

Hollis Dinwiddie

707 School of Mines Rd ♦ Socorro, NM 87801 ♦ (575) 418-0150 ♦ hdinwidd@nrao.edu

Objective

Mechanical Engineering position that can take advantage of the combinations of skills in project management, mechanical design, and communication.

Profile

Self motivating and diligent professional with a multi-disciplinary engineering background. Talent for being able to adapt and improvise to negotiate problems over a wide range of topics in a timely and efficient manner. Strong believer in the use of forward thinking and continued education to sustain improvement. Comfortable working in pressure situations with hard deadlines. Demonstrated a history of being able to work outside the boundaries of comfort zone to help bring projects in on time and under budget. Strong leadership skills with abilities to motivate coworkers in conjunction with being able to maintain a team environment as well as delegate and receive responsibilities. Tactful and diplomatic with professionals and non-professionals at all levels.

Skills Summary

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|---------------------------------|--------------------------------|------------------------------------|
| ♦ Project Management | ♦ Computational Fluid Dynamics | ♦ Written and Verbal Communication |
| ♦ Mechanical Design Engineering | ♦ Parametric Modeling | ♦ Leadership |
| ♦ Manufacturing | ♦ Computer Aided Engineering | ♦ Documentation and Drafting |
| ♦ Finite Element Analysis | ♦ Design Evaluation | ♦ Professional Presentations |
| ♦ Instrumentation and Control | ♦ Dynamic Scheduling | ♦ Problem Solving |
| ♦ LabView | ♦ Matlab | ♦ Computer Programming |

Professional Experience

PROJECT MANAGEMENT

- ♦ Coordinating the resources of multiple internal machine shops, plating houses, welding shops, fabrication shops, and production facilities spread throughout the United States.
- ♦ Interfacing and coordinate between managers, physicists, engineers, technicians, and labors to help focus resources on project wide goals.
- ♦ Developing and maintaining dynamic schedules that tie together manufacturing and assembly production with project deadlines.
- ♦ Projecting budgets and resource allocation for multiyear long projects.
- ♦ Manage project accounts in excess of \$500K.
- ♦ Preparing statements of work.

DESIGN ENGINEERING

- ♦ Designing radio frequency (RF) shielded enclosures with minimum specifications of 20db of isolation up to 20GHz.
- ♦ Designing cryogenic cooling chambers that are capable of maintaining temperatures of 15K and below.
- ♦ Designing front end receiver systems by utilizing precision machining, electroforming and plating, casting, and multi-process manufacturing techniques.
- ♦ Analyzing existing designs to optimize functionality, reliability, manufacturability, and cost effectiveness.
- ♦ Analyzing obsolete and undocumented designs to develop specifications and requirements to improve and modernize current systems.
- ♦ Employing finite element analysis, computational fluid dynamics, mathematical modeling, and parametric modeling to predict design outcomes, reduce prototyping costs, minimize design iterations, and bring projects to production ahead of schedule.
- ♦ Developing documentation, machining drawings, and assembly prints using computer aided drafting systems. (Autodesk Inventor, AutoCAD, Solidworks, etc)

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Professional Experience, continued

RESEARCH AND DEVELOPMENT

- ♦ Investigation into the choke flow phenomena in helium compressor loops.
- ♦ Development of new techniques to increase the level of shielding provided by electronics enclosures.
- ♦ Creation of systematic testing techniques to determine the effectiveness and shielding characteristics of enclosures, electronic/fiber optic connectors, and adsorption materials.
- ♦ Research and testing of new materials in a cryogenic environment.
- ♦ Developing new electroforming techniques and associated manufacturing processes.
- ♦ Designing a new test bed and software interface that could be used to evaluate and characterize cryogenically cooled systems both on the bench and remotely.
- ♦ Developing mathematical models to predict final temperatures of components in cryogenically cooled receivers.
- ♦ Development and testing of new techniques to reduce the amount of heat radiation into cryogenically cooled receivers with large waveguide inputs.
- ♦ Characterization and evaluation of new cryostats.

LEADERSHIP, COMMUNICATION, AND FIELD WORK

- ♦ Successful completion of the Platoon Leadership Course at the United States Marine Corps Officer School.
- ♦ Developing and instructing college-level classes in mechanical and electrical engineering.
- ♦ Leading the NMIMT SAE-Baja collegiate design team to highest place in school history at the SAE International Baja Competition. 2nd Place Endurance Race, 4th Place Overall
- ♦ Creating presentations and presenting at preliminary and critical design reviews.
- ♦ Identification and evaluation of hundreds of machine shops, plating houses, and fabrication facilities.
- ♦ Leading multi-discipline design teams to negotiate problems in a variety of situations.
- ♦ Use of blueprints, welding techniques, and precision layout to assemble complex mechanical systems in the field.

Employment History

NATIONAL RADIO ASTRONOMY OBSERVATORY – Socorro, NM

Mechanical Engineer/Production Manager, 2004-Present

Mechanical Engineer/Design Engineer, 2002-2004

Engineering Assistant/Drafter, 2001-2002

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY – Socorro, NM

Adjunct Faculty, 2001-Present

KELLOGG BROWN AND ROOT – Morenci, AZ

Millwright/ Journeyman Welder, 2000

UNITED STATES MARINE CORPS – Quantico, VA

Officer Candidate, 1999-2000

Education/Licensures

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

MS Engineering Mechanics with Specialization in Mechatronics Systems, 2005

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

BS Mechanical Engineering, 2002

STATE OF NEW MEXICO, PROFESSIONAL ENGINEER NO. 19415

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References

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