thermal profile (+/- 5 deg. C), corrosion resistance to sulfidation.
- Using a Free Form Fabrication technology (3D printing), designed, manufactured, and successfully tested an innovative hot runner nozzle that homogenizes the melt (without mixing) before delivering to the cavity.
- Conducted research to build a business case for developing a cold runner system product for LIM/LSR (Liquid Injection Molding/Liquid Silicone Rubber). Cold Runner Systems for injection molding of LSR

are complete opposite of Hot Runner systems for injection molding thermoplastics and, therefore, require a different philosophy of engineering. LSR market growth is estimated to 8% in the next decade.

- Investigated the pressure prediction of high-pressure application using different mold filling analysis and CFD tools, including: MoldFlow®, Moldex 3D®, Sigmasoft®, Ansys CFX®, Ansys Polyflow®. This investigation demonstrated that state of the art technology of polymer flow simulation is not capable of producing reliable pressure prediction for high-pressure injection molding applications (> 20,000 psi).
- Investigated several ways to improve hot runner technology for the stringent market of Consumer Electronics (CE). This effort involved the enhancement of the following performance indicators of hot runners: 1- Resin integrity preservation and/or homogeneity restoration through hot runner-improved thermal and rheological design and/or melt mixing; 2- Color change improvement through an innovative design that reduces melt residence time in the hot runner as well as the implementation of a better pressure prediction method (characterization of viscosity dependence on pressure) to benefit from the full injection molding system pressure capability during the hot runner design; 3- Improved gate vestige clarity in optical parts through processing, thermal design, and engineered melt-hardware tribology; 4- Flowline elimination in aesthetic parts by adapting the UltraFlow design to high-pressure applications.
- As a leading technical support for the CE market, working with Husky's team in China, contributed to the resolution of several service issues in a highly demanding environment in terms of lead times.
- Investigated the usefulness of ultrasound vibrations as a processing aid to improve the color change performance of hot runner systems.
- Conducted a research project to improve the color change of hot runners through melt channel surface modification and melt rheology control. The possibility of generating the lotus effect in hot runners was the main purpose of this effort. This research work required the development of a modular online slit-die rheometer for injection molding. A patent application was filed to protect the innovations of this effort.
- Contributed as part of a development team to the development of new high-performance valve gate nozzle series for molding high gate-quality parts for the medical market. Several patent applications resulted from this project.
- Searched the phenomenon of polymer degradation during injection molding and its methods of characterization. The outcome of this work was the selection of standard testing methods to evaluate polymer degradation during new hot runner product validation.
- Developed a software tool to help molders, mold makers, and the medical molding industry to develop robust injection molding processes for rapid mold qualification, process optimization, and IQ/OQ/PQ validation process for medical devices. The tool integrates an optimization process, based on scientific molding, with the use of instrumentation/sensors to produce an intelligent injection molding system with the hot runner controller as the main control center.
- Produced an improved hot runner product development process for best-in-class OEE (Overall Equipment Effectiveness). This process requires the adoption of Design for Reliability and Maintainability along with the concepts of RCM (Reliability-Centered Maintenance) and CBM (Condition Based Maintenance). This was part of the intelligent molding system initiative.
- Investigated the use of process improvement methodologies such as Lean Thinking, Six-Sigma, and the Theory of Constraints (TOC) to improve Husky's product development process.
- Worked on the development of a collaboration program with the University of Vermont.

HUSKY INJECTION MOLDING SYSTEMS LTD. **MILTON, VT**
Product Development Team Leader ***02/06 To 05/09***

- In this function I managed and led two product development teams, one in Dudelange, Luxembourg, and the other one in Milton, Vermont, USA. The duty of these teams of engineers was to develop new products for the Hot Runners Business with an overall objective of growing our product range of

applications and to continually produce product innovations and improvements. During this time my teams contributed considerably to the improvement of Husky's competiveness by expanding its hot runner's product portfolio with several high performance/value products/innovations. Leading activities of my teams included: developing new products according to Husky's Stage Gate product development process; providing engineering solutions for hot runner problems in the field; failure analysis of failed components; conducting improvement projects aimed at preventing recurring problems and/or enhancing product performance range; performing value analysis of components and processes to improve cost and quality; assisting in customized designs of hot runner components for special purpose/application. My other responsibility was to mentor/develop junior engineers by providing them with valuable, experience-based, insights to help them internalize Husky culture and acquire new skills critical to their work success.

Projects & Programs:

- Led the development of an extensive small nozzle series (hot tip, valve gate, thruflow tip, extended tip, etc..) using the Stage-Gate product development process. This nozzle series allowed Husky to satisfy the demand for hot runner solutions for small parts molding in the medical, packaging, and technical markets.
- As technical leader directed the mechanical development of the innovative electrical synchronized plate actuation valve gate solution for molding high-quality parts in a clean environment such as in medical devices molding. This innovative product became the most competitive electrical actuated valve gate design in the market. Several patents were granted to protect this innovative product.
- Led the development of a high-pressure nozzle (35,000 psi) for the packaging market to satisfy the need of a key customer for an "unbreakable nozzle". This nozzle was the first one to be designed and tested for maximum reliability and because of that became the best-performing packaging nozzle in the market. This innovative nozzle is protected with a patent.
- Developed a highly accelerated reliability testing method for hot runners that reduced new product validation from 6 months to 2.5 weeks. This innovation generated substantial time and cost savings during new product development. I consider this innovation to be my best contribution to Husky's competitiveness.
- Led the development of a hot runner solution for the stringent molding of electrical connectors in a partnership with a key Japanese customer. Electrical connectors are mainly made from LCP's or PBT, two highly crystalline resins with very narrow processing windows.

HUSKY INJECTION MOLDING SYSTEMS LTD. **BOLTON, ON**
Senior Product Development Engineer ***04/97 To 02/06***

As a senior product development engineer and part of the advanced development team, I conducted advanced engineering projects such as new materials and manufacturing technologies exploration, cross-fertilization of different technologies to generate innovative hot runner solutions and competitive products, reverse-engineering of materials and products, application of innovative design and project engineering techniques. In addition, I had the duty to support the different development teams in my field of expertise, i.e., resins formulation/properties, polymer rheology, injection molding (processing), material selection (metals, ceramics) for hot runner construction, mechanical design, and project engineering/management.

Projects & Programs:

- Developed a hot runner for injection molding automotive panels made of long glass fiber-reinforced thermoplastics. The new hot runner produced the least fiber attrition in comparison to its competitors.

- Developed a split sprue bar for stack mold applications that does not hinder robot access to the mold faces. This new sprue bar uses a dual actuation mechanism (air and molten polymer) to ensure the control of melt delivery from the injection unit to the stack mold.
- As a leading development engineer (hot runners) contributed within a cross-businesses team to develop a high cavitation (144 cavity) two-material, multilayer, coinjection system of PET preforms. This mold is considered by Husky to probably be the most complex mold ever built by the plastics tooling industry. This development effort was concluded with the production of several patent applications.
- Developed a high-performance hot runner product by cross-fertilizing plastics extrusion and injection molding technologies. The innovation led to the production of three patents that granted Husky a competitive edge in the field of hot runners (e.g., color change time). Also, generated additional new hot runner products (patented) through the same route of technologies cross-fertilization.
- Introduced mixing in hot runner design to improve injection mold balance and part quality. This innovation led to several patent applications on static-mixers integration in injection molding systems.
- Established a collaboration program between Husky and École Polytechnique de Montréal (Canada) to perform high-risk R&D and technology investigations. A master's degree thesis that was managed like an industrial project with deliverables and a timeline led to the refinement of a hot runner design optimization methodology using FEA and to the establishment of a novel hot runner design approach based on the relationship "resin's intrinsic properties-processing conditions-hot runner nozzle tip design".
- Investigated the feasibility of implementing powder injection molding (PIM) in-house to produce hot runner components made of tool steels, ceramics, and tungsten carbides. This effort included the selection of a technology variant (feedstock and debinding technology) as well as the equipment.
- Conducted several investigations on common injection molding problems using hot runners including color change, heat-sensitive resins degradation, corrosive resins (e.g., flame retarded) processing, etc.
- Instrumented a hot runner testing bench (injection molding machine and test mold) to collect/analyze various performance parameters (pressures, temperatures) to produce more reliable hot runner products.
- Introduced new materials in hot runner's design that improved their thermal performance and durability.
- Performed a competitive analysis of the global hot runner industry (products and intellectual property) to determine Husky's technological position and then specify a new generation of products that will position Husky as the hot runner industry leader in three years from the completion date of the analysis.
- Investigated novel engineering methods such as the "Theory of Inventive Problem Solving (TRIZ)" and Functional Modeling to generate innovative concepts of hot runner solutions and products.
- Designed and coordinated the development of an electronic library (Knowledge Center) that enables product development engineers to access, through intranet/internet, various useful internal and external information such as patents, technical references, project reports, forms, procedures, etc.

INDUSTRIAL RESEARCH AND DEVELOPMENT INSTITUTE **MIDLAND, ON**
Technology Leader, Plastics + Composites ***06/93 to 04/97***

Started as a technical specialist at the Knowledge Centre to provide the Canadian industry with answers to their materials, processing, and tooling inquiries then after a year was promoted to a "Technology Leader" position to assume additional responsibilities including building and supervising a multi-disciplinary team of five engineers, a mold designer/maker, and an injection molding technician, managing multiple R&D projects and programs, supervising technical reports, training junior engineers, contributing actively to IRDI's management and marketing activities including strategic planning, developing IRDI's Knowledge Centre and R&D capabilities in the fields of plastics and composites, negotiating equipment acquisitions/donations, actively contributing to sales/marketing of R&D projects through customer visits and sales presentation. etc.

Projects & Programs:

- Directed successfully a "Rapid Product Development" program that consisted of building an "art-to-part" capability that integrates CAD/CAM, CAE tools (Mold flow analysis and FEA) with advanced processing technologies such as high-speed machining for mold making and high-speed low-pressure, gas assist and injection/compression for injection molding. The success of the program entailed the implementation of concurrent engineering and a thorough understanding of materials, fabrication/processing methods, and tooling techniques and their considerations at the design phase by the multidisciplinary team (designer, CAE specialists, mold designer/maker, and molding technician).
- Conducted a "Rapid Tooling" program that consisted in developing and optimizing two soft tooling techniques, a modular mold method using aluminum insert and an epoxy composite tooling technique.
- Built a state–of–the–art materials characterization laboratory at a reduced cost by negotiating privileged partnerships with equipment suppliers. The equipment included thermal and thermo-mechanical analysis instruments (Modulated DSC, TGA, DMA) from TA Instruments, a mechanical testing machine and a capillary rheometer from Instron, a fatigue testing machine from MTS, and an impact-testing machine from Dynatup. The materials testing laboratory became one of the most profitable services of IRDI.
- Contributed to developing IRDI's Advanced Engineering Design Training program (AEDT) based on the successful approach of the "Rapid Product Development" program. AEDT was built in partnership with EDS, IMI, McGill University, and Georgian College. AEDT was the first training program in Canada destined to help design engineers learn best practices for part and tool design and understand materials and manufacturing processes and their importance in design optimization using CAD/CAM/CAE tools.
- Coordinated a $250K R&D program to develop design guidelines for nickel tooling produced by the Nickel Vapor Deposition (NVD) process. The program involved IRDI, the University of Toronto and a major Canadian tool & die maker.
- Led R&D projects like: Developing an injection mold for encapsulating electric components; Developing a process monitoring and control system for injection molding machines using melt pressure and temperature of the machine nozzle; Developing a thermoset composite reinforced pump-liner (∅58"); Transferring to an IRDI member the technology of thermoset composites design and manufacturing; Developing an all-plastic and puncture-proof wheel (materials, design, processes); Substituting plastic for metal in structural parts; Engineering and managing a mold making project involving multiple partners for a new product development; Studying the feasibility of blow molding polysulfone; Selecting a cost effective automotive-certified plastic to reduce cycle time; Developing a tool to select materials and fabricating techniques to make injection molds for low and medium production volumes; Selecting alternate materials to a hazardous mold metal; Developing a low cost tooling for urethane foam molding.
- Provided/supervised a multitude of written responses to IRDI's member's inquiries to solve their materials, tooling, processing, and design problems in a wide variety of areas. For example: Identifying alternate cost effective materials/coatings/surface-treatments/adhesives/sealants for plastics or metals applications; Recommending methods to control heat distortion after die casting and heat treating; Identifying technologies to improve weldline strength; Troubleshooting injection molding and specifying mold and hot runner design for shear sensitive plastics; Identifying solid-film lubricants for metal forming; specifying mold design to ease ejection; Specifying rapid prototyping and rapid tool making techniques.

Education

Ph.D. ***Mechanical Engineering***, École Polytechnique de Montréal (Montréal, Canada, 06/1993**)**
Thesis Subject: Nonlinear Stress-Strain Behavior of Thermoplastic Composites
Thesis Advisor: Bohuslav Fisa

M.A.Sc. ***Mechanical Engineering***, École Polytechnique de Montréal and Industrial Materials Institute of the National Research Council of Canada (Montréal, Canada, 03/1989)
Thesis Subject: Structural and Mechanical Characterization of Thermoplastic Composites
Thesis Advisor: Bohuslav Fisa

B.A.Sc. ***Mechanical Engineering***, Universite des Sciences et de Technologie d'Oran (Algeria, 01/1985)
Thesis Subject: Thermal Study of a Tunnel-dryer for Woodchips
Thesis Advisor: Nihai Deljeanu

Professional Affiliations

Society of Plastics Engineers (SPE)

Patents (Granted)

1. **A. Bouti**, "Nozzle Tip with Weldline Eliminator", US6089468A, July 18, 2000
2. **A. Bouti**, "Injector Nozzle and Method", US 6,349,886 B1, February 26, 2002.
3. **A. Bouti**, "Mixer to Improve Melt Homogeneity in Injection Molding Machines and Hot Runners", US 6,382,528 B1, May 7, 2002.
4. **A. Bouti**, "Flow Deflector in an Injection Molding System", US 6,524093 B2, February 25, 2003.
5. C. Wright, **A. Bouti**, P. Blais, "Injection Molding Machine Having a Mixer Insert", US 6,544,028 B2, April 8, 2003.
6. M. Gould, S. Alexander, **A. Bouti**, M. Parson, T. Smith, "Injection Molding Machine Having a Mixer Insert", US 6,572,361 B2, June 3, 2003.
7. **A. Bouti**, "Flow Deflector Apparatus", US 6,679,697 B2, January 20, 2004.
8. **A. Bouti**, "Injection Molding Machine Spigotted Shooting Pot Piston", US 7,156,634 B2, January 2, 2007.
9. N. Serniuck, J. Knapp, **A. Bouti**, E. Jenko, "Hot Runner Manifold System", US 7,287,977 B2, October 30, 2007.
10. **A. Bouti**, "Coinjection Molding Cooled Shooting Pot Cylinder", US 7,291,304 B2, November 6, 2007.
11. **A. Bouti**, "Improved mixer apparatus and method for injection molding machines", EP 1,232,051 B1, December 12, 2007.
12. F. Gaillard, **A. Bouti**, "Nozzle Sleeve for an Injection Molding Apparatus", US 7,435,078 B2, October 14, 2008.
13. **A. Bouti,** "Composite Injection Molding Component", US 7,458,803 B2, December 2, 2008
14. **A. Bouti**, "System and Method for Joining Non-Compatible Components", US 7,467,940 B2, December 23, 2008.
15. F. Gaillard, **A. Bouti**, "Injection Molding Apparatus Having a nozzle Sleeve", US 7,481,649 B2, January 27, 2009.
16. **A. Bouti**, S. Gray, "Non-Stringing Nozzle Tip", US 7,695,271 B2, April 13, 2010.
17. Z. Haque, D. Hontheim, U. Schwarzkopf, **A. Bouti**, "Injection Molding Nozzle", CA 2,672,242 C, January 11, 2011.
18. Z. Haque, D. Hontheim, U. Schwarzkopf, **A. Bouti**, "Injection Molding Nozzle Having a Tip Retainer Movable Relative to a Nozzle Housing", US 8,087,924 B2, January 3, 2012.
19. T. Uracz, **A. Bouti**, A. Kromberg, T. Lawrence, S. Gray, "Cam Apparatus for Valve Stem Actuation", US 8,220,362 B2, January 17, 2012.
20. **A. Bouti,** T. Lawrence, S. Gray, S. Mohammed, E. Jenko, "Safety Connector for Hot Runner Having Latch Releasably Interlocking Valve Stem with Actuation Plate", US 8,100,689 B2, January 24, 2012.
21. Ed. Jenko, J. Plumpton, P. Gaillard, **A. Bouti**, "Mold-Tool System Having a Manifold Body Defining Uninterrupted Melt Channels", US 8,206,146 B2, June 26, 2012.

22. **A. Bouti**, S. Gray, T. Lawrence, "Safety Connector for Hot Runner Having Latch Destructively Interlocking Valve Stem with Actuation Plate", US 8,282,870 B2, October 9, 2012.
23. M. Belzile, J. Knapp, P. Gaillard, E. Jenko, **A. Bouti**, P. Blais, "Hot-runner System Having Nano-Structured Material", CA 2,741,908 C, June 4, 2013.
24. M. Belzile, J. Knapp, P. Gaillard, E. Jenko, **A. Bouti**, P. Blais, B. Esser, "Hot-runner System Having Carbon Nanotubes", US 8,459,983 B2, June 11, 2013.
25. E. Jenko, P. Gaillard, **A. Bouti**, J. Plumpton, "Mold Tool System Having Manifold Body Including Uninterrupted Melt Channels", US 8,540,507 B2, September 24, 2013.
26. **A. Bouti**, S. Gray, T. Lawrence, "Safety connector for hot runner, having latch destructively interlocking valve stem with actuation plate", CA 2,823,393 C, December 12, 2015
27. S. Gray, D. Hall, **A. Bouti**, "Mold-tool System Including Nozzle-tip Assembly Configured for Reduced Axial Tilting", US 9266270, February 2, 2016.
28. J. Plumpton, S. Overfield, **A. Bouti**, "System for Controlling the Closing Speed of Valve Gated Nozzles", US 9,776,349 B2, October 3, 2017.
29. S. Overfield, J. Plumpton, **A. Bouti**, P. Dezon-Gaillard, "Gate-aligned Nozzle Stack for Injection-Molding Apparatus", WO2014/028309A3, November 6, 2014
30. **A. Bouti**, H. Boxwala, N. Southwick, M. Brelski, D. Brand, A. Ulemek, D. Schlums, "Co-Injection Hot Runner Nozzle", US 11358313 B2, June 14, 2022

Honors and Awards

- Valedoctrian of the 1984/1985 class of Mechanical Engineering of the University of Science and Technology of Oran (USTO), Algeria
- Scholarship for graduate studies abroad by the Algeria Ministry of Higher Education and Research and Development, 1985-1989.
- Scholarship of the Natural Sciences and Engineering Research Council (NSERC), 1986-1988
- Scholarship for graduate studies abroad by the Algeria Ministry of Higher Education and Research and development, 1990-1993.
- Scholarship of the Natural Sciences and Engineering Research Council (NSERC), 1990-1993

References

Roberto Sicilia

Director, Strategic Programs & Business Development
PET Preforms at Milacron, LLC
Telephone: (513) 781-2814
E-mail: Roberto_Sicilia@Milacron.com
Address: 4165 Half Acre Road, Batavia Ohio 45103

Jim Pilavdzic

Manager, Product Safety at Husky Injection Molding Ltd.
Telephone: (905) 951-5000, ext. 3457
E-mail: jpilavdzic@husky.ca
Address: Husky Injection Molding Ltd., 530 Queen Street South, Bolton, Ontario, Canada L7E 5S5

Martin Baumann

President Arburg Inc. (USA)
Telephone: (860) 414-2214
E-mail: martin_baumann@arburg.com
Address: 644 West St, Rocky Hill, CT 06067, United States