

# Technology and Innovation in Endocrine Head and Neck Surgery

March 22-23, 2024



## OFFERED BY

Massachusetts General Brigham  
Mass Eye and Ear

## COURSE DIRECTORS

Gregory W. Randolph, MD, FACS, FACE  
and Marika Russell, MD, FACS

## COURSE ADMINISTRATOR

Julie Arria

**COURSE DESCRIPTION:** Head and neck endocrine and oncologic surgery continues to evolve through technological advancements and innovation. Optimized nerve identification and preservation has been facilitated through advancements in nerve monitoring technology and techniques. Novel methods of tissue differentiation using techniques such as autofluorescence, labeled fluorescence, optical coherence tomography and others may improve ability to identify and characterize nerves, parathyroid tissue and tumor margins, among other applications. Application of minimally invasive ablative therapies is shifting the landscape of treatment for thyroid nodules.

**TARGET AUDIENCE:** The course is designed for clinicians, surgeons and researchers alike who have an interest in developing and applying innovative technologies to augment care for head and neck endocrine disorders. The course will also offer an optional hands-on practical component for learners to participate in radiofrequency ablation (RFA) using phantom models (space limited).

**ABMS/ACGME COMPETENCIES:** The course is designed to meet the following American Board of Medical Specialties (ABMS) / Accreditation Council for Graduate Medical Educational (ACGME) competencies: Patient Care and Procedural Skills • Medical Knowledge • Practice-Based Learning and Improvement.

**IOM COMPETENCIES:** The course is designed to meet the following American Board of Medical Specialties (ABMS) / Accreditation Council for Graduate Medical Educational (ACGME) competencies: Provide Patient-Centered Care • Utilize Informatics

**ACCREDITATION:** The Harvard Medical School is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Harvard Medical School designates this live activity for a maximum of 12.00 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Royal College of Physicians and Surgeons of Canada recognizes conferences and workshops held outside of Canada that are developed by a university, academy, hospital, specialty society or college as accredited group learning activities.

The American Medical Association (AMA) has an agreement of mutual recognition of continuing medical education (CME) credit with the European Union of Medical Specialties (UEMS). Additional information regarding this agreement may be found here: <https://www.ama-assn.org/education/ama-pra-credit-system/agreement-european-union-medical-specialties-uems>

**REGISTRATION INFORMATION\*:** Physician: \$325.00. Resident/Fellow/Student: \$25.00. Allied Health Professional/Other: \$325.00.

Registration by credit card (VISA, MasterCard or American Express) or check can be made through Harvard Medical School's secure online registration system at <https://cmecatalog.hms.harvard.edu/technology-innovation-endocrine-head-neck-surgery>. Registration by check (draft on a United States bank), please make payable to Harvard Medical School. Learners who choose to pay by check will be prompted to download an online form to send in with a payment. Telephone or fax registration is not accepted. Registration with cash payment is not permitted. Upon receipt of your paid registration, you will receive an email confirmation. Be sure to include an email address that you check frequently. Your email address is used for critical information including registration confirmation, evaluation and certificate.

**LOCATION:** Meltzer Auditorium, 3rd Floor, Mass Eye and Ear Infirmary

**INQUIRIES:** Call (617) 384-8600, Mon-Fri, 9am to 5pm (ET) or by email at: [ceprograms@hms.harvard.edu](mailto:ceprograms@hms.harvard.edu).

**REFUND POLICY:** Refunds, less an administrative fee of \$75, will be issued for all cancellations received two weeks prior to the start of the course. Refund requests must be received email. No refund will be issued should cancellation occur less than two weeks prior. "No shows" are subject to the full course fee and no refunds will be issued once the conference has started.

**DISCLOSURE POLICY:** Harvard Medical School (HMS) adheres to all ACCME Accreditation Criteria and Policies. It is HMS's policy that those who have influenced the content of a CME activity (e.g. planners, faculty, authors, reviewers and others) disclose all relevant financial relationships with commercial entities so that HMS may identify and resolve any conflicts of interest prior to the activity. These disclosures will be provided in the activity materials along with disclosure of any commercial support received for the activity. Additionally, faculty members have been instructed to disclose any limitations of data and unlabeled or investigational uses of products during their presentations.

<https://cmecatalog.hms.harvard.edu/technology-innovation-endocrine-head-neck-surgery>

## Program Schedule

## FRIDAY, MARCH 22, 2024

8:00–8:10 am	Introduction and Welcome	Gregory Randolph, MD, FACS, FACE; Marika Russell, MD, FACS
<b>MODULE I: NERVE MONITORING: STATE OF THE ART AND EMERGING APPLICATIONS</b>		
8:10–8:25 am	Keynote Lecture: IONM Guidelines and Standards of Care	Gregory Randolph, MD, FACS, FACE
8:25–8:40 am	Neuromonitoring Systems	Amanda Silver Karcioglu, MD
8:40–8:55 am	Recurrent Laryngeal Nerve Anatomy and Variants	Whitney Liddy, MD
8:55–9:10 am	Monitoring of the Superior Laryngeal Nerve	Marcin Barczynski, MD, PhD, FEBS-ES
9:10–9:25 am	Continuous Intraoperative Nerve Monitoring: Advantages and Limitations	Rick Schneider, MD, PhD, FEBS-ES
9:25–9:40 am	RLN Invasion and the R Score	Marika Russell, MD, FACS
<b>9:40–9:50 am</b>	<b>Q&amp;A</b>	Marika Russell, MD, FACS; Gregory Randolph, MD, FACS, FACE
<b>9:50–10:10 am</b>	<b>Break</b>	
<b>MODULE II: NERVE IMAGING: A NEW FRONTIER</b>		
10:10–10:25 am	Keynote Lecture: Diffuse Reflectance Spectroscopy and Nerve Imaging	Justin Baba, PhD
10:25–10:40 am	Autofluorescence in Nerve Imaging	Fernando Dip, MD, FACS
10:40–10:55 am	Nerve-specific Fluorophores	Lei Wang, PhD
10:55–11:10 am	Clinical Trials in Nerve Imaging	Quyen Nguyen, MD, PhD
11:10–11:25 am	Optical Coherence Tomography and Nerve Imaging	Ben Vakoc, PhD
11:25–11:40 am	Magnetic Resonance Neurography	Karen Buch, MD
11:40–11:55 am	MEE Cranial Nerve Imaging	Jeremy Richmon, MD
<b>11:55 am–12:05 pm</b>	<b>Q&amp;A</b>	
<b>12:05–1:05 pm</b>	<b>Lunch</b>	
<b>MODULE III: PARATHYROID AUTOFLUORESCENCE AND VASCULAR IMAGING: OPPORTUNITIES AND CHALLENGES</b>		
1:05–1:20 pm	Keynote Lecture: Autofluorescence and Clinical Outcomes	Michael Singer, MD, FACS, FACE
1:20–1:35 pm	Overview of Probe and Camera-based Systems: Pros and Cons	Carmen Solarzano, MD, FACS
1:35–1:50 pm	The value of ICG Angiography	Frederic Triponez, MD
1:50–2:10 pm	ICG Quantification Update	Schelto Kruijff, MD
2:10–2:20 pm	Laser Speckle Contrast Imaging	Wido Heeman, PhD
2:25–2:40 pm	Harvard Parathyroid Autofluorescence Studies: Can you Get a Number from a Picture?	Gregory Randolph, MD, FACS, FACE
2:40–2:55 pm	Autofluorescence and Hyperparathyroidism: What Do We Know?- 2024	Michael Singer, MD, FACS, FACE
<b>2:55–3:05 pm</b>	<b>Q&amp;A</b>	
<b>MODULE IV: SCIENTIFIC SESSION</b>		
3:05–3:25 pm	Abstract Presentations 1-3 (5 minutes each + 5 minutes Q&A)	
3:25–3:45 pm	Abstract Presentations 4-6 (5 minutes each + 5 minutes Q&A)	
<b>3:45–4:00 pm</b>	<b>Break</b>	
<b>MODULE V: IMAGE-GUIDED HEAD AND NECK SURGERY</b>		
4:00–4:15 pm	Keynote Lecture: Fluorescence-guided Head and Neck Surgery	Eben Rosenthal, MD
4:15–4:30 pm	Ultrasound-guided oral margin assessment	Mark Varvares, MD, FACS
4:30–4:45 pm	Fluorescence Lifetime Imaging: concepts and applications	Anand Kumar, PhD
4:45–5:00 pm	Fluorescence Lifetime Imaging: Clinical Applications in Head and Neck Surgery	Andrew Birkeland, MD
<b>5:00–5:10 pm</b>	<b>Q&amp;A</b>	
<b>5:10–5:15 pm</b>	<b>Concluding Remarks</b>	Gregory Randolph, MD, FACS, FACE; Marika Russell, MD, FACS
<b>SATURDAY, MARCH 23, 2024</b>		
8:00–8:05 AM	Welcome and Announcements	Gregory Randolph, MD, FACS, FACE; Marika Russell, MD, FACS
<b>MODULE V: ULTRASOUND-GUIDED INTERVENTIONS</b>		
8:05–8:20 AM	Keynote Lecture: Diagnostic Ultrasound - 2024	Julia Noel, MD
8:20–8:35 AM	RFA: set-up and technique	Mary Beth Cunnane, MD
8:35–8:50 AM	RFA: International clinical consensus statement	Gregory Randolph, MD, FACS, FACE
8:50–9:05 AM	RFA and treatment of thyroid cancer	Jonathon O. Russell, MD, FACS
9:05–9:20 AM	Additional ablative technologies: Microwave, Laser, HIFU and Nano-pulsed stimulation	Marika Russell, MD, FACS
9:20–9:30 AM	Q&A	
<b>MODULE VI: ARTIFICIAL INTELLIGENCE: RESEARCH AND CLINICAL APPLICATIONS</b>		
9:30–9:45 AM	Keynote Lecture: Principles of Machine Learning in US	Franklin Tessler, MD, CM
9:45–10:00 AM	AI platform for US Screening and Staging of Thyroid Cancer	Annie Chan, MD
10:00–10:10 AM	Q&A	
10:10–10:15 AM	Closing remarks	Gregory Randolph, MD, FACS, FACE; Marika Russell, MD, FACS
10:15–10:35 AM	Break	
10:35 AM–12:30 PM	Hands-on Experience - RFA simulation	Marybeth Cunnane, MD; Gregory Randolph, MD, FACS, FACE; Marika Russell, MD, FACS; Amanda Silver Karcioglu, MD; Whitney Liddy, MD; Julia Noel, MD; Jonathon O. Russell, MD, FACS

\*Please Note: Program changes/substitutions may be made without notice.

## Faculty

Gregory W. Randolph, MD, FACS, FACE  
Marika Russell, MD, FACSJustin Baba, PhD  
Marcin Barczynski, MD, PhD, FEBS-ES  
Fares Benmiloud, MD  
Andrew Birkeland, MD  
Karen Buch, MD  
Annie Chan, MD  
Marybeth Cunnane, MDFernando Dip, MD, FACS  
Quan-Yang Duh, MD  
Amanda Silver Karcioglu, MD  
Anand Kumar, PhD  
Whitney E. Liddy, MD  
Quyen Nguyen, MD, PhD  
Julia Noel, MD  
Jeremy Richmon, MD  
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