



Beneficial Designs

research/design/education

Designing beyond the norm to meet the needs of all people.

Working toward universal design
through research, design & education

December 1999

Dear Friends & Supporters:

This past year was full of a multitude of projects, activities and opportunities for Beneficial Designs. We would like to share a glimpse of our research and development efforts and accomplishments during 1999. As we enter the new millenium, all of us here at BD would like to sincerely thank you for your continued support and interest in our activities. We collectively wish you a high-spirited and joyous new 2000. Happy Holidays!

Peter Axelson
Director of Research & Development

Denise Chesney
Director of Research

Allen Siekman
Director of Seating & Design

Khrys Kambitsch
Office Assistant

Julie Kirschbaum
Project Coordinator

Tamra Martin
Controller

Matt McCambridge
Design Engineer

Kathy Mispagel
Project Coordinator

Oliver Rahm
Network Administrator

Mark Richter
Research Engineer

Stacy Rose
Research Assistant

Jeremy Smith
Project Designer/Shop Manager

Julie Stein
Office Manager/Project Assistant

John Tipton
Technician

Wayne Wright
Facilities Manager

Joe Ysselstein
Research Assistant

Funding agencies and other acronyms:

NIH = National Institutes of Health
RESNA = Rehabilitation Engineering and Assistive
Technology Society of North America
SBIR = Small Business Innovation Research
USDA = United States Department of Agriculture

Thank you

We would like to recognize the expertise of Patti Longmuir and illustrator Clay Butler, who have made significant contributions to some of our projects. We are grateful to our technical consultants Arne Folkedal and Jeff Liebermann, and to Debbie Hickey who helps us keep our office in tiptop shape. Thanks also to intern Kathleen Hannon, a Stanford University student who helped us out with various design projects this summer.

Tibbetts Award

Congratulations! Beneficial Designs was selected by the Small Business Administration as a winner in the fourth annual Tibbetts Awards. This award recognized Beneficial Designs' contributions to the success of the Small Business Innovation Research (SBIR) program. The nomination was based on our experience with over 10 Phase I SBIRs and 5 Phase II SBIRs, including several that focus on providing outdoor recreation and trail access information to people of all abilities. Peter and Julie S traveled to Washington, D.C. for the award ceremony.

Canoe Seating System

*NIH, SBIR Phase I Grant #1R43 HD36944-01A1
Allen, Denise, Joe, Stacy & Peter*

In September, we were awarded funding for Phase I. The goal of this project is to develop a mainstream, commercially viable canoe seating system, for use by rental, outfitting and instructional programs, which will enhance the comfort and function of paddlers with and without disabilities. Wilderness Inquiry in Minneapolis is collaborating with us on this project.

FlexRim Low Impact Wheelchair Pushrim

NIH, SBIR Phase I Grant #R43 HD36533-01
Mark, Denise & Peter

In December, a revised application was submitted to NIH for Phase II funding. We hope to continue development and testing of the low impact wheelchair pushrim in July of 2000.

UTAP Coordinator Workshops

Kathy, Patti & Peter

During 1999, Beneficial Designs and American Trails have provided training to individuals with the Florida Trail Association, Georgia Department of Natural Resources, and the Indiana Department of Natural Resources to conduct assessments using the Universal Trail Assessment Process (UTAP). With the leadership of master trainer Patti Longmuir, workshops have also been held in Canada and in conjunction with the 2nd International Trails and Greenways Conference in Pittsburgh. Over 400 individuals from land agencies and trail organizations have been trained since 1995 to use the UTAP.



Training Program for Universal Trail Assessment Process Trainers

USDA, SBIR Phase I Grant #99-33610-7523
Kathy, Patti & Peter

Beneficial Designs was awarded a grant through the U.S. Department of Agriculture's Small Business Innovation Research program to develop a Train-the-Trainer program for the Universal Trail Assessment Process. Materials are being developed to assist in training people that will be able to teach the UTAP Coordinator Workshops for agencies and organizations. The Advisory Board for the project has reviewed materials and met twice during the past 6 months at conferences in Pittsburgh and Nashville.

TrailWare Trail Data Processing Software

NIH, SBIR Phase I Grant #R43 HD36538-01
Wayne, Kathy, consultant David Matzner, Peter

New software to organize data collected during the Universal Trail Assessment Process was created this past year. With the assistance of Access programmer David Matzner, we have been able to create TrailWare. This software program manages trail data and generates trail guide products, including Trail Access Information strips that are ready to be printed and placed on signage. Future plans for TrailWare include developing a cost-accounting module to help in budgeting for maintenance projects.

Trail Explorer Web Site

U.S. Department of Education, SBIR
Phase II Grant #ED-98-CO-0046
Peter, Julie S & Wayne



Funding was awarded for Phase II of the Trail Explorer Web Site. Working with Pam Gluck, Executive Director of American Trails, and BusinessWare, we have built a stand-alone Web server providing information about public lands, including trail access data for individual trails and a search engine that enables browsers to search a large database for trails based upon input characteristics. Currently, we are working with federal and state land management agencies to enter trail records into the database. The Web site will contain trail data on approximately 500 trails upon its release in June 2000.

Sidewalk & Trail Design for Access

Dept. of Transportation, Federal Highways Admin.,
Contract #DTFH61-97-C-00028
Julie K, Patti, Julie S & Peter

Beneficial Designs has continued to work for the Federal Highway Administration (FHWA) to create two documents related to designing sidewalks and trails for access. The first document, *A Review of Existing Guidelines and Practices* was published in September 1999 and is currently available through FHWA. The second document, *A Best Practices Guidebook*, is scheduled to be published in June 2000.

National Pedestrian Study

*The National Cooperative Highway Research Program
Julie K & Peter*

In August, Beneficial Designs began to participate as an advisory board member for the National Cooperative Highway Research Program (NCHRP) Pedestrian Study. The primary goal of the Pedestrian Study is to create a national design guide for pedestrian facilities. We were selected to participate on the project because of our expertise in designing sidewalks for access.

Surface Measurement Devices & Accessibility Standard

*NIH, SBIR Phase II Grant #2 R44 HD30979-02
Denise, Joe, Jeremy, Stacy & Peter*

In February, the wheelchair work measurement method was approved as a national standard for determining the accessibility of playground surfaces (ASTM 1951). The portable rotational penetrometer continues to be refined and tested. The development of a national standard based upon this device was initiated in June, and Peter, Denise and Joe traveled to Nashville for the first standards meeting.

Accessibility Guidelines for Amusement Parks

*International Association of Amusement Parks and Attractions (IAAPA)
Julie K, Denise, Kathy, Allen & Peter*

Beneficial Designs was contracted by IAAPA to evaluate the proposed accessibility guidelines for amusement parks (ADAAG 15.1) and to present our findings to the U.S. Access Board at a public hearing in Boston, Massachusetts. The project included the review and evaluation of the proposed rule, brainstorming about "ideal" accessibility guidelines for amusement facilities, and a site visit to the Santa Cruz Boardwalk.

Design Work

We have continued to provide testing and design services on a consulting basis for the seating and wheeled mobility industry. Peter and Allen have led the design team on several projects this year.

Ski Area Accessibility

*Paralyzed Veterans of America (PVA)
Peter & Stacy*

The ANSI B-77 Committee has completed its new Aerial Tramway Standards which incorporate accessibility issues into the construction and operation of new gondolas and other ski lifts. Peter continues to participate in this committee's activities on behalf of PVA.

Wheelchair Standards

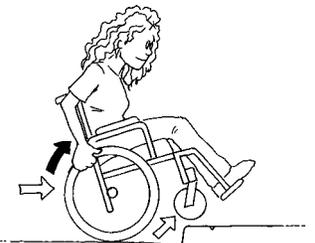
*Paralyzed Veterans of America
Peter, Denise, Julie K, Julie S & Stacy*

Peter was re-elected as Chair and Denise was re-elected as Secretariat of the RESNA Standards Subcommittee on Wheelchairs at the annual meeting held in Long Beach, California in June. Peter also continues as Convener of the International Standards Organization Working Group 1: Test Methods of the ISO Wheelchair Standards Committee. As Convener, Peter has begun planning the ISO Working Group meetings to be held in October 2000 at Chico Hot Springs in Pray, Montana.

Wheelchair Training Guides

*PVA Education & Training Foundation
Peter & Denise*

With the artistic talents of Clay Butler, The Manual Wheelchair Training Guide was published and is being distributed by PAX Press, a division of Beneficial Designs. Courses were taught at RESNA and ARATA (Australian Rehabilitation Assistive Technology Association) this year to help clinicians learn new techniques and resources for mobility skills training. The powered wheelchair book is undergoing final revisions and will hopefully be available in the beginning of 2000.



International Appropriate Technology

*RESNA Special Interest Group (SIG-17)
Denise & Peter*

This year we planned and coordinated numerous activities held in conjunction with the annual RESNA conference including the **SoreButts** International Wheelchair Cushion Design Competition to encourage the development of low cost cushions using appropriate materials, and a concurrent session bringing together several organizations to share different philosophies and methods for providing mobility technology to people in developing countries. Peter and Denise were re-elected as Co-Chairs of this RESNA Special Interest Group.

Meet the BD Team

Peter Axelson, founder and Director of R&D, leads BD and spends much of his time traveling throughout the world to attend meetings and present our work. He's also a pilot, avid mono-skier, and a creative card-maker.

Denise Chesney, Director of Research, oversees and coordinates the research at BD, assists with technical writing and grant proposals. She loves to play volleyball and cook.

Allen Siekman, Director of Seating & Design, oversees the seating and design projects and is the Vice Chair of the U.S. Standards Subcommittee on Wheelchair Seating. He collects and restores antique cars and motorcycles, is a bee-keeper, and coaches youth softball teams.

Khrys Kambitsch, Office Assistant, answers the phone and performs a variety of tasks to help keep the office running efficiently. A UCSC graduate, she enjoys reading in her spare time. She hopes one day to be an elementary school teacher.

Julie Kirschbaum, Project Coordinator, oversees the Designing Trails and Sidewalks for Access project. She is an avid hiker and sailor.

Tamra Martin, Controller, is in charge of BD finances and project tracking. She loves to travel to faraway places.

Matt McCambridge, Design Engineer, is part of the design team at BD. He enjoys the mountains and ocean cliffs of Santa Cruz.

Kathy Mispagel, Project Coordinator, is developing the UTAP Train-The-Trainers program and manual. She enjoys swimming and making scrapbooks.

Oliver Rahm, Network Administrator, keeps the computers running smoothly. A recent transplant from Switzerland, he loves to surf and to play with electronic gadgets.

Mark Richter, Research Engineer, is working on the low impact wheelchair pushrim project as part of his doctoral research at Stanford. In his spare time, he cuts Peter's hair.

Stacy Rose, Research Assistant, works on a variety of projects at BD. A performing singer/songwriter, she is currently at work on her first CD. She also loves to run and bike in the beautiful Santa Cruz mountains.

Jeremy Smith, Project Designer/Shop Manager, enjoys being part of the BD design team. He appreciates the camaraderie and diversity of the employees here.

Julie Stein, Office Manager/Project Assistant, oversees the Trail Explorer Web Site project. She likes to ride her bike, and to visit friends and family in New York. She loves living in Santa Cruz.

John Tipton, Technician, is in charge of facilities maintenance and repair, and also does welding. He likes to spend his free time dancing.

Wayne Wright, Facilities Manager, is the Jack-of-all-Trades at BD. He coordinates the Trails project, and is our expert in network administration, graphic design, and the handling of all facility issues. He enjoys spending time with his family.

Joe Ysselstein, Research Assistant, conducts playground surface testing and is the safety coordinator for BD. A volunteer firefighter, he loves to go fishing, and when we're lucky, he provides the salmon for our BD barbecues. He also enjoys bicycling and spending time outdoors.