

- Degreed Metallurgist with engineering and management roles in Powder Metal, Heat Treating, and Foundry Facilities
- CAD fluent with practical use of most of the major casting simulation software currently available
- Individually and with a team, have designed processes, the equipment necessary to execute the process, plant layout, and installation of said equipment
- Designed alloys for castability and to optimize their performance in specific use environments
- Have enjoyed the opportunity to work with my customers to solve some of their most pressing challenges.

I can help people with:

Technical Sales	Customer contact before, after, or with the quote(s), can help bolster new customers' confidence and thereby increase the likelihood that a new customer places work with the client.
Gating & Mold Design	Can provide complete or assist the client's Engineering team in gating and mold setup of new and/or remediation of existing work. Done with client's existing sprues or new sprue creation as required to improve yield, feeding, or flow. The goal here is to produce a setup that produces a good part within the confines of their process window, can be successfully shelled, poured, cleaned, and removed from the mold ready for subsequent operations.
Wax	Pattern wax design, assist in wax selection and validation. Relationships with major wax suppliers and can help bring their resources to bear in case of an upset. Considerable tooling and injection practice development experience that can be used to avoid defects due to poorly designed practices. Produced molds from most types of printed patterns.
Shell	Prime dip slurry design for inertness, rheology, and ease of removal. Back up slurry design for rheology, coverage, and build characteristics, while reducing total cost. Material and supplier selection. Work with material suppliers to troubleshoot and process upsets and to improve systems moving forward.
Preheat & Burnout	Oven design, instrumentation, and refractory selection. Environmental control. Parameter selection for molds produced from wax and most types of printed patterns. Designed metallic furnace grates and alloy for exceptionally long life or replaced ceramic grates when cost effective.
Melting & Pouring	Creation/validation of air-melt procedures across most alloy systems to reduce weld repair, scrap, etc. Have inerted air-melt baths to increase elemental recovery, refractory life, and to reduce inclusion size/count to meet specific customer requirements. Excellent relationships with furnace refractory suppliers and can assist with material selection, installation, and use. Have considerable experience automating this area.
Rough Clean	Knowledgeable in the use of non-autoclave caustic salt systems for shell removal. Have helped design novel part removal techniques to efficiently remove parts from the tree. Can assist automation efforts in this area.
Heat Treatment	Atmosphere and vacuum heat treating. This includes equipment selection and installation as well as the practical use of the equipment in multiple facilities. I have designed heat treating furnaces, equipment, and cycles to meet specific customer and process goals.