Context
SUNY - Stony Brook University
2016-17
Faculty Job Satisfaction Survey
Report Preview
12,397 Students

Top 10 Majors

<table>
<thead>
<tr>
<th>Biology</th>
<th>Biochemistry</th>
<th>Health Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>3074</td>
<td>3059</td>
<td>3257</td>
</tr>
</tbody>
</table>

10,715 Undergraduates
476 Masters
1,313 Doctoral

2016 2017 2018
Award Winning Students

2018
Charles B. Rangel International Affairs Fellowship

2019
Seven NSF Graduate Research Fellows

2019
21 Fulbright semifinalists
As of Q4 2017-2018

CAS Proposal Submissions and Research Expenditures are Trending Upward

Annual All Research Expenditures

Cumulative Proposal Counts by Fiscal Year - End of June (Q4)

- 2014: 397
- 2015: 453
- 2016: 433
- 2017: 442
- 2018: 502

- Federal
- Foreign
- Foundation
- Institution of Higher Education
- Other
- Private Non-Profit
- Private Profit
- State/Local

$48.7M (18.5% increase)

$7.6M
Inaugural Endowed Professor in Global Citizenship

Endowed Chairs & Professors

- Nirmal K. and Augustina Mattoo Chair in Classical Indic Humanities
- Eugene V. and Clare E. Thaw Endowed Chair in Modern American Art
- Peter V. Tsantes Endowed Professor in Hellenic Studies
- Robert David Lion Gardiner Chair in American History
- Joseph W. Lauher and Frank W. Fowler Endowed Chair in Materials Chemistry
- Chen Ning Yang – Wei Deng Endowed Chair in Physics and Astronomy

SUNY Chancellors Excellence in Professional/Classified Service Awardees

- 14

2019 NSF CAREER Awards
- Chemistry - Ngai
- Linguistics – Graf

SUNY Distinguished Professors*

- 61

*among current faculty and staff
Campaign for Stony Brook
CAS raised 106% of Goal = $70 Million

Campaign for Stony Brook - $630MM

CAS Endowment - $41MM
CAS by the Numbers

FTE Faculty - 450 T/TT

- CAS: 44%
- SBU

CAS Credit Hours of Instruction - 352,220

- CAS: 50%
- SBU

CAS Fed Research Expenditures - $46MM

- CAS: 31%
- SBU

CAS Total Doctoral Students – 1,313

- CAS: 59%
- SBU

CAS Alumni - 120,000

- CAS: 67%
- SBU

Data from stonybrook.edu/irpe & SBF
College of Arts and Sciences

Planning for the Future
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPR ‘18</td>
<td>Self Studies with Dean’s staff</td>
<td>Departmental peer and aspirational peer comparisons using Academic Analytics and peer data sources</td>
</tr>
<tr>
<td>June ‘18</td>
<td>Incoming Dean 7 – 90’ Interviews</td>
<td>4 structured questions about: leadership, staff, intellectual opportunities &amp; challenges Individual written answers - four Department Chairs per interview</td>
</tr>
<tr>
<td>July ‘18</td>
<td>Dean’s Staff Strategic Plan Retreat</td>
<td>“Why do we exist; How do we behave; What do we do; How will we succeed; Who does what, What is most important next?”</td>
</tr>
<tr>
<td>Aug ‘18</td>
<td>Department Chairs &amp; Dean’s Staff Retreat</td>
<td>Phase 1: Looking back Who are we now? Looking to the future</td>
</tr>
</tbody>
</table>
1. What are the current paradigms, working assumptions, support systems, infrastructure, etc., that are inhibiting progress?

2. What is needed to enable a new system to emerge; which assumptions will be most challenged by change; what becomes vulnerable; what becomes strengthened; what must be tested?

3. What would a new, transformed system to support CAS departments look like and what are the new paradigms, assumptions, policies, infrastructure, etc., required for this emergence?

*Three horizons: a pathways practice for transformation*

*Bill Sharpe*, *Anthony Hodgson*, *Graham Leicester*, *Andrew Lyon* and *Ioan Fazey*
## Collaboration Building & Operational Understanding

<table>
<thead>
<tr>
<th>Date</th>
<th>Group</th>
<th>Topic</th>
<th>Participants</th>
<th>Meetings/Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep ‘18</td>
<td>Dean’s Team</td>
<td>Deans, Directors, SVPs: Their priorities and vision</td>
<td>8 interviews</td>
<td></td>
</tr>
<tr>
<td>Sep ‘18</td>
<td>Department Chairs</td>
<td>Course Enrollments – Five Year Trajectory</td>
<td>3 sub-groups</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Faculty Demographics – Three Year Projection</td>
<td></td>
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<tr>
<td>Oct ‘18</td>
<td>Department Chairs</td>
<td>Department Staffing Review</td>
<td>3 sub-groups</td>
<td></td>
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<tr>
<td>Nov ‘18</td>
<td>Department Chairs</td>
<td>Step 1 – Creating a Multi-Year Budget Plan</td>
<td>3 sub-groups</td>
<td></td>
</tr>
<tr>
<td>Fall ‘18 -</td>
<td>UG Program Directors</td>
<td>Reengage Departments in Discussion of Curricular Opportunities</td>
<td>3 sub-groups</td>
<td></td>
</tr>
<tr>
<td>ongoing</td>
<td></td>
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<tr>
<td>May’ 18-</td>
<td>All Chair Meeting</td>
<td>12 Department Overview Presentations (+ College Business)</td>
<td>8 meetings</td>
<td></td>
</tr>
<tr>
<td>May ‘19</td>
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<tr>
<td>Sep ’18-</td>
<td>Junior + Mid-Career Faculty</td>
<td>Promotion expectations, Present &amp; Future of CAS</td>
<td>13 groups</td>
<td></td>
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<tr>
<td>May ‘19</td>
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**Discussion of Intellectual Opportunities Throughout**
~100 “Opportunities”

Arts & Humanities
- digital humanities - EGL
- environmental humanities - EGL
- public humanities (AndAc) - EGL
- film scholars - EGL
- sustainability - EGL
- classical Asian/Asian American studies - AAS
- diasporic Asian/Asian American studies - AAS
- expansion, collaboration, equity - WRT
- writing in the disciplines (Bio, CHE) - WRT
- global health - ANT
- African focus
- capitalize on Ctr Val Bio - ANT
- capitalize on TBI - ANT
- philosophy of science and technology - Phil
- analytic feminism - Phil
- analytic logic - Phil

Natural Sciences
- technical design of theater - THR
- production of theatrical work - THR
- transAtlantic studies - HLL
- global language/culture relationships and migration - HLL
- racism and xenophobia - HLL
- language/culture learning to inspire study abroad - ELLC
- interdisciplinary comparison of cultures - CSCL
- digital arts, design and esthetics - ART
- international art partnerships - ART
- artistic modes of performance - ART
- music/psychologist - MUS
- ethnomusicology - MUS
- Jazz - MUS
- spectroscopy - CHE
- chemistry for energy - CHE
- chemical education research - CHE
- Quantum Chemistry - CHE
- population genetics - EE
- biodiversity - EE
- plant ecology/climate change - EE
- big data computation - EE
- Chromosomal Biology - BCB
- metabolomics - BCB
- membrane biology - BCB
- core cell biology & Biochemistry - BCB
- SPLoids - NB
- brain Initiative - NB
- translation neurobiology - NB
- partial diff equations/applications - M
- geometry and analysis relevant to big data - M
- climate change - GEO
- paleo-climate - GEO
- large data sets - GEO
- Planetary Science - GEO

Social & Behavioral Sciences
- arts and humanities students - WGS
- geography to map social justice - WGS
- ethnography missing - WGS
- comparative politics - need global expertise - POL
- American politics - POL
- public policy - POL
- American politics - POL
- quantitative studies, statistical inequalities - LIN
- speech pathology (health sciences) - LIN
- wind processes language - LIN
- history/anthropology - HIS
- history/social sciences - HIS
- thematic history - HIS
- public history - HIS
- involved public intellectuals - AFS
- critical race theorist - AFS
- Africa, Caribbean, US - AFS
- diaspora expertise - AFS
- health disparities - AFS
- political science of Africana studies - AFS
- global studies - AFS

Science & Technology
- data availability - LIN
- computational data mining - LIN
- involved public intellectuals - AFS
- critical race theorist - AFS
- Africa, Caribbean, US - AFS
- diaspora expertise - AFS
- health disparities - AFS
- political science of Africana studies - AFS
- data availability - ECO
- inequality analysis - ECO
- quantitative analysis - ECO
- machine learning - ECO
Opportunities Organized by Commonalities
Three Overarching Areas of Interest

- **Scholarly Creativity and Exploration**
  - Humanities Institute
  - Center for Inequality and Social Justice
  - Digital Revolution and Beyond
  - Institute for Advanced Computational Sciences
  - Laufer Center
  - Yang Institute for Theoretical Physics

- **Global Processes, Connections and Flows**
  - Global health - ANT
  - Interdisciplinary research partnerships - ART
  - Global language/culture relationships and migration - HLL

- **Digital Revolution and Beyond**
  - Big Data - SOC
  - Data availability - ECO
  - Machine learning - ECO
  - Statistics (time parameters)

- **Scholarly Creativity and Exploration**
  - Cross-cutting computational science - PA
  - Nuclear physics - PA
  - Quantum computing - big initiatives - PA

- **Global Processes, Connections and Flows**
  - Cultural studies of Africa - AFSA
  - Comparative politics - POL
  - African studies - AFSA

- **Digital Revolution and Beyond**
  - Data availability - LIN
  - Large data sets - GEO
  - Quantum Chemistry - CHE
  - Metabolomics - BCB

- **Scholarly Creativity and Exploration**
  - Interdisciplinary arts - ART
  - International language - HLL
  - Critical race theorist - AFS

- **Global Processes, Connections and Flows**
  - Social impacts of technology - HLL
  - Public policy - POL
  - American politics - POL

- **Digital Revolution and Beyond**
  - Artificial intelligence - ECO
  - Machine learning - ECO
  - Computational data mining - LIN
  - Quantitative data analysis - PSY

- **Scholarly Creativity and Exploration**
  - Mind processes - HLL
  -lj - PSY
  - Qualitative social scientists - WGS

- **Global Processes, Connections and Flows**
  - African studies - AAS
  - Diasporic/Asian American studies - AAS
  - Globalization - SOC

- **Digital Revolution and Beyond**
  - Neuro imaging - ECO
  - Stem education research - UGBio
  - Formal logic - PHI
  - Partial differential equations - M

- **Scholarly Creativity and Exploration**
  - Medical education research - CHE
  - Comparative politics - POL
  - African American studies - AAS

- **Global Processes, Connections and Flows**
  - Public health - ANT
  - Social impact on technology - HLL
  - Public policy - POL

- **Digital Revolution and Beyond**
  - Data availability - ECO
  - Machine learning - ECO
  - Statistics (time parameters)
Jan ‘19 – Phase 2 Chairs Retreat

Began to build case statements that
• Address broader societal impacts
• Strengthen current research/scholarly directions
• Open new opportunities for faculty and students
• Strengthen the curriculum for all students
• Retain and recruit excellent faculty and students
• Garner resources

Mar - April 30 – 10 Faculty Work Groups

Finish case statements
• Timeline and Actionable Future Steps
CAS Shared Vision

Global Processes, Connections & Flows

- Environmental Disruption leads to:
  - Global Migration of People and Ideas
  - Global Health and Disparities
  - Global Inequalities and Power
  - Pressures on the Environment, Energy and Natural Resources

Scholarly Creativity & Exploration

- How to understand and communicate complicated ideas:
  - STEAM: Education and Communication & Creative Expression
  - Cross-cutting Disciplines - Mind, Brain, Body - from Biology to Culture
  - Cross-cutting Disciplines – Origins & Explorations of the Universe/Planetary Systems
  - Cross-cutting Disciplines – Evolution and Transformation

Digital Revolution & Beyond

- Technology Impacts:
  - Digital Intelligence
  - Advancing Research Frontiers with a Platform for Data/Information Science
  - Societal, Political & Economic Implications of the Digital Revolution
  - Quantum Information Science and Materials

CAS Vision aligned with NSF "Ten Big Ideas"
Digital Intelligence

101 course Team-taught CS & CAS

Project-based course CAS or CS lead

BA in X & Digital Badge

Career in Healthcare with IBM Watson

X = Art, Linguistics, Philosophy, History, English or …

https://goo.gl/images/3fX15n
What are the implicit biases of computational algorithms?

Machine reading of texts misses relationships. How do we train them?

Examine knowledge exchange across global diasporas.
Digital Intelligence

- Places students based on capability not experience
- Meets research needs in many disciplines
- Integrates masters students who seek workforce development
- Accesses NSF, NEH, NASA, DOE & DOEd initiatives for doctoral and research funding
- External funding
  - Increases revenue
  - Reduces high demand on STEM enrollments
  - Increases diversity
  - Increases diversity
  - Increases diversity
  - Increases diversity
  - Increases diversity
Global Processes, Connections & Flows

Scholarly Creativity & Exploration

Digital Revolution & Beyond

**Goals**

**Undertake education and research innovation**
- Student careers align with future possibilities
- Increase team-oriented learning
- Design programs to build revenue

**Align allocation with educational and research operations**
- Support the institutional mission of diversity, inclusion and student success
- Support sustainable growth

**Public & private engagement**
- Garner external investment in CAS
Charge to Working Groups

• What are the broader societal impacts of this proposed research/educational direction that can be clearly articulated to a multitude of stakeholders (public, funders, colleagues)?

• How does addressing these grand challenges rely on strong disciplines and their convergence?

• Draft a roadmap/timeline for 12-18 months

• Consider labor and financial resources

• Products due April 30, 2019
Next Steps

May 2019
• Working group report out

June - August 2019: Dean’s leadership team
• Review
• Harmonization
• Identification of first action steps

August 2019 – onward
• Implement roadmap elements

https://www.stonybrook.edu/commcms/cas/about/shared_vision.php