

**Gordon C. Kirkwood**

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## **Professional Summary**

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I am an interdisciplinary engineer, scientist, and artist with 15 years of experience in numerous engineering disciplines including mechanical and electrical engineering and programming. I am looking for a full-time position leveraging my skills in an interesting and cutting edge work environment.

## **Highlights**

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- \* Excellent technical communication
- \* State of the art CAD / CAM / CNC, Artist in Residence at Autodesk
- \* Mechanical and Electrical engineering, Embedded Systems, and Motion Control
- \* Cell Biology researcher, awarded Howard Hughes Medical Institute and NIH fellowships

## **Experience**

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### **Research Engineer, Robotics Division, SRI International**

September 2015 – present

I design and built mechanical, electrical, and software systems for a wide range of innovative robotic solutions including autonomous underwater and aerial vehicles, novel power transmissions and sensors, manufacturing robots, and medical devices.

### **Artist in Residence, Autodesk, Inc.**

January 2015 – June 2015

I explore the state of the art in rapid prototyping of mechanisms for kinetic sculpture using CAD/CAM and cutting edge 3D printers and CNC machining equipment, including top of the line 3D printers and 5 axis CNC mills.

### **Founder, Manifold Technologies LLC**

2012-2014

Engineering services company specializing in product development, rapid prototyping, and unique and challenging fabrication tasks including mag-lev, electronic control systems, CNC jobs, and robotics.

**Senior Lighting Consultant – Forms and Surfaces, Inc.**

2011-2013

Optical and Electrical design of state of the art LED lighting products and manufacturing quality control for Apple Computer stores and elite hotels and residences around the world including Dubai and China.

**Automation Engineer -- TAKTL ultra high performance concrete**

2010-2011

Designed and built automated fluid measurement and dispensing apparatus, and automated product quality sensors for a composite materials production line.

**Electrochemist and Manager of R&D lab, Matco Services Inc.**

2008-2010

I led a team of engineers and scientists tasked with rapid development of novel test instrumentation for unconventional mechanical, electrochemical, magnetic, and electrical property tests.

**Project Manager – Matco Associates, LLC**

2005-2008

Conducted forensic engineering investigations to determine the cause of industrial problems and failures. Author of hundreds of technical reports detailing investigations of mechanical, electrical, corrosion, and design problems, from medical implants to rocket engines. Clients included NASA, Boeing, Lockheed Martin, Chevron, Industrial Scientific, municipal governments, and many others.

**Graduate Student Researcher, University of Pittsburgh, McGowan Institute for Regenerative Medicine**

2001-2004

Developed algorithms to support direct brain control of robotic prosthetic limbs via implanted cranial electrodes. Real time control systems, mathematical modeling, and electronics.

**Education**

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**Graduate Student, Department of Bio-Engineering, University of Pittsburgh.**

2001-2004

Dissertation Research: Direct brain control of a prosthetic robotic limb by rhesus monkeys using implanted cortical microelectrode arrays.

**B.A., Biology: Reed College, Portland Oregon.**

1995-1995

Thesis Research: The evolution of cellular differentiation control: The statistical likelihood of hierarchical control points prior to selection in random genetic regulatory networks.

**Additional Information**

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\*Acclaimed concert cellist, and professional photographer

\*Winer of Howard Hughes Medical Institute Fellowship Award, 1998

\*Fellowship in Nuclear Medicine at the National Institutes of Health, 1997

\*Nuclear Reactor Operator, General Atomics Triga Mark II reactor, Reed College Reactor Facility