THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

康復治療科學系
Department of Rehabilitation Sciences

Autumn 2016 Newsletter

impact

TOUCHING LIVES, MAKING AN IMPACT

Also in this issue

Post-Disaster Rehabilitation Action (PDRA): WE CARE, WE SHARE

COVER STORY

(大愛無疆，承傳分享：雲南康復服務之旅)

The PDRA team, led by Prof. Cecilia Li, Mr Tang Kin Chung, and Mr Tony Wong, the students, and the earthquake survivors.

A demonstration of scar assessment to local hospital staff members and OT students.

Prof. Cecilia Li

On 3 August, 2014, a 6.5 magnitude earthquake struck Ludian county, Yunnan province; 617 people were killed and 3,143 injured. An estimated 5%-7% of people residing in camps or temporary shelters were people with disabilities. Only two local hospitals served the injured survivors: Zhaotong No. 1 People's Hospital (Zhaotong Hospital) and Ludian People's Hospital (Ludian Hospital). Only Zhaotong Hospital could provide rehabilitation services to the survivors. There was a severe shortage of manpower and facilities serving these survivors in need.

The Post-Disaster Rehabilitation Action (PDRA) group was formed by experienced allied health professionals, including occupational therapists, physiotherapists, social workers, and nurses, in Hong Kong and the Chinese Mainland. It is a self-initiated and non-profit organization, providing post-disaster rehabilitation support and consultation for the survivors of the earthquake in the Chinese Mainland. During the past two years, the team led by Prof. Cecilia Li, Mr Tang Kin Chung, and Ms Zhang Yingying, has traveled regularly to the two hospitals to provide hands-on training, workshops, and direct rehabilitation services for the survivors. The team has also assisted Ludian Hospital in establishing a rehabilitation department with basic equipment and infrastructure.

In 2015, a group of occupational therapy (OT) students, led by Ms Ivy Lam (Current Year 4 OT student), successfully bid for the PolyU Community Service Fund student service-learning grant to assist the PDRA in providing rehabilitation services for the earthquake survivors in Ludian, Yunnan. Mr Tony Wong, an OT Clinical Associate, was invited as the clinical supervisor of the students, to work closely with the PDRA team to evaluate and develop an intervention for the survivors, both in the hospital and the community. The motto of this student project is "we care, we share"（大愛無疆，承傳分享）.

(continue on page 2)

Post-Disaster Rehabilitation Action (PDRA)(Cont.)

Assessments conducted at the hospital.

Students help assemble a wheelchair for use at home.

An interview with a family member of one of the earthquake survivors.

In August, 2016, following their clinical placements, eight students traveled with two clinical supervisors to join the PDRA team in Yunnan. They worked conscientiously with the clinical supervisor and the PDRA team to prepare for patient interviews, assessments, assisting therapists in the fabrication of aids and gadgets, provision of education to caregivers, video and photo taking, and recording. In addition to working with the hospital treatment programme, they also traveled to patients' homes to evaluate their home environments and to assist in home modification, in order to enhance the patients' ADL independence. As most survivors live in the rural countryside, the housing environment was unsuitable for wheelchair users, essential home reconstruction was thus recommended. In the evenings, the students attended PDRA evaluation meetings at their hotel, to plan for the next day's program.

Despite their lack of experience with patient management, the positive attitudes of these students have inspired not just the earthquake survivors, but also the hospital staff and the PDRA team. It was certainly a good learning experience for the students, which may also allow them to become volunteers or experienced staff members in the future, to further assist with post-disaster management and rehabilitation. We also expressed our special thanks to Hong Kong Jockey Club for their donation to support the purchase of rehabilitation services and equipment for the quake survivors.

The 7th Congress of APTSA in Bali, Indonesia

17th Central Committee
Hong Kong Physiotheraphy Concern

On 11 and 12 August, 2016 Asia Physical Therapy Student Association (APTSA) held its 7th congress, bringing together over 100 PT students from eight Asian countries in Bali, Indonesia. From Hong Kong, a total of 12 students in their first or second year joined the congress.

The theme for this year was "The Development of Physiotherapy Treatment Approaches in Neurological Rehabilitation". On the first day, we arrived at Udayana University to attend lectures about stroke and soft tissue length management. After lunch, there were workshops on different topics, including the Bobath concept and neurovisceral facilitation. The workshops were insightful on neurological rehabilitation.

At our hotel, we joined a cultural night event. Participants were required to perform something to represent their own country. As Hong Kong representatives, we played kung fu, danced, and sang. We all enjoyed that night.

Acquiring knowledge is not the only purpose of the congress. Encouraging information exchange among students from different countries is also APTSA's aim. Therefore, on the second day, we gave presentations about PT in our own countries on neurological and pediatric rehabilitation. We were also divided into small groups to share why we had chosen to study PT and the current status of PT in our own countries. It was really nice to learn about the similarities and uniqueness of PT among these eight countries!

All in all, the 7th Congress of APTSA equipped us with knowledge about neurological rehabilitation, international views into other countries' PT, and friendships with students outside Hong Kong. Attending this congress was truly worthwhile!

Student Activities

Internationalization of the Student Learning Experience: Academic Visit to the University of Alberta

CHAU Oscar Tsun-Bo, KEI Kam Yan, KWOK Kwan Siu, LEUNG Hoi Man MAK Tsz Kit, NG Tsz Him, YAN Man Hon, YEUNG Ching Yee
Year 3, BSc (Hons) in Physiotherapy

From 5 June to 19 June, we, eight physiotherapy (PT) students, made an academic visit to the University of Alberta (U of A) and various clinical education units, to learn more about physiotherapy education and practice in Canada.

Academic visit to the University of Alberta with Prof. Marco Pang.

Meeting with Bernadette Martin (Associate Dean [Strategic Initiatives]) and Shawn Drefs (Director, Continuing Professional Education).

Pedagogical Approaches

We visited the Royal Alex Hospital (RAH) and Health Sciences Education and Research Commons, where we explored simulation laboratories and classrooms equipped with modern technologies. We also attended practical classes in sports physiotherapy, critical care, and business, together with the physiotherapy students at the U of A. There, we experienced various teaching and learning approaches (e.g., simulations, problem-based learning, case-based discussions, live broadcasts of lectures delivered in another town), which could potentially be incorporated into our own curriculum.

Simulation facilities at the Royal Alexandra Hospital.

Visit to Glen Sather Sports Clinic.

Evidence-Based Practice and a Global Outlook

We experienced the atmosphere of evidence-based practice (EBP). The RAH has thoroughly adopted the latest research evidence in their daily clinical practice. Their Physiotherapy Department is also equipped with a simulation system, which is very useful when it comes to clinical education. Glen Sather Sports Medicine Clinic has established EBP rehabilitation protocols, including sustainable peer group programmes for sports injuries (e.g., one-year ACL reconstruction rehabilitation). In addition to this, the Corbett Hall Student Physiotherapy Clinic is run by students, providing an opportunity for them to lead group classes, namely, the balance class and hip programme, independently. It is wonderful to see how knowledge of research evidence acquired in-class can be reinforced while the students undertake clinical placements in these centres. Apart from EBP, we also got to know more about physiotherapy practice and career prospects in Canada at the Physical Therapy Job Fair.

Internationalization of the RS2050 Curriculum

We agreed to establish a long-term collaboration with the U of A by incorporating our student learning experience through the RS2050 course. After meeting with the teaching staff at the U of A, it was proposed that each PT/OT student at the U of A would pair up with a PT/OT student at The Hong Kong Polytechnic University and work together on a simple assignment related to evidence-based practice. Through working with international students, our students could gain insight into the development of an effective search strategy in regard to finding the scientific evidence pertinent to a particular topic, in addition to improving their communication skills and attaining a more global outlook.

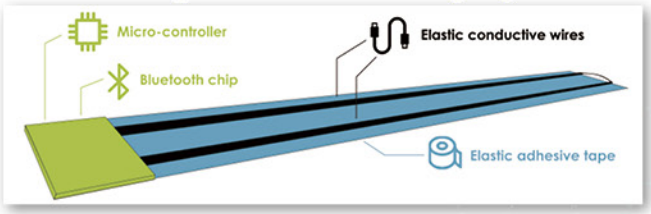
We would like to express our most sincere gratitude for and appreciation of the generous support from the Education Development Centre and Department of Rehabilitation Sciences in making this programme possible; it was undeniably an eye-opening experience for us. We wish to extend our heartfelt thanks to Prof. Marco Pang, for his guidance and care during this trip. The experience gained from it will inevitably be of help throughout our learning and future careers.

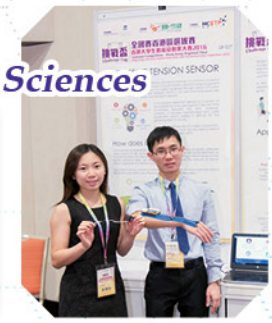
The Outstanding Teaching Award

Prof. Gabriel Ng presents the Outstanding Teaching Award to Dr Shamay Ng, Associate Professor (Physiotherapy) in Department of Rehabilitation Sciences Inauguration Ceremony, Academic Year 2016-17.

Challenge Cup National Competition (Hong Kong Regional Final)

Adhesive stretch sensor:
Third place in the category of Life Sciences





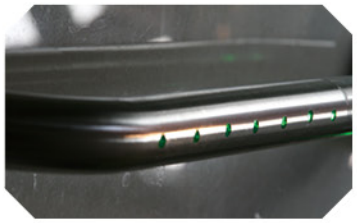
CHENG Yat Fai, CHAN Long Yu
Graduates of the Class of 2016
KWOK Chi Leung, IP Hiu Tung Joan
Year 4, BSc (Hons) in Physiotherapy

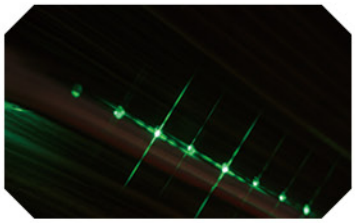
The adhesive stretch sensor aims to continuously sense joint angles, so as to provide feedback signals to the user by either sound or the vibration through the user's mobile phone. Our sensor consists of elastic conductive wires, a micro-controller, and a Bluetooth chip, which are attached to elastic adhesive tape. It could be applied to joints using sports taping techniques. When the joint moves in the restricted direction, the elastic conductive wires on the sensor are stretched and their electrical resistance increases, and by measuring the resistance, the amount of stretch can be quantified to represent the extent of the joint movement. The data are sent via Bluetooth to a smartphone app, through which users can set both upper and lower threshold values. Once the resistance value exceeds these thresholds, notifications are delivered.

There is a great variety of applications for this sensor. First, certain post-operation management requires the restriction of joint movement in order to control pain or prevent complications; our sensor could give warnings to patients once their movements exceed the set limits. Second, our sensor could be applied in sports training, to provide feedback on movement quality and amplitude. Third, it could be used as a tool in occupational health, to prevent faulty postures, such as a poking chin in office workers and mobile phone users.

Our participation in the Challenge Cup marks a milestone for our innovative development. We are looking forward to continuing our journey in the field.

Star'rail:
Third place in the category of Life Sciences





CHENG Pui Yi, CHEUNG Pui Man
KONG Wai Wa, WU Tak Ping
Year 4, BSc (Hons) in Occupational Therapy

Ms Cora Kong and Ms Kimberly Cheung attended the final judging event on 21 June 2016. We are members of the Entrepreneurship Society at PolyU and were very grateful for the opportunity to join this competition, which has broadened our horizons. We believe that innovation is very important to the future development of the field of health rehabilitation.

Our team was formed of four OT students. Our team found that, among elderly people with cognitive impairments, although handrails are a common safety modification in their homes, most of this population lacks either the habit or the awareness of using it. Therefore, our invention, Star'rail, combines functions of the traditional handrail, LED lights, and motion sensors, to automatically provide immediate visual cues that attract clients' attention, enabling them to use it as support and thereby reducing the risk of indoor falls. Star'rail can be applied in most indoor environments and settings, such as care and attention homes for the elderly, community centers, public toilets, and the users' homes.

We have noticed that the stereotype for fall prevention or rehabilitation products are only for weak people and they are not aesthetically acceptable. Star'rail integrates elements of modern design and support function. We hope to subvert this stereotype and promote the concept that home safety devices are part of the interior design of a building.

We would like to express our sincere gratitude towards Dr Kenneth Fong (Associate Professor) and Mr Eddie Hai (Clinical Associate) for their advice and support throughout these months of preparation and without their help. We would not have been able to win this award.

This award has provided remarkable inspiration for both our efforts in applying academic knowledge to the design of an innovative rehabilitative product and for our practice of the entrepreneurial motto of "do well, do good".

Student Activities

The Challenge Cup National Competition (Hong Kong Regional Final) is a platform for the exchange of innovative and academic ideas among university students. Students from the Department of Rehabilitation Sciences (RS) won several awards in this competition.

Search and Rescue Smart Snake (SARSS):
Third place in the category of Mechanic Control

CHAN Wing, FUNG Yuk Ting, LAM Wing Tung
Year 3, BSc (Hons) in Occupational Therapy

Realizing that searching for survivors under piles of rubble when buildings collapse is always a difficult task for rescue teams, our team decided to invent a robot that can facilitate the rescue process and thereby increase the survival chances of victims.

The Search and Rescue Smart Snake (SARSS) can detect signs of life in disaster areas effectively, precisely, and efficiently. It serves as a tool for rescue workers to use to carry out their duties safely and to save lives in a timely manner. With reference to the figure dexterity of the snake, a two-stage wheel design is applied to the SARSS. The wheel design can facilitate its in-depth probing among rubble. The SARSS' infrared night shooting lens is connected to mobile device apps. Rescue workers can monitor the situation at all times by looking at the instant images created by the apps. The direction of the SARSS can be controlled by the same apps. In addition to this, the SARSS is equipped with an infrared sensor and a GPS system. After detecting signs of life (i.e., body temperature) with the infrared sensor, the location of the survivors is indicated.

The invention process was difficult. We had to overcome a lot of technical problems, such as modifying the mechanical design of the robot and writing mobile device apps. The competition was a challenging but enjoyable experience. Winning the third place prize in the Mechanic Control category is a big encouragement to us, which strengthens our beliefs that creativity can really help to build a better world. It also demonstrates that passion and persistence can make anything possible. We hope to learn and experience more in the final round of the national competition, which will be held in Sichuan this November.

OT Students Win the Gold Award in i-CREATe 2016

CHAN Wing Kwan, LAI Man Lee
LEUNG King Hung, SO Tze Yan,
YIP Ka Hung
Year 4, BSc (Hon) in Occupational Therapy

We are extremely honored to receive such an important award, the i-CREATe 2016 gold award. We are grateful for the international recognition we have received for our design. Every other competitor was as capable of winning this award.

With ever-advancing technology, smartphones have made our lives more convenient. Screen sizes are getting bigger, year after year, model after model. Bigger screens offer us a better quality of entertainment; however, it can be difficult for many people, especially those with hand impairments, to manipulate these larger screens with a single hand. In addition to this, frequent use of these smartphones can induce cumulative traumatic disorders. We aimed to improve the quality of life of all walks of life with a simple, affordable, and universal design.

EASLIDER is an innovative smartphone add-on with a soft and comfortable elastic grip, unlike the metal ring currently available on the market. The 'slidable' track allows people with different levels of hand function to achieve full-screen navigation easily and without dropping their phones, even when only using a single hand.

As OT students who are not experienced in product design, we faced several challenges in the process of creating this item. Winning this award would not have been possible without the advice we received from Dr Kenneth Fong, technicians, and potential users, for whom we have the deepest respect.

In conclusion, technology should be developed to empower rather than to discriminate against people. It is our mission to reduce the barriers that prevent people with disabilities from accessing technology. Through our simple yet useful design, we hope more attention can be drawn to equitable accessibility of new technology. Lastly, we would like to sincerely thank everyone for recognizing EASLIDER and bringing us to the international stage, where we can proudly hold up this award.

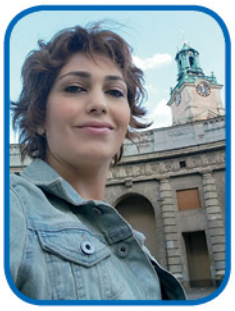
Staff Activities

The Internationalization of our Research Students (Part II)

Daniel Ahorsu

I am Daniel Kwasi Ahorsu, a clinical psychologist from Ghana. I received my MPhil degree from the Psychology Department at the University of Ghana. Having worked at the Progressive Life Centre-Gh and Ghana Health Service (UE/R Hospital) for some years, I decided to pursue my PhD degree in order to brush up on my research and academic skills. I am currently in my second year, under the supervision of Prof. Hector Tsang. My research intends to enable a better understanding of why individuals with major depressive disorder, compared to healthy controls, tend to fixate on negative emotional stimuli, using neuroimaging techniques. PolyU has a good international reputation and modern research facilities. My decision to pursue my PhD at PolyU was due to two main reasons: the excellent research infrastructure and the perfect link between my research interests and my supervisor's expertise. With the above, I was fully assured of a good environment in which to conduct my PhD study, with quality supervision.

Rezvan Mirsafaei Rizi



I am Rezvan Mirsafaei Rizi from Iran, a third-year PhD student under the supervision of Prof. Ella Yeung and Dr Simon Yeung. I did my bachelor's and master's degrees in sports sciences. After working for more than seven years as a faculty member at the Azad University of Isfahan, I decided to further pursue my own education. Since my husband studied as a PhD student at PolyU, he played a vital role in encouraging me to choose this university. I found that PolyU is not only famous for its international environment, but also for its innovative research and quality education. Regarding ranking and awards, it holds a great position in the world. Furthermore, the scholarship offered to international students is another positive point that boosts its attraction. The friendly staff members also create favorable surroundings for communication and learning. Besides studying, there are many opportunities in Hong Kong to discover and enjoy.

Abiot Yenealem

My name is Abiot Yenealem, an Ethiopian national, pursuing my PhD in RS, specializing in cognitive neuroscience. Prior to joining PolyU, I did my bachelor and master's degrees in psychology. I'm interested in neurodegenerative diseases (MCI, dementia, and Alzheimer's disease in particular). I'm currently working on visual attention in MCI with the purpose of tapping into underlying neural mechanisms, using fMRI. I'm very happy to be working under Prof. Chetwyn Chan and Dr Bolton Chau.

I started searching for possible universities in which to do my PhD in 2011, and first came across PolyU. For me, choosing PolyU was simple for three main reasons: (1) my research interests and the availability of suitable professors; (2) funding opportunities; and (3) the perceived potential of gaining international exposure in academia.

Adjustment to Hong Kong and PolyU was not difficult. Hong Kong is an international and vibrant city, which everyone could enjoy and I'm not an exception to this. I'm hoping that studying at PolyU will help me gain the knowledge, skills, and experience needed to become a good neuroscientist.

Visits

2016 SEP 1 I-Shou University, Taiwan

2016 SEP 12-14 Chiang Mai University, Thailand

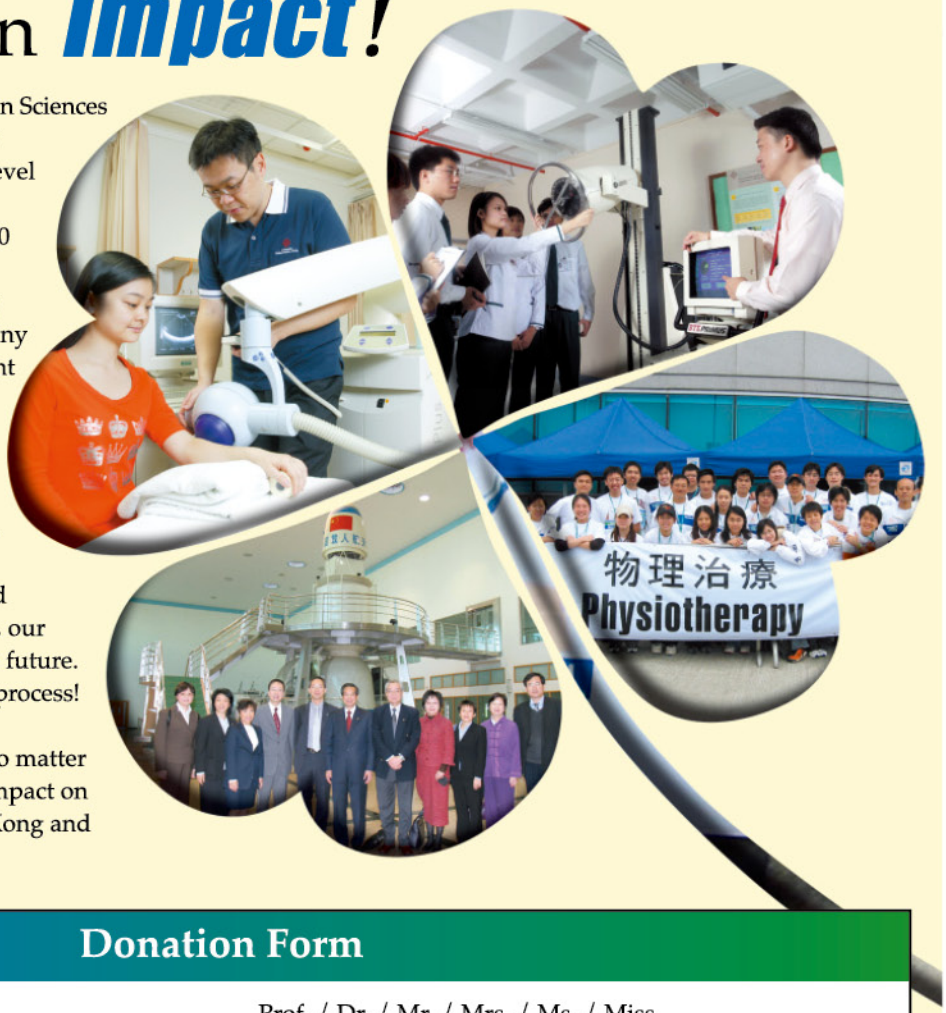
2016 JUL 5 Srinakharinwirot University, Thailand

2016 SEP 9 Marymount Secondary School, Hong Kong (SAR)

Your **BIG** or small Donation will make an ***Impact!***

The Department of Rehabilitation Sciences (RS) has been providing high-quality internationally benchmarked entry-level education to occupational therapists and physiotherapists for more than 30 years. Our graduates are competent professionals serving clients in Hong Kong, the Chinese Mainland, and many other countries. We also offer excellent opportunities to practitioners and researchers to pursue further education from a disciplinary-specific or multidisciplinary perspective in rehabilitation sciences. In order to achieve its mission of providing high-quality education and mediating professional development, our Department still has a lot to do in the future. Your support is vital to facilitate this process!

Please offer your support by making a donation. Your donation, no matter whether big or small, will make an impact on the future of rehabilitation in Hong Kong and throughout the world.



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