NAVIGATING TO 2030

Stony Brook University
College *of* Arts and Sciences

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Our unified vision for the College is to be a global leader in advancing social well-being through transformative education, cutting-edge research and scholarship, and engaged creative expression. We will transform navigation through the college experience, encouraging ourselves and our students to transcend disciplines by finding connections between areas that may have previously been obscured.

As a strong research entity, we are deepening the integration of our research with student education. We strongly consider the needs of current and future students and what their education should be in a global, dynamic, diversified world.

The College's vision remains relevant and aligned with societal needs that elevated throughout the COVID pandemic, and the health, social and political challenges posed over the past few years have not stifled our efforts to keep moving forward. Our vision continues to provide a clear trajectory toward convergent research and curriculum modernization based on our intellectual constellations of strength to address today's issues:

Digital Revolution and Beyond: More than ever, we must consider the social implications of technology and continue to educate in data literacy, and evolve secure and fast computing with quantum networking and information science.

Global Connections, Processes and Flows: Through our interconnected collaboration, we remain focused on addressing challenges of migration, health disparities, and economic inequalities, recognizing the role political processes play.

Scholarly Creativity & Exploration: The best scholarship is often experimental, and we continue to explore numerous experimental opportunities to support the future of our most basic endeavors.

As innovation continues to improve the quality of our education and research as we navigate the next decade, our goals are to:

- Improve Student Success and Retention
- Increase Equity, Access, Diversity and Inclusion
- Enhance Staff Scaffolding
- Grow Research Funding
- Accelerate Philanthropic Support of Faculty and Student Excellence

Our departments are using this guide to re-envision their research and curriculum in eight strategic initiatives mapped by our faculty. You can read more about these initiatives on pages 15-16.

We will continue to expand our scholarly creativity — asking questions, looking for new ways to connect our existing disciplines, and creating new ones. Our excellent scholarship will continue to ascend because we have willingly pivoted to address today's needs in all disciplines, driving innovation and inspiration across all sectors of society. We will aspire to meet our goals and implement our initiatives within current constraints and those that may unfold.

Thank you for reading.

Nicole S Sampson

Nicole S. Sampson
Distinguished Professor of Chemistry
Dean, College of Arts and Sciences
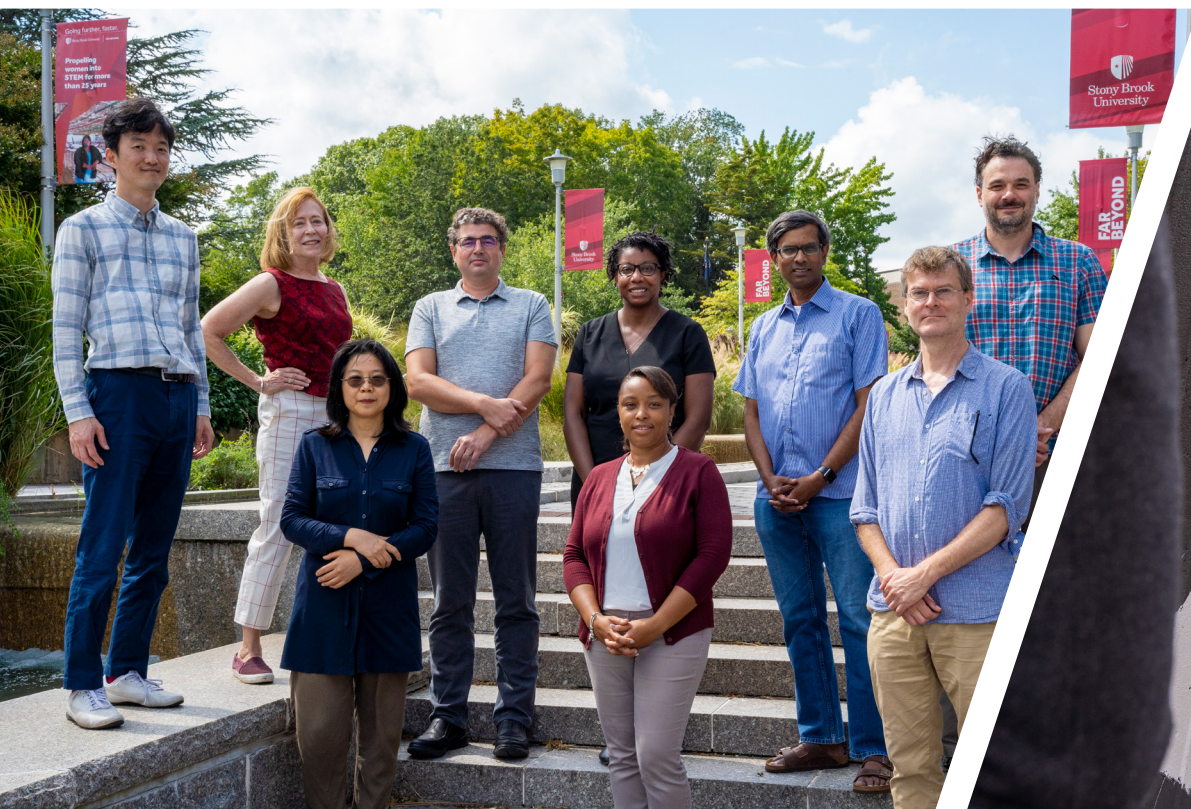
SHARED VISION OF THE COLLEGE OF ARTS AND SCIENCES

The vision of the College serves as a north star for conduct and decision-making surrounding areas not specifically addressed in this strategic plan. All College efforts should serve our mission and be in line with our shared values. In order to navigate to 2030, we incorporated the values articulated through the University's Project Reach strategic plan, and are guided by principles for decision making that emerged through the College's shared vision process. The principles for the College provide transparency for understanding operational decisions ranging from personnel hiring, staffing and course prioritization to communication and philanthropic priorities.

VISION

To be a global leader in advancing social well-being through transformative education, cutting-edge research and scholarship, and engaged creative expression.

MISSION

With a commitment to advancing the well-being of human and global systems, we are inclusive and innovative in all that we do. We foster dedicated teaching, cutting-edge research, and community and cultural engagement. We inspire the next generation to provide novel solutions to today's most pressing issues for the benefit of tomorrow.

VALUES

Excellence: We set and demonstrate high standards in all that we do, from research to teaching to collaboration with partners and community members.

Innovation: We spark innovation and entrepreneurialism among faculty, staff and students, investing in people and creative ideas. We provide upward socio-economic mobility for our graduates.

Collaboration: We commit to making a difference in the world through our cutting-edge research, dedication to teaching and learning, and outstanding patient care.

Equity: We work together to build and sustain a culture of care and inclusion with Stony Brook University and beyond – Long Island, NY, nationally & globally.

THE PRINCIPLES THAT GUIDE OUR NAVIGATION

Empower Scholarly Convergence

We will work to ensure sufficient investment to navigate the future using our three constellations of faculty and student scholarship. We will use landmarks that are disciplinary and that span the disciplines. This navigation entails integrating knowledge, methods, and expertise from different disciplines and forming novel connections to catalyze discovery and innovation to address society's biggest challenges.

Appreciate the Disciplines

Our College's disciplines provide rigor and depth of experience essential for future discovery and innovation. The disciplines provide a gravitational pull as we orbit and explore new galaxies. We will continue to support exploration and evolution of our disciplines while relying on their moorings to foundational knowledge.

Enable an Innovative Culture

Creating convergence by networking intellectually-diverse scholars will develop novel ways of framing research questions and open new research vistas. Larger convergent teams are the present and future, and we will develop effective ways of engaging across disciplines in ways such as supporting seed grants, workshops and team teaching.

Master Planning for Convergence

We are committed to master planning our human capital, buildings and grounds in a way that supports our innovative culture and allows fluid and integrated staffing, research, outreach and education. For example, we will embrace state and federal goals of clean and sustainable energy and build with principles of regeneration.

Adaptively Learn

We are navigating uncertain terrain. We need to be agile and willing to fail in order to learn. The current map is not the only path. We will assess, pivot and reset direction when necessary because new ideas, knowledge and stars lead to new directions. This requires maintaining perspective ongoing reflection.

Develop Competencies

New competencies are required for navigating a dynamic and rapidly changing higher education system. We will support continued personal, academic and professional growth for students, staff and faculty that includes exploration of knowledge, theories, tools and methods, data analysis and communication technologies as they become increasingly requisite in the search for transcendent answers to society's challenges.

Chart Our Path Collaboratively

We will map future actions with core stakeholders, such as federal, state, and local officials, University leaders, business partners, the private sector and alumni. This collaboration will allow us to motivate and secure investment in support of our constellations and institutional future.

Sequence and Prioritize Mindfully

We are conscious that pace, direction and speed are all critical for transformational change. Everything cannot be done at once. This mindful approach requires balance between operating in the current system and succeeding in transforming systems for the future.
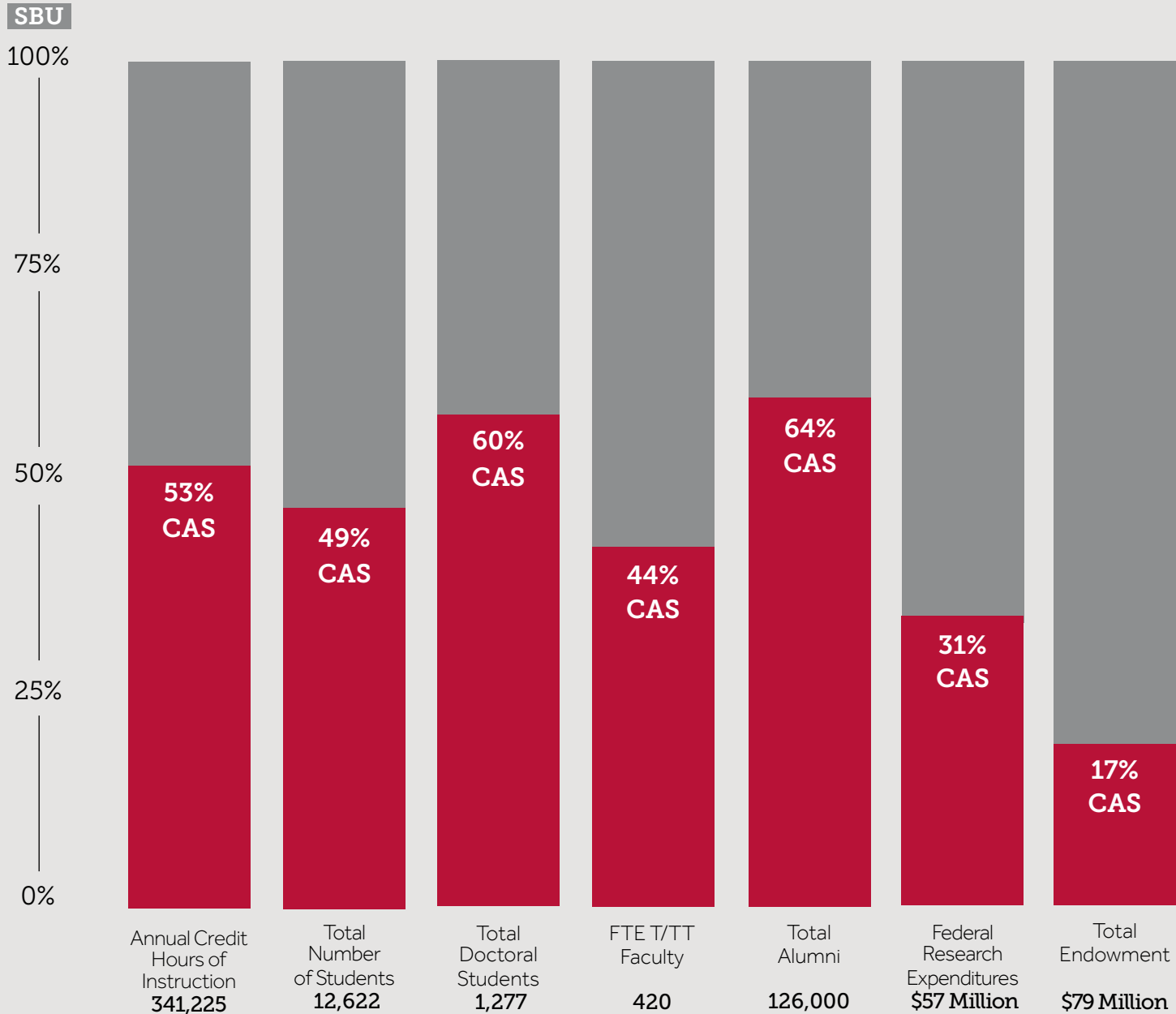
NAVIGATING TO 2030

The Stony Brook College of Arts and Sciences, like many colleges of arts and sciences across the AAU, has faced a number of challenges in the past decade. We find ourselves at a pivotal moment for research universities as we must move away from the 19th and 20th century models of how we educate, create new knowledge and solve societal problems.

It is the mission of state universities to continue to provide affordable access to an excellent education that enables our graduates to thrive in our changing world. Public higher education is at a critical juncture, and the economic reality provides an opportunity for transformative change. Stony Brook has been immensely successful since its founding in 1957.

We have a reputation for outstanding research and affordable excellence and seek to continue to do so in the current global landscape. Examples of global vistas include:
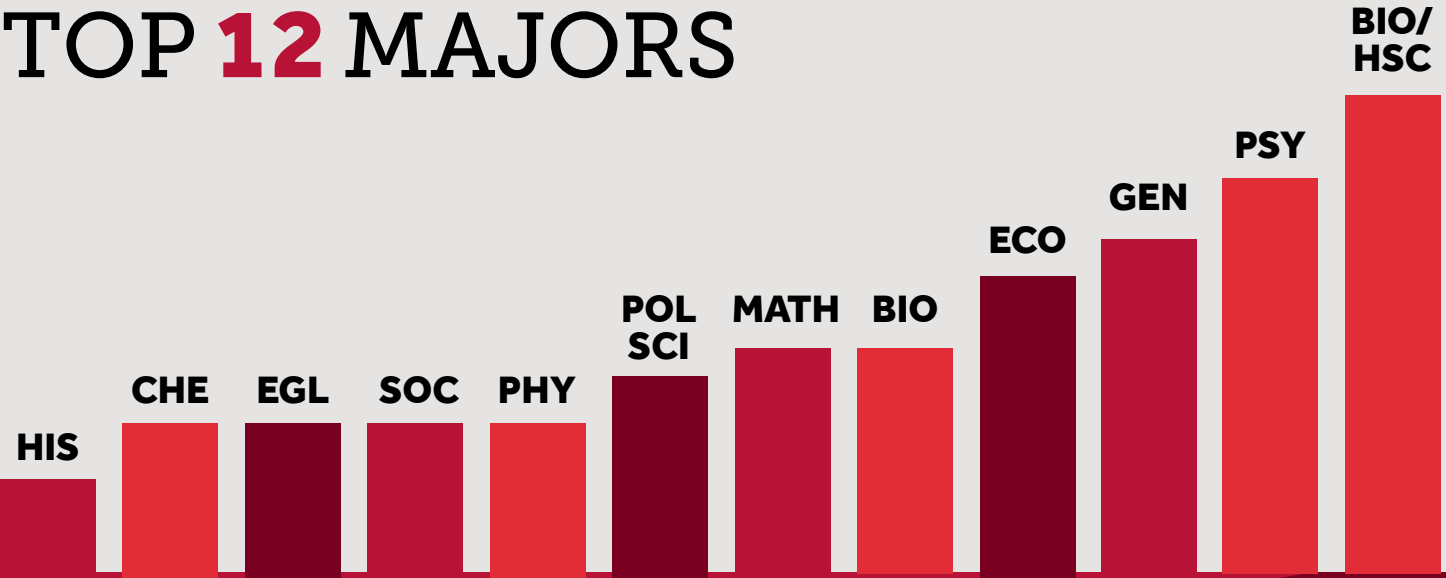
- Agenda 2030 Sustainable Development Goals on the global horizon
- The National Science Foundation has defined the Ten Big Ideas
- On the regional near-horizon, the New York State Climate Leadership and Community Protection Legislation has targeted using 50% renewable energy by 2030

This strategic plan is a navigational aid for building our reputation in specific areas of existing strength within this landscape. What follows is a summary of who we are, our goals for the next five years, initiatives that will lead us to realize our objectives, and the anticipated outcomes realized through reaching our goals.

SBU

53% CAS	Annual Credit Hours of Instruction 341,225
49% CAS	Total Number of Students 12,622
60% CAS	Total Doctoral Students 1,277
44% CAS	FTE T/TT Faculty 420
64% CAS	Total Alumni 126,000
31% CAS	Federal Research Expenditures $57 Million
17% CAS	Total Endowment $79 Million

30 MAJORS

40+ MINORS

25 DEPARTMENTS

27 PHD PROGRAMS

TOP **12** MAJORS

HIS — CHE — EGL — SOC — PHY — POL SCI — MATH — BIO — ECO — GEN — PSY — BIO/HSC

OUR CONSTELLATIONS OF STRENGTH WILL ADDRESS TODAY'S ISSUES

Quantum Science and Data Literacy

Digital literacy is essential for every student and faculty member. We have great new tools to answer questions in the disciplines as well as transdisciplinary areas. We must move the fundamental computational discoveries into application. Quantum information and quantum materials have the potential to become the next disruptive technology.
In addition to developing new technologies, we must understand the ethical and societal issue of the technologies at hand.

Climate Change, Migration, Health Disparities, Economic Inequalities and Civic Processes

We are experiencing environmental disruption on a global scale that is creating crises in migration, health disparities, economic and political inequalities and stressing our natural resources. Technologies and social solutions will come through communication across disciplines. Students need training as global citizens, and to have the intellectual and experiential wherewithal to compete in the global marketplace and to better understand global issues.

CAS as the Incubator of New Ideas for Experimentation

A critical task of the College is to teach and communicate complicated ideas. We need to teach students what it means to enter disciplinarity and what it means to transfer knowledge from one domain to the other. We respect the individuality of every discipline through identification of themes that run across disciplines, thereby providing navigational aids for education and career.
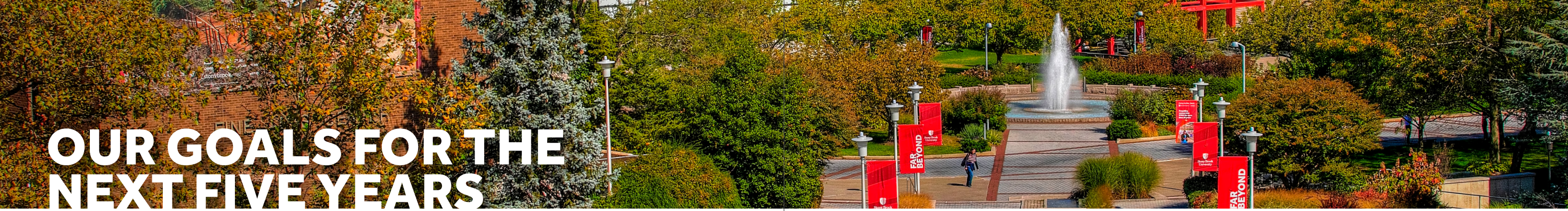
OUR GOALS FOR THE NEXT FIVE YEARS

Renewed and Revised Degree Programs

Improve student success and retention, by reviewing, revising and recreating undergraduate and graduate programs.

• •

Federal Funding/FTE/Year in Natural Sciences

Grow research funding by bolstering research impact in key centers and institutes by creating postdoctoral fellow positions, and increasing our federal funding level in the natural sciences.

* Year 2 of 5 year goals set in January 2021

CAS Professional Staff

Enhance staff scaffolding by hiring staff who have the technical and professional skills and expertise to lead us to support convergent department and center activities.

• •

PEER* Faculty

Increase equity, access, diversity and inclusion by hiring faculty strategically to align with our vision of a diversified faculty, thus changing the way we hire and retain the faculty of tomorrow.

PEER - Persons Excluded because of their Ethnicity or Race

• •

Philanthropic Gifts per Year

Accelerate individual philanthropy, corporate and foundation funding supporting faculty and student excellence

CURRENT AND FUTURE INITIATIVES

The initiatives represented here constitute a roadmap for the College to achieve its vision to be a global leader in advancing social well-being through transformative education, cutting-edge research and scholarship, and engaged creative expression, by 2030. These initiatives are in addition to our regular activities around research and education.

Based on our constellations of strength, in Fall 2021, faculty working groups provided input on cross-cutting ideas that were identified by departmental leadership. Execution of these initiatives rely on our constellations of strength. These initiatives align with emerging strategic priorities at the University as well as Stony Brook's research Tiger Teams and provide opportunities for Advancement with cross-college/school engagement. Investments needed for each of these initiatives are similar. **To achieve our desired outcomes we must fund:**

1. New physical infrastructure, renovated and new buildings
2. Computing infrastructure
3. Graduate student fellowships and stipends
4. Undergraduate student experiential learning opportunities
5. Retention and recruitment of exceptional faculty through endowed positions
6. Technical staffing with deep subject matter expertise
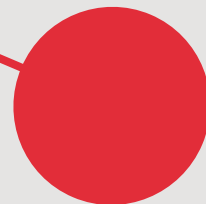7. Purchase of core instruments and equipment
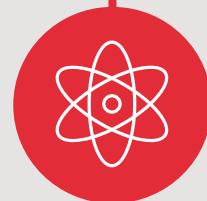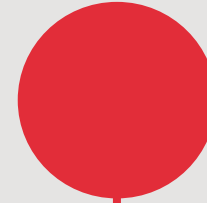
Transdisciplinary Humanities Hubs
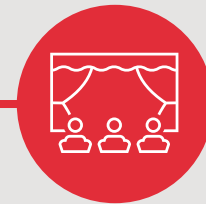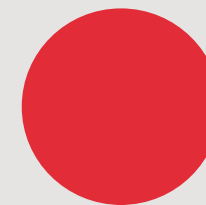
Critical Social Justice Studies

Artistic Performance

Drug Discovery and Diagnosis

Clinical Social Science

Quantum Information Science

Globalization Migration and Diaspora

Digital and Algorithmic Literacy and Intelligence

Clinical Social Science

We have an opportunity to build a large health and well-being initiative with clinical social science at the core while integrating health and well-being throughout our curriculum, hiring efforts (staff and faculty) and research foci. We will elevate Stony Brook's extensive research portfolios in mental and behavioral health in children and adults by building on existing interdisciplinary collaborations.

These issues have a disproportionate impact on underserved populations, including individuals identified as LGBTQ+, racial/ethnic minorities and those with lower socioeconomic status. We will strengthen curricular and training opportunities at the undergraduate, masters, doctoral, and post-doctoral levels, and prepare students to provide cutting-edge evidence-based services to the community both on campus and across the region.

Globalization, Migration and Diaspora

Training as global citizens with the intellectual and experiential wherewithal to compete in the global marketplace and to better understand global issues is essential for our students. This initiative builds on a Hub that interfaces language instruction, area studies, the Globalization and International Relations major, and approximately nine centers that have philanthropic ties to the regional community, which support research, study abroad, and cultural initiatives.

We will elevate Stony Brook's extensive research history in game theory (Economics) and political psychology (Political Science) and stimulate an applied focus building on Marilyn Simons' leading gift. The training of our students with an applied and global experience will educate them on the global marketplace and position them to address health, environmental, energy and climate challenges through a financial and market-based lens. Emphasis is on health disparities, alternative energy and energy storage, recyclable plastics, and climate change solutions.

The College is working in partnership with the Alan Alda Center for Communicating Science and the School of Communication and Journalism to create a global platform that provides equitable, accessible, and multilingual communication that informs diverse communities about the most pressing issues of our time. These include finding solutions to clean energy and climate change, developing quantum information science, ensuring the applications of AI are used ethically, addressing the challenges of aging, and finding treatments and diagnoses that address health disparities.

Quantum Information Science

This is a campus effort that includes the Department of Energy (DOE) funded C2QA center based at Brookhaven National Laboratory, and which has been the focus of both Tiger Teams and Presidential Innovation Excellence investment. A consortium of centers are being created to address multiple thrusts of quantum information science (QIS) from networking to computing. In addition to the scientific efforts, we are creating new curricula to educate the workforce of tomorrow in QIS ranging from graduate degrees to engagement with QIS in grade 12. Moreover, our humanists are poised to challenge our scientists to consider ethical and societal impacts, and to document the history of the emerging disruptive technologies. These efforts are focused on garnering further National Science Foundation and DOE support of large Centers based in both the College of Arts and Sciences and the College of Engineering and Applied Sciences.

Drug Discovery and Diagnosis

The Institute for Chemical Biology and Drug Discovery v2.0 will build on present capabilities in fundamental molecular science and biochemistry and further develop applications of the biosciences in consideration of social, environmental, and health challenges. The intellectual property portfolio from these activities has and will continue to generate high economic impact for the state of NY. This initiative includes physical cross-disciplinary laboratory space to bring researchers into close proximity and to share core facilities. We have outstanding rising and senior faculty in this area who constitute a cohort in synthetic chemistry, structural biology and imaging whose work creates strong ties across the College of Arts and Sciences and Renaissance School of Medicine. State of the art laboratory space and cores will provide training ground for our graduate and undergraduate student researchers.

Critical Social Justice Studies

We believe many of the power differences in our society are shaped by similar root causes. The newly formed Center for Changing Systems of Power has a research focus in critical health studies, carceral studies and indigenous studies. Its role is to identify, study, and drive change on root causes of inequities. This Center serves as a research hub in the humanities and social sciences in connection with the School of Social Welfare and is building partnerships with NGOs, corporations, and government agencies who can help drive action.

Humanities Hubs for Transdisciplinary Studies

The Humanities Hubs dissolve the boundaries between the conventional disciplines and organize teaching and learning around the construction of meaning in the context of real-world problems. Transdisciplinary work is problem-focused—how does a team of faculty solve a problem together. The transdisciplinary areas that surfaced are critical health studies, carceral studies, data literacy, quantum and indigenous studies. This work is centered around the Humanities Institute and an opportunity exists to realign doctoral programs around transdisciplinary study. The first step is hiring scholars in these transdisciplinary areas to develop the research foci.

Artistic Performance

We are building on internationally-recognized music conservatory and studio art programs. Our curricula are undergoing major revisions to broaden inclusion of cultures, pedagogies, and methods from across the globe. State of the art performance and studio art space that aligns with Staller Center strategic plans will provide enhanced training opportunities for graduate and undergraduate scholars and artists. Increasing accessibility of our outreach programs to all of our surrounding communities is a priority.

Digital and Algorithmic Literacy and Intelligence

We are building off our successes hiring and retaining faculty with the Institute for Advanced Computational Science - IACS (Linguistics, Sociology, Chemistry, Ecology and Evolution) and beyond (Art, Philosophy, Economics). We are revitalizing humanities and social sciences curricula to include the use of AI, analytics/literacy programming and have collaborations with the College of Engineering and Applied Sciences and the School of Communication and Journalism. Support of modern data management is a priority for big data research efforts that extends beyond the current archival resources of our libraries. With investment, we will create new warehouses and competencies for data minings.

OUR ANTICIPATED OUTCOMES

A healthy society requires more than advances in science, technology and machines, it requires the understanding of behavior at the individual, local, national, and global level, and an understanding of empathy and compassion. Providing a research-based education that encompasses the learning and knowledge to wrestle with the tough choices ahead for humanity is what makes Stony Brook University a flagship university. Achieving our outcomes will lead to Stony Brook's recognition of as a top 25 of public flagships.

Attaining our specific and measurable goals will foster dedicated teaching, cutting-edge research, and community and cultural engagement that support our strategic, inclusive and innovative initiatives. Pursuit of our initiatives will inspire the next generation to provide novel solutions to today's most pressing issues for the benefit of tomorrow. Stony Brook will be recognized for equity in social well-being for all.

Destination for NYS Carbon Neutral Solutions

Digitally and Artistically Intelligent Graduate and Workforce

Creative Exploration of Our Origins

Equity in Social Well-Being

Ethical and Unbiased Artificial Intelligence

Heart of the NY/LI Global Migration and Dispora Community

Quantum Consorthium Hub of the Northeast

CONCLUSION

This strategic plan is a framework to scaffold ideas in the coming years. It is a living document that will guide our work, and will evolve in the context of our successes and failures and the world around us.

At its heart, the faculty in the College will always be looking to make new discoveries and find new knowledge, and thus we continue to focus on scholarly creativity — asking questions, looking for new ways to connect our disciplines, and creating new disciplines.

Our excellent scholarship will continue to ascend because we are willing to pivot as new evidence emerges. Researchers become faculty to explore big ideas in all disciplines, driving innovation and inspiration across all sectors of society. Students come to college to explore those ideas with their faculty, and for many of those future leaders, it is often the first opportunity they have had to confront creative thought. The best scholarship is often experimental, and we too are in the process of a number of different experiments to support the future of our most basic endeavors.

We are confident our navigational approach will provide our students the best education possible.

ACKNOWLEDGEMENTS

Special thanks to the efforts of faculty and staff who assisted with the co-creation of this and all iterations of our Navigation Guide.

Scan here to view.

Stony Brook
University