

DR. GENE KORIENEK

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NEW PRODUCT DEVELOPMENT LEADER Expanding Market Share through the Application of Innovative Research and Technology

PROFILE

Highly experienced product development leader with a proven background creating and transforming R&D into practical and profitable Technology. A record of successful development as a Research Scientist, Senior Scientist, Chief Scientist, Published Author and Resident Research Fellow with continuing involvement in industry, government, and education. An active leader in volunteer based organizations aligning scientific development with the needs of business.

- A pioneer in the use of embedded electronics to support locomotion in the disabled population with practical application as a shoe based gait patterning device for gait disabled individuals.
- A leader in the development of NASA's Ames Research, Mars Gravity Simulator, MGS-1.
- A respected Research Scientist, NASA Research Fellow, and key player in the conceptual design of an Artificial Life inspired Mars Rover, an Autonomous Robotic Limb to Support Space Station Activities and, 'Mars Pants', an extension of the MGS-1 project.
- A consultant to industry leaders including McDonnell Douglas, Johnson Controls, IBM, MITRE, the Virginia Tech Advanced Physics Lab, EDS, BOA, and Duke Power. An accomplished creator and presenter of curriculum, seminars, workshops, and lectures addressing the needs of business.
- A firm grounding in the Life Sciences and Technology with a broad base of domain expertise including Physiology, Psychology, Computer Science, and Electrical Engineering.

CORE COMPETENCIES

Research Scientist • Innovator • Manager • Communicator • Team Leader
Project Management • Product Development and Launch • Resource Management
Artificial Intelligence • Artificial Life • Embedded Software • Ubiquitous Computing
User Experience • User Centered System Design
Analysis • Statistics • Experimental Design
Object Oriented Thinking • Design • Development

EXPERIENCE

BLACK DOG INNOVATION, Corvallis, OR 2006-Present

A startup consulting company specializing in innovation mentoring, new product development, and applied research.

Principal

Participated in the development of FLY, a fully Object Oriented, extensible, programming environment. The FLY environment executes in a web browser allowing development, testing, and execution in real time. It is also polylingual.

Promoted the application of ubiquitous computing principles to a number of existing real world research prototypes including: household, exercise, rehabilitation, and medical devices that sense the local environment while communicating with other devices, the patient, and the health provider.

Designed the curriculum for an Innovation workshop/seminar involving a principled approach to new product development and delivered it to groups of startup companies.

BUSINESS ENTERPRISE CENTER, Corvallis, OR 2002-2004

A startup incubation organization associated with Benton County, Oregon

Member, Executive Board

Enabled the development of viable new businesses in Benton County by serving as a member of the Executive board providing a critical analysis of proposed ventures and endorsing those with real potential including SANDA Communications, View Plus Technologies, Pathworks Information Design, Emerald Forest Toys, 3Sigma Robotics, SCANDUS, and others.

CORVALLIS INNOVATION GROUP, Corvallis, OR 2002-2004

A large group of local inventors and entrepreneurs committed to achieving synergies in the execution of their current projects. The group is comprised of entrepreneurs, attorneys, engineers, manufacturers, and investors

Facilitator

Conducted monthly meetings while working in close collaboration with the inventors to promote innovative product development.

Achievements:

- Enabled the successful launch of several companies by forming task based work teams to build plans, budgets, IP disclosures, and occasionally, small amounts of funding for promising ideas.
- Provided essential support to a number of startup inventors and start ups.
- Launched Scandus, Inc., an example in which this Group facilitated the inventor of an innovative reciprocating saw blade to turn his innovation into a company. Nine patents were written and granted. I served as the company's startup CEO, hired the permanent management team, and brought in startup capital.
- Founded Emerald Forest Toys (EFT) a manufacturer of technology based toys for the Harry Potter market. EFT developed 3 products, a Magic Wand, a Magic Goblet, and a magic globe that enabled the users (kids 5 to 12yrs) to 'secretly' communicate with one another. All of the toys implemented forms of ubiquitous computing.
- Numerous other garage based activities were promoted and supported by this very active group.

3SIGMA ROBOTICS, Corvallis, OR 2000-2003

An organization promoting the utilization of technology in Space and in physical rehabilitation.

Founder, Chief Scientist

Guided research on a number of research projects including the development of an Artificial Life inspired Rover prototype for the Mars exploration project.

Achievements

- Wrote grants to DARPA, ONR, NASA, NSF and other agencies to support research activities.
- Designed, implemented, and tested an autonomous Robotic Limb prototype to support Space Station activities including moving and maintaining position and orientation of off-board systems.
- Designed a 'flocking' approach to the robotic assembly of a large orbital solar collector power.
- Designed and implemented a device to reduce incidences of falling in the elderly based on monitoring of the Center of Mass (COM) and the execution of a proactive response to inform the subject, in real time, of the potential risk of falling. The device evaluated the mechanics of each step, on a step by step basis.

NASA AMES RESEARCH, Mountain View, CA 1998-1999

NASA Research Fellow, NASA Stanford / ASEE Fellowship

Served two summers as a member of the 'Mission to Mars' team contributing to the Life Sciences effort of a project focused on determining how Humans would locomote on the surface of Mars.

Achievements

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- Drove the development of the Mars Gravity Simulator (MGS-1) that enabled locomotion training and testing of subjects in a simulated hypo-gravity environment. The outcome of the project was the 'Martian Lope', an effective and safe method for Humans to move on the surface of Mars. The MGS-1 device and methodology can also be extrapolated to Humans moving in any gravitational environment, for example, the Earth's Moon.

OREGON STATE UNIVERSITY, Corvallis, OR 1997-2001

Director, Biological Control Lab 1998-2001

Faculty Member 1997-2001

Guided research on the principles of biologically controlled systems and their application to electro-mechanical devices, primarily robotic and prosthetic. Guided the activities of several undergraduate and graduate students working in the lab.

Delivered instruction and guidance in undergraduate and graduate level courses related to Human Neuromotor control, Ecological Psychology, Computer uses in Science, and a number of special topic seminar classes.

Achievements:

- Orchestrated research involving the development of Artificial Life oriented devices including a Mars Rover as well as an Autonomous Robotic Limb to support Space Station activities. This work was funded by a NASA research grant.
- Led the development of 'Mars Pants', an extension of NASA's MGS-1 project, targeting the medical rehabilitation industry and its patients recovering from a cardiac event or a leg injury. The device simulated a reduced gravitational environment to promote more robust patient activity earlier in the recovery time line. This work was funded by two research grants from the Erkkila Foundation.
- Implemented MGS-2 as a therapeutic device for post surgery recovery of locomotion.

ARTIFACT INC, Sarasota, FL 1989-1997

A consulting company specializing in design, development, and training for the Smalltalk market

CEO

Founded this organization and guided the execution of all operations and the delivery of consulting services to clients including IBM, EATON, Prudential, Bank of America, Duke Power, Southern California Electric, Continuum, MITRE, BOA, Prudential, EDS, CSX, EATON, and others.

Achievements:

- Quadrupled annual revenues in only eight years by delivering superior services in software training, client engineering mentoring and management resources.

Early industry success with Johnson Controls as a Senior Research Scientist in the Artificial Intelligence / Human Factors Group, Corporate Research Department.

EDUCATION

PhD Movement Science, Florida State University
BS Engineering Technology, Southern Illinois University
BA Psychology, Southern Illinois University

Post-doctoral Research Fellow, British Columbia Advanced Systems Institute, British Columbia, Canada