



INTERNATIONAL  
SOCIETY FOR PROSTHETICS  
AND ORTHOTICS

*...moving beyond physical disability*

# GEM



global educators meeting

September  
18-20 **2018**



18-20 September 2018

**Göttingen, Germany**

# Final report

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## Introduction, background and objectives

### Mission

The **Global Educators Meeting (GEM)** is an international collaboration of Prosthetics and Orthotics (P&O) Educators for the purpose of ongoing exchange, professional development and supportive learning.

The 2018 programme was developed for Prosthetics and Orthotics Educators, to better understand the current status of Prosthetics and Orthotics education around the world, to connect with each other and share experiences about the situation of Prosthetics and Orthotics education in their countries.

### About prosthetics and orthotics

The **International Society for Prosthetics and Orthotics (ISPO)** aims to improve the quality of life for persons who may benefit from prosthetic, orthotic, mobility and assistive devices by:

- Promoting multidisciplinary practice
- Facilitating professional education to provide quality care
- Promoting research and evidence-based practice
- Facilitating innovative and appropriate technology
- Fostering international collaboration and consensus
- Facilitating knowledge exchange

### ISPO's Vision

Prosthetics and Orthotics contributes to a world where all people have equal opportunity for full participation in society.

For 50 years, ISPO has, primarily through its Member Societies, provided an effective platform for the exchanging knowledge and communicating on all aspects of the science, practice and education associated with the provision of Prosthetics and Orthotics care, rehabilitation engineering and related areas. The Society has approximately 3,300 members in over 100 countries.

## The Location

### Göttingen, Germany

The renowned university town of Göttingen (130,000 inhabitants) has a recorded history going back as far as 953. Its Georg-August University was founded in 1734 and boasts many famous scientists amongst its alumni including 44 Nobel laureates. The city is also home to many research institutes, including the Max Planck Institute. The rich cultural and educational life in Göttingen, with its theatres, orchestras, museums and major cultural events, attracts visitors from the city and well beyond.

## Executive summary



Bryan Malas, ISPO Education Committee Chair

In September 2018, around 100 individuals from 35 countries converged in Göttingen, Germany for the second Global Educators Meeting (GEM) focusing on the field of Prosthetics and Orthotics. Participants in this meeting were directly or indirectly involved in the Prosthetics and Orthotics profession and included educators administrators, representatives from international as well as non-government organisations, accrediting bodies and industry partners. The purpose of GEM2018 was to bring Prosthetics and Orthotics educators together to discuss educational matters and create an environment to cultivate new relationships

and build on existing ones.

The programme covered a wide range of topics and began with the keynote address from Sebastian Purps-Pardigol on relevant neurobiological processes in learning and what this means in creating favourable conditions in our daily learning environment. During the meeting, ISPO discussed the new Prosthetics and Orthotics Education Standards and their practical implementation within the accreditation process. Over the three days, speakers also gave presentations about assessments and programme development, learning facilitation, standards and collaboration.

Daily summaries with key points from the breakout discussions and lecture content were reviewed and refined to form the basis of the final conference recommendations (see recommendations section of this report). These will serve as a road map for Prosthetics and Orthotics education programmes to revise the current Prosthetics and Orthotics education and training standards/guidelines and organise future education meetings.

GEM2018 was deemed successful based on the conference recommendations and positive feedback from participants. However, the impact of the meeting will only become apparent once the extent of the recommendations take effect. What is certain is that Prosthetics and Orthotics educators from across the world came together in an historic meeting to discuss matters that are important to them, their students and the profession at large.

Bryan Malas, ISPO Education Committee Chair

## Recommendations

### Background

Prosthetics and Orthotics education requires the incorporation and development of appropriate skills for educators, so they are enabled to work with 'best-practice' educational methodologies. Therefore, as well as strong Prosthetics and Orthotics knowledge plus clinical and technical skills, Prosthetics and Orthotics educators need an adequate level of education and experience in the context of learning and teaching.



GEM2018 participants during the opening ceremony

The Global Educator Meetings (GEM) is proving to be a valuable forum and networking opportunity for Prosthetics and Orthotics educators and institutions, providing strong input for developing ISPO educational activities. Summary of feedback from the post-meeting survey (see page 14) indicated that the 2018 GEM met the expectations of many participants and addressed current issues as well as the concerns of their organisations.

## GEM recommendations

The new ISPO education standards should be implemented to ensure that Prosthetics and Orthotics education programmes around the world have appropriate curriculum, infrastructure and resources. These standards aim to ensure that students can develop into entry-level practitioners who will provide quality Prosthetics and Orthotics services.

It is necessary to adopt and implement the updates nomenclature and definitions of Prosthetics and Orthotics occupations:

- Prosthetist/Orthotist (previously Category I)
- Associate Prosthetist/Orthotist (previously Category II)
- Prosthetic/Orthotic Technician (previously Category III)

An international approach to evidence-based Prosthetics and Orthotics education should be encouraged, using Prosthetics and Orthotics specific knowledge, skills and competencies to provide a guide for curriculum development.

Formal Prosthetics and Orthotics education should be undertaken within recognised educational pathways, wherever possible. Student learning and assessment tasks should be appropriately targeted to address the key skills required for Prosthetics and Orthotics practice.

Prosthetics and Orthotics educational institutions and educators should identify and implement Continuing Professional Development (CPD) as a corner stone of development.

Prosthetics and Orthotics educators should have an adequate level of education and experience in the specific teaching and learning context. They should also be familiar with the process of identifying learning requirements and selecting the assessment tool that addresses the skill. This could support the development of educational resources, enhance student learning, and increase the range of assessment methods and techniques.

Problem-based or case-based learning, can be powerful learning tools and should be an integral part of Prosthetics and Orthotics education. Students need to learn to 'think' like prosthetist/orthotists. Learning activities conceptualized from the perspective of a prosthetist/orthotist encourages the development of skills in clinical decision-making within the context of Prosthetics and Orthotics service provision.

There is a need for GEM to become a standing meeting held every four years. The purpose of the meeting is to act as a forum to facilitate communication and collaboration amongst schools with the intention of improving global Prosthetics and Orthotics education.

GEM participants could encourage quality improvement in Prosthetics and Orthotics education and assist in advocacy activities to build capacity for a sufficient number of Prosthetics and Orthotics personnel and a competent, high-quality Prosthetics and Orthotics workforce.

There is a need to maintain momentum between the GEM meetings and develop collaborative approaches to Prosthetics and Orthotics education. Ongoing engagement and collaboration between schools at domestic and international level is recognised as constructive and therefore encouraged. Cooperation between schools should not be limited to only ISPO-recognised schools, but all Prosthetics and Orthotics training programmes. Ongoing development of pathways and programmes to encourage and communicate collaboration between schools is recommended.

GEM participants should be encouraged to organise intermediate Prosthetics and Orthotics educational meetings, during the interval period between GEM meetings; dealing with topics and themes to address specific educational issues and needs.



For future GEMs:

- Consider more than two presenters for each session to allow for greater depth and understanding of the topic
- Improve the global nature of the event. For GEM2019, all chairs and co-chairs came from high income countries
- Encourage maximum outcome and further reach, consider the possibility of live streaming for some presenters and/or participants
- Facilitate the participation of delegates from around the world, GEM should be as global as possible. Therefore efforts should be made to encourage applications to host each GEM on a different continent.
- Enable inclusion, the GEM working group should encourage Prosthetics and Orthotics educational institutions to ensure diversity in representation, specifically female educators and educators who themselves have disabilities.
- Coordinate a meeting for GEM discussions at the time of the ISPO World Congress in Kobe, Japan during October 2019.

At present, Prosthetics and Orthotics education appears to have a limited role within Prosthetics and Orthotics Member Societies. However, increasing engagement may present an opportunity to encourage membership at both student and professional level. Additionally, there may be a role for Prosthetics and Orthotics education programmes to assist or be the host site for ISPO Short Courses.



Professor Friedbert Kohler OAM, ISPO President

## Pre-meeting survey results

Prosthetics and Orthotics schools were asked to complete a questionnaire to gain insight to the requirements of the event prior to GEM2018. Thirty-four (34) schools responded to the survey, with 97% confirming they were interested to attend GEM2018.

90% of respondents identified traditional lectures and practical teaching as pedagogic models used within Prosthetics and Orthotics education at their institution; while 83% identified student-centred learning (case, enquiry, and problem based).

90% of respondents identified student centred learning (e.g. case based, enquiry based, problem based) as the pedagogic model they are most interested in learning more about.

The most common types of examinations used within the Prosthetics and Orthotics schools were identified as: 97% written examinations, 88% practical examinations and 77% case presentations (e.g. students present solutions to a fictional or real patient case).

Respondents identified the examination forms they would like to learn more about. 84% requested Objective Structured Clinical Examinations (OSCEs), 59% asked about case presentations (e.g. students present solutions to a fictional or real patient case) and 25% specified oral examinations.

When asked about the educational outcome measures used within their Prosthetics and Orthotics school: 79% identified course evaluations, 70% student satisfaction surveys and 64% teacher evaluations.

53% of respondents identified educational research as a topic they would like to see included in the programme, 47% requested assessment of student performance, 41% programme evaluation and 41% assessment of psychomotor student performance (e.g. physical and kinaesthetic forms of learning).



## The participants

Approximately 100 participants, from 35 countries attended GEM2018 from across every continent on the globe.

## The programme

The programme (see annex 1) aimed to address a broad range of perspectives on current and future Prosthetics and Orthotics education; identified by the GEM Working Group, and the pre-meeting survey.

The topic of particular interest was the newly launched ISPO Standards for Prosthetics and Orthotics Education, which include updates on outmoded terminology and reflect the modern shift towards progressive, outcome-based models of accreditation, while preserving the fundamental tenets of the profession and integrity of the accreditation process.

The new standards reflect the international community's core values and unifying principles and will ensure consistency and quality in Prosthetics and Orthotics education worldwide. Successful accreditation signifies that a programme meets curriculum, infrastructure and resource requirements and produces highly qualified, entry-level practitioners, thereby increasing access to quality Prosthetics and Orthotics services.

To best meet their needs, participants were divided into two groups that corresponded to different sections of the programme and focused on topics of interest for leaders or educators. Time for questions and answers was available after each session.

From mid-afternoon on the first day, participants were taken on a tour of the ZHT University Medical Centre, that included an introduction on the Orthobionics programme.

In the evening of the first day, participants were treated to a welcome reception at the Bullerjahn, a beautiful cellar tavern, located in Göttingen's Old Town Hall.

From mid-afternoon on the second day, participants were taken on a tour of the Ottobock Orthotics and Prosthetics School and Company in Duderstadt to discover the application-oriented education programme and gain insight into the research, production and logistics of this large multinational company.

In the evening of the second day, Ottobock hosted the event dinner at the Max-Näder-Haus.

Aside from presentations on interesting topics, it is hoped that the programme offered multiple opportunities for networking, creating new professional relationships and building on existing ones.

## Final session

The final session of GEM2018 took on an interactive format so participants could share ideas and discuss opportunities for collaboration between Prosthetics and Orthotics education institutes as well as other stakeholders. The content was a series of target discussions on the areas listed below.

**Discussion surrounded the following content areas:**

- Collaboration with clinical sites
- Collaboration with industry partners
- Collaboration with non-governmental organisations
- Collaboration on curriculum
- Faculty and student exchange
- New learning formats
- Research collaboration

### Collaboration with clinical sites

Participants discussed the unique challenges and opportunities of collaboration between clinical sites and Prosthetics and Orthotics education Institutes.

The groups discussed practices in standardizing clinical content, establishing patient pools, balancing the clinical and faculty ratios, and the opportunities these partnerships present in-terms of multidisciplinary/ interdisciplinary education and clinical service.



Participants networking during the first day of activities.



Key words from the discussion on collaboration with clinical sites

### Collaboration with industry partners

In this facilitated group, educators discussed the role of partnerships with industry beyond the Prosthetics and Orthotics sphere.

In ideal circumstances, industry partnerships were considered to be beneficial as a supplement to learning, provide pathways for growth and were seen as overall important for the education of students.

However, participants identified the following issues that could arise:

- Industry partners are increasingly pressed for resources
- A monopoly can arise in knowledge and experience, which may limit comparability and objectivity
- Cultural issues on branding and choices.

- Sponsorship can become a real or perceived conflict of interest and even be seen as a bribe.

Overall there was a perceived need to capitalise on the benefits of partnership, with a balance of other interests including sustainability and the need for industry partners to see a return on investment.

Participants suggested that some risks may be mitigated by developing frameworks to guide the implementation of partnerships such as an ethics committee or a code of conduct.

## **Collaboration with non-governmental organisations**

In this session participants discussed the goals of collaboration with non-governmental organisations (NGOs) including:

- Resource and information sharing
- Implementing partners to enhance Prosthetics and Orthotics services through education (NGO personnel)
- Opportunities for experience exchange:
  - ⇒ Broadening perspectives of students in low-income countries
  - ⇒ Enhancing creativity, innovation and problem solving
  - ⇒ Consulting on components and finding solutions
  - ⇒ Creating resources for general teacher training
  - ⇒ Supporting the ISPO accreditation process

These collaborations also identified challenges such as:

- Often the specific settings where these collaborations take place are unique and challenging such as NGOs whose work is implemented in post-conflict countries or regions
- Political commitment can vary
- Lack of reliable data is a challenge in all setting but is especially high in the types of settings the NGOs tend to operate. This can result in an information gap between NGOs, services and needs.
- Lack of awareness and/or donor fatigue

A range of possible solutions to respond to these challenges include increasing donor awareness, working with international organisations to seek political support, encouraging and supporting Disabled Persons Organizations (DPOs) in advocacy activities.

## **Curriculum collaboration**

Curriculum collaboration was seen as an important topic to educators. Participants agreed that there was a need for educators to make efforts to share resources, develop high quality reliable training materials for educators to access and use not only for reference but also for learning and assessment activities. Participants suggested that a resource centre of approved content would be seen as valuable. A resource centre for Prosthetics and Orthotics educators could include downloadable or streamed content as well as a forum for discussion.

### **ISPO Education Forum**

- Learning activities
- Curriculum Maps
- Quality assurance resources
- Digital lectures or content
- Teaching tools
- Case studies
- Assessments
- Links to other Repositories
- Community Blackboard
- Templates
- Projects

## **Faculty and student exchange**

Faculty and student exchange programmes were seen as a positive opportunity to develop collaboration between Prosthetics and Orthotics education programmes. Student exchanges were generally considered as the priority. However, exposure to other cultures and approaches to problem solving were seen to be beneficial to faculty also. Potential for language barriers, a lack of funding, limited information or resources related and differences in curriculum were stated as challenges in establishing effective exchange programmes that may restrict exchanges.

Participants offered solutions to perceived challenges such as;

- Short-term visits for faculty exchange like seminars, summer schools
- Including two partners or more in the exchange programme
- Support through webinars (e.g. Thomas More webinar on pattern drawing)
- Database of schools, organisations and resources for sharing
  - ⇒ ISPO as facilitator (transparency)
  - ⇒ Local regulations for patient care (internship)
- Including placements and/or study abroad slots in curriculum to maintain flexibility and develop bilateral agreements
- Offer specific courses online or as a webinar at home
- Extension of studies to allow for semester abroad
- Shorter exchanges (one week)
- Summer schools

## **New learning formats**

Participants discussed some of the new learning formats that are being applied or have potential in the field of Prosthetics and Orthotics. While many positive changes have occurred. These new learning formats may meet with certain obstacles such as resistance to new technology, limited access or the cost for access to new technology. Faculty may be presented with the challenges of increased workload of implementing new formats, related to updates to the curriculum, learning or evaluation activities.

## **Research collaboration**

Participants discussed the current gaps in research and noted that there is a need for efforts to increase capacity in research by Prosthetics and Orthotics subject matter experts. Research on Prosthetics and Orthotics education was specifically identified as an important gap in research.

## Post-meeting survey results

Immediately following GEM2018, participants were requested to complete a short evaluation questionnaire. A total of 50 participants responded to the survey aimed to gather opinions regarding the event and generate recommendations to improve future meetings.

When asked if GEM2018 meeting met their expectations, 98% indicated that it did. 96% of respondents felt that topics discussed were related to present issues and concerns at their organisation. The presentations received mixed reviews with many positive comments concerning the quality of some presentations. There were suggestions about how time management could be improved and a lack of opportunity for Prosthetics and Orthotics schools to present their activities. It was identified that only having two presentations on each topic did not allow for an in-depth understanding of the subject matter. 94% of respondents felt that the programme allowed enough time and opportunities to network.

The overall organisation was well appreciated with particular positive comments about the ISPO staff and the organisation of the site visits. PFH Private University of Applied Sciences was commended for the facilities and local organisation of the event. A recommendation was made about making drinking water fountains available so participant could refill their plastic bottles and reduce plastic waste.

When asked what attracted them to the GEM2018, 81% of respondents identified the programme, and 85% the opportunity to network.

Finally, respondents were requested to suggest topics for future educators' meetings. The suggested topics were broad, including continuous professional development for Prosthetics and Orthotics teachers, student assessment, collaboration between Prosthetics and Orthotics schools and research.

The social events and their venues at Bullerjahn and the Max-Näder-Haus were extremely well received by participants.

## Acknowledgments

### The host

#### **PFH Private University of Applied Sciences**

The Prosthetics and Orthotics Education Committee and GEM2018 Working Group would like to express their utmost gratitude to the PFH Private University of Applied Sciences for their remarkable efforts and commitment in making GEM2018 a great success.

From active input to planning, participation during the meeting sessions, poster exhibition set-up, to networking and social events; the local organisers exceeded all expectations. The hospitality shown and cultural experience created a great backdrop for the meeting itself.

PFH Private University of Applied Sciences was recognised by the Lower Saxony Ministry of Science and Culture in 1995, which means that it is Lower Saxony's oldest private, state-recognised university. The incentive for its foundation was the idea of providing fresh impetus in the fields of science and teaching, with a purely privately funded university that offers a study programme aligned to the real needs of the economy.

In the Healthcare Technology study programmes, students acquire know-how for orthopaedic technology and the sciences of medicine, biomechanics, materials and engineering. As a result of establishing the [ZHT Zentrum für Healthcare Technology](#) (Centre for Healthcare Technology) in 2011, the PFH provides state-of-the-art technical equipment in spacious premises at Göttingen University Clinic to enable students to be successful in their studies. The skills acquired enable graduates to enter professional fields in internationally growing industries.

While developing the courses of study, PFH worked closely together with an industry network, which ensures the highest quality for students. Ottobock HealthCare GmbH from Duderstadt was an important source of inspiration in the development of the study programmes. Other partners include the Federal Academy of Orthopaedic Technology (BUFA) in Dortmund, the Federal German Association for Orthopaedic Technology, the International Society for Prosthetics and Orthotics (ISPO) and the University Medical Centre Göttingen (UMG).



## The diamond sponsor

### **Ottobock SE & Co. KGaA**

The Prosthetics and Orthotics Education Committee and GEM Working Group wish to acknowledge the ongoing support of Ottobock to the Prosthetics and Orthotics industry globally, and especially Prosthetics and Orthotics education. Once again, their input to GEM was invaluable, from active participation in the planning of the event to organising site visits to their headquarters and Prosthetics and Orthotics educational facility, plus an evening social event for participants.

During a visit to Ottobock headquarters in Duderstadt the GEM participants gained an insight into how a large industry player operates its international business.

In parallel groups, the participants were given a guided tour around the production facilities. At the Ottobock Campus, home of the Ottobock International O&P School, they learned about the global training and education concept of Ottobock.

The day concluded with an evening reception at the Max-Näder-Haus, the childhood home of Ottobock owner Professor Hans-Georg Näder. In his welcome speech Ralf Stuch, Chief Sales and Marketing Officer, illustrated the importance the founder of Otto Bock and his family has attached to education over the past 100 years. He underlined the role of schools and universities for ensuring that skilled professionals can keep pace with advances in medicine and technology. As special guest the Paralympic top athlete Heinrich Popow vividly shared his personal experiences and responded to questions from the audience.

## European Association Awards

### Best Association Training Initiative finalist

In November 2018, ISPO International submitted an application for GEM2018 to be considered as Best Association Training Initiative in the European Association Awards. In January 2019, the finalists were revealed, and we are pleased to announce that GEM2018 was shortlisted for this prize.



**THE EUROPEAN  
ASSOCIATION  
AWARDS 2019**

**FINALIST**

Best Association Training Initiative

## Annex 1 – programme



### EVENT ORGANISERS



INTERNATIONAL  
SOCIETY FOR PROSTHETICS  
AND ORTHOTICS



PFH

PRIVATE UNIVERSITY  
of Applied Sciences

### DIAMOND SPONSOR

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SPS

Streifeneder ortho.production GmbH

September 18, 2018			
LEARNING FACILITATION			
08.00	Registration		
08.30	Opening Ceremony – Friedbert Kohler (ISPO President), Bryan Malas (ISPO Education Committee Chair), Prof. Frank Albe (PFH President), Prof. Bernhard Greitemann (Representative of P&O Associations in Germany) Participants will be welcomed by representatives from ISPO and the host, as well as relevant professional associations in Germany. The goals and objectives of the meeting will be outlined.		Plenary Session
09.15	Key Note Address Learning and potential development – Sebastian Purps-Pardigol Sebastian Purps-Pardigol will present relevant neurobiological processes in learning, potential for development and what this means for creating favourable conditions in our daily learning environment.		Plenary Session
10.30	Coffee Break		
11.00	World Café During this workshop, participants will reflect upon the principles introduced in the keynote address, and develop ideas on how to apply them in their everyday professional lives.		Workshop
12.00	Lunch		
	EDUCATORS	LEADERSHIP	
13.00	Learning Methodologies I: Instructional Methods – Chaired by Nerrolyn Ramstrand Teaching with cases – Rickard Bergman, Sweden Implementing problem based learning into students' clinical experience – Bashar Al Qaroot, Jordan	Empowering Educators – Chaired by Mary Scott Mentoring: Empowering Tomorrows Leaders Today – Bryan Malas, USA Expanding the instructional toolbox of educators – Approaches for diverse clinical settings – Christian Schlierf, Germany	Presentations and Discussion
13.30	Questions & Answers Session	Questions & Answers Session	
13.45	Learning Methodologies II: Blended Learning – Chaired by Christian Schlierf The flipped classroom – Mary Scott, UK Mechanics in a flipped classroom concept – Veerle Creyelman, Belgium	Advancing Clinical Education – Chaired by David Rusaw Re-imagining Practical P&O Subjects – Multi Element Case Based Learning in ICRC Supported Education Projects – Greg Halford, Jordan Tips for Developing O&P Clinical Courses and Fostering an Effective Student Learning Environment – Sun Hae Jang, USA	Presentations and Discussion
14.30	Coffee Break		
15.00	Bus transfer to University Medical Center		
15.15	Visit ZHT University Medical Center The focus and concept of the Orthobionics programme at PFH will be introduced, including a discussion of how it is embedded in the clinical environment of the University Medical Centre. On a tour through the facilities, participants will be able to explore technologies at interactive stations and discuss how knowledge and skills are transferred to students.		Presentations and interactive tour through the facilities
16.00	Bus transfer to Bullerjahn		
16.30	Welcome Reception, Bullerjahn, Göttingen		

September 19, 2018			
STANDARDS, ASSESSMENT AND PROGRAMME DEVELOPMENT			
09.00	Follow-up to the WHO/ISPO Standards in Prosthetics and Orthotics Services – Friedbert Kohler, Australia How have they influenced personnel, product, policy and provision?		Plenary Session
09.15	Questions and Answers Session		
09.30	ISPO Standards for Prosthetics and Orthotics Education – Helen Cochrane, Canada The new ISPO education standards will be officially launched and presented.		Plenary Session
10.00	Questions & Answers Session		Open Discussion
10.15	Coffee Break		
10.45	Practical Implementation and application of ISPO Accreditation Standards – Bryan Malas, USA & Helen Cochrane, Canada This session will discuss how the new standards will be applied practically in the accreditation process.		Panel Discussion
11.45	Questions & Answers Session		Open Discussion
12.00	Lunch		
	EDUCATORS	LEADERSHIP	
13.00	Assessing Learning Outcomes – Chaired by Dan Blocka The Use of Collaborative Exams and Immediate Feedback Assessment Technique to Assess Student Learning – Ann Yamane, USA Building Graduate Identity through Portfolio Based assessment – Stephanie Barnard, Australia	Course and Programme Evaluations – Chaired by Helen Cochrane The Development and Employment of a Competency Based Evaluation Online Platform for Prosthetic/Orthotic Patient Projects – Gordon Ruder, Canada An Iterative Feedback Procedure for Course Evaluation and Structure – David Rusaw, Sweden	Presentations and Discussion
13.30	Questions & Answers Session	Questions & Answers Session	
13.45	Program development: moving beyond core content – Chaired by Rowan English Scaffolding communication skills across the Master of Clinical Prosthetics and Orthotics at La Trobe University, Australia – Renee Mackenzie, Australia Integration of wheelchair service education for developing Prosthetics and Orthotics workforce in Mobility India – Ritu Ghosh, India	Programme Financial Sustainability – Chaired by Bryan Malas Program Financial Sustainability: A Clinical Model in a University Setting – Susan Kapp, USA Financial Sustainability of a Public Prosthetics and Orthotics School in Thailand – Nisarat Opartkiattikul, Thailand	Presentations and Discussion
14.15	Questions & Answers Session	Questions & Answers Session	
14.30	Bus Transfer to Duderstadt		
15.00	Visit Otto Bock International Orthotics & Prosthetics School and Company, Duderstadt Participants will gain insight into the research, production and logistic processes of a multinational company. At the Ottobock campus in Duderstadt, attendees will be exposed to the application-oriented program of the International Orthotics & Prosthetics School.		Two parallel sessions with guided tours in divided groups
19.00	Event Dinner at Max-Näder House, Duderstadt		

September 20, 2018		
COLLABORATION		
09.00	<b>Interdisciplinary clinical collaboration as integrated part of the Orthobionics study programme</b> – <i>Frank Braatz, Jenny Ernst, Germany</i> This lecture will show how the cooperation between PFH and UMG has developed and how the patient consultation at the hospital is integrated into the curriculum today. On the basis of concrete patient examples, it is shown which teaching contents can be taught in practical application.	Presentations
09.30	<b>Questions &amp; Answers Session</b>	Open Discussion
09.45	<b>Collaboration between P&amp;O Schools and Clinical Sites</b> – <i>Chaired by Gordon Ruder, Canada</i> Cooperation of countries in the implementation of an educational program for training P&O specialists in Ukraine – <i>Antonina Salieieva, Ukraine</i> Training schools support to clinical sites : Experience of ENAM Lomo – <i>Anareme Kpandressi, Togo</i>	Panel Discussion
10.15	<b>Questions &amp; Answers Session</b>	Open Discussion
10.30	<b>Coffee Break</b>	
11.00	<b>Bridging the professional skill set: where do we need to collaborate?</b> – <i>Chaired by Berit Hamer, co-Chaired by Dan Blocka</i> <i>Miguel Fernandes (ICRC), Robin Seabrook, (NCOPE), Shin Sasaki (Kobe College), Joe McCarthy (Blatchford)</i>	Plenary Session
12.00	<b>Lunch</b>	
13.00	<b>Working Groups on School Collaborations</b>	Concurrent Sessions
13.45	<b>Working Groups Outputs</b>	Presentations
14.30	<b>Closing Session</b>	



## Annex 2 – speakers



### Anaramé Kpandressi

Anaramé Kpandressi is an orthopaedic technologist and trainer at the Department of Prosthetics and Orthotics department of the Ecole Nationale des Auxiliaires Médicaux (ENAM) in Lomé, Togo. He holds a BA in English Linguistics and MEC in Education and Training Sciences. He is currently enrolled in an upgrade degree programme in Prosthetics and Orthotics with Human Study e.V. He is an active member of the Executive Board of the African Federation of Prosthetics and Orthotics (FATO), member of the ISPO e-Learning Sub Committee and the current President of the

Prosthetics and Orthotics Association of Togo.



### Ann Yamane

Ann Yamane graduated with a BS degree in Prosthetics and Orthotics and a M.Ed in Instructional Leadership from the University of Washington. Her career in clinical practice and education has been within a Rehabilitation Medicine Department and is based in an interprofessional collaborative foundation. Her educational background in Instructional Leadership promotes inquiry driven practice, use of professional learning communities, and an equity-oriented stance on education.



### Antonina Salieieva

Dr. Antonina Salieieva is Director of the Ukrainian Research State Institute for Prosthesis Design, Prosthetic Building and Rehabilitation (URIP). The institute is situated in Kharkov, Ukraine. She is a qualified higher education, engineer-chemist-technologist and a Candidate of Technical Sciences (comparable to the Academic Degree of Doctor of Philosophy, PhD). In 2004, she gained second higher education degree in biomed engineering. She has worked in the field of prosthetics since 1993.

Antonina is the author of more than 30 articles and patents on the development of new constructions and technologies in orthotics and prosthetics, the rehabilitation process of patients with amputation and diseases of the organs of motion.

### Bashar Al Qaroot

Dr. Bashar Al Qaroot is an assistant professor of the Department of Prosthetics and Orthotics in the University of Jordan. He is the Head of the Department of Prosthetics and Orthotics and Vice Dean for Quality Assurance.



Dr. Berit Hamer is the Director of International Cooperation at Ottobock SE& Co. KgAa. In her current position, she develops and manages strategic partnerships with governmental, non-governmental and international organizations to support sustainable development of health services in emerging and developing countries. Berit acts as Ottobock representative in the German Healthcare Partnership, the Industry Advisory Group of the International Society for Prosthetics and Orthotics (ISPO) and is a member of the ISPO Education Core Committee. She has

comprehensive experience in developing health policies, health care and education infrastructures in industrial as well as academic environments. A qualified Biologist, she obtained her doctorate in Medical Informatics at the Medical University Center Göttingen.



## Bryan Malas

Bryan Malas is the current director of the Orthotics/Prosthetics Department and Moria Tobin Wickes Orthotics Program at Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, Illinois; and Assistant Professor at Northwestern University's Feinberg School of Medicine. He received his orthotics training at Northwestern University and his Master's in Health Profession Education from the University of Illinois Chicago. Prior to his current position, he was Director of Orthotic Education at

Northwestern University's Feinberg School of Medicine. While serving in this capacity he was able to continue practicing clinically at Ballert Orthopedic and later at the Rehabilitation Institute of Chicago. Bryan is past president of the American Academy of Orthotists and Prosthetists (AAOP) Midwest Chapter and former chair of the National Commission on Orthotic and Prosthetic Education (NCOPE). He is co-editor of the recently published Atlas of Spinal Orthotics and is the current Education Committee Chair for the International Society for Prosthetics and Orthotics (ISPO).



## Daniel Blocka

Daniel Blocka, B.Sc., C.O.(c), F.C.B.C., is a Past President of the International Society for Prosthetics and Orthotics (ISPO) and is still currently a member of the ISPO Education Committee. He is also the Founder and President of Boundless Biomechanical Bracing, which is a large orthotic clinical service provider in the Great Toronto area since 1988. Dan is also currently a Trustee with Exceed Worldwide and continues to play a role with the George Brown College Prosthetic and Orthotic Educational

Programs in a part-time and support capacity.



## David Rusaw

David Rusaw is an Assistant Professor of Prosthetics and Orthotics at Jönköping University, where he is a Program Coordinator for the Prosthetics and Orthotics Education Program.



## Frank Braatz

Frank Braatz is Professor of Medical Orthobionics and a specialist in orthopaedic and trauma surgery, physical and rehabilitative medicine and has the additional title of Child Orthopaedic Surgeon. Before taking up a professorship at the PFH Private University of Applied Sciences, he was head of the Technical Orthopaedics and Infantile Cerebral Palsy Section in the Clinic for Orthopaedic and Trauma Surgery at Heidelberg University Hospital. Moreover, he is a founding and executive board member of the Association for Technical Orthopaedics, a member of the Specialist Council of the Federal Association BIV and the German Society for Movement Analysis. He has been conducting research into technical orthopaedics, orthobionics and movement analysis for a number of years.

After vocational training at the Physiotherapy School of the BG Clinic for Trauma Surgery in Tübingen, he commenced his medical studies in Gießen in 1989, graduating in 1995. After posts at the BG Clinic for Trauma Surgery in Ludwigshafen, the Clinic for General and Visceral Surgery at FSU Jena and the Clinic and Polyclinic for Orthopaedics at the University of Cologne, he joined the Orthopaedic University Hospital Foundation in Heidelberg in 2002. There, he became a specialist in orthopaedics in May 2003. In August 2005, he became a senior doctor, in July 2007, specialist in orthopaedic and trauma surgery and, in December 2012, specialist in physical and rehabilitative medicine.



## Friedbert Kohler

Friedbert Kohler has been serving on the International Society for Prosthetics and Orthotics (ISPO) Executive Board since 2013 and is currently President of the Society for the term May 2017-October 2019.

As specialist in rehabilitation medicine, he holds several academic and institutional functions:

- Associate Professor, Conjoint Associate Professor, University of New South Wales;
- Clinical Stream Director, Aged Care and Rehabilitation, South Western Sydney Local Health District;
- Director of Rehabilitation Medicine, Braeside, Liverpool and Fairfield Hospitals;
- Director of Medical Services, Braeside Hospital;
- Director Braeside Rehabilitation Research Group;
- Senior Staff Specialist in Rehabilitation Medicine.

In addition to his commitment with Prosthetics and Orthotics, Friedbert is involved in a number of other organisations in voluntary leadership positions, such as the Australian Member Society of ISPO, the International Society of Physical Rehabilitation Medicine (ISPRM), or the Australasian Faculty of Rehabilitation Medicine (AFRM). Furthermore, he acts as member of the editorial board of the journals *Prosthetics and Orthotics International* and *Physikalische Medizin*, and reviewer for multiple rehabilitation and quality publications.

In early 2018, Friedbert was awarded the Order of Australia Medal (OAM) by the Australian Government in recognition of his longstanding, dedicated contributions to physical medicine services in Australia and internationally, demonstrating an outstanding commitment to research, teaching, patient care and the community.



## Gordon Ruder

Gordon's extensive background and experience in research (MSc, Biomechanics), clinical practice (27 yrs.), and education (26 yrs.) well equips him to mentor a new generation of residents, educators and researchers dedicating themselves to the improvement of technical design and clinical practice. Gordon devotes his passion and energy to teaching students to become the very best of a new generation of clinicians and technicians. He has been one of Canada's main educators for the Prosthetic and Orthotic programs

at George Brown College in Toronto. In sharing his expertise as a Professor and Program Coordinator, he also has developed curriculum and teaching methods for Canada and the developing world.



## Gregory Halford

Gregory is a former Strathclyde University Associate Lecturer and La Trobe University Training Coordinator.

Gregory has worked for the ICRC for 6 years providing mentoring and Prosthetics and Orthotics education. Previously he coordinated the Afghan Diploma of Prosthetics and Orthotics and is now providing support to the University of Jordan Prosthetics and Orthotics teaching program on behalf of the ICRC Physical

Rehabilitation Program.



## Helen Cochrane

Helen is a Canadian Board Certified Prosthetist/Orthotist with a Masters Degree in Rehabilitation Sciences from the University of Strathclyde and both Technical and Clinical Diplomas from George Brown College in Toronto, Canada. She has worked in Prosthetics and Orthotics education in South East Asia and in public and private clinical services. She currently works at Boundless Biomechanics Bracing in Mississauga, Canada.

## Joseph McCarthy

Joseph McCarthy started his apprenticeship in August 1976. In 1981, he began his training in prosthetics, qualifying with a higher diploma Prosthetics and Orthotics in 1985. He collected several college prizes along the way, culminating with the BSTA limb section prize. In 1995, he was awarded the Limbless Association's "Prosthetist of the Year" prize. Over this period, he worked in and managed several centres before moving to Blatchford as a consultant prosthetist in 1996. This role allowed him to travel extensively and gain work experience in UK and internationally. In recent years, this role has become increasingly R&D oriented, enabling him to get involved in all areas of hardware development, from socket interfaces to feet and ankles, and be responsible for product training and education.



## Mary Scott

Mary Scott is a prosthetist/orthotist, with more than two decades of prosthetics and orthotics experience in conflict and post-conflict regions across Africa, the Middle East and Asia. Her professional educational pathway began with a diploma in Prosthetics and Orthotics, followed by an MSc in bioengineering, PhD in Prosthetics and Orthotics, and most recently an MBA; all awarded by the University of Strathclyde, UK. She is co-chair of the GEM2018 Working Group.





## Miguel Fernandes

Miguel Fernandes is a licensed prosthetist and orthotist with 34 years of combined experience as a Prosthetics and Orthotics trainer and manager of physical rehabilitation programmes. As a trainer, he has managed two Prosthetics and Orthotics training programmes in Mozambique and Georgia. Both of these were recognised as meeting the accreditation standards of ISPO. He has worked for the ICRC since November 1987 and has carried out field missions in Mozambique, Angola, Cambodia, Azerbaijan, Georgia, Myanmar, Vietnam and Ethiopia. Currently

posted at the Physical Rehabilitation Programme (PRP) of the ICRC Headquarters, as focal point for education, capacity building and PRP projects in Asia.

Education:

2007: License degree in Prosthetics and Orthotics from the Escola Superior das Tecnologias de Saúde do Instituto Politécnico de Lisboa, Portugal.

1984: Diploma in Prosthetics & Orthotics from the Escola Técnica dos Serviços de Saúde de Lisboa.



## Nerrolyn Ramstrand

Nerrolyn Ramstrand is an Associate Professor in prosthetics and orthotics. She obtained her undergraduate degree and her PhD from LaTrobe University in Australia before moving to Canada for 3 years and working as the head of the prosthetics and orthotics program at BCIT in Vancouver. For the past 15 years Nerrolyn has been employed in a combined teaching and research role at Jönköping University, Sweden.



## Nisarat Opartkiattikul

Nisarat Opartkiattikul MD, PhD is the Director of Sirindhorn School of Prosthetics and Orthotics and the President of ISPO Thailand.





## Renee Mackenzie

Dr Mackenzie has worked as Lecturer in the Discipline of Prosthetics and Orthotics at La Trobe University, Australia for the past 11 years. She coordinates and teaches a range of clinical and pre-clinical subjects within the program and is extensively involved in strategic curriculum development initiatives related to student engagement, scaffolding communication skills and developing pathways for reflective practice in prosthetics and orthotics. Her research focus areas include; clinical communication and behavioural analysis, organisational psychology, current expectations and history of the prosthetics and orthotics profession and learning and teaching initiatives.



## Rickard Bergman

Mr. Bergman graduated in 2002 of (BSc) Educated in Ethics and Project management and currently studying a master program in Interventions in Childhood. His experience is primarily in pediatric orthotics and human locomotion analysis.



## Ritu Ghosh

Ritu Ghosh, Prosthetist and Orthotist, holds a Master's Degree in Business Administration in healthcare services. She works as Deputy Director (Training) in Mobility India and has over 22 years' experience in disability field with senior management skills such as strategic and operational planning/execution, resource and people management, monitoring and leadership. She has extensive experience in planning, managing, evaluation and designing training programmes in field of Prosthetics, Orthotics, Rehabilitation Therapy and Wheelchairs at local, national and international levels. She is a member of the Board of Studies (Allied Health Sciences) in Rajiv Gandhi University of Health Sciences and serving as Prosthetics and Orthotics Expert Member with Rehabilitation Council of India, Government of India to primarily develop, review and standardize curriculum.



## Robin Seabrook

Robin C. Seabrook is the Executive Director of the National Commission on Orthotic and Prosthetic Education (NCOPE).

Ms. Seabrook serves as the chief staff executive for NCOPE, the organization that ensures educational and residency programs meet the minimum standards of quality to prepare individuals to enter the orthotic and prosthetic profession in the United States. She has been with the O&P profession for over 30 years and has presented nationally and internationally on accreditation, education, and certification topics. She holds a Bachelor of Arts degree in communications.



## Sebastian Purps-Pardigol

Sebastian Purps-Pardigol is a leadership coach and organisational advisor based in Hanover, Germany. Renowned neurobiologist Professor Gerald Hüther encouraged him to combine the insights of brain research with management training methods. Together they founded the non-profit project The Culture Change Code.

**Website:** [the-culture-change-code.com](http://the-culture-change-code.com)



## Shin Sasaki

Shin Sasaki was certified as a prosthetist and orthotist by the Ministry of Health of Japan in 1994. For 24 years, he worked in many countries as a clinician and/or educator in the field of Prosthetics and Orthotics.



## Stephanie Barnard

Since graduating from La Trobe University in 2002, Stephanie has worked in a range of clinical settings around Australia and overseas. Her clinical interest is pediatric orthotic clinical care and she has developed her orthotic skills to adapt to the varied and changing needs of patients. In her current position as the Clinical Education Coordinator in the Department of Prosthetics and Orthotics at Latrobe University, Stephanie leads the strategic direction of clinical education for the prosthetic and orthotic students and clinical partners. She has considerable experience developing and implementing innovative curriculum frameworks, promoting simulation curriculum and supporting the delivery of high quality inter-professional education and learning for staff, interns and students.



## Sun Hae Jang

Sun Hae Jang is an associate professor in the Orthotics and Prosthetics Program at Eastern Michigan University, USA, a researcher at Gillette Children's Specialty Healthcare, USA, and a Ph.D. candidate at University of Strathclyde, UK. She has been working in the orthotic field for 20 years and holds a bachelor's degree in teaching theory in addition to her orthotic credentials. She has worked as a chair/vice-chair of the Spinal Orthotic Society and is a fellow of the American Academy of Orthotists and Prosthetists. She received the 2017 Everett L. Marshall Award for Teaching Excellence from EMU.



## Susan Kapp

Susan Kapp, M.Ed., CP&O, FAAOP joined the Department of Rehabilitation Medicine, Division of Prosthetics & Orthotics at the University of Washington in 2017. Prior to joining UW, she was an Associate Professor and the director of the Prosthetics-Orthotics Program at the University of Texas Southwestern Medical Centre. In addition to teaching, she has spent many years providing patient care and mentoring residents. She teaches prosthetics with a special interest in collaborative learning and teaching strategies. She has served the profession on varying boards and committees. Her research interests relate to prosthetic socket volume and pressure and component selection.

## Veerle Creylman

Veerle Creylman works at Thomas More University of Applied Science where she teaches courses on mechanics, material science and CAD/CAM as part of the Prosthetics and Orthotics program. Furthermore, she is responsible for the Prosthetics and Orthotics -related research at Thomas More (Mobilab). She has a PhD in biomechanical engineering.

### Annex 3 – GEM Working Group

Below is a list of the individuals that constituted the Prosthetics and Orthotics Global Educators Meeting (GEM) Working Group, who made the event possible.

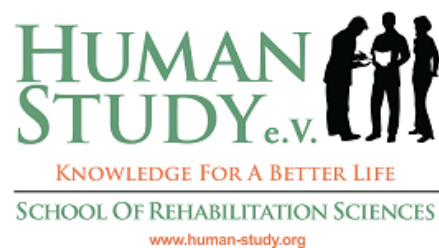
Name	Organization
Bryan Malas	Ann and Robert H. Lurie Children's Hospital
Mary Scott	
Gudrun Roehling	PFH Private University of Applied Sciences
Berit Hamer	Ottobock SE & Co. KGaA
Carson Harte	Exceed Worldwide
Christian Schlierf	Human Study e.V.
Daniel Blocka	George Brown College
Nerrolyn Ramstrand	Jönköping University
Pearl Boshof	Tshwane University of Technology
Rowan English	International Committee of the Red Cross (ICRC)
Sirirat Seng-iad	Mahidol University

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**Thank you for a successful GEM2018!**



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