



Harvard-MIT
Health Sciences & Technology

GRADUATION PROGRAM

2021

MAY 26, 2021



2021 HST Graduation Program
May 26, 2021
5:00-7:00pm

VIDEO CELEBRATION - WATCH PARTY

Welcoming Remarks

Richard N. Mitchell, MD, PhD, Associate Director, HST

George Q. Daley, MD, PhD, Dean, Harvard Medical School

Elazer R. Edelman, MD, PhD, Director, Institute for Medical Engineering and Science, MIT

Student Address

Aditya Kalluri, MD, PhD

Presentation of Graduates

Medical Sciences, Doctor of Medicine

Presented by,

Matthew P. Frosch, MD, PhD, Associate Director, HST

Junne Kamihara, MD, PhD, Associate Director, HST

Daniel A. Solomon, MD, Associate Director, HST

Medical Engineering/Medical Physics, Doctor of Philosophy

Presented by,

Emery N. Brown, MD, PhD, Director of HST

Julie E. Greenberg, PhD, Director of Education, HST

Graduate of Education in Medical Sciences, Certificate

Presented by,

Martha L. Gray, PhD, J. W. Kieckhefer Professor of HST

Closing Remarks and Toast!

RECEPTION

Link to the Reception (Zoom) is available at: hst.mit.edu/go/graduation

Immediately following the Video Watch Party, GRADUATES ONLY gather in the group photo room for a quick gallery style group photo.

Family and friends are welcome to join any of the breakout party rooms, where they can meet up with their graduate after the group photo. Please feel free to move yourselves among these party rooms. You can leave a party room and join a new one at any time.

Main Room

- *Host:* David Hansen, Curriculum Support Assistant

Guests start in the main room, can select a breakout room themselves from the list below, or ask the host to assign them to a breakout party room below.

Graduate Photo Room

- *Host:* Traci Anderson, Academic Programs Manager

Immediately following the end of the video ~ 6pm, graduates gather in this breakout room for a group photo. [GRADUATES ONLY, please]

Room Hosts: Hundert/Mitchell

- Edward Hundert, MD, Dean for Medical Education, HMS
- Rick Mitchell, MD, PhD, Associate Director, HST

Room Hosts: Kamihara/Solomon

- Junne Kamihara, MD, PhD, HST/London Advisor and Associate Director
- Daniel Solomon, MD, Morgan-Zinsser HST Associate Director, Clinical Learning

Room Hosts: Brown/Greenberg

- Emery Brown, MD, PhD, HST Director, MIT
- Julie Greenberg, PhD, HST Director of Education

Room Hosts: Frosch/Smith

- Matthew Frosch, MD, PhD, HST/London Chair of Admissions and Associate Director
- Zara Smith, MD Admissions Coordinator

Room Hosts: MIT Academic Office Staff

- Traci Anderson, Academic Programs Manager
- Joseph Stein, Academic Programs Assistant
- Laurie Ward, Graduate Administrator
- Megan Wong, Academic Programs Assistant

Room Hosts: HMS Academic Office Staff

- Karrol Altarejos, Program Coordinator
- Patty Cunningham, Academic Program Manager
- Kate Hodgins, Senior Curriculum Manager

Room Hosts: Recent Alumni

- Kay Everett, MEMP PhD '14, HST MD '16; Cardiology Fellow, DFCI
- Ashley Mateus, MEMP PhD '15; VP Decision Support and Strategic Planning, Akili Interactive
- Alex (German) Polacheck, MEMP PhD '14; Associate Director, GSK
- Sofia Vallila, SHBT PhD '14, Associate Professor, MGH-Institute of Health Professions

Room Hosts: Recent Alumni

- James Ankrum, MEMP PhD '13; Associate Professor in BE, University of Iowa
- Zuzana Tothova, HST MD '09, PhD; Assistant Professor, Medical Oncology, HMS, DFCI

Open Rooms A-D

Four un-hosted rooms for family and friends to gather for small group chats.

2020-2021 Graduates

Final degree lists were not available at time of printing so the following list is subject to change. Official degree certifications should be requested directly from the MIT or HMS Registrar's Offices.

Doctor of Medicine Medical Sciences

Uday Agrawal, BS

Shrewsbury, MA

Magna Cum Laude

Thesis Topic: Model Based Physiological Noise Removal in Fast fMRI

Future Plans: Internship and Residency in Anesthesia, Massachusetts General Hospital, Boston, MA

Baturay Aydemir, BA

Kayseri, Turkey

Cum Laude

Thesis Topic: An Analysis of Patient Outcomes Based on Deviations from the Usual Care for Vasopressor Initiation in the Emergency Department

Future Plans: Internship and Residency in Emergency Medicine, Western Michigan University, Stryker, Kalamazoo, MI

Erik Bao, BS

Cincinnati, OH

Magna Cum Laude

Leon Reznick Memorial Prize

Seidman Prize for Outstanding HST Senior Medical Student Thesis

Thesis Topic: The Genetics of Human Hematopoiesis in Health and Disease

Future Plans: Internship and Residency in Internal Medicine, University of California San Francisco, San Francisco, CA

Elizabeth H. Byrne, BA

Cambridge, MA

Cum Laude

Thesis Topic: RNA-sequencing of Female Genital Tract Cell Populations Elucidates the Functional Influence of the Local Microbiome and Exogenous Hormones on the Mucosal Environment

Future Plans: Internship and Residency in Obstetrics and Gynecology, Brigham and Women's Hospital, Boston, MA

Ann Morgan Cathcart, BA, PhD

Spokane, WA

Thesis Topic: Ubiquitin Pathway Blockade by Stapled Peptide Targeting of the Ubiquitin E1 Activating Enzyme

Future Plans: Internship and Residency in Obstetrics and Gynecology, Oregon Health and Science University, Portland, OR

John Ceremsak, BA

Hillsborough, CA

Thesis Topic: Identifying Novel Genomic Variants in Hemophagocytic Lymphohistiocytosis in Adults

Future Plans: Internship and Residency in Otolaryngology, Vanderbilt University Medical Center, Nashville, TN

Katherine Redfield Chan, BS

Tampa, FL

Magna Cum Laude

Thesis Topic: Engineering a Novel Fc-Fusion Protein Therapeutic for the Treatment of Pancreatitis

Future Plans: Internship and Residency in Anesthesia, Brigham and Women's Hospital, Boston, MA

Jacob Donoghue, BS, PhD

Providence, RI

Thesis Topic: Neural Dynamics of the Anesthetized Brain and the Control of Conscious States

Future Plans: CEO and Co-Founder, Beacon Biosignals, Boston, MA

Senan Ebrahim, BA, PhD

San Jose, CA

Magna Cum Laude

Multiculturalism and Diversity Award

Thesis Topic: Automated Detection and Prediction of Seizures Using Probing Neurostimulation

Future Plans: CEO, Delfina, San Francisco, CA

Jennifer Yawei Ge, BS, PhD

Cheshire, CT

Thesis Topic: Tumor Evolution and Resistance in Response to BET Inhibitor Combination Therapies in Triple-Negative Breast Cancer

Future Plans: Internship and Residency in Internal Medicine Brigham and Women's Hospital, Boston, MA

David Benjamin Gootenberg, BA, PhD

Bethesda, MD

Thesis Topic: HIV-associated Gut Microbiome Differences and Immune Activation are Dependent on Host Context

Future Plans: Internship and Residency in Pediatrics, Boston Combined Residency Program, Boston Children's Hospital/Boston Medical Center, Boston, MA

Sharon Grossman, BA, PhD

Princeton, NJ

Magna Cum Laude

Thesis Topic: Combinatorial Gene Regulation by Transcription Factors

Future Plans: Internship and Residency in Internal Medicine, Massachusetts General Hospital, Boston, MA

James Harris, BA, PhD

Goshen, NY

Thesis Topic: Mechanisms of Guided Axon Repair and Molecular Damage in Neurons

Future Plans: Internship and Residency in Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA

Thomas Patrick Howard III, BS, PhD

North Attleboro, MA

Thesis Topic: Identification and Characterization of Vulnerabilities in Malignant Rhabdoid Tumors

Future Plans: Internship in Preliminary Medicine, Brigham and Women's Hospital, Boston, MA; Residency in Radiation Oncology, Massachusetts General Hospital, Boston, MA

Anthony Injoon Jang, BS

Seoul, South Korea

Dr. Sirgay Sanger Award

Thesis Topic: Optimal Policy for Attention-Modulated Decisions Explains Human Fixation Behavior

Future Plans: Internship and Residency in Psychiatry, UCLA Semel Institute for Neuroscience, Los Angeles, CA

Mark Kalinich, BS, PhD

Saint John, Indiana, United States of America

Thesis Topic: Molecular Characterization of Circulating Tumor Cells for the Earlier Detection and Longitudinal Monitoring of Hepatocellular Carcinoma

Future Plans: Co-founder, Watershed Informatics, Cambridge, MA

Aditya Sreemadhav Kalluri, BS, PhD

Cleveland, OH

Thesis Topic: Defining Endothelial Cell Functional Heterogeneity and Plasticity Using Single-Cell RNA-Sequencing

Future Plans: Internship and Residency in Pediatrics, Boston Children's Hospital, Boston, MA

Nicholas Kwok, BS

Novato, CA

Cum Laude

Thesis Topic: Investigating Hydrocephalus Shunt Obstruction by Simulating Shunt Flow Patterns

Future Plans: Internship and Residency in Internal Medicine, Cedars-Sinai Medical Center, Los Angeles, CA

Yuzhong (Jeff) Meng, BA, PhD

Nanjing, China

Thesis Topic: Genomic Correlates of Outcome in Tumor-Infiltrating Lymphocyte Therapy for Metastatic Melanoma

Future Plans: Transitional year resident, Cambridge Health Alliance, Cambridge, MA; Residency in Radiation Oncology, Memorial Sloan Kettering Cancer Center, New York, NY

David Reshef, BS, MEng, PhD

Cambridge, MA

Magna Cum Laude

Thesis Topic: Equitability and Dependence: Detecting Novel Associations in Large Data Sets

Future Plans: Internship and Residency in Internal Medicine, Brigham and Women's Hospital, Boston, MA

Abigail Esther Schiff, BA, PhD

Brookline, MA

Thesis Topic: HIV Infection of Alveolar Macrophages and its Association with Mycobacterium tuberculosis Intracellular Growth

Future Plans: Internship and Residency in Internal Medicine, Brigham and Women's Hospital, Boston, MA

Eriene-Heidi Sidhom, BA, PhD

Westfield, NJ

Thesis Topic: Unraveling the Molecular and Cellular Complexities of the Kidney in Health and Disease

Future Plans: Internship and Residency in Internal Medicine, Massachusetts General Hospital, Boston, MA

Mack Su, BS, PhD

Thesis Topic: Tumor Neoantigens and a Novel Hapten Vaccine Promote Immune Targeting of Wild-Type Tumor Lineage Antigens and Improve Response to Immune Checkpoint Blockade

Future Plans: Internship in Preliminary Medicine, Brigham and Women's Hospital, Boston, MA; Residency in Dermatology, Massachusetts General Hospital, Boston, MA

Suan Tuang, BS, PhD

Tiddim, Chin State, Myanmar

Thesis Topic: Development of a Reactive Peptide Sequence for Site-Selective Bioconjugation

Future Plans: Biotech Analyst, Eventide Asset Management, Boston, MA

Adrian Veres, BA, PhD

Montreal, QC, Canada

Magna Cum Laude

Thesis Topic: Charting and Navigating Fate Decisions in Directed Differentiation of Stem-Cell Derived Beta Cells

Future Plans: Postdoctoral research, Harvard University, Cambridge, MA

Constance Wu, BA, MPhil

Palo Alto, CA

Cum Laude

Thesis Topic: Investigating Transcriptional CDK13 and its Putative Substrate ZC3H14 in BRAF-Driven Melanoma

Future Plans: Internship and Residency in Internal Medicine, University of California San Francisco, San Francisco, CA, with plans to pursue Hematology/Oncology fellowship

Xiaoling Yu, BA

Highland Park, NJ

Magna Cum Laude

Thesis Topic: Targeting Tumor Heterogeneity in the Treatment of Glioblastoma Multiforme (GBM) Using BiTE-Secreting EGFRvIII CAR T Cells

Future Plans: Internship and Residency in Internal Medicine, Hospital of the University of Pennsylvania, Philadelphia, PA

Doctor of Philosophy

Medical Engineering/Medical Physics

Mindy Bishop, SB

Folsom, CA

Thesis Topic: Progress in Nanosystems for Computing and Health

Future Plans: Founding a Start-up in Energy

Lucas Cahill, BNG

Oyama, BC, Canada

Thesis Topic: Rapid Evaluation of Pathology Using Nonlinear Microscopy with Applications in Breast Cancer, Prostate Cancer, and Renal Disease

Future Plans: Attending Harvard Medical School

George Chao, SB

Taichung, Taiwan

Thesis Topic: Engineering of Tools for De Novo Assembly of Human Cells

Future Plans: Postdoctoral Research, Daley Lab, Boston Children's Hospital, Boston, MA

Max Cotler, SB

Sarasota, FL

Thesis Topic: Single Subcompartment Drug Delivery

Future Plans: R&D Strategy and Operations, Start-up

Avilash Kalpathy Cramer, SB

West Linn, OR

Thesis Topic: Design and Applications of Cold-Cathode X-ray Imaging Systems

Future Plans: Staff Scientist/Polar Field Engineer, Portable Array Seismic Studies of the Continental Lithosphere (PASSCAL) Instrument Center, New Mexico Tech, Socorro, NM

Ang Cui, BNG, SM

Toronto, ON, Canada

Thesis Topic: Systems Biology Approaches to Deciphering Complex Immune Responses

Future Plans: Postdoctoral Research, Broad Institute, Cambridge, MA

Aditi Gupta, SB

Los Angeles, CA

Thesis Topic: Human interaction and gait strategy with tightly coupled lower extremity systems

Future Plans: Postdoctoral Research, HMS Scientific Citizenship Initiative, Boston, MA followed by an AAAS Science & Technology Policy Fellowship, Washington, DC

Giyoung Jung, BNG, BS

Seoul, South Korea

Thesis Topic: Engineering mammalian cell line for N-linked glycosylation control

Future Plans: Synthetic Biologist, MitoLab, Boston, MA

Swati Kataria, BTEC

Delhi, India

Thesis Topic: Rare-Earth Nanoparticles for Non-invasive In Vivo Imaging of Immune Cells in Cancer Immunotherapy

Future Plans: Postdoctoral Fellow, MIT Koch Institute for Integrative Cancer Research, Cambridge, MA

David Miranda, SB

Carolina, Puerto Rico

Thesis Topic: Engineering arterial substitutes that recapitulate blood vessel microstructure and mimic native physiological responses

Future Plans: Start-up in Aquaculture Tech, Puerto Rico

Manuel Antonio Morales, SB

Orlando, FL

Thesis Topic: Deep Learning Approach for the Automated Characterization of Cardiac Mechanics

Future Plans: Postdoctoral Research, Cardiac MR Center, Beth Israel Deaconess Medical Center, Boston, MA

Benjamin J. Read, SB

Bellingham, WA

Thesis Topic: Engineering Nanoparticulate antigens for enhanced follicular accumulation and immunogenicity

Future Plans: Postdoctoral Research, Ragon Institute, Cambridge, MA

John Gustaf Wilhelm Samuelsson, SM

Stockholm, Sweden

Thesis Topic: Computational Methods and Analyses for Assessing Cerebellar Electrophysiology with Magneto- and Electroencephalography

Future Plans: Postdoctoral Research, Harvard Medical School, Boston, MA

Hyun Ho (Greco) Song, SB, SM

Thesis Topic: Probing the Spatiotemporal Dynamics of Cell-Cell Interactions in Engineered Tissues

Future Plans: Biotech Equity Research Associate, SVB Leerink, New York, NY

Anne Joyal Pigula Tresansky, SB

Lawrenceville, NJ

Thesis Topic: Statistical Analysis of Ultrasound Signals for Tissue Characterization: The Homodyned K Distribution

Future Plans: Consultant, Boston Consulting Group, Boston, MA

Fuyixue Wang, BNG

China

Thesis Topic: Spatiotemporal encoding methods for brain magnetic resonance imaging

Future Plans: Instructor, A. A. Martinos Center for Biomedical Imaging, Charlestown, MA

Elise Wilcox, SB

Seattle, WA

Thesis Topic: Substratum Interactions Modulate the Interplay between Endothelial Cell Phenotype, Function, and Immune Recognition

Future Plans: Postdoctoral Research, Fred Hutchinson Cancer Research Center, Seattle, WA

**Certificate
Graduate Education in Medical Sciences**

Max Louis Olender, BSE, MS, PhD

West Bloomfield, MI, USA

Thesis Topic: Computational Processing and Modeling of Intravascular Images Precisely Couple Arterial Morphology and Biomechanics

Future Plans: Science and Technology Policy Fellow, U.S. Congress, Washington, DC

Sebastian Palacios, BS, MS

Bogota, Colombia; Miami, Florida.

Thesis Topic: Precision genome engineering and machine learning frameworks for biological circuit engineering in synthetic biology

Future Plans: PhD conferral (6/2021), followed by Postdoctoral Fellowship at MIT

Morteza Sarmadi, BSc, MSc

Tehran, Iran

Thesis Topic: Microscale polymer-based technologies for vaccine delivery

Future Plans: Completing PhD (9/2021), followed by Biotech Entrepreneurship

CONGRATULATIONS TO THE CLASS OF 2021!

The HST Alumni Association welcomes all 2021 HST graduates to its ranks. The HST Alumni Association was created in 2006 to build a vibrant program designed to increase and strengthen the ties among alumni as well as among them and HST faculty, students and administrators.

Our goals are ambitious, dedicated to:

- Provide resources to HST Alumni for career development
- Encourage regional activities for HST Alumni
- Build and populate an Alumni portal for the HST web site
- Create a minimum of one HST Alumni event each year
- Promote career opportunities for current HST students through internships, employment, etc.
- Facilitate alumni/student interaction
- Help develop a fund-raising program targeted at Alumni
- Foster HST “brand recognition”
- Leverage the resources of the Harvard and MIT Alumni offices to help achieve our goals

For ways in which new alumni can get involved, please contact hst-alumni-association@mit.edu. We look forward to working with you in the years ahead.