

# **DOS Research Toolkit Lecture:** ***Overview of Research Training Programs***

Seema Khan, Dave Bentrem, Daniela Ladner, Julie Johnson,  
Justin Ryder, Karen Ho, Anne Stey

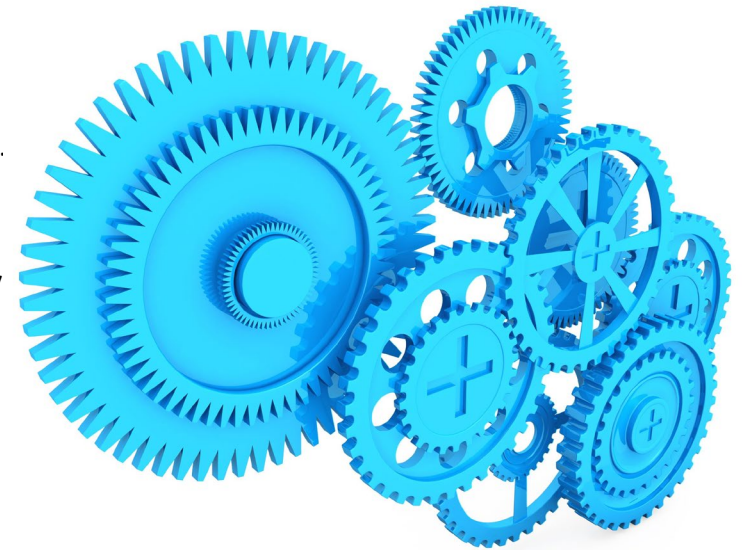
10/12/2023 9-10 am

# Designing your “Research Years”

- Physician Scientist Training Program (“PSTP”) is the name given to the 2 years of full-time, mentored research that are designed to facilitate the transition from residency training to a productive career as a surgeon-scientist
- Usually occurs after 3<sup>rd</sup> clinical year
- Funds attendance of AAS Fall Course (“Fundamentals of Surgical Research” in first year), participation in Academic Surgical Congress (first year), and travel for oral presentation to any national meeting (\$2500 total in travel reimbursement per year)

# Key Components of the PSTP experience

- **Mentorship – Research recruitment dinner next week; trainees, please sign up (see emails from me!)**
- **Funding opportunities – TODAY**
- Scientific knowledge in your research area
  - critically evaluate the literature, integrate new info, identify knowledge gaps
- Methodologic and technical skills
  - study design, data integration, interpretation and presentation, problem solving
  - how to think creatively and propose solutions
- Career development
  - networking
  - grant writing
  - communication (writing, editing, speaking, presentation skills)
- Professionalism
- Responsible conduct of research
- Productivity and CV building



# How will my research years be funded?

- Talk to your mentor (or prospective mentors) early!
- Possible funding sources:
  - Institutional training programs (NIH T32, R38, etc.)
  - Major societal awards (AAS, ACS, SUS, etc.)
  - Individual training grants (NIH F32)
  - Mentor funding
  - DOS funding – Stryker Endowment for GI Surgery Research
- ***All trainees are expected to submit an application for funding!***
  - ***Includes “gap funding”***
  - ***Check out the new and improved web [page](#) of funding opportunities!***



# What funding opportunities are out there?

Northwestern Medicine  
Feinberg School of Medicine

Department of Surgery

Navigation: About Us, Education, Research, Patient Care, Divisions, Faculty

Breadcrumbs: *Feinberg.Home > Home > Education > Residency > Resident Research > Training Opportunities*

Education

- Education Overview
- NU Surgical Education Center
- Medical Students
- Residency
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  - Vascular Surgery
- Resident Research
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  - Projects
  - Surgical Conferences Calendar
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    - Physician-Scientist Training Program
    - Resources
    - Research Toolkit Lecture Series



Be sure you pay attention to deadlines!



- ### For Residents
- Show Details
- NIH Supported Training
  - Programs at Northwestern
  - Programs outside Northwestern
  - Non NIH-Funded Training
  - NIH Loan Repayment
  - Research Training Awards



# Pay attention to deadlines!

- For July 2024 funding, deadline is September 2023
- Need to have mentor and project identified 11 months ahead of time!

The screenshot shows the American College of Surgeons website. The header includes the logo, the name 'AMERICAN COLLEGE OF SURGEONS', the tagline 'Inspiring Quality: Highest Standards, Better Outcomes', and a '100+ years' anniversary mark. Navigation links include 'Become a Member', 'Member Login', and a search bar. A teal navigation bar contains links for 'COVID-19', 'Member Services', 'Quality Programs', 'Education', 'Advocacy', 'Publications', and 'About ACS'. The breadcrumb trail reads: 'American College of Surgeons > Member Services > ... > Resident Scholarships > ACS Resident Research Scholarships'. The left sidebar has a 'Resident Scholarships' link. The main content area is titled 'ACS Resident Research Scholarships' and includes the following text:

**ACS Resident Research Scholarships**

July 1, 2021–June 30, 2023

The American College of Surgeons is offering two-year resident research scholarships. Eligibility for these scholarships is limited to the research projects of residents in surgery or a surgical specialty.

These scholarships are supported by the generosity of Fellows, Chapters, and friends of the College, to encourage residents to pursue careers in academic surgery.

**Current Resident Research Scholars**

**2020–2022**

Xavier Baldwin, MD  
Julian Daza, MD  
Cynthia Miller, MD  
Maryam Mohammed, MD  
Connie Shao, MD  
Tara Talaie, MD

**General Policies**

General policies covering the granting of the American College of Surgeons Resident Research Scholarships are:

- The applicant must be a Resident Member of the College who has completed two postdoctoral years in an accredited surgical training program in the United States or Canada at the time the scholarship is awarded, July 1, 2021, and shall not complete formal residency training before June 2023. Scholarships do not support research after completion of the chief residency year.
- The scholarship is awarded for two years, and acceptance of it requires commitment for the two-year period. The award is to support a research plan for the two years of the scholarship, July 2021 through June 2023. Priority will be given to the projects of residents involved in full-time laboratory investigation. Study outside the United States or

# NIH F32 Postdoctoral Fellowship

- Ruth L. Kirschstein Postdoctoral Individual National Research Service

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August, Dec

**Application Receipt Dates and Review Schedule**

Receipt Cycle	Receipt Date: Application, Resubmission	Initial Review Date	Council Review Date	Earliest Possible Start Date*
1	April 8	June/July	September/October	December
2	August 8	October/November	January/February	April
3	December 8	February/March	May/June	July

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- Must submit to Office of Sponsored Research at least 7 business days before NIH deadline for internal approval

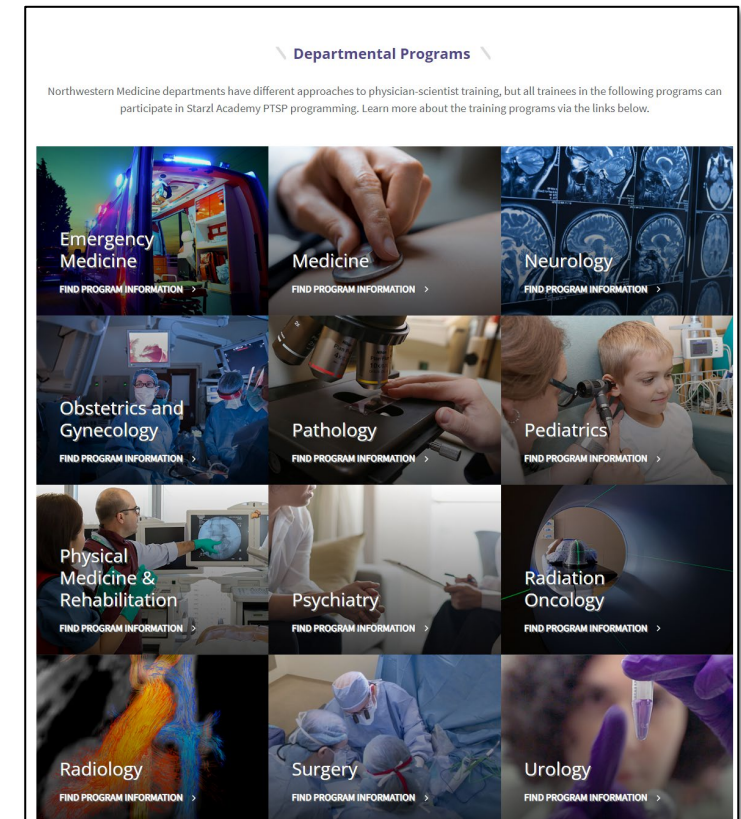
# Faculty presentations today

- [Surgical Oncology T32 \(CONSORT\) and R38 \(SMART\)](#)
  - Seema Khan
- [VA Chief Resident in Quality and Patient Safety \(CRQS\)](#)
  - Dave Bentrem
- [Transplant Surgery Scientist T32 Training Program \(TSSTP\)](#)
  - Daniela Ladner
- [Northwestern Quality Improvement, Research, and Education in Surgery \(NQUIRES\)](#)
  - Julie Johnson
- Pediatric Obesity/Bariatric Surgery and Research Fellowship
  - Justin Ryder
- [Vascular Surgery Scientist T32 Training Program \(VSSTP\)](#)
  - Karen Ho
- [Steven J. Stryker, MD, Gastrointestinal Research and Education Endowment](#)
  - Karen Ho
- [ACS Clinical Scholars in Residence](#)
  - Anne Stey



# Additional NU opportunities

- Starzl Academy – [PSTP Programs at FSM](#)
  - [Starzl Scholar Award](#) – fellowship salary support for 2 years for postdocs from [underrepresented groups](#)
- [NU Minority Health and Health Disparities T37 Research Training Program \(NU-MHRT\)](#)
  - Melissa Simon
- [Chicago Kidney Urology Hematology network FOR city-Wide reseArch tRaining and career Development \(Chicago KUH FORWARD\)](#)
  - Terri Fraterrigo
- [The University of Chicago and Northwestern University Postdoctoral Health Services Research Program](#)
  - Tara Lagu
- [Multidisciplinary Training Program in Child & Adolescent Health](#)
  - Susan McColley and Evan Scott



# VA CRQS

Chief resident in Quality and Safety

Jesse Brown VAMC

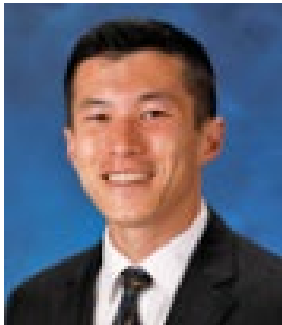
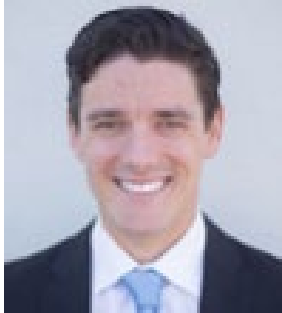
## Competencies mastered by the CRQS

Competency	Learning Method
<b>Medical Knowledge</b> -Understand and apply principles of quality and patient safety	-AQSI certificate program -National Quality and Safety Curriculum -QI/PS projects at VA -Instruction from VA faculty mentor
<b>Patient care</b> -Recognize opportunities to apply principles of quality and patient safety	-Participate in Peer Review activities to identify institutional problems that may lead to PI projects. -Participate in RCAs and Lean Projects involving patient quality and safety
<b>Professionalism</b>	-Mentored project,-Peer Review Committee
<b>Interpersonal Skills &amp; Communication</b> -Develop leadership skills -Learn to work with clinical and non-clinical staff	-Interdisciplinary team building as part of QI project -Working directly with non-clinical staff at VA on projects -Teaching residents throughout year
<b>Problem and evidence-based Learning and Improvement</b> -Develop skills to assess clinical practice, identify gaps, and find solutions	-Participate in Peer Review activities -Participate in RCAs involving patient quality and safety -Literature searches -Mentor guidance
<b>System Based Practice</b> -Understand concept of healthcare system, and strategic planning	-Participate in RCA -Participate in strategic planning initiatives at medical center -Mentored project

# Prior Chief residents

- Cary Schlick
- Matt Hudnall
- Charles Logan
- Brandon Johnson
- Nora Zaza
- Whitney Jones

# TRANSPLANT SURGEON-SCIENTIST TRAINING PROGRAM (TSSTP)



## Comprehensive Transplant Center

Search web or people

About Us ▾ Education ▾ Research ▾ Patient Care Members

*[Feinberg Home](#) > [Home](#) > [Education](#) > [T32 Transplant Surgery Scientist Training Program](#)*

### Education

- Education Overview
- Transplant Surgery Fellowship
- Transplant Nephrology Fellowship
- T32 Transplant Surgery Scientist Training Program ▾
  - ▶ [Scientist Training Program Overview](#)
  - [How to Apply](#)

## T32 Transplant Surgery Scientist Training Program

The Comprehensive Transplant Center currently offers T32 Transplant Surgery Scientist Training Program fellowships funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), a part of the National Institutes of Health via the T32 mechanism.

- [How to Apply](#)  
Find application and requirement information.
- [Meet the Fellows](#)  
Get to know our current class of fellows.

## WHAT?

- 16<sup>th</sup> year of training grant
- 3 slots per year, 2-3 years
- Type: Basic / translational /outcomes science
- Degrees: outcomes: masters; basic / translational: courses

## WHO?

- MDs or PhDs interested in liver-related or nutrition related investigation (sponsored by DDN / NIDDK)

## WITH WHO?

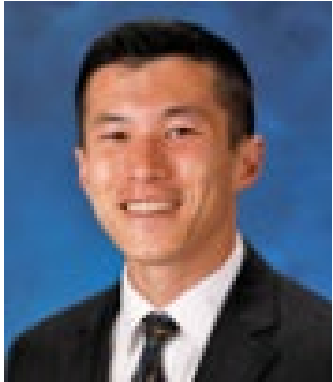
- 2-3 extramurally sponsored mentors @ NU
- Co-mentors usually PhDs, outside of surgery @ NU

# EXAMPLES



Title: A Phase I Clinical Trial with Donor-Specific Expanded Recipient Regulatory T cells in Living Donor Liver Transplant Recipients

Mentors: Leventhal, Mathews, Nadig



Title: Drivers of poor outcomes in low MELD cirrhosis

Mentors: Ladner, Mehrotra, Manski



Title: Striving for Racial Equity in Kidney and Liver Transplantation: A Mixed Methods Assessment of Disparities in Transplant Access and Outcomes for Marginalized Communities

Mentors: Simpson, Kershaw, Ladner





## 25 TRAINEES SINCE 2008

> 95% in academia or scientists in industry

Independent federal funding: R01, U01, R56

Career development awards: K23, KL2, society awards

Trials







THANKS



# One-year Pediatric Obesity/Bariatric Surgery and Research Fellowship

- 1) to provide the trainee opportunities to develop clinical and surgical skills during the care of adolescents with severe obesity
- 2) provide an opportunity to engage in the conduct and reporting of clinical research.

## Patient Care:

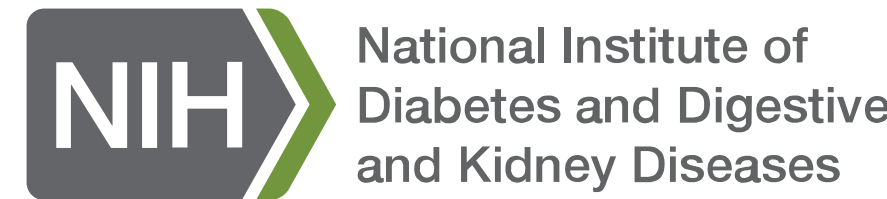
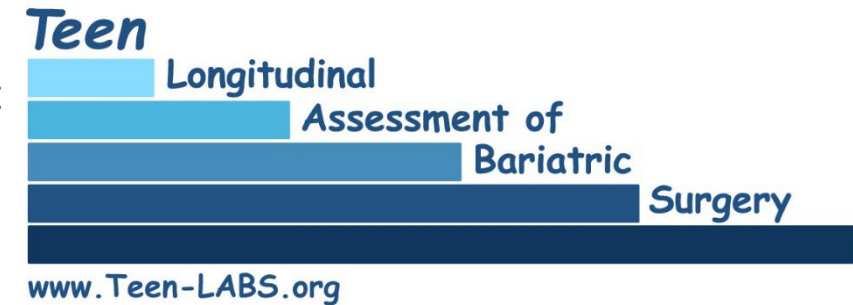
- ❖ At least ½ day outpatient
- ❖ Dedicated to inpatient service and participate in at least 25 bariatric procedures
- ❖ Modest participation in pediatric general surgery service (2-3 call shifts per month)

## Research

- ❖ Develop at least 2 research projects that result in a peer-reviewed manuscript
  - ❖ Present at national meetings
  - ❖ Engage in peer review
- ❖ Involved in 3 ongoing NIH funded studies.
  - ❖ Learn study design

## Educational Opportunities

- ❖ Surgery Grand Rounds
- ❖ Quality/Safety (M&M) Conference
- ❖ Quality Improvement Curriculum
  - ❖ Surgery/Radiology Conference
- ❖ Pediatric Surgery Core conference
  - ❖ APSA or AAP Surgery Section



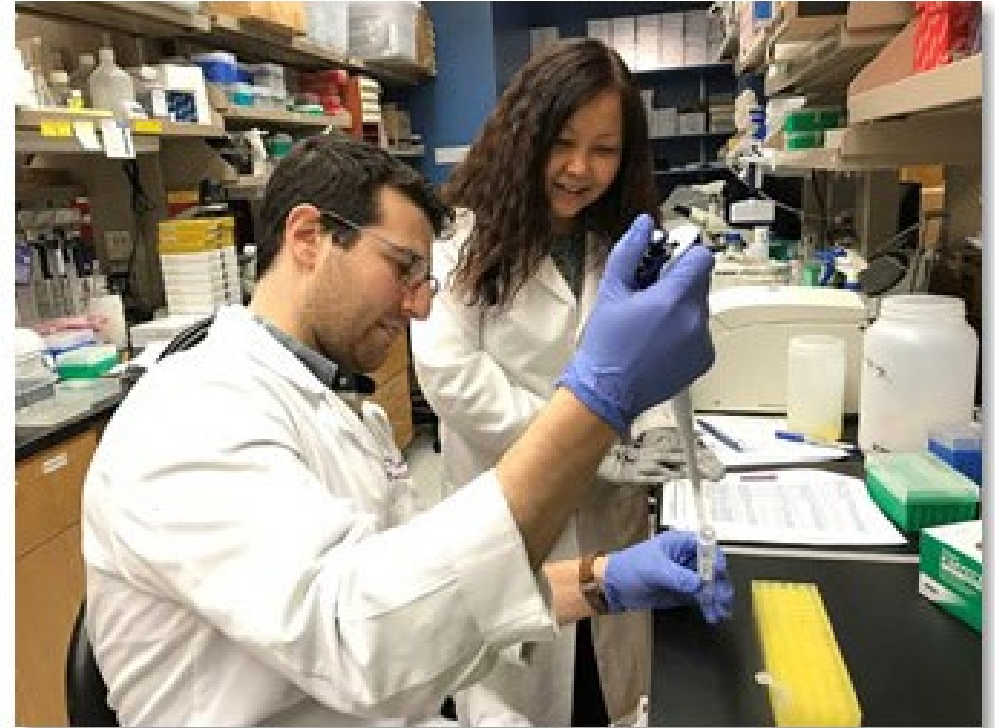
# Vascular Surgery Scientist T32 Training Program (VSSTP)

# Goal

Our goal is to provide trainees with the scientific environment, didactic training, career development mentorship, and opportunities for collaboration required to jump start careers as surgeon-scientists

# Design

- Established in 2008
- Supports 2 years of full-time research
- 2 positions/year (MD/DO/PhD)
- Each mentor develops **an individualized training program**
- Each trainee has a primary mentor and co-mentor
- 3 tracks: vascular biology, HSOR, biomedical engineering



# Program Leadership



**Program Director:** Mark Eskandari, MD (Division of Vascular Surgery)



## **Associate Program Directors:**

- William Muller, MD PhD (Department of Pathology)
- Guillermo Ameer, ScD (Departments of Biomedical Engineering and Surgery)

# Core Curriculum

Required Courses for Trainees of All 3 Tracks	
Northwestern University - Grantsmanship for the Research Professional	Year 1
Northwestern University - Taking Responsibility for Responsible Conduct of Research	Year 1
Association for Academic Surgery - Fundamentals of Surgical Research Course	Year 1
Association for Academic Surgery - Career Development Course	Year 1
Northwestern University - Writing Workshop	Year 1

Curriculum for the MS in Health Services and Outcomes Research	
Year One Curriculum	
<b>Fall</b>	HSR 433: Health Economics and Healthcare Financing (1) HRS 461: HSR Topics: Methods & Measurement (0.5) PUB HLTH 302: Introduction to Biostatistics (1)
<b>Winter</b>	HSR 460: Ethical Issues in Health Services Research (0.5) HSR 425 Introduction to Quantitative Methods in Health Services and Outcomes Research (1) PUB HLTH 304: Introduction to Epidemiology (1)
<b>Spring</b>	HSR 462: HSR Topics: Grant-Writing (0.5) HSR 500: Capstone I (0.5) *HSR 470: Health Policy (1)
<b>Summer</b>	HSR 463: HSR Topics: Quality and Safety (0.5) PUB HLTH 445: Writing & Peer Reviewing for Publication (1)
Year Two Curriculum	
<b>Fall</b>	*HSR 456: Applied Qualitative Methods & Analysis for Health Researchers (1) PUB HLTH 421: Intermediate Biostatistics (1)
<b>Winter</b>	HSR 440: Disparities in Healthcare (1) HSR 465 Intermediate Quantitative Methods in Health Services and Outcomes Research (1)
<b>Spring</b>	HSR 501: Capstone II (0.5)

# Research mentors

Vascular Biology	Health Services Outcomes	Biomedical Engineering
Luisa Iruela-Arispe, PhD	Mark Eskandari, MD	Guillermo Ameer, ScD
Hasan Alam, MD	Joseph Feinglass, PhD	James Carr, MD
Hossein Ardehali, MD PhD	Andy Hoel, MD	Michael Markl, PhD
Karen Ho, MD	Donald Lloyd-Jones, MD ScM	Bin Jiang, PhD
Tsutomu Kume, PhD	Mary McDermott, MD	Sam Stupp, PhD
William Muller, MD PhD	Douglas Vaughan, MD	C. Shad Thaxton, MD PhD
Elizabeth McNally, MD PhD	Ashley Vavra, MD	
Amy Paller, MD	Yue-Yung Hu, MD MPH	
Susan Quaggin, MD		
Satish Nadig, MD PhD		
Ed Thorp, PhD		
Lisa Wilsbacher, MD PhD		

*Each trainee develops his/her individual research and training plan with mentor(s)*

**Current/former trainees:** Calvin Chao, Marge Liggett, Maggie Reilly, Jessie Ho, Andres Guerra, Eric Pillado

# How to apply and get more info

- Coordinator: Marsha Blunt ([marsha.blunt@nm.org](mailto:marsha.blunt@nm.org))
- Application deadline: January 2024
- Get more info and download application from website

Department of Surgery

About Us ▾ Education ▾ Research ▾ Patient Care ▾ **Divisions ▾** Faculty ▾

Feinberg Home > Home > Divisions > Vascular Surgery > Research > Scientist Training Program

Divisions

- Breast Surgery
- Cardiac Surgery
- Gastrointestinal Surgery
- Organ Transplantation
- Pediatric Surgery
- Plastic Surgery
- Surgical Oncology
- Thoracic Surgery
- Vascular Surgery**
- Vascular Surgery

Vascular Surgery Scientist Training Program

The Vascular Surgery Scientist Training Program at Northwestern University, which is full-time, provides a two-year mentored research training experience for general and vascular surgery residents and fellows interested in research-oriented academic careers.

The T32 funding mechanism provides a stipend, tuition, fees for coursework, travel funds, and other resources to support research training.

Our goal is to provide trainees with the scientific environment, didactic training, career development, and other opportunities for collaboration required to jump start careers as surgeon-scientists.

Individualized training plans are developed by the mentor and trainee. Trainees can choose mentors and secondary mentors from many different clinical specialties and research fields and select one of several tracks of study or a combination of tracks:

- Vascular biology with a basic science emphasis
- Clinical research including outcomes studies
- Biomedical devices in partnership with the Department of Biomedical Engineering
- An integrated program designed by the trainee and his/her mentors

Show Details

- ▶ Curriculum
- ▶ Eligibility & Requirements
- ▶ **How to Apply**

Scientist Training Program



# ACS-Clinical Scholars

- Two-year onsite fellowship in surgical outcomes research, health services research, healthcare policy, diversity, equity and inclusion, and quality improvement
- Office in same building as NQUIRES, same master's degree, co-mentored by NQUIRES faculty and ACS faculty
- Leverage American College of Surgeons Internal Datasets (NSQIP, NSQIP-P, VQIP, TQIP, NCDB)
- Take part in American College of Surgeons initiatives (National QI initiatives, National trials, expert consensus groups, moderating national conferences, CMS policy initiatives)