



ANNUAL REPORT  
**2021**



# INTRODUCTION

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I proudly present the School of Health Professions Education (SHE) Annual Report for 2021. Next to continued challenges and the need for adaptations as a result of the ongoing COVID-19 pandemic, the year 2021 was also a year of many wonderful projects, publications and successes for SHE.

We conducted a so-called mid-term review, meaning that an external committee evaluated the School of Health Professions Education based on a set of national guidelines called the Strategy Evaluation Protocol (SEP) 2021-2027. After a real team effort to prepare our self-reflection report and all the required additional information (which can be found on our website), we had a two-day virtual site visit with the four committee members in October 2021. The committee was very positive about the various activities, policies and achievements of SHE. Something that we as a SHE Community can be very proud of! We were also very pleased to receive a set of 5 thoughtful recommendations that will help guide our plans for the future.

As a matter of fact, these recommendations align well with the four priorities that the SHE management team has set for SHE. These four priorities are:

- invest in synergy between SHE Research, Educates and Collaborates activities;
- create more support for professional development of all SHE staff;
- renew our communication and marketing strategies and activities; and
- develop a strategy for local, national and international collaborations.

As I am writing this in the spring of 2022, these priorities are already leading to concrete results. Moreover, COVID-19 changed the way in which we all worked, our ability to connect to people personally and to jointly study, educate, innovate and improve health professions education. The COVID-19 pandemic isn't completely over yet, but in many parts of the world COVID related restrictions are eased. It is time to look towards the future, to evaluate what we have learned from the past two years and to use that in educating future healthcare workers.

I look forward to working with people from the SHE Community and anyone else who is interested in health professions education to work on research, education, and innovation. In 2021 and in the future, SHE works towards a world in which all healthcare professionals are well educated and in the best position to contribute to high quality care.

I am proud to present in this Annual Report 2021, an overview of the activities, outputs and impact that SHE has generated in 2021.

**Pim Teunissen**  
*Scientific Director of the School of Health Professions Education*



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## **Future of SHE**

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# SHE IN 2021

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## Vision

SHE is a graduate school for research, education, and innovation in health professions education (HPE) (see [here](#)). Since its inception, the vision and mission of SHE has been clear and consistently focused on a global impact on healthcare through investment in research of healthcare education and the translation of research insights to education and innovation in HPE. Research quality, societal relevance and a continuing focus on viability are the focus of SHE's Management Team.

SHE's *vision* is captured in the following two sentences:

**'Excellent healthcare requires evidence-informed models for the education of future and current healthcare professionals. Through research, education, and innovation, SHE works towards a world in which all healthcare professionals are well educated and in the best position to contribute to high quality care.'**

## Mission and values of SHE

The *mission* of SHE:

**'SHE aims to be a leading hub for research and innovation of HPE worldwide. SHE connects HPE research to educational activities, consultancy, innovation and impactful global projects.'**

This mission emphasizes that SHE is the hub in a broad and global network of healthcare practitioners, researchers, educationalists and policy developers who share a passion of the development of HPE. Moreover, the second sentence helps to focus on the synergistic value of connecting theory, research and practice to move the field of HPE forward. In 2021 SHE has continued work in line with this mission, exemplified by the various activities and achievements that are described in this annual report. The leading hub role of SHE is expressed in our intellectual, physical and digital presence in the global field of health professions education.

The *values* that characterize SHE are **'open, inquisitive, socially responsible, collaborative, innovative and ambitious'**. These values are recognizable in our work and in how we work together with a variety of local to global partners. In meetings throughout 2021 with SHE staff, project collaborators, and SHE (PhD) students these values have been repeatedly emphasized.

## SHE organization

The organizational structure of SHE follows its main activities. The three core activity domains of SHE are called SHE Research, SHE Educates, and SHE Collaborates. These activities are coordinated by the SHE Management Team.

Prof. Pim Teunissen leads SHE. He is the scientific director and chairs SHE's Management Team. He combines his work as SHE director with clinical work as a gynecologist at Maastricht University Medical

Center (MUMC+). In the SHE Management Team each core activity domain is represented. Prof. Anique de Bruin represents SHE Research and is vice-director of SHE. Dr. Danielle Verstegen represents SHE Educates and Geraldine Beaujean represents SHE Collaborates. Sabina Bulic is SHE's Managing Director. Nicky Verleng is SHE's Office Manager.

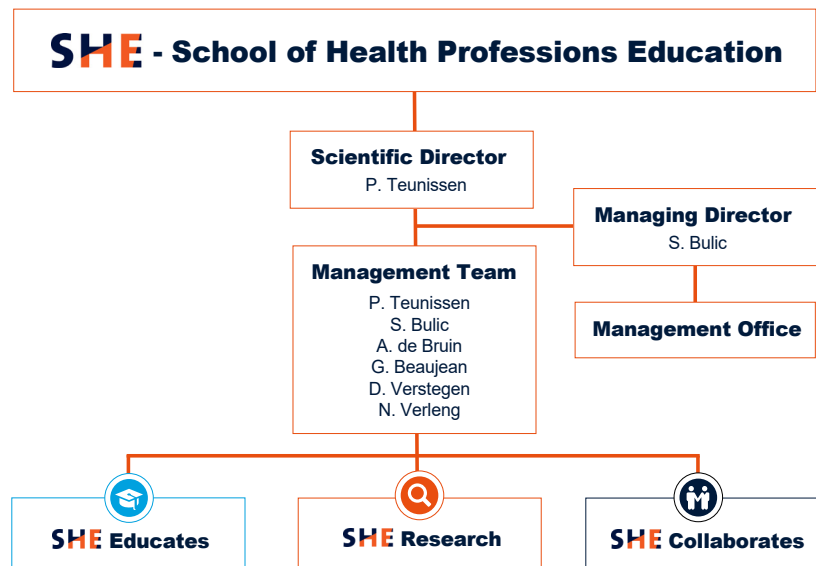


Figure 1. Organizational structure of SHE (organogram)

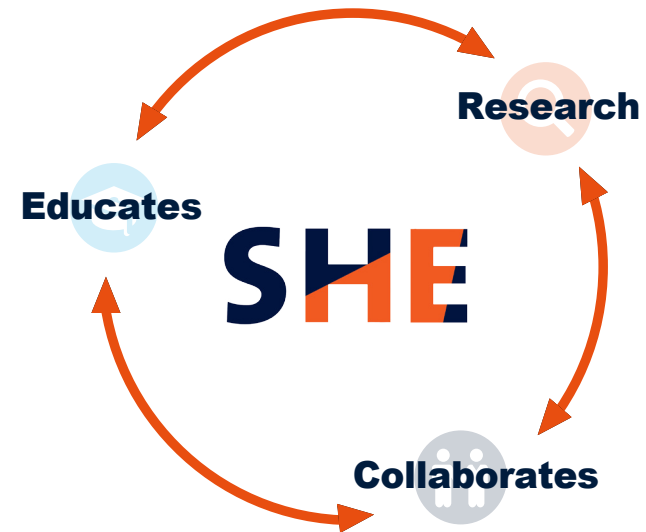


Figure 2. Organizational dynamics of SHE

## Strategy; changes and development

The vision and mission of SHE, combined with these values, inform our strategy and strategic choices. An important objective is to make sure our research informs our educational practice and vice-versa. As an example, in 2018 SHE decided to revise the Master of Health Professions Education and to align its instructional design with the state of science in HPE. This effort has been led by Dr. Daniëlle Verstegen. The result is a much more flexible programme based on individualized guidance and feedback that has started with the first cohort of students in May 2021. To further increase synergy between SHE core activities, the SHE Management Team focuses on further developing a shared identity, shared goals and providing guiding principles based on SHE's vision, mission and strategy. This process is the basis for recognizing opportunities in line with our vision and mission, strengthening collaborations within and outside the School connecting SHE activities to FHML, Maastricht University and Maastricht UMC+ educational programmes. Next to that, the SHE Management Team expects that this process will enable SHE to continue to play a leading role globally in developing the field of HPE.

Strategic choices that remain a strong foundation for SHE are the double-chain approach. The first chain concerns the connection between research and impact. Starting with application-oriented educational research is essential for finding new and better ways to educate health professionals.

The findings of this research consequently feed into the educational activities of SHE. The chain is completed when the research findings and related educational activities impact the quality and innovation in educational institutes and healthcare organizations, opening up new opportunities for research. The second chain focuses on impact on individuals and teams. This starts with short courses for participants who want to become familiar with health professions education. Next in the chain are certificate courses for participants who want to learn more about particular topics in health professions education, followed by the MHPE programme for participants who want to become academic educators, leaders or researchers of health professionals. Ending the chain is a PhD programme for participants who want to further develop as scholars in health professions education. It is not uncommon for students to first take a short course and end up doing research in the PhD programme.



Figure 3. Double Chain approach of SHE

## Management team SHE

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**Pim Teunissen, PhD, MD**

*Role: Scientific Director SHE*

Pim Teunissen was trained as a Medical Doctor (M.D.) and earned his PhD in medical education at VU University Amsterdam. He is working clinically as a Gynaecologist and maternal fetal medicine specialist at the Maastricht University Medical Center (MUMC+). In 2017 he was appointed Professor of Work-based learning in Healthcare at the Faculty of Health, Medicine and Life Sciences. His area of expertise is on workplace learning, the interaction between curriculum design and educational practice, transitions and learner well-being.

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**Sabina Bulic, L.L.M.**

*Role: Managing Director SHE*

Sabina Bulic studied Dutch Law (Master Private Law) at the Faculty of Law at Maastricht University. During her education, she started working at Maastricht University as a Project Manager and was appointed as the Managing Director of SHE in November 2019. In her role as Managing Director, she is responsible for the accounting within the school and she is the head of the Management Office of SHE.

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**Anique de Bruin, PhD**

*Role: Vice-Director SHE*

Anique de Bruin was trained as a psychologist and earned her PhD in 2006 at the Erasmus University Rotterdam. In February 2019 she was appointed Professor Self-regulation in Higher Education at the Faculty of Health, Medicine and Life Sciences. Her area of expertise is (the linkage between) metacognition, supporting learning strategies, self-regulated learning and clinical reasoning. Anique de Bruin represents SHE Research in the Management Team of SHE and is involved as the Vice-Director of SHE.



**Geraldine Beaujean, MD, MHPE**

*Role: Head of SHE Collaborates*

Geraldine Beaujean studied Medicine at the Medical Faculty of Maastricht University and is thus trained as a medical professional in an innovative educational manner (e.g. by Problem Based Learning and Early Clinical Exposure). After graduation, she worked a few years in regional health centers and hospitals, gaining experience in medical practice. Subsequently, she turned to medical education in the context of developing countries. She lived and worked in Kenya and Sudan for several years. In 2002 she returned to Maastricht University and since 2011 she is the director of SHE Collaborates, the international collaboration office of SHE. Her team engages in long term collaborations worldwide to support higher education in the area of health.

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**Daniëlle Verstegen, PhD**

*Role: Head of SHE Educates, Programme Director Master of Health Professions Education*

Daniëlle Verstegen has a background in learning psychology and cognitive Science and earned a PhD in Educational Sciences. She worked for several research institutes and started at Maastricht University in 2008, in the e-learning task force of the Faculty Health, Medicine and Life Sciences. She was appointed as programme director of the MHPE programme in January 2018 and as lead for SHE Educates in November 2020. Her area of expertise is instructional design for student-centered learning in e-learning, blended and online learning.

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**Nicky Verleng**

*Role: Office Manager SHE*

Nicky Verleng has started working at Maastricht University in 2009 and has been a dedicated Office Manager of SHE since 2019. In her role, she assists the Management Team and is responsible for the PhD secretariat in which she is responsible for the administrative procedures regarding the PhD candidates of SHE.



# Facts & Figures

STAFF AT SCHOOL LEVEL (NUMBER AND FTE)		FUNDING		
<b>School</b>	<b>N/FTE 2021</b>	<b>Funding</b>	<b>Fte</b>	<b>%</b>
Scientific staff FHML	36 / 9,35fte	(1) Direct funding	11,30	32,90%
Scientific staff academic hospital	0 / ofte	(2) Research grants	7,10	20,67%
Postdocs	8 / 4,40fte	(3) Contract research	3,00	8,74%
Internal PhD-students	11 / 9,8fte	(4) Other	12,94	37,69%
<i>Total research staff</i>	<i>55 / 23,55fte</i>	<i>Total</i>	<i>34,34</i>	<i>100,0%</i>
Support staff (research)	6 / 2,60fte	<b>TURNOVER</b>		
Support staff (managerial)	8 / 3,39fte	<b>Turnover 2021 (x1000)</b>	<b>€</b>	<b>%</b>
<i>Total support staff</i>	<i>14 / 5,99fte</i>	Government funding (direct)	1.616	28%
<i>Total staff incl. academic hospital</i>	<i>69 / 29,54fte</i>	Revenues contract education	1.556	27%
<i>Total staff excl. academic hospital</i>	<i>69 / 29,54fte</i>	KNAW/NWO/ZonMw (indirect government funding)	306	5%
SHE Collaborates	9 / 6,45fte	Other research revenues (Third party funding)	1.732	30%
SHE Educates	55/4,34fte	Other revenues	235	4%
<i>Total FTE Research, Collaborates and Educates staff</i>	<i>34,34</i>	Internal settlements	315	5%
External PhD students	91	<i>Total</i>	<i>5.760</i>	<i>100%</i>
Honorary professor	3			
Visiting fellows/professors	11			

# SHE EDUCATES

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SHE has more than 40 years of experience in implementing student-centered learning. Our courses are designed to innovate health professions education worldwide and range from a short onsite summer school or online course to a full Master of Science degree programme. In 2020 all courses had to go fully online because of the COVID-19 pandemic.

## Courses

### Introductory course

#### *SHE Summer Course – Online in 2021*

The SHE Summer Course is a one week onsite course that offers an introduction and global overview of the Maastricht approach: theoretical insights and experiences in managing and assessing student learning in student-centred curricula. In 2021, the Summer Course was provided online

### Short Courses

#### *Writing a PhD Research proposal – Online in 2021*

In this advanced course participants learn how to write a high quality PhD research proposal consisting of a series of studies that are expected to be of interest to international peer-reviewed journals. The course consists of two full-time weeks (usually onsite, but online in 2021) with an

online part in between. At the end of the course, students are expected to have developed a complete PhD proposal, so that they can start collecting data for their first study in their own educational setting.

#### *Critical choices in Qualitative Research – Online in 2021*

This advanced course focuses on core concepts and practices in qualitative research. Participants discuss essential choices in the qualitative research process. They bring in their own project and work on designing their study and/or analyzing their own data.

#### *Certificate Course Organization and Leadership*

#### *Certificate Course Curriculum and Instruction – Cancelled in 2021*

#### *Certificate Course Assessment and Evaluation – Cancelled in 2021*

The SHE Certificate Courses offer the opportunity to acquire knowledge and skills related to major topics in health professions education. The Certificate Courses are equivalent to specific sections of our Master of Health Professions Education (MHPE) and credits can be transferred for those who opt for the full programme later. The SHE Certificate Courses are provided fully online.

### JMHPE (online)

The JMHPE is a joint health professions education programme that SHE offers in collaboration with Suez Canal University in Egypt. JMHPE is a one year programme, conducted completely through distance learning and guided by staff of both institutions. Upon completion of the programme participants receive a certificate from Suez Canal University, with recognition of UM contributions.

Introductory course	Short courses	Short courses	JMHPE - Joint online HPE programme with Suez Canal University Egypt
<b>Summer course (July 2021)</b> Canada 1 Germany 1 Kenya 5 Namibia 6 Poland 4 Portugal 4 South Africa 6 <i>Total number of participants 27</i>	<b>Writing a PhD Research Proposal - twice (starting in March and October)</b>  <b>March session 2021</b> Chile 1 Curaçao 1 India 1 Kenya 2 Oman 1 Switzerland 1 United States 2 <i>Total number in March 9</i>  <b>October session 2021</b> Dubai 1 Malaysia 1 The Netherlands 3 Pakistan 2 United Kingdom 1 United States 1 South Africa 1 <i>Total number in October 10</i>  <i>Total number of participants 19</i>	<b>Critical Choices in Qualitative Research (November 2021)</b>  Canada 1 Germany 1 Finland 1 India 1 Indonesia 1 Kenya 1 The Netherlands 13 Saudi Arabia 1 Singapore 1 Switzerland 1 United Kingdom 1 United States 1 <i>Total number of participants 24</i>  <b>Certificate Course Organization and Leadership (February 2021)</b>  The Netherlands 1 Iceland 1 Canada 3 <i>Total number of participants 5</i>	Enrolled participants in 2021 22  <b>Graduates of JMHPE in 2021</b> Asmaa Fady Zaky Shreef Bibi Sumera Keenoo Doaa Abdel Wahab Ahmed El Moursi Einas Mohamed Ahmed Eisawy Yousef Eman Mamdouh AbdelBaky AbdelAziz Kolib Fatma Alzahraa Abdelsalam Ali Elkhamisy Karim Atia Atia Moustafa ElFeky Nada Hassan Ahmed Gomaa Nora Labeeb Mohamed ElTantawy Reham Mohamed Wagdy Mohamed Ahmed Salma Abdelkerim Abdelazez Bukhatwa Salwa Mohamed Mohamed Abo Elkhair Sara A Elhashmi Glessa

## Master of Health Professions Education

The Master of Health Professions Education (MHPE) is a two year, part-time and blended learning programme for teachers, designers and leaders in initial and workplace-based education in the health professions. MHPE is an accredited Master of Science programme with a special distinction for internationalisation (CeQuint).

In 2021, the MHPE programme staff started with an entirely new MHPE curriculum: an innovative competency-based curriculum centred around authentic learning tasks (60% electives) and programmatic assessment. A new and intensive coaching programme was installed to support students in planning their own learning journey and building their portfolio. Students and staff collaborated in shaping the coaching process.

### MHPE Cohort 2020

#### Maastricht 19

Cambodia, Canada, Japan, Jordania, Kenya, Mexico, Saudi Arabia, Singapore, The Netherlands, United Arab Emirates, United States of America

#### Canada

8 participants

#### New York

8 participants

#### Singapore

9 participants

#### Total number of participants

44

### MHPE Cohort 2021

#### Maastricht 30

Brazil, Canada, Denmark, Finland, Germany, India, Indonesia, Nepal, Qatar, Saudi Arabia, Singapore, Sudan, Switzerland, The Netherlands, United States of America

#### Canada

12 participants

#### New York

7 participants

#### Singapore

no participation due to COVID-19

#### Total number of participants

49



## Presenters and topics of the MHPE Master Theses 2021

### **Aditya Sharma**

MHPE Thesis: Success, struggle, and failure in thesis-based Masters and PhD programs in health professions education

### **Alaa Alali**

Exploring senior academic leaders' decisions to renew or terminate cross border medical education collaborations: A descriptive qualitative study

### **Anjalee Vacharaksa**

Predictive validity of an entrance selection for dental student

### **Azaria Marthyman**

Immigrant international medical graduates: How do they successfully manage complex sociocultural; challenges?

### **Bharathi Sengodan**

The ethnic mismatch in "Mentor-Mentee pairing" and its impact on their engagement: A Qualitative study

### **Bruce Lister**

How do intensive care medicine trainees learn the collaborator role

– a constructivist grounded theory study"

### **Bart Thoonen**

How do trainees use EPAs to regulate their learning in the clinical environment? A grounded theory study

### **Cynthia Claire**

Nurse-debriefer experience in a structured debrief post-resuscitation: An exploratory study

### **Chee Chew Yip**

Teaching medical undergraduates skills for eye examination: Is flipped classroom with mental rehearsal as effective as face-to-face teaching?

### **Chee Yeong Lim**

Stimulus and Response Formats of Items used in Radiology Specialty Certifications: Impact on Validity Based on Response Processes

### **Cristina Escobar**

Milestones on the ground: How is competency-based assessment used in practice?

### **Doris Yean**

To be or not to be: How women approach academic leadership opportunities

### **Emma Vaccari**

A mixed methods analysis of marking parties: where marking meets moderation

### **Helen Rhim**

Impact of Board Certification on Pediatric Hospitalists as a Community of Practice

### **Hing Yo So**

A qualitative study of the impact of culture on the feedback seeking behaviour during workplace-based assessment amongst Hong Kong Chinese trainees

### **Ichita Yamamoto**

How do mandatory emergency medicine rotations contribute to the junior residents' professional identity formation?

### **Jeremy Branzetti**

The best laid plans? A qualitative investigation of how non-Master Adaptive Learners plan their learning

**Jeremy Wee Choon Peng**

How has fixed clinical teams affected informal learning for Emergency Medicine Residents during COVID-19

**Johan Renes**

Utility of an alternative computer-based assessment format for improved assessment

**Jolene Oon Ee Ling**

The Impact of COVID-19 on Infectious Diseases Senior Residency Training in Singapore

**Jun Yan Calvin Lam**

Extending supervision of speech therapist in the workplace: The impact on the supervisory relationship

**Keikantse Matlhagela**

Self-regulation in PBL: exploring students' goal setting

**Kitty Cleutjens**

Probing for talent: Validity evidence for video-based situational judgement testing for (inter)personal skills

**Lim Ang Tee**

An exploratory study of effective interactive sports medicine webinars: Are our best intentions translated to best experiences for learners?

**Malcolm Mahadevan**

What cognitive, affective, and behavioural reactions occur when medical students face struggles?

**Maria Cecilia Mirant-Borde**

What motivates medical trainees to work in COVID-19 crisis units? A qualitative study.

**Marilyn Champagne**

Leaving the white coat behind: physicians exploring non-clinical work possibilities in an online community

**Olivia Myrick**

A clearer picture: Defining threshold concepts for resident education in obstetrics and gynecology

**Omar Saeed**

A qualitative exploration of internal medicine resident experiences with telemedicine during the COVID-19 pandemic

**Poh Lin Tan**

Exploring humanism in paediatric medicine through a book club: an auto ethnography

**Robert Paquin**

The speed of decision-making during emergency nursing clinical judgements: A Pilot Study

**Shweta Iyer**

Risk factors for physician burnout: A perspective from Tanzania

**Takeshi Kondo**

Comparison of localized rubrics and generic rubrics in outcome-based education

**Timo de Raad**

Advancing assessment in advanced life support courses

**Valeria Stoyanova**

Transitioning to Telehealth: Professional turmoil and potentially terrific

**Vijaya Ramanathan**

Connotation and perception of stakeholders on peer assessment in undergraduate medical education- a study from South India

**Wong Yee May**

Perceptions of a competency framework and portfolio use for advanced practice pharmacists



# SHE RESEARCH

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## SHE Research Programme – Looking towards the future

The focus in our 2018-2023 programme of research, called ‘Task-centered learning environments in the health professions’ ([see here](#)) is on problems that have both theoretical and practical relevance. In terms of research methods, researchers at SHE use all methods that may help to answer relevant research questions, ranging from descriptive-qualitative studies and experimental-quantitative studies, through narrative reviews and statistical meta-analyses, to short intervention studies and longitudinal design-based research projects. SHE’s research programme spans four interrelated themes:

1. *Goals, values, and approaches to evaluation.* Health professions education aims to train healthcare professionals to contribute to excellent care within the dynamic context of healthcare. This requires an understanding of which competences can best be trained, how education can contribute to improving the quality of care, and how health professions education can best be evaluated.
2. *Approaches to instruction.* In education, there are no instructional approaches that always work:

particular methods support particular goals under particular conditions. Healthcare education in particular covers a great diversity of contexts, from classroom settings within medical schools through public health information sessions provided in the community, to tertiary care hospitals and solo practices in remote areas.

3. *Approaches to assessment.* Research findings consistently indicate that assessment design and assessment practices always and inevitably need compromising and that any single assessment is bound to be flawed. High-quality assessment therefore involves a combination of carefully selected assessment methods in a programme of assessment that is fit for purpose and optimally aligned with intended learning outcomes and approaches to instruction.
4. *Approaches to Implementation.* The effects of approaches to evaluation, instruction, and assessment are always mediated by perceptions and expectations of students, teachers, and other stakeholders. Furthermore, each local context will differ to some extent from the context in which the approach was developed and/or in which prior research was conducted, which poses many challenges to successful implementation.

The research programme was designed to cover a period of 6 years, from 2018-2023. This research programme is serving SHE well in terms of organizing and focusing on main research lines. To keep our research programme up-to-date and in line with current and anticipated developments in our field, SHE aims to start the collaborative process of jointly developing our research foci for the next 5-10 years. Late 2021, the SHE/Research Management Team outlined a set of activities for 2022 to help develop our future research programme. This exciting project will involve SHE staff, our SHE community and experts in the field. We aim to have our next research programme ready in 2023. The process of developing our future research agenda aligns with our approach to deliberately reflect on why we do research, how and where we achieve impact through our research, and enable SHE staff to make decisions in line with our shared ambitions and goals.

## PhD Programme

Due to the ongoing COVID-19 pandemic, many PhD candidates faced circumstances in 2021 that threatened their project progress. Balancing clinical work, demanding family situations and PhD research, and facing delays in data collection due to lockdown and other regulations are some of the issues they struggled with. Notwithstanding these challenges, many candidates successfully managed to redesign their projects to match the new situation. Moreover, new research questions were formulated to address aspects of healthcare education affected by the COVID-19 pandemic.

In 2021, We welcomed 18 new PhD students who work on a variety of pressing issues in health professions education.

## New PhD students 2021

### Yaghmour, N.

Residency Well-Being Interventions: The Effectiveness of Implementation Strategies in Maintaining and Improving the Well-Being of US Medical Residents and Fellows

### Yaros, J.

Cost and Cost-Effectiveness in Health Professions Education

### David, L.

Optimizing Learning Through Effort Regulation

### Fengyuan, W.

Video feedback: Applying AI-indicated video to optimize cognitive load and improve performance of surgical residents learning laparoscopic skills



**Hsu, H.**

Tensions Between Contextual Diversity and Educational Comparability Across Regional Campuses in the Delivery of Medical Curriculum

**Phaneuf, J.C.**

Autonomous Motivation in the Time of Entrustable Professional Activities

**Tan Chee Peng, E.**

Exploring the Role of the House System in Supporting Medical Student Wellbeing

**Lorenz, T.**

Computer-Based Learning in Higher Education: Designing for Autonomous Motivation to Learn

**Caretta-Weyer, H.**

Residency Selection in Competency-Based Medical Education: Aligning Priorities and Processes to Achieve a True Continuum of Training

**Levis-Peralta, M.**

Understanding How Organizational Conditions Enable and Inhibit Interprofessional Collaborative Practice in Primary Care Settings

**Keren, D.**

Exploring the Phenomenon of Illness-Based Leave in Medical Training

**Riaz, Q.**

Contextualising 'Assessment for Learning Program in Competency-Based Postgraduate Medical Education in Pakistan

**Schoenmakers, T.**

CoLab-score and viability PCR for SARS-CoV-2: routine blood test algorithm proven by elimination of viable SARS-CoV-2 to identify patients in order to facilitate discharge and/or deisolation

**Van Montfoort, A.**

In What Way is the Organisational Structure of the Quality of Postgraduate Medical Education (PGME) Related to Patient Safety?

**Kinnear, B.**

Examining the Nature of Argumentation in Health Professions Education Assessment Validity

**Rainkie, D.**

Toward Optimum Prescribing: Understanding the Therapeutic Reasoning of Prescribers and the Role of Critical Guided Reflection-on-Action

**Cheuk A Lam, G.**

An appraisal of, and a nudging experiment, in primary school food environments to promote healthy eating and prevent childhood obesity in Aruba

**De Mortier, C.**

Guideline development learning platform: future proof and durable



In November 2021 we announced the nominees and winner of the SHE Dissertation Award 2020. Congratulations to Lorette Stammen, Muhammad Zafar Iqbal, and Sanne Schreurs for their nomination. And many congratulations to Daniel Schumacher for being the winner of this award!

## PhD Dissertations completed in 2021 at Maastricht University

### **Bindels, E.**

*DOING WELL, GETTING BETTER; Facilitating physicians' reflection on their professional performance.*

**Date of defense:** February 22, 2021

**Supervisors:** S. Heeneman, M.J.M.H. Lombarts, A.J.J.A. Scherpbier

### **Dominguez, L.C.**

*Persistence in surgical training: The role of job crafting and leadership.*

**Date of defense:** February 23, 2021

**Supervisors:** L.P.S. Stassen, D.H.J.M. Dolmans, W.S. de Grave

### **Chim, H.Q.**

*Physical Activity Behavior and Learning in Higher Education.*

**Date of defense:** March 30, 2021

**Supervisors:** H.C.M. Savelberg, M.G.A. Oude Egbrink, R.H.M. de Groot, P.W.M. van Gerven

### **Ahmed Khan, R.**

*Assessing curriculum viability in Undergraduate Medical Education.*

**Date of defense:** June 29, 2021

**Supervisors:** J.J.G. van Merriënboer, A. Spruijt, U. Mahboob

### **Bendermacher, G.**

*Navigating from Quality Management to Quality Culture.*

**Date of defense:** July 2, 2021

**Supervisors:** M.G.A. Oude Egbrink, D.H.J.M. Dolmans, H.A.P. Wolfhagen

### **Wilbur, K.**

*NO WHERE | NOW HERE: Context and Competency Expectations in Workplace-Based Training.*

**Date of defense:** July 5, 2021

**Supervisors:** E.W. Driessen, F. Scheele, P.W. Teunissen

### **Schillings, M.**

*Talking about feedback: Face-to-face peer dialogue about written feedback.*

**Date of defense:** July 6, 2021.

**Supervisors:** D.H.J.M. Dolmans, H.C.M. Savelberg, H. Roebertsen

### **Atherley, A.**

*Beyond the struggles: Using social-developmental lenses on the transition to clinical training.*

**Date of defense:** September 27, 2021.

**Supervisors:** D.H.J.M. Dolmans, P.W. Teunissen, W. Hu, I. Hegazi

### **Lestari, E.**

*INTERPROFESSIONAL EDUCATION Lessons from Indonesia.*

**Date of defense:** October 5, 2021

**Supervisors:** A.J.J.A. Scherpbier, R.E. Stalmeijer

### **Martens, S.**

*Building student-staff partnerships in higher education.* **Date of**

**defense:** October 15, 2021

**Supervisors:** D.H.J.M. Dolmans, H.A.P. Wolfhagen, J.R.D. Whittingham

### **Nguyen Thi, V.A**

*Motivating and educating health professionals to work in less attractive specialties: Findings from experiences of Vietnam.* **Date of**

**defense:** November 2, 2021

**Supervisors:** K.D. Könings, J.J.G. van Merriënboer, A.J.J.A. Scherpbier

### **Meeuwissen, S.**

*Team learning at work. Getting the best out of interdisciplinary teacher teams and leaders.* **Date of defense:**

November 12, 2021. **Supervisors:** M.G.A. Oude Egbrink, W. Geijselaars, H.A.P. Wolfhagen

### **Hui, L.**

*Fostering Self-Regulated Learning: the Role of Perceived Mental Effort.*

**Date of defense:** December 6, 2021

**Supervisors:** A.B.H. de Bruin, J.J.G. van Merriënboer, H.H.L.M. Donkers

### **Schut, S.**

*The Burden of Proof - Agency and Accountability in Programmatic Assessment.* **Date of defense:**

December 9, 2021. **Supervisors:** S.

Heeneman, E.W. Driessen, C.P.M. van der Vleuten, J. van Tartwijk

### **Ilgen, J.**

*Comfort with uncertainty in medical professionals. An exploration of how clinicians experience and manage dynamic problems in practice .* **Date**

**of defense:** December 15, 2021

**Supervisors:** A.B.H. de Bruin, P.W. Teunissen, G. Regehr

## **PhD Dissertations completed in 2021 at other universities**

### **Van Loon, K.**

*Progressive independence in postgraduate medical education; a study into the entrustment of professional activities to residents.*

VU University Amsterdam. **Date of**

**defense:** September 13, 2021

**Supervisors:** F. Scheele, P.W. Teunissen, E.W. Driessen

### **Nazari, T.**

*Structured Learning of Surgical Procedures Erasmus MC Rotterdam.*

**Date of defense:** December 15,

2021. **Supervisors:** J.F. Lange, J.J.G. van Merriënboer, M.E.W. Dankbaar



# SHE HIGHLIGHTS - OUTPUT AND IMPACT

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## Articles

**Szulewski, A., Howes, D., Van Merriënboer, J. J., & Sweller, J. (2020).** From Theory to Practice: The Application of Cognitive Load Theory to the Practice of Medicine. *Academic Medicine*, 96(1), 24–30

**Ilgen, J. S., Regehr, G., Teunissen, P. W., Sherbino, J., & de Bruin, A. B. H. (2021).** Skeptical self-regulation: Resident experiences of uncertainty about uncertainty. *Medical Education*, 55(6), 749-757

**Meeuwissen, S., Gijssels, W. H., van Oorschot, T. D., Wolfhagen, I., & Oude Egbrink, M. (2021).** Enhancing Team Learning through Leader Inclusiveness: A One-Year Ethnographic Case Study of an Interdisciplinary Teacher Team. *Teaching and learning in medicine*, 33(5), 498–508.

**Heeneman, S., de Jong, L. H., Dawson, L. J., Wilkinson, T. J., Ryan, A., Tait, G. R., Rice, N., Torre, D., Freeman, A., & van der Vleuten, C. P. M. (2021).** Ottawa 2020 consensus statement for programmatic assessment-1. Agreement on the principles. *Medical Teacher*, 43(10), 1139-1148

**Stalmeijer, R. E., & Varpio, L. (2021).** The wolf you feed: Challenging intraprofessional workplace-based education norms. *Medical Education*, 55(8), 894-902.

**Kramer, M., Heyligers, I. C., & Könings, K. D. (2021).** Implicit gender-career bias in postgraduate medical training still exists, mainly in residents and in females. *BMC medical education*, 21(1), 253.

**Biwer, F., Wiradhany, W., Egbrink, M. O., Hospers, H., Wasenitz, S., Jansen, W., & de Bruin, A. (2021).** Changes and Adaptations: How University Students Self-Regulate Their Online Learning During the COVID-19 Pandemic. *Frontiers in Psychology*, 12, [642593].

**Lee, J. Y., Szulewski, A., Young, J. Q., Donkers, J., Jarodzka, H., & van Merriënboer, J. J. G. (2021).** The medical pause: Importance, processes and training. *Medical Education*, 55(10), 1152-1160.

**Adefuye, A. O., Adeola, H. A., & Busari, J. (2021).** The COVID-19 pandemic: the benefits and challenges it presents for medical education in Africa. *Pan African Medical Journal*, 40, [42].

**Schut, S., Maggio, L. A., Heeneman, S., van Tartwijk, J., van der Vleuten, C., & Driessen, E. (2021).** Where the rubber meets the road - An integrative review of programmatic assessment in health care professions education. *Perspectives on Medical Education*, 10(1), 6-13.

**Ayres, P., Lee, J. Y., Paas, F., & van Merriënboer, J. (2021).** The Validity of Physiological Measures to Identify Differences in Intrinsic Cognitive Load. *Frontiers in psychology*, 12, 702538.

**Schellekens, L. H., Bok, H. G. J., de Jong, L. H., van der Schaaf, M. F., Kremer, W. D. J., & van der Vleuten, C. P. M. (2021).** A scoping review on the notions of Assessment as Learning (AaL), Assessment for Learning (AfL), and Assessment of Learning (AoL). *Studies in Educational Evaluation*, 71, [101094].

## Invited lectures for scientific audiences

**Dolmans, D. (2021, August).** The future of PBL: How to move to customized PBL alternatives. Invited Keynote, presented at the 2021 PANPBL conference: Transforming PBL through hybrid learning models, Aalborg, Denmark.

**Teunissen, P. (2021, June)** Workplace curriculum design; connecting theory to practice. Invited keynote, presented at the Norman Education Research Day (online), McMaster University, Canada

**Driessen, E. (2021).** The teacher as the pinball wizard: high impact messages from education research. Invited key note lecture for ASME's Gold medal award. ASME conference. UK.

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## Innovative designs (instructional and educational)

**Van der Vleuten - [Programmatisch toetsen](#)**  
**Verstegen, D.M.L. & full MHPE staff - New MHPE curriculum, see [here](#) and [here](#).**

## Examples of use of research

**Köhler, S.E.** Quizzes and lessons in Anatomytool.org are used in several courses of Biomedical Sciences  
**Use of research findings published in Bock LA, Noben CYG, Yaron G, et al Positive Health dialogue tool and value-based healthcare: a qualitative exploratory study during residents' outpatient consultations.** BMJ Open 2021;11:e052688. <https://doi:10.1136/bmjopen-2021-052688> for a workshop of "Discipline Overstijgend Onderwijs". This is a course that has been given several times and it will continue in the upcoming year(s).

**Lee, J. Y.** (2021, October, 14). [The Medical Pause: Importance, Processes, and Training.](#)

**Paulus, A.** Cost conscious care Team (2021), importance of research mentioned on [LinkedIN.](#)

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## Awards, grants, AMEE Guides and other

**Driessen, E. (2021)** ASME Gold Medal Award awarded by the Association for the Study of Medical Education (ASME) in the UK for outstanding contribution to medical education, ASME annual conference (career award).

**Van der Vleuten, Cees.P.M. (September 2021)** Harmen Tiddens Honorary Medal 2021 for a dedicated medical educator with an international stature, University of Utrecht, The Netherlands, (career award).

**Zanting, A. (2021).** Leaky Pipeline: Mechanisms underlying dropout of minoritized students at Maastricht University. Maastricht University Advisory Committee on Diversity & Inclusivity. Value: €44.939,17

**Moonen - van Loon, J.M.W. (2021).** Comenius Teaching Fellowship, awarded by FHML Maastricht University (main applicant). Value: € 50.000

**Sehlbach, C., Romme, S. (2021)** Partners in Care: a training to empower patients and support healthcare professionals' lifelong learning through patient feedback. MUMC+ Marja van Dieijen Award. Value €25.000

**Könings KD, Mordang S, Smeenk F, Stassen L, Ramani S (2021).** Learner involvement in the co-creation of teaching and learning: AMEE Guide No. 138. Med Teach, 43(8):924-936.

**Waterval, D.G.J. & Burks, I (2021).** Empowering students by evidence based interventions and tools in one-on-one setting between student and adviser or mentor. Learning & Innovation Grant. Maastricht University. Value: 5000,-

**Kinnear, B.** American Medical Association Accelerating Change in Medical Education Innovation Grant (2021) – provides \$30,000 to investigate the use of clinical care measures in residency assessment in collaboration with New York University.

## Other noteworthy activities and achievements

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**Steinert, Y. & Dolmans, D. (2021). Special Issue on Faculty development. Medical Teacher, 43(8).**

The Faculty Development Special Issue in Medical Teacher, August 2021, Volume 43, Number 8, (Guest editors: Yvonne Steinert and Diana Dolmans) on research and innovations in Faculty Development demonstrates that the field of faculty development has grown over the last decade around the world. Six research papers and twelve innovation reports, from five continents are included. A variety of topics is being addressed, from exploring the nature of informal learning, mentorship, leadership, and professional identity, to examining faculty development from an organizational lens. The papers demonstrate how faculty members and faculty developers are continuously searching for ways to optimize their practice but also to better understand the why of faculty development in various contexts worldwide.

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**Zanting, A., Meershoek, A., Frambach, J. M., & Krumeich, A. (2020). The ‘exotic other’ in medical curricula: Rethinking cultural**

**diversity in course manuals. Medical Teacher, 42(7), 791-798.**

This article influenced the design of an ‘internationalisation/diversity lens’ and the development of a guide for curriculum reviewers, to be used in all Maastricht University medical programmes. Based on an analysis of course materials, this study suggests that integrating more attention to biological and contextual differences in the entire medical curriculum and leaving out static references such as ethnicity and nationality, can enhance quality of medical training and care. The five suggested practical points are currently being implemented throughout all Maastricht medical programmes.

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**de Nooijer, J. (2021) Start collaboration with the JOGG foundation on the development of post-graduate education for the Youth Health Care Network.**

UM, JOGG, and Elevate Health join forces in creating an international platform for everyone who wants to work on the basis of a local integrated approach. By sharing

knowledge and providing education and training, skills, and good examples in our international youth health community, we enhance the impact on health of children in local societies.

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**Sehlbach, C., van Dijk, A., Teunissen, P. (2021) Periodiek Registratie Certificaat (PRC):Analyse van de werking van huidige scholingsprogramma’s, toetsing en alternatieven.**

This Dutch report describes the working mechanisms of current training programs for non-practicing healthcare professionals and an exam leading to what is called a Periodical Registration Certificate (PRC). The report describes the purpose, structure and content of current training programs and relevant assessments, based on document analyses, and interviews with training providers and participants. Drawing comparisons from other sectors and countries, the report provides insight into well-functioning aspects and bottlenecks of the Dutch system. Based on that, it gives direction to possible alternatives.

**Collares, C. The preprint paper “Cognitive diagnostic modelling in healthcare professions education: an eye-opener” (Available [here](#)), recently accepted by *Advances in Health Sciences Education*, is the most downloaded preprint paper on the topic available in the PsyArxiv repository as of December 2021.**

The preprint paper “Cognitive diagnostic modelling in healthcare professions education: an eye-opener,” later published by *Advances in Health Sciences Education*, was the most downloaded preprint paper on the topic available in the PsyArxiv repository as of December 2021. In this paper, Assistant Professor at SHE Carlos Collares presents a novel psychometric approach in which traditional scores are replaced by qualitative profiles measuring multiple competencies. The paper explores the possible uses of cognitive diagnosis in healthcare professions education and its alignment with modern assessment paradigms.

- COLLARES, C. F. (2021, February 3). Cognitive diagnostic modelling in healthcare professions education: an eye-opener. <https://doi.org/10.31234/osf.io/jr4m6>
- COLLARES, C.F. Cognitive diagnostic modelling in healthcare professions education: an eye-opener. *Adv in Health Sci Educ* (2022). <https://doi.org/10.1007/s10459-022-10093-y>



# SHE COLLABORATES

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## SHE Collaborates staff and project managers:

Geraldine Beaujean, Emmaline Brouwer, Marlieke Bouwmans, Rikus Nieuwenhuis, Marijke Kruithof, Mohammed Meziani, Tchitula Teuns, Yoka Cerfontaine, Hennie Sijen.

## Examples of partnerships and ongoing projects in 2021

### Burundi

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#### **Project: Développement des capacités en épidémiologie de terrain contre la Covid-19 et appui à la réforme du programme de médecine au Burundi**

For the last 6 years, Maastricht University - SHE Collaborates has collaborated with Cinop to support Burundi in designing a new student-centered medical curriculum to be implemented on a national level. This required a reform of all the medical schools in Burundi from a traditional subject-based style of education to a student-centered, problem-based integrated educational system. The implementation of this new curriculum has started in the three existing medical schools in Burundi. As a follow up on this project, we have been invited to help the Institute National de Santé Public (INSP) design and

implement a training programme for graduated doctors in field-epidemiology, with the purpose of equipping them in contributing to the outbreak management of an epidemic like Covid-19. A three-tier training programme (Basic, Intermediate, Expert level) has been designed by INSP and their staff has been trained by SHE Collaborates in order to prepare for a pilot-implementation of the course.

### Kenya

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#### **Project: Development of Skills for Health Professions Education in East Africa (SHEA)**

In early 2020, SHE Collaborates won a project tender to embark on a project collaboration with North Coast Medical Training College, Pwani University and 4Kenya TVET in Mtwapa, Kenya. Dutch consortium partners in this project are Skills Meducation and the Hanze University for Applied Sciences.

The project aims at establishing a 'Centre of Excellence' in health professions education and strengthening Public-Private-Partnerships. The project outputs focus on capacity building in the areas of Skills training and education, entrepreneurship, community based education and services, e-learning, biomedical instrumentation, as well as the





establishment of a regional branch of a Skills training material supplier.

In 2021, after a difficult first project year due to COVID-19 related school closure and travel restrictions, the teams could finally meet in person in Kenya and the Netherlands to work face-to-face in the different capacity building areas. Highlight of the year was the formal opening of the newly built Skillslab by the Dutch ambassador to Kenya in September 2021, attended by all consortium partners as well as a number of external stakeholders. A video report of this event was shot by NTV Kenya and can be found [here](#).

## Portugal

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### **Project: Adopting the Maastricht Medical Curriculum in a new medical program at UCP**

From 2017 onwards, SHE Collaborates cooperates with Universidade Católica Portuguesa (UCP) to establish the first international, problem-based and private medical school in Portugal. The curriculum that Católica Medical School implements is based on the program that Maastricht University in the Netherlands uses in its medical school, with minor adaptations to comply with the specific Portuguese context. The past years SHE and UCP built the program together - not only the content of the program and its accreditation, but also the realization

of the buildings and the educational training of the Portuguese staff. On September 13, 2021, the first 56 students were welcomed and the Prime Minister of Portugal, the Cardinal of Lisbon, and the Dutch Ambassador, other ministers and dignitaries and SHE Collaborates staff, attended the festive opening ceremony. The start of this new medical programme is not only innovative and promising for UCP, students and staff, but for health education and healthcare in Portugal in general as well.

Throughout the development and implementation of this curriculum, UM staff assures the quality by providing and supporting UCP staff development and staff exchange, with a team of Maastricht staff present in Portugal to assist in the implementation. The collaboration with Maastricht University will continue for at least six years, until after the first batch has graduated in 2027. It is the intention that during the project period UCP becomes experienced enough to run their own medical curriculum independently from UM, meeting equal quality standards.

## New projects in 2021

### Yemen

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#### **Project: Establishing an Internal Quality System at the Faculty of Medicine and Health Sciences, Seiyun University: Phase I**

The Faculty of Medicine and Health Sciences, Seiyun University, is a State medical education institution established in 2018 to contribute to graduating qualified cadres in the field of human medicine, community medicine and nursing. Training health professionals is a top priority of Yemeni health system to cover the shortage of qualified health staff and improve accessibility to health services for all society segments through the fulfilment of the national trends towards the reduction of child and maternal mortality and improvement of the health situation and living conditions of the society. Our one-year collaboration project, started April 1, 2021 and focuses on WASH (Water, Sanitation and Hygiene). Aim is to update the content of the curriculum in accordance with recent trends implemented within the WASH strategy, which is in place in the Republic of Yemen, and in view of the goals of sustainable development. Capacity building activities on how to use interactive teaching strategies will be integrated.

AFID (Arabic Accreditation Foundation for Institutions and Individuals Development) is our local training partner organisation and co-facilitate the workshops. Importantly, as we have limited possibilities to travel due to Covid-19 Pandemic and political instability and internet access for online trainings is unreliable.

### Brazil

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#### **Project: Towards student centered medical education at UNIFACISA, Brazil**

Since August 2021, SHE Collaborates is in a partnership with Unifacisa, a university in the North of Brazil. The partnership is focused at innovation of the medical program towards problem-based, student-centered education in small groups. In the first two years of the partnership, we will together rewrite and rearrange their medical curriculum. In the first year, we started with familiarizing the Unifacisa staff with the learning principles of Constructive, Collaborative, Contextual and Self-directed learning, while simultaneously making a start with the development of the first year medical curriculum. In the subsequent five years, the implementation will be supervised as the students progress through the new medical curriculum.



## South Africa

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### **Project: Cooperation for innovation and the exchange of good practices - Capacity Building in the field of Higher Education**

South African society perceive education and specifically tertiary education as an apex priority to progress in life and to uplift the community. Expanding student numbers result in sub optimal staff to student ratios. The scarcity of appropriate infrastructure and the need for maintenance on existing facilities further exacerbate difficult learning environments.

In the Erasmus Project: Dirisana + (March 2021-2024), the consortium leader, University of Pretoria has brought together partners from Southern Africa and Europe under the banner: Cooperation for innovation and the exchange of good practices – Capacity Building in the field of Higher Education. The consortium: University Pretoria, Sefako Makgatho Health Sciences University, University of the Witwatersrand, University of Namibia, Welwitchia Health Training Centre, University College Dublin, Maastricht University and University of Turku.

Maastricht University was invited to bring their expertise and experience in relation to the objectives of the project, in particular by offering postgraduate degrees, SHE courses, workshops on assessment, and staff training in the practice of PBL.

During 2021 we welcomed 10 participants from the partners to our annual Summercourse, whilst two candidates from the University of the Witwatersrand attended the PhD writing course.

Jascha de Nooijer, Professor Interprofessional Teaching and Learning, Director of Education for Health Dept. of Health Promotion partook in the task team, Perception and Attitudes for IPE Models, whilst Prof Cees van der Vleuten accepted an invitation from the Assessment Committee to visit South Africa (May 2022) as keynote speaker on Formative and Summative Assessment in Clinical and Basic Health Sciences Education.

# FUTURE OF SHE

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The activities and output presented in this Annual Report 2021 show the diverse ways in which SHE makes impact. We will continue to make a difference in health professions education through the connection of research, education and innovation.

In the short term, we plan to learn from the mid-term review in 2021. The review process and the recommendations we received from the experts of the external review committee offer great opportunities to further develop the SHE organization and align our activities with our vision and mission.

In the long term, SHE will invest in strengthening the synergy between its three core activity domains; SHE Research, SHE Collaborates, SHE Educates. A further development of the research programme has started in 2022. That will enable choices on topics that need additional attention to further improve HPE. Building on our ongoing investment in a healthy academic culture, research ethics, and an open and inclusive workplace we have the foundation for impactful research and innovation in the domain of health professions education. We are connecting theory to research and practice and we are doing that on a local, national and global level. This is our recipe for research that matters.





# **SHE** School of Health Professions Education

School of Health Professions Education (SHE)  
Faculty of Health, Medicine and Life Sciences  
P.O. Box 616, 6200 MD Maastricht, The Netherlands  
E: [she@maastrichtuniversity.nl](mailto:she@maastrichtuniversity.nl)

More information: [www.maastrichtuniversity.nl/she](http://www.maastrichtuniversity.nl/she)