

RAYMOND DAVIS

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EXPERIENCE

Senior Process Engineer, LyondellBasell, Atlanta, GA Aug 2024 - Present

- Work with catalyst suppliers, engineering teams, and research groups to evaluate new technologies for improving propylene production in refinery units.
- Support upgrades to reactors, heat exchangers, and separation systems using process simulation tools.
- Help ensure designs meet production, energy, and environmental requirements while staying within budget and schedule.
- Prepare clear summaries of design options, safety reviews, and cost analyses for leadership and regulators.
- Supported two major plant improvement projects from design through startup.

Principal Process Engineer, Dow Chemical, Atlanta, GA Nov 2018 - Jul 2024

- Designed process improvements for polyethylene production lines, including reactor upgrades and quality control systems.
- Led engineering teams on multi-million-dollar projects, coordinating closely with operations and safety staff.
- Improved reactor performance by adjusting catalyst and hydrogen control strategies, cutting off-grade material by 25 percent.
- Developed reactor temperature and grade-change procedures that reduced waste and transition time.

Plant Engineer II, BASF Corporation, Atlanta, GA Sep 2014 - Oct 2018

- Supported operations for a chemical site producing acrylic acid and other monomers.
- Managed a team responsible for process performance, troubleshooting, and long-term upgrades.
- Improved yield and energy use by updating control strategies for key equipment.
- Reduced unplanned downtime through data analysis and better maintenance planning.
- Helped create predictive maintenance tools that improved reliability.

Process Engineer I, BASF Corporation, Atlanta, GA Sep 2014 - Oct 2018

- Provided day-to-day technical support for reactors, distillation columns, and heat exchangers in multiple production units.
- Monitored process data to spot performance issues and worked with operators to adjust control settings.
- Assisted with small improvement projects involving equipment sizing, troubleshooting, and energy use.
- Updated plant drawings, operating procedures, and safety documents to reflect current conditions.

Process Engineering Intern, Eastman Chemical Company, Atlanta, GA Sep 2014 - Oct 2018

- Assisted with process monitoring and data collection for batch and continuous units.
- Built basic models to track reactor performance and heat exchanger fouling.
- Helped troubleshoot equipment issues using plant data and maintenance records.
- Updated operating procedures and organized process documentation to improve clarity.

EDUCATION

BSChE, Georgia Institute of Technology, College of Engineering May 2015

SKILLS

- **Design:** SolidWorks, Creo, AutoCAD, Fusion 360, CFD Analysis, 3D Printing (Metal/Polymer)
- **Analysis:** MATLAB, Python, LabVIEW, Minitab, Finite Element Modeling, Computational Biomechanics