

**Olin College**  
of Engineering

# ENGINEERING INNOVATION

**ANNUAL REPORT**

**2021**

# OLIN MISSION

Olin College prepares students to become exemplary engineering innovators who recognize needs, design solutions and engage in creative enterprises for the good of the world. Olin is dedicated to the continual discovery and development of effective learning approaches and environments, and to co-developing educational transformation with collaborators around the globe.

## VISION FOR THE FUTURE

# ENGINEERING MUST BE FOR EVERYONE

Olin will remain an important and constant contributor in the next decade by advancing equity both within and through engineering education.

Olin ought to provide an education that makes sense for, and is sensitive to the needs of, students from all backgrounds. We will show the world that a transformative education is possible at a reasonable per-student cost.

Over Olin's first decades, we worked to change the definition of engineering to include understanding and working with people. When our graduates enter the world, they consistently ask the question, "Who are we designing this for, and what are their values?"

Over the next decade, we will further broaden that definition of engineering to include social responsibility and equity, so that our graduates—and engineers more broadly—will also ask questions about the impacts their work will have on society.

# LOOKING FORWARD

**This is a singular moment for Olin—one in which we have the opportunity to decide who we will be and what values we will embrace as Olin evolves. We are focused on the future and how we can broaden our impact as a leader in engineering education.**

Our new vision is clear: Olin will work to advance equity within and through engineering education, and we will do so in a way that benefits the long-term financial sustainability of the College.

We will accomplish this by providing an education that is accessible and meaningful to students from all backgrounds and by expanding the definition of engineering to include equity and social responsibility. Our commitment to equity is among Olin's highest priorities and adds a new facet to the College's mission, which calls on us to do good in the world through our students.

As we work toward this vision, Olin will become a more diverse and more aware community. We will be an institution in which everyone is a learner and an educator. We will be a place in which experimentation and collaboration are encouraged and celebrated. We will share and embrace the values, culture and revolutionary spirit that have set Olin apart since our founding. And we will become financially sound and resilient, able to support the important work our faculty, staff and students do—today, and decades from now.

I was drawn to Olin because I connect deeply with the College's founding values that inform how we educate our students and prepare them to do good in the world. Now that I am here, I continue to see endless potential in this community and its ability to create and adapt, envision and build, collaborate and care.

In this report, you will see the ways in which we have already made progress toward these goals, as well as learn about the steps we will take together toward this shared vision for Olin. With support and guidance from every part of the Olin community, we will continue our work to build a stronger Olin.

Sincerely,



**Gilda A. Barabino, Ph.D.**  
*President and Professor of Biomedical and Chemical  
 Engineering  
 Olin College of Engineering*



**LETTER FROM THE PRESIDENT**

# LOOKING FORWARD



## LETTER FROM THE BOARD CHAIR

→ **The past year and a half presented Olin, and indeed the world, with unexpected and unprecedented challenges. Of no surprise, the Olin community stepped up to support each other, put a priority on keeping people safe, and found new ways to continue teaching and learning—as I knew Oliners would!**

In 2020, as Olin was poised to embark on its next chapter after 20 years of leadership in undergraduate engineering education, we were faced with the uncertainty and financial pressures of the global pandemic.

Fortunately, President Barabino assumed her role amid this pivotal time and hit the ground running. Since July, President Barabino initiated a plan to secure the College's financial stability and resiliency while also looking ahead to design an even brighter future for Olin. Less than a year after assuming the Olin presidency, President Barabino, in collaboration with the Olin community, has laid out and is beginning to lead the implementation of a bold vision for Olin that will broaden and increase our impact on engineering education.

While we still have much work to do, I am pleased to share with you that considerable progress has already been made in laying the necessary groundwork for Olin's future.

As the College advances during this exciting new phase under President Barabino's leadership, my tenure as a member of the Board of Trustees will come to a close in October. It has been a pleasure to be so deeply engaged with Olin—first as a parent, and then serving as a trustee and board chair. Throughout my involvement with the College, my enthusiasm for Olin and its mission has always continued to grow. I look forward to remaining a strong supporter of Olin's next chapter for many years to come.

In closing, I extend my deepest gratitude and admiration to Olin's outstanding faculty and staff for their hard work and commitment to Olin every day—especially over the last 18 months. I also extend my gratitude to our many dedicated alumni and generous donors whose support makes Olin's mission possible.

Sincerely,

*Ken Stokes*

Kenneth R. Stokes P'12  
Chair, Olin College Board of Trustees

# STRATEGIC DOING

## RETURN TO CAMPUS DURING COVID-19

Relying on local, state and federal guidelines, Olin developed a plan that put the health and safety of the community first while continuing to offer Olin students an unparalleled academic experience. As a result, 113 students returned to campus last fall and more than 173 students returned in the spring, even as the pandemic continued in full force.

Olin partnered with the Broad Institute to offer a rigorous asymptomatic testing program. Students were tested twice a week and employees were tested based to the time they spent on campus. Fortunately, because of Olin's adherence to social distancing, public health measures such as mask-wearing, and regular testing, there was no community spread of COVID-19 on the Olin campus.

In the residence halls, students lived in cohorts of household groups. Those household groups took classes together in dedicated classrooms. In May, Olin held an in-person commencement for the Class of 2021 and family and friends.

## 2020-2021 FAST FACTS

### TESTING

11,859

COVID-19 TESTS WERE PERFORMED AT OLIN IN 2020-2021

9

POSITIVE RESULTS

No

COMMUNITY SPREAD



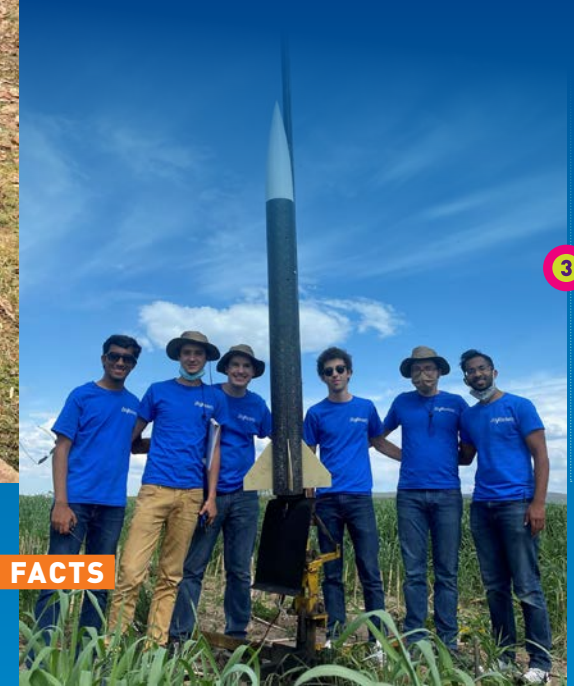
## EVOLVING A HANDS-ON CURRICULUM FOR REMOTE INSTRUCTION

While there were many challenges related to the pandemic for Olin faculty, perhaps none were more difficult than figuring out how to transition a largely team-based project curriculum to a remote environment. Olin faculty learned how to emphasize simplicity, clarity and creativity and encouraged students to use available materials.

In **Thermodynamics**, a student studied the enthalpy of vaporization during the maple syrup sugaring process by learning to tap trees to harvest sap, making an evaporator from junkyard parts and rigging up an automated measurement device. On the simpler side, another student measured how the material properties of salt water changed with salinity. (fig.1)

In **Introduction to Mechanical Prototyping**, the class shifted from spending all its time in a fully equipped machine shop with easy access to 3D printers and laser cutters to building kinetic sculptures with Lego Technic. The goal of this module was the same as before the pandemic: to learn about mechanisms, that make things move in relation to other things and for students to build structural pieces to perform highly complex movements. Using simple Lego Technic kits offered the same kind of learning opportunity. (fig.2)

**Olin student clubs** also learned how to partner with each other remotely. With a deadline looming, the Rocketry club moved to remote operations in a matter of days and designed a rocket with team members on three different continents and in five different countries. (fig.3)



### 2020-2021 FAST FACTS

ZOOM

32K

ZOOM MEETINGS

131K

MEETING PARTICIPANTS

6.8M

ZOOM MEETING MINUTES (THAT'S MORE THAN  
13 YEARS OF INDIVIDUAL ZOOM TIME!)

**Design Nature** is a foundational first year course at Olin that focuses on nature and developing bio-inspired ideas into functional prototypes.

Olin's do-learn curriculum model is deeply engaged and experiential, one that involves hands-on, in-person learning, and does not lend itself to remote learning. At the same time, the first semester and year at college is highly formative, initiating socialization, enculturation and identity development possibilities. For these reasons, the Design Nature teaching team wanted this class to feel they had experienced the unique Olin curriculum and not something less.

The four faculty members worked closely with the Olin Ahead team, Academic Affairs, and Facilities to create a hybrid experience that integrated in-person students, remote students and far-remote students (in flipped time zones) alike. One of the first steps was to triple the number of design studios in the Miller Academic Center from three to nine. This allowed each pod to have an in-person, hands-on design experience, sharing the same materials, tools and workspace without masking or social distancing. Each remote student and instructor was provided with a specially equipped tablet to serve as their avatar in their design studios, so remote students could "sit" in their teams alongside their teammates and instructors could freely "walk" about their studios, meeting with students individually or in groups.

The team also created a live bi directional video feed for each studio, allowing the remote students and instructors to see their whole studio and be projected for in-person students to see.

The hopper project and play project were adapted to ensure an effective and safe learning experience for students working in person and remotely, each without instructors physically present.

Custom sketch modeling kits, hopper project kits and toolboxes totaling more than 70 unique items were compiled and shipped to students all over the world from Spain to Singapore to India and China and many countries in between. [fig.4]

7



## 2020-2021 FAST FACTS

### FACILITIES

# \$25K

SPENT ON CLEANING SUPPLIES AND PPE

# \$88K

SPENT ON UPGRADING UV AIR FILTERS IN THE AIR-HANDLING UNITS AND INSTALLING REPLACEMENT FILTERS ACROSS CAMPUS



## CANDIDATES' WEEK

Typically a two-day, in-person event on campus run three times each spring, the 2021 Candidates' Weekends shifted to a virtual Candidates' Week to meet the challenges presented by COVID-19.

Over the course of ten days, during 493 Zoom meetings, the Olin community met the 264 Candidates for admission. The candidates participated in and experienced an incredible range of programming, thanks to 57 faculty and staff and nearly 150 student volunteers.

Candidates had the opportunity to participate virtually in many signature Candidates' Weekends programs such as the Design Challenge, Academic Chats and the Story Slam. Candidates participated in redesigned evaluative interviews to inform the final admission decisions.

"I am incredibly proud of how the entire community rallied to make virtual Candidates' Week a huge success. The Candidates got to know Olin in deep, interesting and new ways and had a fantastic time in the process," said Emily Roper-Doten, Dean of Admission and Financial Aid.

## OLIN'S NEW STRATEGIC VISION

In January, President Barabino shared a strategic vision document with the Olin community. With input from across the College, President Barabino urged Olin to center its next challenge on reducing inequity within and through engineering education.

The document outlined a strategic vision for Olin to lead the way on breaking barriers, changing systems and building opportunities for all people who want to learn engineering.

To pursue this strategic vision, it was essential that Olin's organizational structure and culture change to better align with our goals, values and educational philosophy.

The vision document offers a compelling description of the kind of place Olin might become.

## ORGANIZATION AND CULTURE

In February, President Barabino tasked an Organization & Culture (O&C) team with developing the organizational and cultural aspects of Olin's vision into actionable recommendations that can inform both near-term organizational decisions and longer-term efforts to develop new patterns of working with each other.

Over the course of the spring semester, the O&C team held four community meetings to engage faculty and staff in information-gathering and conversations about how the people of Olin can build a different kind of structure that fosters intrinsic motivation, enables all people at Olin to grow, and provides opportunities for community members to collaborate on teams across the College to advance our shared mission.

## REORGANIZATION

In the 2020-2021 academic year, the College launched a reorganization to make Olin's administrative structure more streamlined, more nimble and more in keeping with a college of its size.

Several leadership structures were disbanded in favor of new teams that would give a wider variety of employees an opportunity to serve in leadership capacities. Financial Affairs, Information Technology and Administrative Services and Innovation are now consolidated under a single new position. The work of Advancement has been distributed across the Office of Strategic Communications, External Programs and Partnerships, and the Office of the President. And new leadership teams will be established in the form of a College Council, a President's Strategic Advisory Team and a Senior Executive Team.

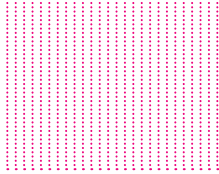


# FINANCIAL OVERVIEW

## **In FY21, Olin made significant strides in laying a path toward financial sustainability.**

Recognizing that Olin's current financial model relies too heavily on our endowment for our spending and with the financial pressures of the pandemic to address, the College is committed to preserving and extending the spending power of our endowment for future generations, keeping our facilities in the best condition possible, and continuing to provide our unique Olin experience to future students. To that end, Olin has adopted a goal of reducing its annual endowment spend to 5% over the next five years.

The College's total assets ended the year at \$541 million, including Olin's endowment, which achieved a preliminary positive return for the fiscal year of 28.4%. Olin achieved these results through a very strong market and investment performance, the generosity of its donors and careful stewardship of its resources.



### THE COST OF COVID-19

When the COVID-19 pandemic hit last spring, it significantly increased the pressure on our budget. In addition to the structural shortcomings in Olin's finances, we also had an unexpected and significant loss of revenue and additional costs to absorb related to COVID-19.

We had 113 students on campus in the fall and 173 in the spring. In a typical year, there are about 330 students living on campus.

In addition, Olin extended the cost-cutting measures implemented in March 2020, including a salary freeze, a hiring freeze, restrictions on travel and discretionary spending, and curtailment of capital projects.

In FY21, the College maintained its efforts to reduce costs and close the budget gap while simultaneously absorbing the costs of sustaining a comprehensive COVID-19 safety program.

### COVID-19 safety costs amounted to approximately \$1 million in FY21, including:

- implementing a rigorous testing program, which cost \$500,000 alone (11,859 COVID-19 tests in FY21; 9 positive; 0 community spread)
- upgrading our HVAC systems; \$93,000
- remote working/teaching supplies and postage for shipping supplies to students; \$76,000
- additional cleaning and hygiene supplies; \$62,000
- touchless faucets; \$50,000
- outdoor WiFi in the oval; \$42,000
- tent rental for the oval; \$25,000

These costs and forgone revenues were funded through a supplemental draw from the College's endowment.

### To date, Olin has secured approximately \$1.2 million in funding from HEERF (Higher Education Emergency Relief Funds). These funds were used to offset the costs of COVID-19 and provide direct student relief as follows:

- \$178,000 has been paid to students in the form of emergency student aid grants, with another \$236,000 to be paid in fall 2021
- \$411,000 helped offset the cost of room and board refunds in spring 2020
- \$410,000 helped offset lost tuition, room and board revenue in fall 2020

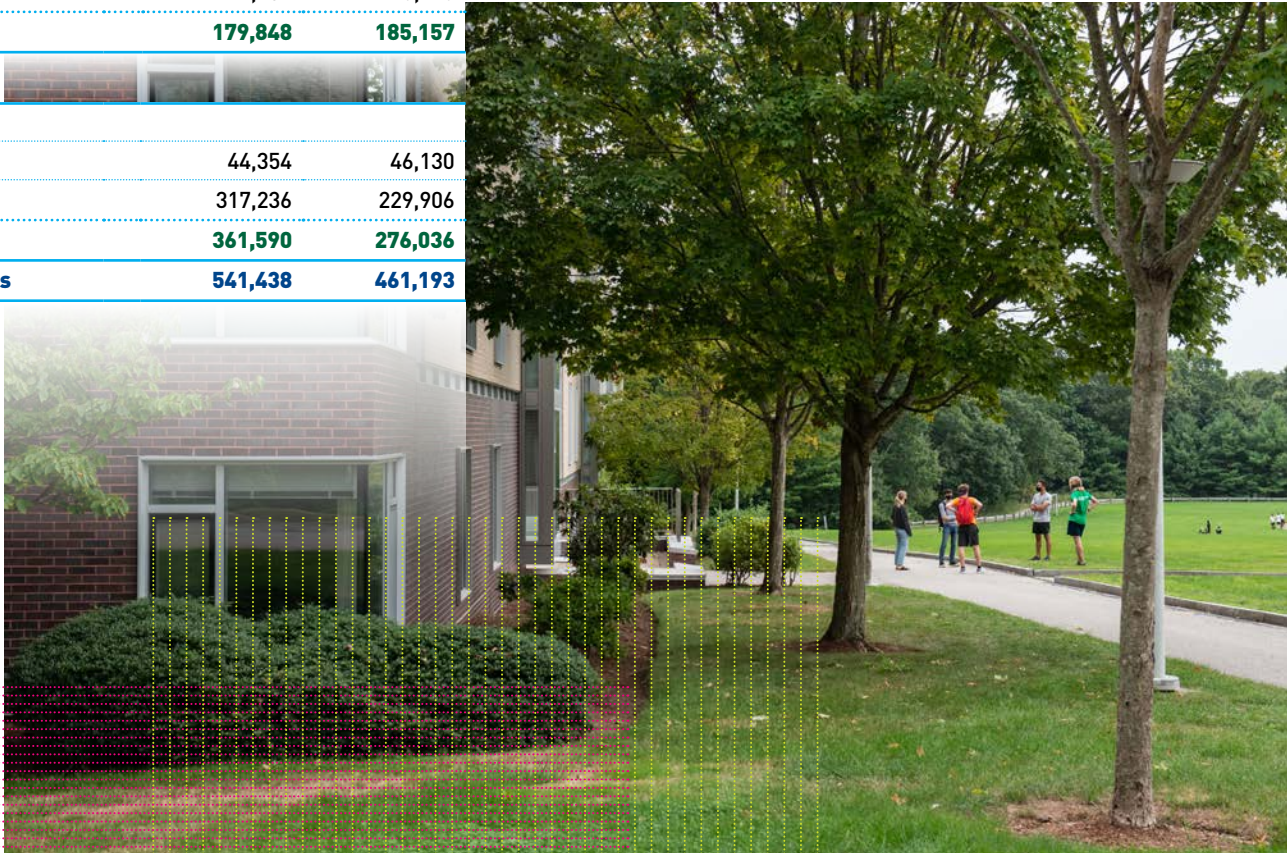
### PROMOTING OLIN'S FINANCIAL SUSTAINABILITY

With the July 2020 arrival of Olin's second president, Gilda Barabino, efforts began in earnest to address Olin's structural financial challenges. Olin instituted a voluntary separation incentive program, which six employees accepted; implemented a further reduction in force affecting 11 employees; and eliminated six additional open positions.

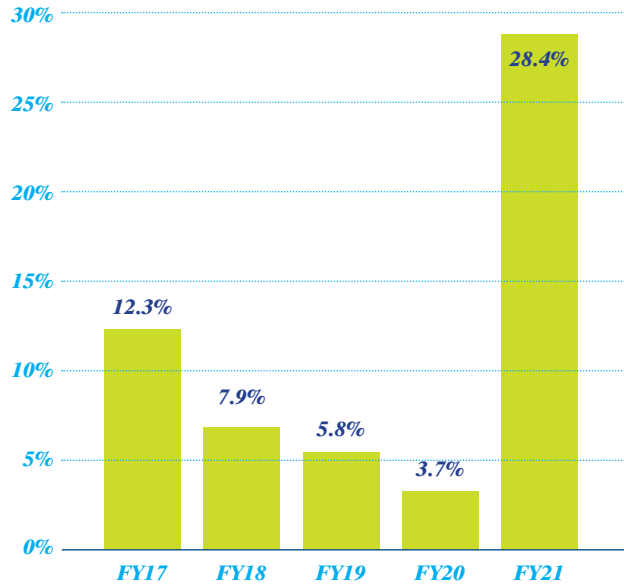


## BALANCE SHEET

	6/30/2021 (UNAUDITED)	6/30/2020 (AUDITED)
<i>Assets</i>		
Cash and cash equivalents	5,910	6,746
Accounts receivable, net	1,031	1,460
Contributions receivable, net	364	938
Prepaid expenses and other assets	2,331	3,183
Long-term investments	455,637	369,737
Plant and equipment, net	72,282	75,191
Interest rate swap agreements	3,883	3,938
<b>Total assets</b>	<b>541,438</b>	<b>461,193</b>
<i>Liabilities and Net Assets</i>		
Accounts payable and accrued expenses	5,926	5,240
Deferred revenue and deposits	1,739	2,949
Bonds payable, net	157,914	158,058
Interest rate swap agreements	14,269	18,910
<b>Total liabilities</b>	<b>179,848</b>	<b>185,157</b>
<i>Net Assets</i>		
Without donor restrictions	44,354	46,130
With donor restrictions	317,236	229,906
<b>Total net assets</b>	<b>361,590</b>	<b>276,036</b>
<b>Total liabilities and net assets</b>	<b>541,438</b>	<b>461,193</b>



### Endowment earnings



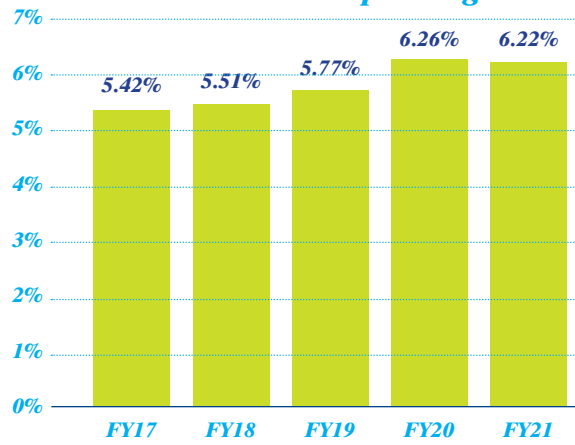
#### ENDOWMENT

The strong current financial markets continue to benefit the Olin endowment.

Olin's investment portfolio grew by \$81 million (net of spending) during the year ended June 30, 2021, to a value of \$456 million, which is the highest value the endowment has seen since 2008. The preliminary fiscal year return of 28.4% was higher than any single fiscal year investment return the endowment has realized since its inception. This dramatic current year growth is due to impressive returns, mostly in the equity portion of the portfolio.

For the fiscal year ended June 30, 2021, Olin drew \$22.5 million from the endowment to support the budget, translating to an endowment spending rate of 6.22%. The higher than normal spending rate was a direct result of the reduced revenues and additional expenses related to the pandemic. For the next fiscal year, Olin is planning for an endowment spending rate closer to 5.8%.

### Olin Endowment spending rate



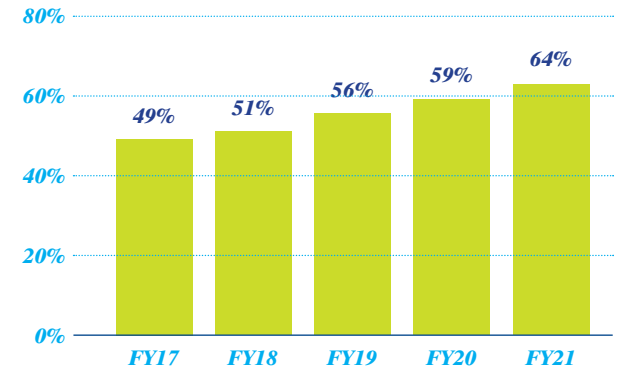
#### STUDENT AID

Olin remains committed to providing an affordable education for all our students. Olin continues to meet full demonstrated need (less a student contribution) for all eligible students.

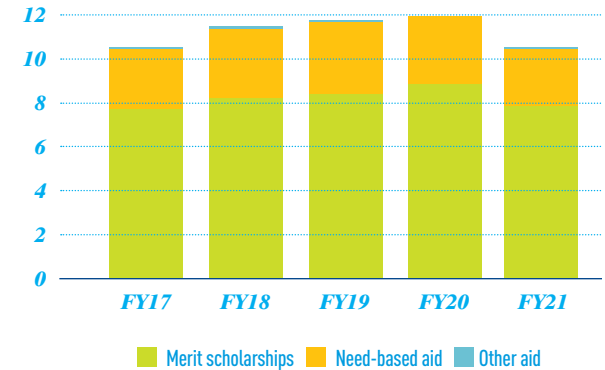
100% of Olin students receive a merit scholarship for 50% of tuition over 8 semesters.

In FY21, 47% of students were awarded need-based financial aid in addition to the 50% tuition scholarship. One of the College's highest priorities is to remain affordable and accessible to all admitted students, regardless of their financial circumstances.

### Percent of revenues funded by the Olin Endowment



### Student aid provided (\$ in millions)



## Audited financial summary (all funds \$000)

	FY16	FY17	FY18	FY19	FY20	FY21 (UNAUDITED)
<i>Operating revenues</i>						
Student revenues, net of merit scholarships and need-based aid	9,891	10,219	10,617	10,530	9,707	7,741
Contributions without donor restrictions	718	785	744	970	920	995
Contributions with donor restrictions	958	937	725	739	820	301
Government grants and other contracts	859	1,320	1,760	1,948	2,618	2,586
Other revenues	2,923	2,434	1,923	1,783	1,563	844
Olin Endowment spending	20,550	18,400	20,000	20,300	22,700	22,500
Net assets released for depreciation	3,612	3,591	3,312	-	-	
<b>Total operating revenues</b>	<b>39,511</b>	<b>37,686</b>	<b>39,081</b>	<b>36,270</b>	<b>38,328</b>	<b>34,967</b>
<i>Operating expenses</i>						
Instruction	10,918	11,486	11,233	11,854	11,554	11,995
Student services	11,018	11,415	11,373	11,393	11,462	11,561
Research and sponsored programs	2,328	3,101	3,411	3,665	3,497	3,414
Academic support	3,476	3,664	3,454	3,246	3,504	3,562
Development and fundraising	1,281	1,400	1,415	1,392	1,554	1,377
Institutional support	8,323	8,589	8,783	8,521	9,416	10,215
<b>Total operating expenses</b>	<b>37,344</b>	<b>39,655</b>	<b>39,669</b>	<b>40,071</b>	<b>40,987</b>	<b>42,124</b>
<b>Operating surplus/(deficit)</b>	<b>2,167</b>	<b>(1,969)</b>	<b>(588)</b>	<b>(3,801)</b>	<b>(2,659)</b>	<b>(7,157)</b>
<i>Nonoperating activities</i>						
Contributions with donor restrictions	147	236	1,168	165	735	395
Investment income, net of endowment spending	(27,152)	23,636	7,560	62	(14,551)	85,982
Net assets released for depreciation	(3,612)	(3,591)	(3,312)	-	-	-
Other	(4,861)	4,799	4,125	(1,735)	(5,787)	6,334
<b>Total nonoperating activities</b>	<b>(35,478)</b>	<b>25,080</b>	<b>9,541</b>	<b>(1,508)</b>	<b>(19,603)</b>	<b>92,711</b>
<b>Total change in net assets</b>	<b>(33,311)</b>	<b>23,111</b>	<b>8,953</b>	<b>(5,309)</b>	<b>(22,262)</b>	<b>85,554</b>

# OLIN GRANTS

**Olin's grant portfolio grew 37% in FY21 from the previous year, with 26 funded projects totaling \$1,252,436 in awards.**

While Olin saw an increase in the number of corporate and corporate foundation grants awarded in FY21, most of the College's grants continue to be funded by government agencies, with the National Science Foundation the largest funder of Olin grants (12 of 26 grants in FY21). Olin has also expanded to new government sources, including a new grant from the U.S. Bureau of Reclamation and one from the Institute of Museum and Library Services.

Part of this growth is due to President Barabino, who transferred four NSF grants from CCNY to Olin in 2021.

- EAGER: Quantitative Studies of Career Trajectories for African American Women in Engineering and Computing
- Engineering Deans Forum on Broadening Participation
- Forum on Inclusive STEMM Entrepreneurship
- Convergence and Interdisciplinarity in Advancing Larger Scale Research

## CORPORATE AND CORPORATE FOUNDATION GRANT HIGHLIGHTS

**SCOTT HERSEY** Associate Professor of Chemical and Environmental Engineering and SCOPE Director, was awarded a Dassault Systèmes U.S. Foundation grant for a new Olin SCOPE project: developing ocean-inspired toys to educate and inspire children for ocean conservation. This award was received in FY21 and will be implemented in FY22, and is another collaboration with both the Foundation and the Monterey Bay Aquarium Research Institute (MBARI).

**ERHARDT GRAEFF** Assistant Professor of Social and Computer Science, was awarded a Public Interest Technology University Network (PIT-UN) 2020 Challenge Grant for Olin's student-led PInT Summer Fellowship program. This grant renews support for Olin's Summer Fellowship for a second year; in 2020, three students partnered with transformative organizations that supported their stakeholders through the COVID-19 pandemic.

**JEFF DUSEK** Assistant Professor of Mechanical Engineering, is leading a student research team in Olin's Laboratory for Adaptation, Inclusion, and Robotics (LAIR) in a project to develop a low-cost physical therapy device using soft robotics. The project, sponsored by The Peabody Foundation, began two summers ago when Dusek began working with a local Needham family that was looking for a way to make their daughter's cerebral palsy rehab exercises more accessible in their home.

## GOVERNMENT AGENCY GRANT HIGHLIGHTS

**WHITNEY LOHMEYER** Assistant Professor of Engineering, was awarded a one-year, \$198,000 National Science Foundation planning grant for the Spectrum Innovation Initiative: National Center for Wireless Spectrum Research (SII-Center). The newly formed Olin Satellite + Spectrum Technology & Policy Group (OSSTP), comprised of six students and led by Lohmeyer, completed summer 2020 research that resulted in this SII-Center proposal submission.

**PAUL RUVOLO** Associate Professor of Computer Science, has been awarded a three-year, \$343,842 NSF grant to develop an orientation and mobility (O&M) app that provides indoor navigation and exploration technology for blind and visually impaired users.

**EMILY TOW** Assistant Professor of Mechanical Engineering, received her first grant at Olin College with a total of \$47,000 awarded from the U.S. Bureau of Reclamation (funded via a subaward from Purdue University). The project objective is to create a bench-scale batch RO system to test fouling performance, refine predictive models of inorganic fouling (scaling) in batch RO, and inform operating conditions of a solar-thermal batch RO system being developed at Purdue University.

## SCOPE

SENIOR CAPSTONE PROGRAM  
IN ENGINEERING

**“Last year the world got a lot smaller, but we also lost Olin’s physical resources and the magic of doing things in person,”** said Scott Hersey, Director of SCOPE and Assistant Professor of Chemical and Environmental Engineering. It was time to innovate and rethink the student, faculty and sponsor experience.

Luckily, after shifting to remote work halfway through the spring 2020 semester, the SCOPE development team was prepared with projects for the 2020-2021 academic year that would work well remotely in a world besieged by COVID-19.

Hersey and Ruth Levine, Director of Business Development, noted the ways in which pivoting during the pandemic had a positive impact on SCOPE. “There’s been a thinking shift,” explained Hersey. “Any time we’re planning an event, we’ll be asking the question—what should be done in person and what should be done remotely?”

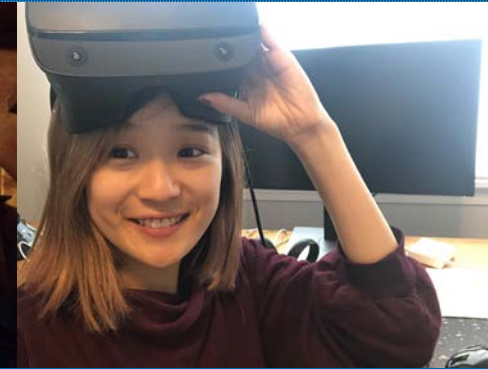
“Attendance at the annual SCOPE Summit was much larger than we can host in person,” said Levine. Over 200 guests—more than double last year’s numbers—attended via Zoom. Tuning in virtually made the event more accessible to remote partners, and Levine noted increased attendance led to greater event engagement. Additionally, because there was no mass travel to Needham for events, SCOPE naturally reduced its carbon footprint.

Hersey also noted increased engagement within the SCOPE sponsoring teams, as well as within the user and stakeholder communities. Online collaborative tools, including Zoom and whiteboarding, removed barriers to participation and made it easier for all parties to collaborate from different locations.

SCOPE organizers found there were many unexpected positive outcomes that will inform the way they plan each future SCOPE year.



## PROJECT HIGHLIGHTS

DASSAULT SYSTEMES LA FONDATION / MBARI  
VIRTUAL REALITY CONTROL ROOM FOR  
UNDERWATER REMOTELY OPERATED VEHICLES

Monterey Bay Aquarium Research Institute (MBARI) uses Underwater Remotely Operated Vehicles (ROVs) to conduct scientific dives to research the deep ocean at depths up to 4,000m. The Dassault Foundation/MBARI SCOPE Team developed a real-time virtual reality (VR) control room that has the potential to streamline both ROV piloting and scientist-pilot collaboration.

BOSTON SCIENTIFIC  
FLUIDICS IN NEXT-GENERATION ENDOSCOPES

Boston Scientific (BSC), a leader in the medical device industry, currently makes many of the disposable tools that are inserted down the working channels of endoscopes to perform endoscopy procedures. The BSC SCOPE team was tasked with redesigning the fluidics system of a single-use duodenoscope to improve the user experience and accommodate more ergonomic handle designs.

FORD MOTOR COMPANY  
LIFE INTERRUPTED: MOBILITY AFTER  
A GLOBAL PANDEMIC

The 2020-2021 Ford SCOPE Team engaged in a human-centered design practice to investigate mobility trends during the COVID-19 pandemic and to consider how the future may look. The team produced multiple artifacts, including synthesis of user research, analysis of trends, process documentation and a collection of forward-looking ideas. The team provided Ford with insights, possible future scenarios and suggestions for pathways for Ford to adapt to these visions in addition to final documentation of all learnings and insights.

GE HEALTHCARE  
CT PATIENT-OPERATOR INTERCOM

Computed Tomography (CT) scanners provide highly detailed images and information to help clinicians diagnose and monitor patients as well as identify the best form of treatment. During the pandemic, CT scanner technicians could not always interact with patients directly. A SCOPE team developed a next generation digital intercom to provide clearer communication between the operator and the patient. The team implemented noise cancellation algorithms using a digital signal processing platform, designed a new mechanical enclosure for the operator console, and integrated electrical components to produce a functional prototype.

# THE OLIN FUND: A YEAR IN GIVING

In addition to the College's annual programming, financial aid and operations, this year Olin's needs expanded to include increased funds for health and safety measures and enhanced remote and hybrid learning resources.

In the face of uncertainty, Olin's community of donors answered the call in a banner year for giving to the College.



OVER **\$2.2 MILLION** RAISED  
FROM 2,342 GIFTS

OVER **\$1 MILLION** CONTRIBUTED  
TO **THE OLIN FUND** REPRESENTING 46% OF THE TOTAL DOLLARS RECEIVED

SURPASSING THE OLIN FUND GOAL

BY **18%**



# SCHOLARSHIPS

## \$546,000 RAISED

in support of financial need-based aid, the Richard K. Miller Presidential Endowed Scholarship Fund, the Alumni Merit Scholarship, the Aaron Hoover Memorial Endowed Fund and more.

# PARTICIPATION

17

**48%** OF ALUMNI

**52%** OF CURRENT FAMILIES

**100%** OF TRUSTEES CONTINUE TO SUPPORT THE COLLEGE BY GIVING \$812,000

**\$557,878** IN PARENT AND ALUMNI LEADERSHIP DONATIONS

**63%** INCREASE IN MATCHING GIFTS COMING FROM EMPLOYERS TOTALING OVER \$163,400 FROM 58 EMPLOYERS



# VALUE CREATION AS LEARNING

In the fall of 2020, Olin planned a series of prototypes called **Experiential Learning Prototypes** (XLPs). These learning prototypes expanded on the work already being done by Olin in the engineering capstone programs (SCOPE, ADE, EEC), courses with external stakeholders (UOCD, EDS, E4H), and industry-sponsored courses to further explore the idea of value creation as learning at a different scale.

In advancing these prototypes to the implementation stage, Jason Woodard, Dean of External Programs and Partnerships and Associate Professor of Engineering and Entrepreneurship, noted that Olin was looking for new ways to show that valuable student learning can take place in real-world contexts. “We don’t want to be limited to the shape and size of a classroom.”

Four learning prototypes launched in the spring of 2021 and created a valuable starting point for next-generation programming to come in the 2021-2022 academic year. One experiential prototype in particular, a partnership between Indico Data Solutions and Olin, was an exciting and successful experience for Olin, Indico and the two students who worked there during the semester.

Indico is a machine learning company founded and run by a former Olin student, Slater Victoroff. Currently in a growth phase, Indico was looking for multiple hires at the same time Olin began exploring XLP partnerships.

The two students worked full time for 12 credits toward their graduation requirements. One student’s role was in R&D for applied machine learning and the other student worked in a client facing and software development role.

“Indico has consistently been blown away by the quality of Olin students,” said Victoroff. “As a high-growth VC-backed AI startup, productivity is critical. We have found that Olin students in their sophomore and junior years consistently outperformed even ivy-league grads. Every single student had a tangible impact on the business, and became a full-fledged member of our team in a matter of weeks.”

This experiment “accomplished multiple things simultaneously,” said faculty advisor Lynn Andrea Stein, Professor of Computer and Cognitive Science. “It validated our strategic doing, our exploration in learning and value creation. In this case, the students learned a tremendous amount and the company received valuable contributions toward their agendas.”

Stein noted that the team worked hard to make sure students were documenting their work and accomplishing the set learning objectives. This prototype clearly provided value to the company and advanced its work, and the Olin students learned things they would also have learned in the curriculum, but did so in a real-world context.





Inauguration of

**Gilda A. Barabino, Ph.D.**

as the  
**Second President of Olin College of Engineering**

9:30 AM ET

Thursday, May 5, 2022

Olin College of Engineering  
1000 Olin Way  
Needham, MA 02492

[olin.edu/our-community/events/inauguration/](https://olin.edu/our-community/events/inauguration/)