



# Capabilities

Communicating the Science of Prosthetics and Orthotics

Volume 8 , Number 3, July 1999

(left to right) Aaron K. L. Leung, Craig Heckathorne, Arthur F. T. Mak, and M. S. Wong at the Jockey Club Rehabilitation Engineering Center, Hong Kong Polytechnic University.



## RERP/PRL Engineer Teaches as Visiting Scholar at Hong Kong Polytechnic University

By Craig Heckathorne

Craig Heckathorne, RERP/PRL Research Engineer and specialist in upper-limb prosthetics, joined the staff of the Hong Kong Polytechnic University as a Visiting Scholar from April 19th to the 23rd. Mr. Heckathorne was invited to teach the week-long elective course in "Myoelectric Control" as part of the Bachelor of Sciences (Honours) in Prosthetics and Orthotics. This degree program was developed by the Jockey Club Rehabilitation Engineering Centre (REC), a department within the University with broad interest in applying engineering principles in the service of rehabilitation.

The REC is headed by Arthur F.T. Mak, Ph.D. Professor Mak has had a long standing relationship with our laboratory since receiving his M.S. and Ph.D. from Northwestern University in 1979 and 1980 respectively. While a student, Prof. Mak worked on problems associated with internal joint replacement prostheses as part of the Reha-

bilitation Engineering Research Program. As Head of the REC, Prof. Mak initiated a P&O education program at the Hong Kong Polytechnic University, inviting Dr. Dudley Childress as an advisor in its development.

### The P & O degree program is a three year curriculum

The Prosthetics and Orthotics degree program has a 3-year curriculum with a planned enrollment of 24 students per year. Enrollment is limited by student laboratory work space. The program was established in 1995, and the first class graduated in 1998. The lead instructors for the program are Asst. Prof. Aaron K.L. Leung, Asst. Prof. M.S. Wong, and Assoc. Prof. Virgil Faulkner, CPO. Mr. Leung and Mr. Wong have primary responsibility for the orthotics modules. Mr. Faulkner is responsible for the prosthet-

Continued on page 2

## Visiting Scholar at Hong Kong Polytechnic

*Continued from page 1*

ics modules. Prior to joining the REC, Mr. Faulkner was Director of the Rehabilitation Engineering Laboratory in the Department of Rehabilitation Medicine of The University of Texas Health Science Center at San Antonio, Texas.

The three year program is broken down as follows:

Year 1: language and general studies, health studies, engineering studies

Year 2: language studies, engineering studies, upper-limb orthotics, lower-limb orthotics, spinal orthotics, upper-limb prosthetics

Year 3: below knee prosthetics, above knee prosthetics, independent projects, advanced P&O electives

The students also do two clinical attachments: the first is for 8 weeks at the end of year 2; the second is for 10 weeks at the end of year 3.

The advanced P&O electives at the end of year 3 are:

- “Reciprocal Gait Orthoses” — one week
- “New Casting Techniques” — two weeks
- “Myoelectric Control” — one week
- “CAD/CAM” — two weeks

The electives are offered sequentially to provide adequate laboratory space, and each student is required to take two.

The “Myoelectric Control” elective taught by Mr. Heckathorne included 28 hours of lectures and laboratory spread over four days. The enrollment for the elective was fourteen (the maximum allowed) of the 26 students in the 1999 graduating class. Mr. Heckathorne’s lectures included:

- “Introduction to Myoelectric Control”
- “Electric-powered Prosthetic Components”
- “Myoelectric Control for Children at the Trans-radial Level”
- “Myoelectric Control, Socket Design, and Suspension Alternatives for the Adult at the Trans-radial Level”
- “Myoelectric Control, Socket Design, and Suspension Alternatives for the Adult and Child at the Trans-humeral and Shoulder Disarticulation levels”
- “Alternatives to Myoelectric Control”
- “Research in Upper Limb Prosthetics”
- “Bilateral Case Studies”

Two laboratory demonstrations were provided by Mr. Heckathorne and Mr. Faulkner showing evaluation for

myoelectric control and design and fitting of a preparatory prosthesis. One demonstration was with a gentleman who had a trans-radial amputation; the other was with a gentleman who had a trans-humeral amputation. Both persons had traumatic accidents resulting in their amputations.

Mr. Heckathorne was also invited to give a presentation as part of the Rehabilitation Bioengineering Seminar Series coordinated by the Interdisciplinary Centre for Musculoskeletal Bioengineering and Rehabilitation Technology of the Hong Kong Polytechnic University. The seminar was titled “New Developments in Upper Limb Prosthetics”.

Hong Kong has 17 P&O facilities providing service to a population of about 6.5 million. All but one of the facilities are operated by the government through a Ministry called the Hospital Authority. Mr. Heckathorne visited the largest P&O department at the Prince of Wales Hospital in the New Territories. This is a 1300 bed acute care hospital (built in 1984) that serves a population of about 1 million. The P&O Department is headed by Alex Au-yang, CPO, Department Manager. Mr. Au-yang generously took time from his duties to provide a tour and discussion of his department’s operation. The department has 12 clinicians (all of Hong Kong and the New Territories have just under a hundred P&O clinicians), 13 artisans, and 2 clerical and support staff. The primary work of the clinical department is orthotics with much of the work devoted to spinal orthotics.

For more information on the Jockey Club Rehabilitation Engineering Center of the Hong Kong Polytechnic University, you can visit their website at:

<http://www.polyu.edu.hk/~rec/>



*Capabilities* (ISSN 1055-7156) is published in April, July, October and January by Northwestern University’s Rehabilitation Engineering Research Program. Program Director, Dudley S. Childress, Ph.D. Editor & Designer, Jan Little

Subscription is free to all individuals interested in prosthetics and orthotics. For contribution guidelines and advertising inquiries, write to the address below. Address subscription information, address changes and other correspondence to: *Capabilities*, Northwestern University RERP, 345 E. Superior St., Room 1441, Chicago, IL 60611.

This work was funded by the National Institute on Disability & Rehabilitation Research (NIDRR) of the Department of Education under grant number H133E980023. The opinions contained in this publication are those of the grantee and do not necessarily reflect those of the Department of Education.

Copyright 1997 Northwestern University Rehabilitation Engineering Research Program. All rights reserved. Reproduction by any means of the entire contents or any portion of this publication without prior written permission is strictly prohibited. Limited copying for educational purposes is allowed.



*Carol and Sal Sheredos*

*Karen Gardner*

## ***These Therapists Are Experts in Prosthetic Gait From Personal Experience:***

***Karen Gardner, RPT  
Carol Sheredos, RPT***

*By Jan Little*

**L**earning to live with a recent amputation exposes a person to many experiences. It's probably tempting to feel one's physical therapist may be the enemy. After all, what do they know about what it's really like? This isn't true if the therapist is Carol Sheredos or Karen Gardner. Both women are registered physical therapists who have had amputations: Carol, bilateral transtibial amputations; Karen, transfemoral amputation of the left leg.

### **Carol and Karen were physical therapy students**

Both women were enrolled in physical therapy school when they had the amputations performed. Carol had struggled to be ambulatory because of several lower extremity birth defects. In 1964, her physicians at Columbia Presbyterian Medical Center recommended amputation. Although she was in her second year of physical therapy school at Ithaca College - Albert Einstein College of Medicine, she elected to have the surgery that summer.

In the summer of 1990, Karen was halfway through physical therapy school at the University of Colorado Health Sciences Center (UCHSC) when doctors discovered that the underlying reason for the extensive pain and malfunction she was experiencing in her left knee was a synovial sarcoma inside the knee joint. Both the type of cancerous tumor and the fact that it was hidden within the knee joint were rare and difficult to diagnose.

Karen says, "I actually had a somewhat warped perspective of the whole thing (the impending amputation). It was far from the end of the world for me. I had normal concerns, but in general was glad to get rid of the knee

and the pain that had been holding me back orthopedically for about half of my 28 years. I had studied about lower limb amputations and met others who had been through what I was about to 'go through', so I was optimistic that a prosthetic leg would allow me to do more than my knee had for some time."

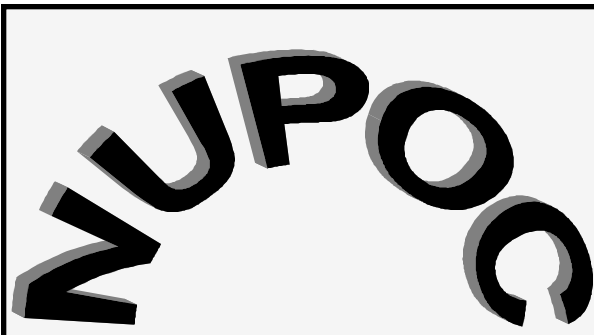
Karen had the total support of her instructors and her classmates during her last year of the physical therapy curriculum. She graduated with her class in May 1991. Because she had complications resulting from the chemotherapy during the previous fall, she chose to concentrate on properly completing class work she had missed and make up a clinical rotation after graduation.

### **Snowy, icy streets of Ithaca were a problem**

Carol returned to school in January of 1965 using two canes to walk. Initially, the Dean of the School rejected her application for reentry into the school. Carol wrote to the federal government protesting the denial and was quickly readmitted. After that, her biggest problem was safely negotiating the snowy, icy streets of Ithaca and the stairs at the medical school. "I also had to learn to transfer patients without both of us going on the floor." She soon found that she had full support from her anatomy professor, Dr. Richard Herman, her kinesiology instructor and the director of the school.

Carol entered clinical practice and often saw 22 to 26 patients a day with no break. "I found that having to balance another patient while trying to balance myself was

*Continued on page 11*



## *Current Climate in Orthotic-Prosthetic Practice Requires New Professional Skills*

*By Mark Edwards, CP  
Director of Prosthetic Education, NUPOC*

With the advent of managed care, medical liability claims, malpractice, and ethical issues steadily becoming part of the healthcare arena, it is increasingly apparent that professionalism needs to be taught early in a health professional's career. Administrators, educators, practitioners and consumers of care have promoted a greater attention to professionalism in medical/allied health practice.

Teaching professionalism to prosthetist/orthotists in training is recognized as an integral part of the curriculum at NUPOC. However, finding effective methods to ensure exposure to the relevant knowledge and desired behaviors and attitudes is difficult. At NUPOC, students are exposed to a variety of experiences that stimulate personal reflection, discussion, and education about professional issues.

One way this is accomplished is through case scenarios that address professionalism. These vignettes require students to think outside of textbooks, which often reveals the students personal biases. Faculty and students can then begin discussion about different viewpoints and other ways of thinking. This often brings about lively participation that stimulates learning and awareness. Some topics that have been discussed are clinician-client boundaries, codes of ethical conduct, er-

rors in prosthetics/orthotics practice, Medicare fraud, ADA, confidentiality and business ethics.

Another effective method of creating professionalism in the curriculum is having the students perform initial evaluations and actual patient/client fittings. This interaction with classroom demonstrators helps faculty assess communication skills, compassion, empathy and thoroughness. Often, demonstrators will assist in assessing the non-clinical skills (attitudes and behaviors) of the student. The demonstrator feedback is important for learning about providing prosthetic/orthotic services to real people.

Having faculty and staff that advocate professionalism both in the classroom and the clinic is also vitally important to the education environment. Role models and mentors have a profound impact on students entering a profession. It may be the first time students get to observe a certified practitioner. How faculty members communicate, dress, and provide services can make lasting impressions.

NUPOC wants to challenge students to think about legal, ethical and professional issues that are being created by a new healthcare environment. In doing so, students will be better prepared to survive and provide quality services to their future clients. ❖

---

## *NUPOC Helps Create a Purple Cow*

Her name is "She's Got Legs...and She Knows How to Use Them". She's quite like other cows — except she's made of bright purple fibreglass and she's wearing four prosthetic limbs.

Elaine Uellendahl, CP, and instructor at NUPOC has served as a consultant to the development of "She's Got Legs...", which is one of 300 "cows" in a summer art festival held in Chicago. She's been chosen as one of

the lead cows in a parade at Chicago's Daley Plaza, then will be featured in a "Moo-seum" at the State Street Bridge until October 31.

"She's Got Legs..." was sculpted by Terrence Karpowicz, who has an amputation at transfemoral level. Karpowicz is donating his commission for the work to NUPOC. The idea for a cow festival, which features cows on Chicago streets, originated in Zurich, Switzerland. ❖



## *Amputee Coalition of America “Celebrates the Dream” at the Ninth Annual Education Meeting & Exhibition*

*By Nancy Carroll  
ACA National Headquarters*

*Ted Kennedy, Jr., who had a leg amputated as part of cancer treatment, was the Keynote Speaker at the ACA Ninth Annual Conference*

It was a time to rejoice, a time to reflect, a time to reap rewards for jobs well done and a time to recognize the opportunities of the future. Over 500 amputees with a variety of limb differences came to Reno, Nevada, to “Celebrate the Dream” — ACA’s 10th anniversary — at the 9th Annual Meeting & Exhibition.

The festivities were opened by ACA Founder and President Mary P. Novotny, RN, MS, in the magnificent Reno Hilton Theatre, which seats 1,000 people. Ms. Novotny traced the evolution of the ACA through the years and acknowledging the many people who contributed to its success — from its grass roots days to the national organization it is today.

### **Welcoming addresses**

ACA Board Chairman Paddy Rossbach, Nevada State Senator Bernice Martin-Mathews and Reno Hilton President Tony Santo took turns at the podium to welcome attendees to the gala occasion.

Keynote Speaker Edward M. Kennedy, Jr., who lost his leg at age 12 from bone cancer, spoke from the heart about the many issues facing amputees today — from the recent Supreme Court decision restricting the ADA to “noncorrectable” disabilities, to ways to grow the ACA and build on the momentum established by the ACA and other disability rights groups.

A rapt audience listened as Kennedy shared the pain and fear he felt as a young boy undergoing an amputation. “I may be the invited guest here today,” he said, “but I really don’t think that my experiences and my story are any different from anyone sitting in this room.”

### **Kennedy calls Medicare prosthesis cap “insane”**

Calling the current Medicare cap of \$1,500 for a prosthesis “insane,” Kennedy urged amputees to get involved, write to their Congressional leaders and join forces to promote change. “It’s always amazed me that often people who have had their benefits cut and have been denied access to quality prosthetic services are some of the least likely people to get involved,” he said. “Don’t underestimate yourselves. You can all be incredibly powerful - collectively and individually.”

Quoting Robert Kennedy, he said, “My Uncle Bobby used to talk about the ripples of hope and how every time somebody stood up for the rights of somebody else, they sent forth a tiny ripple. Together, these ripples could wash down the walls of oppression and resistance. I think that the ACA is the ripple of hope for millions of amputees in this country and I’m glad to be a part of it and I look forward to working with you in the months and years ahead.”

*Continued on page 7*

# Margaret Pfrommer: Her Friends Share Their Memories

*In the January issue of Capabilities, it was our sad task to report the death of Margaret Pfrommer and attempt to share some of her remarkable achievements with our readers. We now share some of the many letters and e-mails we received from her friends telling what she meant to so many..*

To Capabilities Magazine,

*"....I am the 'Mrs. Hartmann' referred to at the top of page 2 (of the January issue of Capabilities). I would like to have a copy of Margaret's lecture delivered before the Fourth Annual Conference on Rehabilitation Engineering in 1981.*

*Margaret and I worked together on that presentation. I was with her in Philadelphia and I recall rehearsing with her at the hotel the morning of the big day when she was keynote speaker at the Conference.....Jan Little's article refers to Margaret as 'an artist'. I wonder if Jan, or anyone else knows that Margaret crated some computer pictures with her puff and sip apparatus. I have some of them."*

*Sincerely Marguerite Hartmann*

Dear Dudley:

*"It was by sheer accident that I spied a copy of Capabilities on the desk of my chairman. There, on the cover I saw the announcement of the death of Margaret Pfrommer and your accompanying article. Although I have not seen you or her for several years, I am greatly saddened by Margaret's death. I will always remember the experience of working with you and her in the lab in 1981. I was always very excited to come and visit her when I visited the RIC after my residency. I am greatly saddened that I will no longer be able to spend time with a person who really emanated the full potential of living with a disability."*

Sincerely yours,

Richard D. Zorowitz, M.D.  
Director, Stroke Rehabilitation  
Department of Rehabilitation Medicine  
University of Pennsylvania School of Medicine

*"Dear Dudley,*

*I am away at a meeting in Orlando, but I received a message that Margaret passed away on Wednesday evening.*

*I am deeply saddened by this. She was one of the most courageous people that I have ever met, and an extraordinary example for anyone, disabled or 'able'.*

*Please convey my condolences to her family for me."*

Zev Rymer, M.D., Ph.D.

Director of Research  
Rehabilitation Institute of Chicago

"Dudley,

*Margaret always seemed to be an institution in your program. From my earliest days, it was always great seeing her being able to work and function with all of your wonderful devices. Although I lost touch with her over the last several years, I will miss her and share your loss...."*

Rick (Richard Wixon, M.D.)

Professor of Orthopaedic Surgery  
Northwestern University Medical School

"Dudley,

*... I will miss Margaret tremendously. I only hope there are others possessing her will, who will continue on in the causes Margaret fought so hard for. I am sorry to have missed the wake and funeral, but am sure they were attended by many, many admirers and friends. I will never forget Margaret. I can honestly say knowing her changed my life."*

John Steege

(Former member of the NUPRL&RERP staff  
and major contributor to Margaret's electronic systems)

Dear Dr. Childress,

*I was in Chicago this past weekend...and my dad shared with me the January 99 issue of Capabilities. I had no idea Margaret had passed away, and I was very saddened by the news. She was one spunky lady and 'Boss of Angels' is a title that fits her perfectly! What a loss for us — and what a treasure for heaven. I send you all condolences and hugs. God bless you!"*

Else Tennesen

Former Director,  
Information and Education Resource Unit NUPRL& RERP

Dear Dudley,

*I just received a copy of the January 99 Capabilities. This was the first that I had heard that Margaret Pfrommer had died. What a loss for RIC, and indeed the world. Your article and the article by Jan Little were wonderful. Thanks for sharing a slice of Margaret's life with those of us who only barely knew her.*

Joseph T. Walsh, Jr., Ph.D.

Associate Professor, Biomedical Engineering  
Northwestern University

# Memories of Margaret Pfrommer

"Dear Dr. Childress,  
...the January 1999 issue (of *Capabilities*) was very special. I guess I saw Margaret Pfrommer a couple of times when I was at RIC for rehab, but did not know her personally. That was my loss to have missed knowing this 'Leader of Angels'.

Someone should put her story in book form. There are many stories here in one to be told that would be of interest to everyone, not just people who have physical challenges....I continue to do well and make progress with my prostheses as time goes on. It has been four years since my accident and life is much as it was prior to that date. On the other hand, life is better in many of the areas that really count."

With best regards,  
John Newbold

"Dudley,  
I was saddened to hear the news about Margaret, as were all of you. I have known her for many years, as you know, and it was always good to see her whenever I visited Northwestern. She was truly inspirational and always brightened my day.

Your tribute to her in the recent *Capabilities* was very touching and gave a wonderful sense of how I know you regarded her. I will miss her, but my life is fuller for having known her."

Lawrence E. Carlson, Ph.D.  
Professor of Mechanical Engineering  
University of Colorado

"Dudley,  
I am really sorry to hear about Margaret's death. But when we reflect on the quality (and probably the quantity) that you and others were able to add to her life, it makes the loss a little easier to handle.

Alexandra Enders  
President, RESNA

Dudley, I just got my last issue of *Capabilities* and was saddened to learn of Margaret's death. Among my many fond memories, she was the first person to hold both of my children after they left the hospital. Those were wonderful photos of her. Please accept Marcia and my condolences for yourself and the rest of the staff.

Terry Supan, CPO  
former staff member of NUPRL&RERP

.....Thank you for letting me know about Margaret's death. I am very sad to hear of it. She was a unique lady and I will miss knowing that she is out there living her admirable life.

Jack Lewis, Ph.D.  
Director of Biomechanics  
Department of Orthopaedic Surgery  
University of Minnesota

"Dear Dr. Childress,  
.... I was sorry to learn that Margaret died. I admired her. About three years ago, I wrote about her for a small Japanese journal which encourages disabled people to participate and become involved in many jobs and social and political activities.

Many Japanese people who visited RIC met Margaret and were impressed by her courage, ability and charm. After reading your memorial article about Margaret, I thought that a similar article in Japanese would be well received. Dr. Yonemoto is Chief Editor of a Japanese medical journal that has a circulation of about 8,000, primarily among professionals in rehabilitation. I often write for that journal. Dr. Yonemoto would like for me to write a memorial article about Margaret. I wonder whether you have any photograph of her that I might borrow for publication?"

Sincerely,

Michael K. Yoshida, MD, PhD  
Former Attending Physician  
Rehabilitation Institute of Chicago

---

## ACA Celebrates the Dream

Continued from page 5

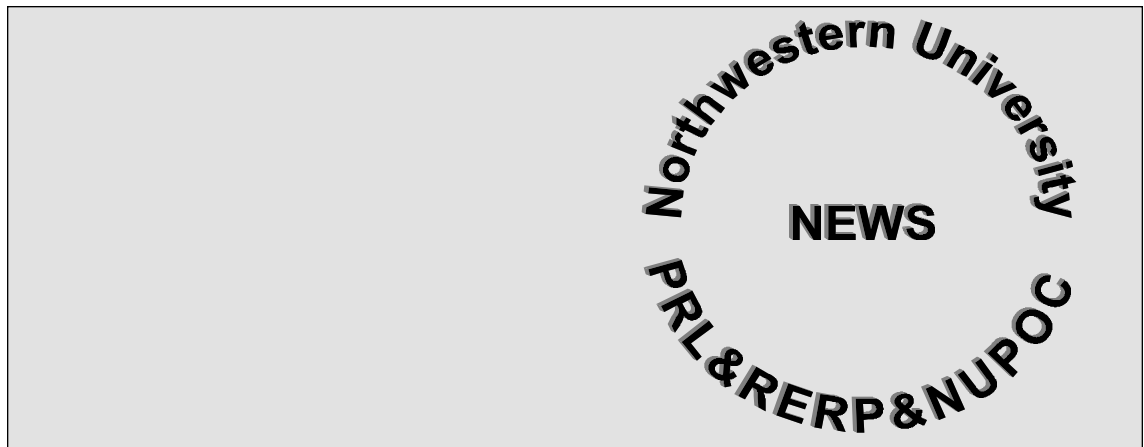
After Kennedy's presentation, Gracie Rosenberger thrilled attendees with her rendition of "I Believe I Can Fly," which has become the unofficial ACA anthem. The crowd then dispersed to attend a variety of workshops. From Science & Technology to Advocacy to Gait Analysis to Self-Defense, there was something for everyone.

Friday evening's Exhibitor Reception opened to a jam-packed hall of amputees, eager to see the newest and most innovative technologies and products available on the market today. Cotton Candy & So Many Men provided the mood music to the soulful sounds of the blues as attendees lingered at exhibit booths, networking with each other, and learning about a multitude of products and services designed to enhance their lives.

## Saturday was a day to learn new skills

Saturday's sessions included opportunities for Aqua Range Golf, A Learn to Bowl Clinic, a Runners Clinic, Accessible Travel, several Prosthetic Symposia with panels of experts to discuss options in care and rehabilitation for

Continued on page 9



## **The CHEST Foundation Establishes The Margaret Pfrommer Memorial Lecture**

**T**he CHEST Foundation, the philanthropic arm of the American College of Chest Physicians (ACCP), formed in 1996, has as its mission the creation of educational programs, support of research and honor lectures. In honor of the 65th anniversary of ACCP, the College is establishing endowed lectures recognizing outstanding individuals and their contributions in the field of health care.

In December 1998, Drs. Allen and Eveline Goldberg created the Margaret Pfrommer Memorial Lecture on Long-Term Mechanical Ventilation. The lectureship honors Margaret's lifetime of achievement as a national leader, activist, and advocate for persons with disabilities. The lecture will be given to a diverse audience of physicians, people who use respiratory assistance, the general public and policy makers.

In addition, scholarships to workshops relating to mechanical ventilation will be offered to individuals who use mechanical ventilation. The CHEST Foundation will provide funding support for travel, lodging, per diem and honoraria for the recipient and a care attendant. The ACCP will waive all registration and tuition fees. The first scholarship recipients will be chosen by the Goldbergs and will be persons who knew and were known by Margaret.

Persons wishing to honor Margaret by participating in the funding support of these scholarship may contact Marilyn A. Lederer, Vice President and COO of the CHEST Foundation, 3300 Dundee Road, Northbrook, IL 60062-2348.

---

## **Edward Grahn and Rosemary Collard Honored by Northwestern University**

Northwestern University recognized Edward C. Grahn for 35 years of service in honors ceremonies on April 22, 1999. On the same occasion, Rosemary Collard was recognized for 25 years of service as assistant to Dudley S. Childress, PhD, Director of the NU Prosthetic Research Laboratory, Rehabilitation Engineering Research Program and Prosthetic-Orthotic Center.

Edward Grahn was recruited by Clinton Compere, MD, in 1964 to be project director/engineer at the Northwestern University Prosthetics Research Laboratory, replacing Colin McLaurin, who was the first director, beginning in 1957. Grahn had been stationed at the Army Prosthetic Research Laboratory at Walter Reed Army Hospital,

Washington, DC during his service in the Army. He served as Director of the Prosthetics Research Laboratory until 1972 when the program was enlarged with the Rehabilitation Engineering Research Program under the direction of Dudley Childress, PhD. He continues as Associate Director of both prosthetic and orthotic research programs at Northwestern.

## **Childress and Heckathorne speak at ACA Conference**

Dudley S. Childress, PhD, presented the session on Science and Technology on the opening day, June 25, of the Amputee Coalition of America (ACA) Annual Meeting in Reno, Nevada. Childress described the advancements in science and technology which are rapidly changing prosthetics and orthotics through the introduction of new materials, new designs and new applications of computers in the evaluation and fabrication of prosthetic and orthotic



systems. Craig Heckathorne joined Childress at the Research Luncheon Discussion on Saturday. People who use prostheses and orthoses had the opportunity to relate their experiences with prosthetic devices and discuss needs that may be met through new methods and technologies.

## Students join RERP&PRL's Research Program

Four Northwestern University graduate students are participating in research projects at NUPRL&RERP in the process of earning Master of Science degrees in Biomedical Engineering. The students are:

**J. Ernest Doering**, originally from Parker Ford, PA, received his BS in Mechanical Engineering from Messiah College, Gettysburg, PA. He worked as a volunteer in Bangladesh for three years as a member of the Mennonite Central Committee. Ernie's work in Bangladesh focused on starting businesses in rural areas. He is modelling an EPP controller for application to body control and muscle cineplasty.

**Pinata Hungspreugs**, from Edina, MN, earned her bachelor's degree in biomedical engineering from Duke University, Durham, NC. She worked in research at Boston

University and the University of Minnesota during summers. Her major interest is in upper limb prostheses and she is working with the Prosthetic Arm Design and Simulation System (PADDS), but is also taking advantage of the opportunity to learn more about gait research.

**Steve Miff**, a resident of Evanston, IL since moving here from Romania when he was 14, holds both an MA in Economics and a BS in Biomedical Engineering from Northwestern University. His research project is looking at the influence of stride length and cadence on kinematic and kinetic parameters of gait.

**Brian Ruhe**, from Greenville, OH, has a bachelor's degree in biomedical engineering from Wright State University, Dayton, OH. Brian worked at NUPRL&RERP as a Dole Scholar during the summer of 1997. Brian is investigating amputee gait.

## George Bertos Earns MS Degree

Y. A. "George" Bertos was awarded an MS degree in electrical engineering in June by Northwestern University. Mr. Bertos' work focused on a microprocessor based extended physiological proprioception (E.P.P.) controller for electric-powered prostheses. ❖

---

## ACA Celebrates the Dream

*Continued from page 7*

specific levels of amputation, a Caregivers Workshop, a Diabetes Session - and much more.

Sunday's sessions ranged from a workshop on Posture, Image and Self-esteem to a Senior Session led by world-renowned photographer Erika Stone, who shared her life's body of work. Sessions on Non-prosthetic Adaptation, Post-Amputation Pain, the ADA law and Accessibility issues, Clothing Resources and Personal Tips and Consumer Advocacy rounded out the final day of the conference.

## Closing Ceremonies feature video

The Closing Ceremonies included a surprise "Dream the Impossible Dream" video tribute to Mary P. Novotny, ACA founder and president and director of the National Limb Loss Information Center. ACA Board Chairman Paddy Rossbach presented a Leadership Award to a tearful Mary Novotny, who was deeply moved by the tribute.

On Monday, a day long Peer Visitor Training workshop was attended by 62 participants. The program was highly successful and there is a great demand to do more and more peer training, said Georgie Maxfield, ACA outreach coordinator, and moderator of the session. There was also a very positive response to using additional trainers for break out sessions in the afternoon.

As the final ACA Annual Meeting of the 20th century drew to a close, one couldn't help but wonder what lies ahead in the new millennium. In the words of Edward Kennedy, Jr., each one of us represents a "ripple of hope." Joined together — there's no stopping us. ❖

*The Capabilities staff wishes to thank the Amputee Coalition of America and In Motion Magazine for sharing their story of the ACA Meeting with our readers.*

# The VA Presents

*News from the  
Department of Veterans  
Affairs*

## *Home Based Primary Care (HBPC) in the VA*

*By: Robert M. Baum, PTC,  
Prosthetic Network Manager, P&SAS SHG,  
VA Headquarters, Washington D.C.*

As the VA continues its transformation from a system of hospitals to a health care system, placing greater emphasis on outpatient and community-based care, the role of the Home Based Primary Care Program is taking on added importance.

“Our Main focus is to prevent re-admission to the hospital and improve the quality of life for our patients”, says Carolyn Lowery, Administrative Program Director, at the VA Chicago Health Care System. “And we’ve been able to accomplish that. Not only does home care reduce the number of admissions and unnecessary clinic visits, but patient satisfaction and quality of care is rated significantly higher by VA Chicago patients who we served by the HBPC program.”

Approximately 150 veterans are enrolled in HBPC program at the Chicago facility. Referrals to the program can be made by any clinician or through a patient’s self referral. After an initial assessment by a HBPC nurse, staff members meet to discuss the patient and determine which services need to be provided. The staff includes employees from Nursing, Medical, Social Work, Nutrition and Food, Pharmacy, Physical Medicine and Rehabilitation, and Psychiatry. An advisory committee comprised of two additional services include Prosthetic and Sensory Aids Service and Medical Administration Service.

### **Prosthetic & Sensory Aid Service supervises equipment**

HBPC works closely with the Prosthetic and Sensory Aids Service (P&SAS) to ensure proper equipment is set up in the veterans home. Follow-up education and monitoring of patients on special medical equipment provided by the P&SAS program, i.e., home oxygen, ventilators and CPAPs are also dealt with on a patient-by-patient basis in certain situations, otherwise an accredited VA medical equipment contractor monitors these patients and associated equipment. Regular monitoring and documentation of this equipment and the use by the veteran is shared

between the services as an interdisciplinary effort to achieve a quality comprehensive home health care program.

Originally known as Hospital Based Home Care, the name was changed several years ago when VA embraced primary care as its method of providing care for patients.

“One thing that distinguishes VA from other organizations that provide home care is our emphasis on primary health care,” says Lowery. “We establish the goals and the direction. The key is having a physician and an interdisciplinary team that is delivering the care to the patients in their home, which is their natural environment and where they prefer to be.”

According to Wilma Woollard, RN, NP, Clinical Program Director, other aspects of the HBPC program are also evolving.

“We’re expanding the program to include people who didn’t originally fit into our area of focus,” says Woollard. “We used to require that a patient have a caregiver at home and be in need of the entire team’s services. Now it’s open to anyone who has expressed a desire for home care and is in need of at least one of its services.”

“Traditionally, our typical patient was one who might otherwise have to be in a nursing home”, Woollard continued. “The emphasis was on chronic problems, i.e., congestive heart failure, pulmonary disease, hypertension, etc., but now we’re looking at more acute care cases and using home care to decrease a patient’s length of stay.”

Members of the social work staff in HBPC also provide help in locating other sources of assistance for homebound patients. Every patient is assessed initially and reassessed annually to determine their degree of support within the home and the community.

“We explain to each patient or caregiver the various resources available to assist or help maintain the patients in their home environment and then make the necessary referrals,” says Benjamin Smiddy, staff Social Worker. “Assessments are made for psycho-social problems, financial need and the coping mechanisms of the patient and family members. Very often, patients need help in adjusting to their illnesses and disabilities and their caretakers benefit from occasional respite.”

---

## Two Physical Therapists

*Continued from page 3*

easier once I figured out that I needed to use an aide.” In 1997, she earned her MA in Aging at College of Notre Dame of Maryland. “Now, I don’t do patient care anymore, although I do mentor and offer treatment advice.” Carol continues. “Arthritis has settled in my hips and lower back — probably due to the altered gait over the years. Pain hurts! And it often affects my ability to balance as well as my endurance in standing.”

Carol has chosen to leave clinical practice and is now Regional Director of Therapy Services for Theracor Rehabilitation Services, a contract rehabilitation company. Her region, Maryland, Pennsylvania, Delaware and New York, requires quite a bit of travel. “I do have a home office, which helps on those painful days,” Carol says.

Karen encountered only one negative response during her quest to work in clinical settings. A Director of Physical Therapy at a Denver area hospital told her that it was well “not to beat her head against a wall” in treatment settings. The Director assured Karen that her strong math background would be valuable in enabling her to analyze test results in outpatient settings — as if to say not to even try direct patient care. Karen chose clinical practice despite this advice.

But it was another interest that led Karen to choose to practice her clinical skills on a part-time basis with a temp agency. Freed from the pain and restrictions of her “bad knee”, she pursued skiing, a sport she has always loved, on a competitive level. Karen found she needed to train and travel most of the winter and part of the summer for seven of the nine years since her amputation.

Karen has worked in nearly every setting — acute care, rehab hospitals, skilled nursing facilities, home care and outpatient facilities and has not found many problems. “I have made some minor adjustments for my own safety as well as my patients’ safety. I request a second person to assist with any patient transfer requiring more than minimal to moderate assistance or with any patient

Your local VA Medical Center can be contacted for details regarding their Home Based Primary Care Program. ❖

## Comments or articles for *Capabilities* may be directed to Robert Baum at:

*Prosthetics & Sensory Aids Service  
Department of Veterans Affairs, Headquarters (113)  
810 Vermont Ave. N.W.  
Washington DC 20420*

who is unpredictable. This is also protection for my back since it’s difficult to use proper body mechanics when my most stable position is with my prosthetic knee straight.”

Patients and other therapists have told Karen that the sense of understanding between peers has been as beneficial to her patients with amputations as her therapy skills. “In gait training, I know the obvious insight I have plus my ability to demonstrate with my own prosthesis has a significant impact.”

### “I’ve been there...done that...”

Carol agrees that her use of prostheses helps her work with patients. “The most unique aspect I bring to my practice is that I’ve ‘been there, done that.’ I believe the empathy factor is a major asset. Also, I have been blessed with the ability to problem-solve, which helps me find solutions to difficult problems.”

Karen’s professional goal is to work in prosthetic gait training with lower extremity amputees. She claims she is still working only part-time even though she retired from the USA Amputee Ski Team last year. Part-time for Karen includes being a consultant with Century XXII Innovations, a prosthetic component design and manufacturing company. She is a Board Member of Amputee Coalition of America (ACA). She is a lecturer with Regis University in Amputee Rehabilitation and Prosthetics courses and organizes and conducts peer visits in the Denver area through the Colorado UnLimbited Connection. In her spare time, Karen wants to pursue photography, water color painting and pottery. She enjoys being active in her church and spending time with her family .....and then there’s the prospect of marriage in the not too distant future.

Carol and her husband, Sal, have two children, Emily, 24, and Douglas, 20 and 22 month-old Lauren, the first grandchild. She’s a member of the American Society on Aging, the APTA, RESNA and the Chairperson of the Maryland Governors Advisory Council on Individuals with Disabilities. She and Sal, who has long been a leading advocate in the Department of Veterans Affairs for development of assistive technology, enjoy travelling, gardening, and life in general. ❖

**Capabilities**

ISSN 1055-7156

Northwestern University Prosthetics Research Laboratory  
and Rehabilitation Engineering Research Program  
345 E. Superior Street, Room 1441  
Chicago, IL 6061-4496

**Non-Profit  
U.S. Postage  
PAID  
Northwestern University**

**Phone Help Line: 312/908-6524**  
**FAX: 312/908-6526**  
**E-mail: reiu@nwu.edu**  
**web site =>http://www.repoc.nwu.edu/**

**Change Service Requested**

**Resource Unit Information Request**

**Northwestern University PRL & RERP**

**345 E. Superior St., Room 1441**

**Chicago, IL 60611 USA**

*Allow two to three weeks for delivery*

- Send me a copy of the latest *Activity Report.*
- Start my subscription to *Capabilities.*
- Send me one copy of *P&O Resource Directory.*
- ADA List of Publications
- Amputee Support Groups
- Association. of Children's Prosthetic-Orthotic Clinics List
- Video List

Bibliographies of NUPRL&RERP Publications Available on the Following Topics:

- Above Knee Prosthetics
- Ambulation, Gait & Posture
- Biomaterials
- Below Knee Prosthetics
- Computer Aided Engineering/Design/Manufacturing

- Pediatric Prosthetics
- Prosthetic Feet
- Prosthetics & Orthotics: General
- Upper Limb Prosthetics & Orthotics

Other Sources for Prosthetic & Orthotic Information:

**Consumer Information:**

National Limb Loss Information Center  
900 East Hill Avenue - Suite 285  
Knoxville, TN 37915  
Toll Free: (888)AMP-KNOW

**Prosthetic-Orthotic Education:**

National Association of Prosthetic & Orthotic Education  
1650 King Street - Suite 500  
Alexandria, VA 22314  
e-mail: opncope@aol.com

**General Information about Prosthetics & Orthotics:**

American Orthotic & Prosthetic Association  
1650 King Street - Suite 500  
Alexandria, VA 22314

Name \_\_\_\_\_

Address \_\_\_\_\_