

Scholarships in cardiothoracic surgery—a guide for surgical trainees



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“Whenever you see a turtle sitting on top of a fencepost, you know that turtle had a lot of help getting there”

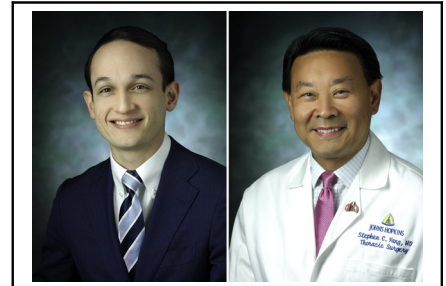
—Courtney M. Townsend, Jr¹

There are abundant resources to stimulate interest and provide academic recognition and financial support for medical students and surgical residents interested in cardiothoracic surgery. Getting a grasp of the available resources and trying to communicate the breath of these opportunities take considerable effort and are often difficult to find online. This note is meant to serve as a guide in navigating scholarships, fellowships, and awards available to medical students and residents from national organizations, many of which offer candidate membership and encourage trainees to join (Table 1). In addition, several academic institutions have private funding to support research and travel. Hopefully, this article will aid stellar trainees obtain deserved recognition, enrich mentor–mentee relationships, help broaden the applicant pool for available scholarships, and provide a roadmap to those who have little or no exposure to our field.

Although the process of seeking scholarship may be cumbersome at crucial moments of a trainee's education, it portrays a long-lasting positive impact on the recipient's academic career.² Awardees and scholars are usually provided with the opportunity to attend national meetings, where future mentors may be met. In addition to professional merit, exposure to repeated scholarship applications promotes grantsmanship in the young surgeon–scientist.

TO MEDICAL STUDENTS

Students with an early interest in cardiothoracic surgery should consider applying to travel scholarships affiliated to national cardiothoracic surgery meetings—such as the American Association for Thoracic Surgery



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CENTRAL MESSAGE

This note is meant to serve as a guide in navigating the numerous scholarships, fellowships, and awards available to medical students and residents.

PERSPECTIVE

There are abundant resources to stimulate interest and provide academic recognition and financial support for medical students and surgical residents interested in cardiothoracic surgery. Getting a grasp of the available resources and trying to communicate the breath of these opportunities take considerable time and often is difficult to find.

See Commentaries on pages 1394 and 1395.

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(AATS) and Society of Thoracic Surgeons (STS) Annual Meetings—as these may provide a network opportunity, especially for students attending school at universities without cardiothoracic surgery divisions. These are particularly useful to determine to explore their interest in cardiothoracic surgery and gauge the future direction of the field. Conversely, students with a strong commitment to cardiothoracic surgery should consider competitive traveling scholarships that select a single scholar based on merits every year—such as the James Brooks or Fred Weber Scholarships—in addition to applying for funding mechanisms such as the American Heart Association (AHA) Predoctoral Fellowship.

TABLE 1. Organizations offering candidate membership to medical students and residents

Abbreviation	Organization
AAS	Association of Academic Surgeons
AATS	American Association for Thoracic Surgery
ACS	American College of Surgeons
AWS	Association of Women Surgeons
GTSC	General Thoracic Surgery Club
STS	Society of Thoracic Surgeons
STSA	Southern Thoracic Surgical Association
TSRA	Thoracic Surgery Residents Association
WTS	Women in Thoracic Surgery
WTSA	Western Thoracic Surgical Association

TO RESIDENTS

The same is true for general surgery residents with a developing interest for cardiothoracic surgery; consideration should be given to traveling scholarships affiliated to large meetings and the ability to accept a broad number of scholars (for example, the Looking to the Future and Member for a Day Programs). Fortunately, a larger number of traveling scholarships exist for residents. Early in training, residents should consider applying to traveling scholarships, as these will provide an opportunity to explore their interest in cardiothoracic surgery and begin building relationships with future colleagues and potential mentors at other institutions. Most traveling scholarships have the objective of captivating trainees with an early interest in cardiothoracic surgery. Successful applications reveal an organic interest in the field, usually from past experiences in cardiothoracic surgery or interactions with faculty which generated intrigue. Keep in mind that these scholarships usually limit their consideration to a single awardee per institution.

Residents with a strong commitment toward cardiothoracic surgery should consider applying for extramural funding mechanisms—as listed in the [Table 2](#)—6 to 8 months before any dedicated research time allowed by their training program. Identifying and collaborating with mentors who have a record of successful grantsmanship is strongly encouraged, especially if this is your first time writing a grant application. Many of the funding opportunities listed in this note share similar objectives, hence, a single grant application may be suitable for consideration to several mechanisms. These applications usually require a sponsor who will supervise the awardee's research activities during the funding period and expect the awardee to devote 1 or 2 years of dedicated research time to fulfill the aims of the grant. Among the awards listed in [Table 2](#), the Association of Academic Surgeons fellowships usually favor clinical research, the AHA fellowship usually favors basic or

translational research, and the American College of Surgeons, International Society for Heart and Lung Transplantation, Southern Thoracic Surgical Association, and Thoracic Surgery Foundation fellowships support both types of research endeavors. We must highlight how important and valuable it is to have grant funding backing your research from an early stage. It will set a track record for being a methodical scientist who is sought after by larger funding organizations.

Research competitions usually serve as the culmination of several years' worth of academic effort. The content of these competitions is usually based on its actual merit of the work rather than the merits of the presenter. Importance is given to the relevance of the question, approach used in the study, and novelty of the findings. Usually, the Vivien Thomas, C. Walton Lillehei, and Philip K. Caves awards select translational and basic science studies. Conversely, the Hans G. Borst, Benson R. Wilcox, and Paul C. Sampson Awards favor clinical and epidemiologic studies. These tendencies are a mere observation made from reviewing the works awarded over the past few years; however, outstanding research will always be recognized.

ADDITIONAL CONSIDERATIONS

Most scholarship and funding opportunities require 1 or several letters of reference as part of the application. Faculty recognize that these applications may be competitive, will respond positively to any trainees interested in their field, and be willing to provide a supportive letter. Identifying faculty who are involved in or attend the meetings of the award-granting society/organization is ideal. As an applicant, you may aid those supporting your application by providing a brief description of the opportunity that you are applying to, clearly stating the deadline for the application, and providing a copy of your curriculum. During your years of training, you will likely be applying to several opportunities; keep a copy of your reference letters, as these may aid your sponsors in subsequent applications.

Most meetings and scientific societies (such as the STS, Eastern Cardiothoracic Surgical Society, Western Thoracic Surgical Association, etc) offer candidate or trainee membership status with reduced fees targeted toward trainees. These memberships promote attendance to meetings at discount rates, facilitate networking, and provide bulletins with important information for trainees.

The various meetings in cardiothoracic surgery may be categorized into the following 3 groups. (1) Large meetings with a deep focus on scientific advancements appealing to surgeons, such as the AATS and STS. These may be overwhelming but also provide exposure to a broad range of topics in cardiothoracic surgery. (2) Small meetings arranged by close-knit societies, such as Eastern Cardiothoracic Surgical Society, Western Thoracic Surgical Association, and Southern Thoracic Surgical Association. These

TABLE 2. Awards, scholarships, and funding available to the students and residents interested in cardiothoracic surgery

Eligible applicants	Type	Name		
Medical students	Travel scholarships	AAS Student Diversity Travel Award		
		AATS Member for a Day		
		ECTSS Fred Weber Scholarship		
		STS Looking to the Future		
		STSA James W Brooks Medical Student Scholarship		
Medical students	Funding	AATS Summer Intern Scholarship		
		AHA Predoctoral Fellowship		
		Residents	Travel scholarships	AATS Member for a Day
				AATS Robotics Fellowship
				ECTSS David Campbell Scholarship
EuroELSO Young Investigator Award				
GTSC Pairolero Scholarship				
ISHLT Meeting Travel Grant				
ISMICS Chitwood Educational Travel Award				
STS Looking to the Future				
STSA James W. Brooks Resident Scholarship				
TSF Robert L. Replogle Traveling Fellowship Award				
Residents	Research/competitions	TSRA/STS Traveling Fellowship		
		TSRA/STS Global Outreach Fellowship		
		WTSA Traveling Fellowship		
		AHA Vivien Thomas Investigator Award		
		AATS C. Walton Lillehei Resident Forum		
		EACTS Hans G. Borst Award		
		EACTS Young Investigator Award		
		CHEST Alfred Soffer Research Competition		
		CHEST Young Investigator Award		
		ISHLT Philip K. Caves Award		
Residents	Funding	ISMICS Young Investigator Award Competition		
		STS Jeopardy Competitions		
		STSA Hawley H. Seiler Residents Award		
		TSDA Benson R. Wilcox Award		
		WTSA Paul C. Samson Resident Prize		
		AAS Trainee Research Fellowship Award		
		AAS Global Surgery Research Fellowship Award		
		AATS/STS Cardiothoracic Ethics Forum Scholarship		
		ACS Resident Research Scholarships		
		AHA Postdoctoral Fellowship		
Female medical students	Travel scholarship	ASE Surgical Education Research Fellowship		
		ISHLT Research Fellowship Award		
		STSA Resident Research Award		
		TSF Resident Research Fellowship		
		AWS Patricia Numann Award		
Female medical students	Travel scholarship	TSF Carolyn E. Reed Traveling Fellowship		
		WTS Brigid Scanlan Traveling Mentorship Award		
		WTS/STS Scholarship Program		
		WTS/STSA A.J. Carpenter Scholarship		
		AWS Hilary Sanfey Outstanding Resident Award		
Female residents	Travel scholarship	WTS Brigid Scanlan Traveling Mentorship Award		
		WTS/STS Scholarship Program		
		WTS/STSA Carpenter Scholarship		
		TSF Nina Starr Braunwald Research Fellowship		
Female residents	Funding			

Award sites accessed on January 30, 2020. We suggest searching award name and affiliated society/association, as these hyperlinks may change over time. AAS, Association of Academic Surgeons; AATS, American Association for Thoracic Surgery; ECTSS, Eastern Cardiothoracic Surgical Society; STS, Society of Thoracic Surgeons; STSA, Southern Thoracic Surgical Association; AHA, American Heart Association; ELSO, Extracorporeal Life Support Organization; GTSC, General Thoracic Surgical Club; ISHLT, International Society for Heart and Lung Transplantation; ISMICS, International Society for Minimally Invasive Cardiothoracic Surgery; TSF, Thoracic Surgery Foundation; TSRA, Thoracic Surgery Residents Association; WTSA, Western Thoracic Surgical Association; EACTS, European Association for Cardiothoracic Surgery; ASE, Association for Surgical Education.

meetings have a casual and intimate character that may permit multiple interactions with the same individuals through the meeting. (3) Meetings organized by nonsurgical specialties which have a small feature of recurring surgical attendees, such as AHA, American Society of Clinical Oncology, CHEST, and Heart Failure Society of America. Networking opportunities may be richer at large meetings but potentially deeper in smaller ones.

In addition to the scientific program, most societies hold receptions during meetings to provide an opportunity for networking. Organizers make a great effort to attract trainees towards these events. As part of many of these awards, recipients are expected to be present at meeting receptions. We strongly encourage attendance to these receptions.

Although the number of women in cardiothoracic surgery has increased over the last few years, a considerable gap remains, with only 20% of cardiothoracic surgery resident physicians and 5% of AATS members being women.³ Rightly so, several scholarship and funding mechanisms exist exclusively for female applicants. The Association of Women Surgeons provides opportunities for female medical students and residents with a broad interest in surgical specialties. The Women in Thoracic Surgery provides

numerous traveling scholarships for female trainees interested in attending national meetings or visiting the clinical practice of a female cardiothoracic surgeon at a different institution.

We did not comment on National Institutes of Health-sponsored scholarships and funding opportunities because they are beyond the scope of this note. Pertinent information regarding such opportunities may be found here: <https://researchtraining.nih.gov/programs>.

CONCLUSIONS

We encourage current trainees and future colleagues to seize the available opportunities by applying to as many scholarships and awards as possible; thus, attempting to match the efforts of those who paved the way.

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