

2018/2019 Global Health Cancer Research and Education Excellence in Radiotherapy (CaREER) certificate program

The global health CaREER certificate program is offered by the Harvard Global Health Catalyst win-win initiative, University of Pennsylvania (Radiation Oncology), in partnership with faculty at the University of Heidelberg (Medical Faculty Mannheim), Oxford University UK, University of Massachusetts, and distinguished experts across the world including from the diaspora, and low and middle income countries (LMICs) in Africa, South America and Asia. The goal of the course is to build capacity and provide continuous medical education for LMICs oncology health professionals and researchers. The course is a result of survey/needs assessment of oncology health professionals in different African countries over the past years, and experience from a DAAD-funded program in Bangladesh. It will be continuously updated in the next years based on feedback/needs of LMICs oncology health professionals.

Broad Objective: To enhance Clinical Oncology Care and Research skills

Specific Objectives

1. To improve clinical Oncology skills to provide quality safe and better value radiotherapy care for patients in LMICs
2. To improve research skills in clinical trials, implementation research and development of new low cost- effective radiotherapy technologies
3. To learn how to use advanced information and communications technologies (ICTs) as well as artificial intelligence in cancer care research and education
4. To prepare candidates for global health careers and collaboration in global oncology care research and education

Online training offered will provide focused high impact continuous medical education with CMEs as well as global health CaReER certificates. Training/lectures will be by leading faculty from the world’s best institutions and leading/retired clinical oncology faculty from LMICs, and across the world.

COURSE OFFERINGS FOR 2018/2019 academic year

Course Title	Start Date	End Date
<p>CaReER 1819: Global Radiation Oncology</p> <p>Goal: Enhance clinical oncology care and research skills</p>	<p>September 1, 2018</p>	<p>March 31 2019 Certificates award at Harvard Medical School May 25th 2019 during the 2019 Harvard GHC summit</p>

Curriculum Committee:

- Professor Ahmed Elzawawy (Harvard GHC win-win chair)
- Professor Twalib Ngoma (Chair of Clinical Oncology, Muhimbili University of Health and Allied Sciences)
- Professor Nicholas Abinya (University of Nairobi)
- Professor David Kerr (Oxford University)
- Professors Paul Nguyen/Jonathan Schoenfeld (Harvard Medical School)
- Professor Eduardo Cazap (Argentina, SLACOM and Harvard GHC win-win)
- Professor Stephen Avery (University of Pennsylvania)

- Professor Juergen Hesser and Volker Steil (University of Heidelberg)
- Professor Erno Sajo (University of Massachusetts Lowell)
- Professor TJ Fitzgerald (University of Massachusetts Medical School)
- Professor Wil Ngwa (Harvard/UMASS)
- Prof Riccardo Audisio (Harvard win-win and Sweden)
- Prof. Luca Incrocci (Erasmus MC Cancer Institute, Netherlands)
- Prof Golam Abu Zakaria (Gono University in Dhaka, Bangladesh)

Course Title: Global Radiation Oncology (CaReER 1819)

Course background and purpose: Radiotherapy is a crucial component of comprehensive cancer care, needed for the treatment of over 50% of cancer patients. The purpose of this course is to build or strengthen the capacity of oncology health professionals and researchers particularly in LMICs in oncology care and conducting research for better quality and affordable clinical oncology, radiotherapy. At the end of the course, participants will be better positioned to use radiotherapy technologies and protocols for quality/safe oncology care and be better equipped to conduct cancer research including collaborative research with high-income country (HIC) institution investigators.

INSTRUCTIONAL METHODOLOGIES:

Learning activities will include online course modules on ecancer4all platform with videos, assignments, online discussion and journal club, ending with online assessments. Online learning will be complemented by live webinars, self-directed learning.

There will be a contouring, remote treatment planning and quality assurance tutorials (one on one) available on request to support LMICs trainees looking for more detailed learning and support beyond the online class. This will build on online training experience already conducted with the African Organization for Research and Training in Cancer (AORTIC), and by the Global Health Catalyst. Complementary training workshops will be organized during the yearly Global Health Catalyst summits at Harvard Medical School, and in Heidelberg or Africa as needed.

Enrollment Requirements:

• For series 1, 2 courses (see below): Participants should have a medical degree such as MD, a PhD or equivalent. Participants with Masters degrees and clinical experience in clinical/radiation oncology are very welcome to enroll.

The series 2 course is for medical physicists and will complement workshops on the ground offered by partner institutions

The Series 3 course is focused on research and grant writing and is open to all and will result in at least 2 \$5000 microgrants to initiate research for an LMIC research trainee involving co-Mentors from LMIC and HIC faculty

• Participants can be from anywhere. However, participants from and working in Low and low-middle income countries and particularly from Africa are encouraged to participate and fees are waived from them.

• The registration fee is FREE. Top performing trainees who are participating in ecancer4all (www.ecancer4all.com) will be supported financially to attend the yearly Global Health Catalyst summits at Harvard Medical School.

Textbooks

- TBA

- Supplementary material:
- RTOG reports
- AAPM Task group reports

Course Assistants/coordinators :

Dr. Omoruyi Credit Irabor, MD, MPH (Dana-Farber Cancer Institute, Harvard Medical School)

Dr. Neeharika Sinha, PhD (Dana-Farber Cancer Institute, Harvard Medical School)

2018/2019 COURSE SCHEDULE (subject to change)

Series 1 Course Schedule

Date	Lecture/Topic	Instructor (subject to change)
September 1, 2018	Official launch; meet program faculty live from the Global Health Catalyst summit at University of Heidelberg	Professors Federik Wenz, Volker Steil, Hesser, Ngwa, Avery, Elzawawy, Ngoma
September 8, 2018	Introduction to better value in clinical oncology	Professors Ahmed Elzawawy (Harvard and ICEDOC)
September 15, 2018	Radiotherapy treatment of breast cancer: treatment planning/contouring and plan evaluation	Professor Onyinye Balogun (Weill- Cornell Medicine, Cornell University)
October 6, 2018	Clinical Oncology practice in Africa: Protocols, dos and don'ts	Professor Twalib Ngoma (Muhimbili University of Health and Allied Sciences, Tanzania)
October 13, 2018	Prostate Cancer Radiotherapy: Contouring, treatment planning and evaluation	Professor: Rebecca Bucker (Germany)
November 2, 2018	Clinical Oncology practice in Africa and chemoradiotherapy	Professors: Nicholas Abinya/Linda Grossheim
	FALL BREAK	
January 19, 2019	Hypofractionated radiotherapy and potential for increasing access to patients in Low and Middle Income Countries	Professor Luca Incrocci (Erasmus MC Cancer Institute, Netherlands)

February 2, 2019	Radiotherapy of Brain and Spinal tumors	Professor Arif Ali Radiation Oncologist, Emory University USA
February, 16 2019	Surgical Oncology, Intraoperative Radiotherapy and multidisciplinary approach to cancer management	Professors Riccardo Audisio
March 2, 2019	Radiotherapy treatment of Lung and liver Cancer	Professor David Kozono (Harvard Medical School)
March 16, 2019	The Quality Assurance and Review Center Platform	Professors TJ Fitzgerald (UMASS)
March 23, 2019	Radiotherapy of Head and Neck Cancers: Contouring, treatment planning/evaluation	Prof Jonathan Schoenfeld (Harvard Medical School)
March 30 2019	Review, Evaluation, feedback and survey	
May 25 2019	Award of Certificates	@Harvard GHC summit 2019

Tutorials and additional classes can be arranged based on need. Centers/Oncologists will be provided access to the online platform for contouring and plan evaluation if they request such

Series 2 Course Schedule

Date	Lecture/Topic	Instructor (subject to change)
September 15, 2018	Introduction to Medical Physics	Professor Stephen Avery, University of Pennsylvania and Volker Steil, University of Heidelberg

September 29, 2018	Photon – Machine design for photon production – Dosimetry concepts and quantities – Fundamental characteristics of photon beams – Point dose calculations	Professors Julie Pollard (MD Anderson Cancer Center)
October 13, 2018	Radiation Shielding and Protection	Volker Steil (University of Heidelberg, Medical Faculty Center Mannheim)
October 20, 2018	Task Group Report 51, Acceptance testing and commissioning	Professors: Teboh Roland/Frank Hensley (Uni-Heidelberg)
November 24, 2018	Relative dosimetry and QA of dosimetry equipment	Professor Mandar Bhagwat (Harvard Medical School)
	FALL BREAK	
January 19, 2019	i.treatsafely: Practical Learning videos for Medical Physicists	Prof Derek Brown; University of Calgary, Canada
January 26, 2019	Treatment planning and quality assurance with artificial intelligence	Prof Erno Sajo (University of Massachusetts Lowell)
February 16, 2019	Treatment planning and quality assurance in brachytherapy	Professor Juergen Hesser and Ernest Okonkwo (University of Heidelberg)
March 9, 2019	Artificial Intelligence in Radiation Therapy	Prof Hugo Aerts, Harvard Medical School
March 29	Radiotherapy treatment reporting system and QA	Professor Eric Ford (University of Washington)
March 23 2019	Review	
March 30 2019	Evaluation, feedback and survey	
May 25 2019	Award of Certificates	@Harvard GHC summit 2019

Series 3 Course Schedule

Date	Lecture/Topic	Instructor (subject to change)
September 29, 2018	Funding: Grant writing.	Dr Lydia Asana/NIH program Director
October 27, 2018	Clinical Oncology Trials	Professor David Kerr (Oxford University)
November 24, 2018	Writing abstracts for conferences and publications (for research interests) Outcome will be a conference abstract to be presented at Harvard GHC summit	Science Journal editor
	FALL BREAK	
January 26, 2019	Setting up a radiotherapy department in LMIC and the role of Radiotherapy in Cancer Control Planning	Professors Twalib Ngoma/Richard Samba
February 23rd	The use of information and communication technologies in the care of cancer patients and Cancer Registries	Prof Victor Mbarika (ICT University)
March 2 nd 2019	Implementation research and co-mentored research possibilities with the Dana-Farber/harvard Cancer Center	Professor Niteesh K. Choudhry/ Wil Ngwa (Harvard Medical School)
March 23 2019	Review	
March 30 2019	Evaluation and feedback	
May 25 2019	Research Shark Tank and award of \$5000 dollar seed grants	@Harvard GHC summit 2019

GRADING POLICY

Final grades will be based on the following scheme

Class Item	Grade Percentage
Quizzes/continuous Assessments	30%
Assignment	25%
Final evaluation	45%

Letter Grade	Points
A	85-100
B	75-84
C	60-74
D	50-59
F	49 or below

NOTES

- Quizzes/assessment and completed assignments will assess course participant progress.
- Certificates will only be awarded to those who complete course work and associated assignments
- Lectures will take place typically from 11:00 am to 2:00 pm New York Time. However Specific instructors may request another time. If so, everyone will be notified about one week ahead of time.
- Remedial/additional lectures may be organized as needed to ensure quality and realization of CaReER course objectives.

Other activities and opportunities:

For other activities of Global Health Catalyst go to the following links for regular updates:

www.ghc.bwh.harvard.edu

www.globalhealthcatalystsummit.org

To Join the lectures on Saturday at 1:00 pm Massachusetts USA time (following the above schedule), please use the following links:

1. [Radiation Oncology track](#) (Starts at 11:00 am Massachusetts USA times on Saturdays according to the above schedule)
2. [Medical Physics](#) (Starts at 1:00 pm Massachusetts times on Saturdays according to the above schedule)
3. [Research Track](#) (starts 11:00 am on Saturdays according to the above schedule. This track usually holds on days when the Radiation Oncology Lecture is not scheduled)

You could also simply use the following gotomeeting links to Join the lectures according to the above schedule

1. Global Health CaReER course Series 1 (Radiation Oncology)

Please join the lecture according to the above schedule from your computer, tablet or smartphone.

<https://global.gotomeeting.com/join/681618157>

You can also dial in using your phone.

United States: [+1 \(669\) 224-3412](tel:+16692243412)

Access Code: 681-618-157

2. Global Health CaReER course series 2 (Medical Physics)

Please join the lecture according to the schedule from your computer, tablet or smartphone.

<https://global.gotomeeting.com/join/197716189>

You can also dial in using your phone.

United States: [+1 \(646\) 749-3122](tel:+16467493122)

Access Code: 197-716-189

3. Research Track

Global Health Career Course Series 3 (Research and Grants)

Please join the lecture according to the schedule from your computer, tablet or smartphone.

<https://global.gotomeeting.com/join/561683037>

You can also dial in using your phone.

United States: [+1 \(571\) 317-3112](tel:+15713173112)

Access Code: 561-683-037