DIGITAL science
Reaching Beyond Research
How a Research Information Management System
Can Empower your Analytics and Energize your Outreach
Ohio Innovation Exchange
An Initiative of the Ohio Department of Higher Education

Agenda

- How We Use RIMS
- About Digital Science
- Ohio Innovation Exchange (OIEx) and Symplectic Elements
- About the Ohio Innovation Exchange
- Analytics, Outreach and Culture at OIEx
- Benefits of Symplectic Elements

Jeff Agnoli

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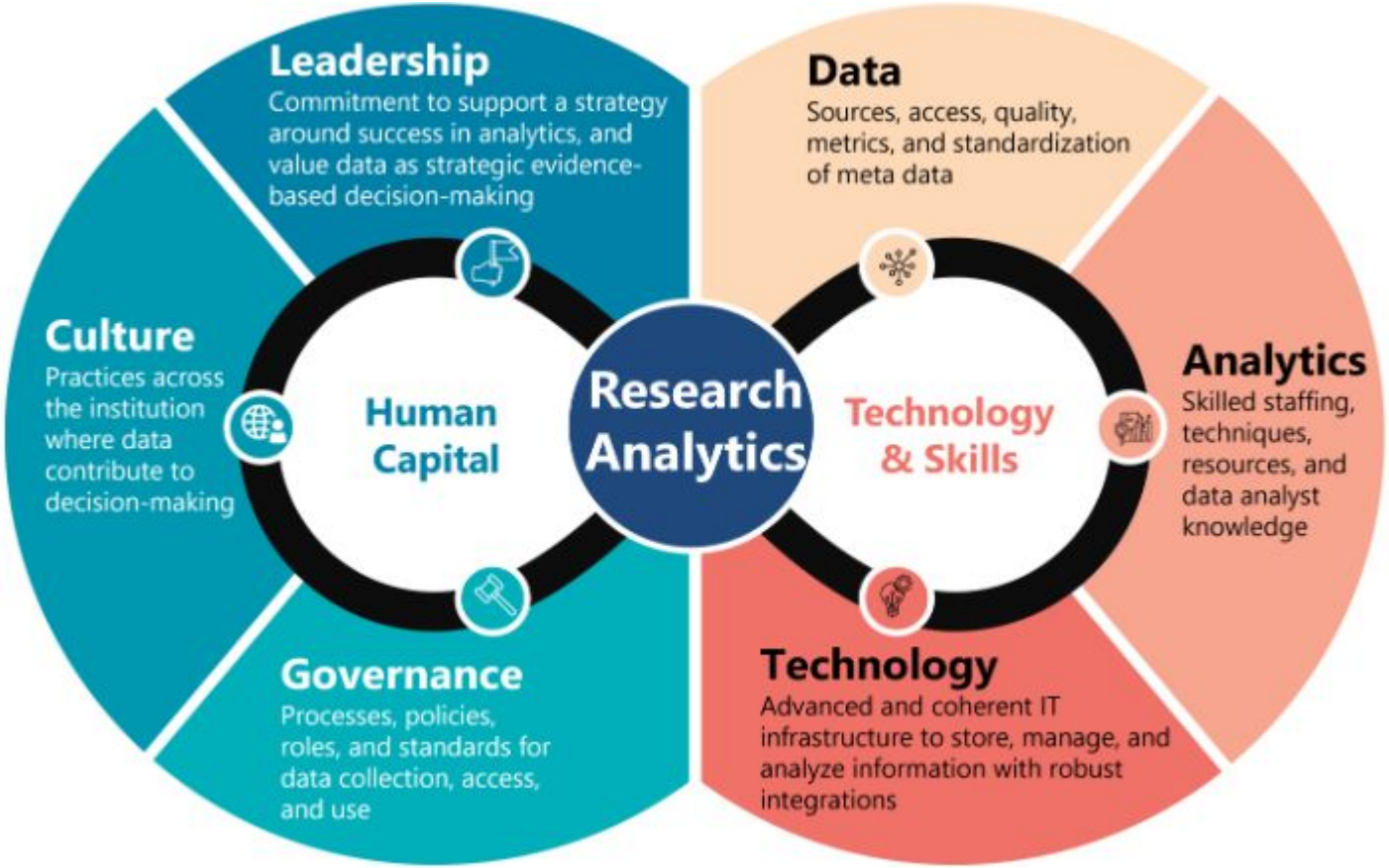
Leadership
Commitment to support a strategy around success in analytics, and value data as strategic evidence-based decision-making
Data
Sources, access, quality, metrics, and standardization of meta data
Culture
Practices across the institution where data contribute to decision-making
Human Capital
Research Analytics
Technology & Skills
Analytics
Skilled staffing, techniques, resources, and data analyst knowledge
Governance
Processes, policies, roles, and standards for data collection, access, and use
Technology
Advanced and coherent IT infrastructure to store, manage, and analyze information with robust integrations

How We Use RIMS

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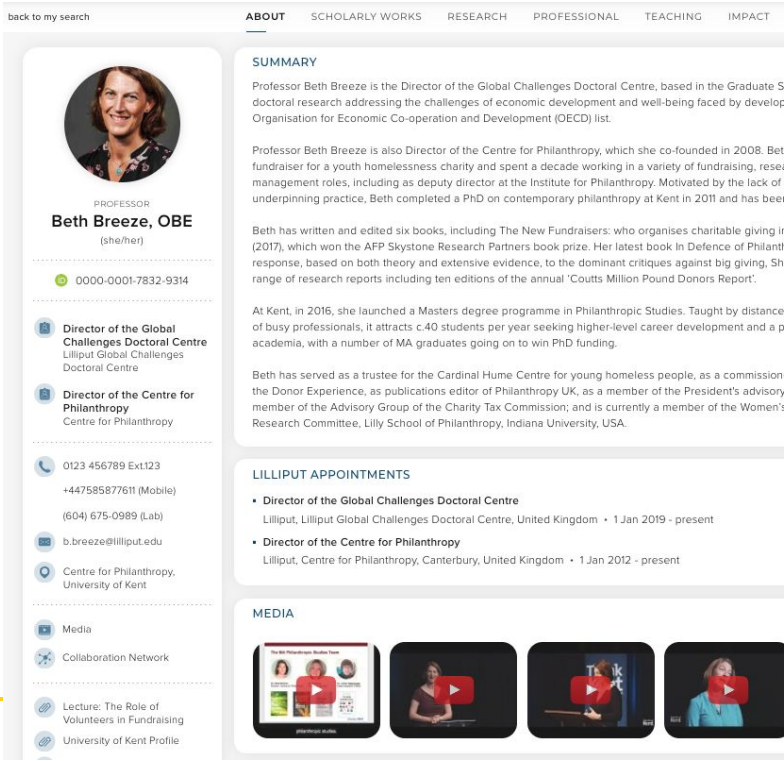
Research **I**nformation **M**anagement **S**ystem

RIMS facilitates your ability to:

- Collect & curate research outputs on profiles
- Highlight achievements from your researchers
- Showcase equipment and services
- Report on trends and metrics
- Support wider strategies for Open Access, faculty reviews, academic repositories, and funding workflows



About Digital Science

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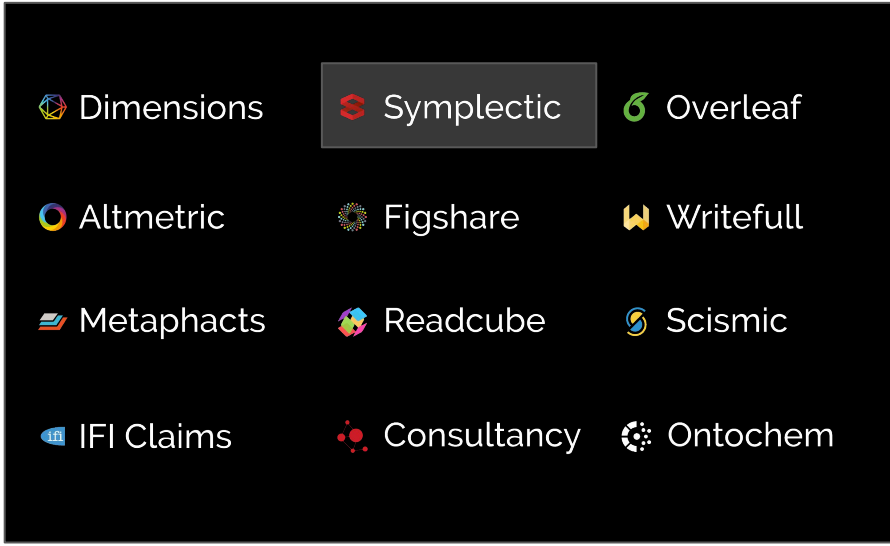
- Pioneering technology company advancing the research ecosystem
- Solutions that support strategy, collaboration, funding, workflows, integrity
- Symplectic Elements is one solution from Digital Science used by:
  - 120+ research organizations
  - 50+ grant-making organizations
  - 15 countries
  - 350,000 researchers



[Learn more about Digital Science]

Ohio Innovation Exchange (OIEx) & Symplectic Elements

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- Showcases a network of universities research experts
- Facilitates collaboration between academia, industry partners, peers, and students
- Generates Elements profiles with research outputs (publications, grants, media)
- Curates public search solution for research equipment/services, centers, patents, etc.

Learn more about OIEx and Elements

About the OIEx

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- 10+ Universities
- 10K+ Researcher Profiles
- 2,000+ Equipment & 740+ Research Services
- 31K+ Patents over the last 10 years, etc.
- Industry Liaisons from partner universities
- Trade associations, industry partners, and economic developers

Learn more about the Ohio Innovation Exchange

About the OIEx - Leadership Team

- **Charles See**, Deputy Chief of Staff, Vice Chancellor for Strategic Partnerships and Education Technology, Ohio Department of Higher Education
- **Tim Cain**, Executive in Residence, Associate Professor, Ohio University
- **Jeff Smith**, Director of the Shared Infrastructure, OH-TECH (Ohio Technology Consortium)
- **Jeff Agnoli**, Senior Liaison, Strategic Partnerships, The Ohio State University

About the OIEx - Governance

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- Leadership Team charts the primary direction of the OIEx; funding comes from multiple sources including Ohio's Third Frontier Research Incentive grant program
- Collaborate with industry liaisons from partner universities
- Regular updates/metrics shared with Research Officers' Council (ROC)
  - Typically the Vice President for Research or their designee(s)
  - Includes public & private universities engaged in research

Analytics, Outreach, and Culture at OIEx

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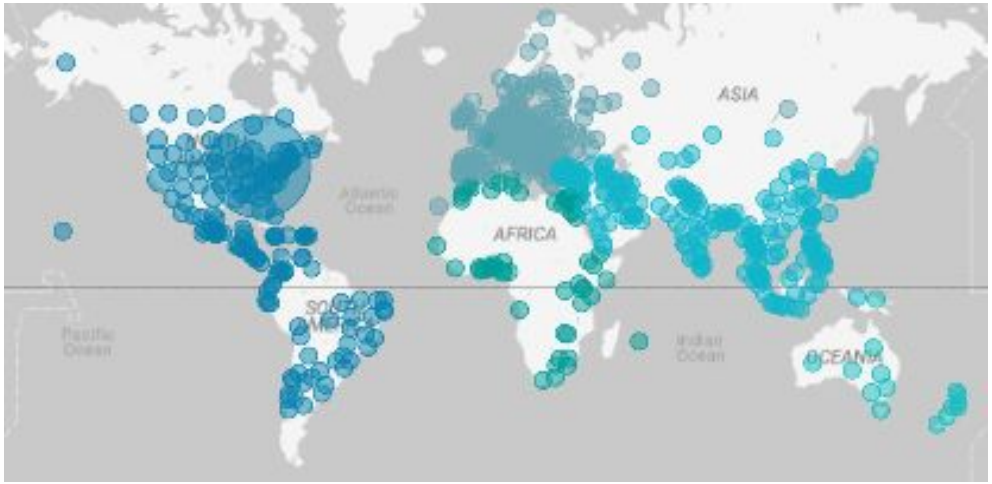
- Google Analytics tracks total pageviews, up to 20K+/month, countries/states/cities, 36K+ users, top profile, equipment, and patent pages
- Up to 20K page views each month from across the globe



Outreach and Engagement

- Through LinkedIn, we promote research, innovation and discovery to a 2,000+ audience
- Contact Us email manages requests from faculty, industry, startups, etc.
- Example Industry Engagement Outcomes
  - Sponsorship for fellowship; seeking subcontractors/proposal collaborators
  - Talent and workforce development
  - Recognition for clinical research faculty
  - Industry Equipment lease agreement
  - Business plan reviews for start-ups

Analytics Reports | The Ohio State University

Sources: Ohio State Office of Academic Affairs & Graduate School;
Benson Lindsey, Office of Technology and Digital Innovation and Jay Johnson, Office Institutional Research and Planning

Interactive Industry Engagement

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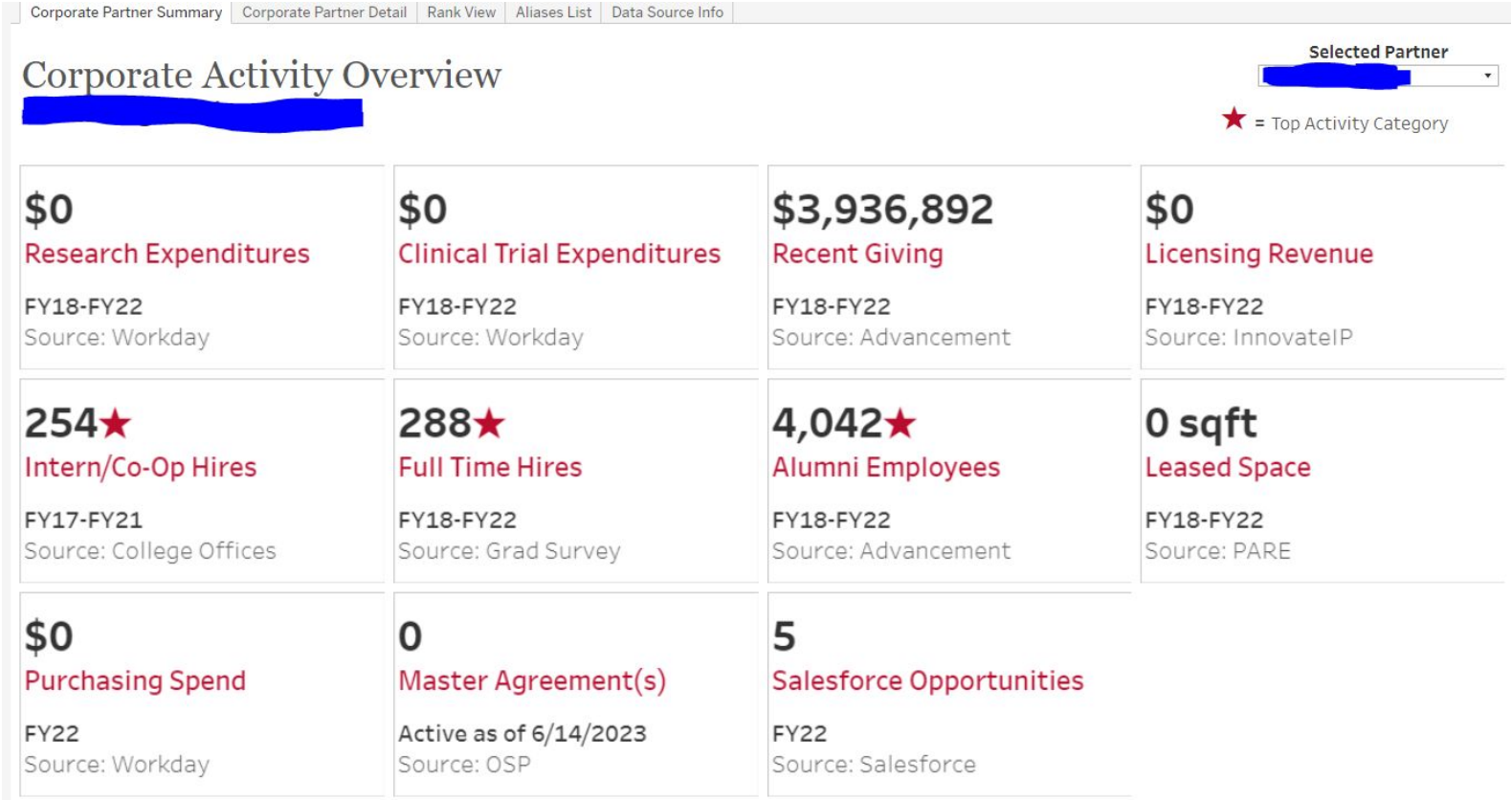

Honorific Awards

[Faculty Awards | Office of Academic Affairs, The Ohio State University]

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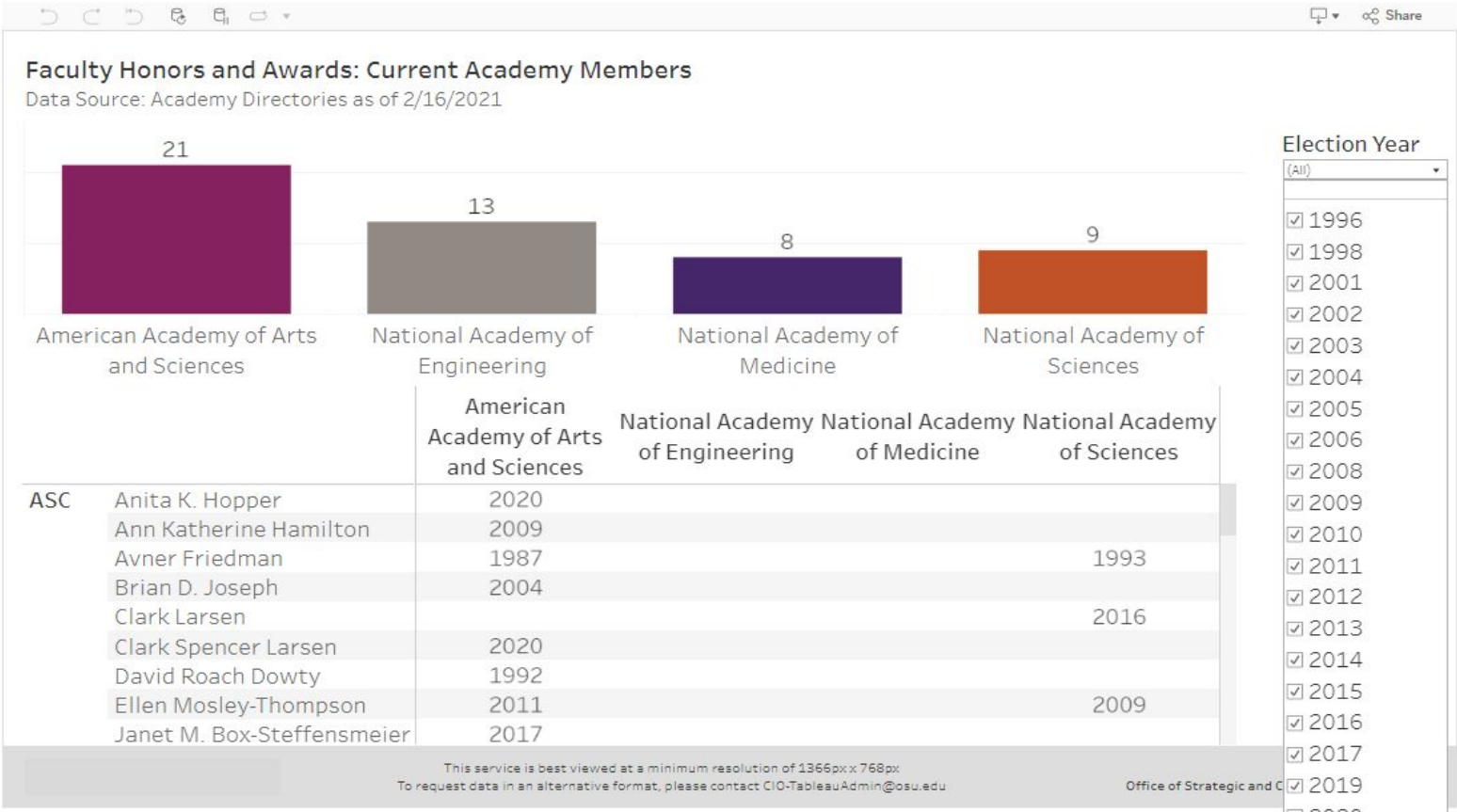

		American Academy of Arts and Sciences	National Academy of Engineering	National Academy of Medicine	National Academy of Sciences
ASC	Anita K. Hopper	2020			
	Ann Katherine Hamilton	2009			
	Avner Friedman	1987			1993
	Brian D. Joseph	2004			
	Clark Larsen				2016
	Clark Spencer Larsen	2020			
	David Roach Dowty	1992			
	Ellen Mosley-Thompson	2011			2009
	Janet M. Box-Steffensmeier	2017			

Student Engagement

- Ohio State and the Coalition for Next Generation Life Sciences
  - Understand performance of graduate programs
  - Improves academic and nonacademic career growth; assists with proposal development, e.g., research output
  - Research Analytics Dashboards/Reports:
    - Student and Program
    - PhD and Master's Alumni Outcomes
    - Post-Doc Alumni Outcomes
  - OSU Data and Assessment
  - NGLS Coalition

High Impact Practices

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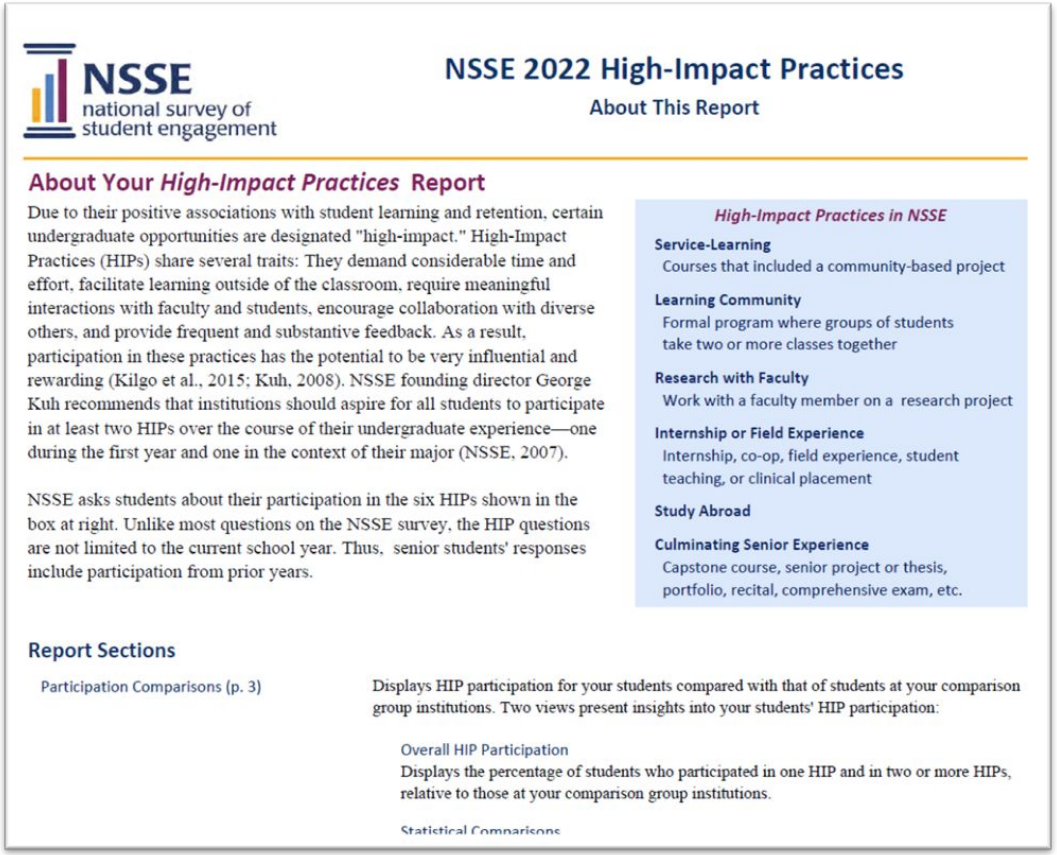

NSSE national survey of student engagement

NSSE 2022 High-Impact Practices

About This Report

About Your *High-Impact Practices* Report

Due to their positive associations with student learning and retention, certain undergraduate opportunities are designated "high-impact." High-Impact Practices (HIPs) share several traits: They demand considerable time and effort, facilitate learning outside of the classroom, require meaningful interactions with faculty and students, encourage collaboration with diverse others, and provide frequent and substantive feedback. As a result, participation in these practices has the potential to be very influential and rewarding (Kilgo et al., 2015; Kuh, 2008). NSSE founding director George Kuh recommends that institutions should aspire for all students to participate in at least two HIPs over the course of their undergraduate experience—one during the first year and one in the context of their major (NSSE, 2007).

NSSE asks students about their participation in the six HIPs shown in the box at right. Unlike most questions on the NSSE survey, the HIP questions are not limited to the current school year. Thus, senior students' responses include participation from prior years.

High-Impact Practices in NSSE

Service-Learning
Courses that included a community-based project

Learning Community
Formal program where groups of students take two or more classes together

Research with Faculty
Work with a faculty member on a research project

Internship or Field Experience
Internship, co-op, field experience, student teaching, or clinical placement

Study Abroad

Culminating Senior Experience
Capstone course, senior project or thesis, portfolio, recital, comprehensive exam, etc.

Report Sections

Participation Comparisons (p. 3)

Displays HIP participation for your students compared with that of students at your comparison group institutions. Two views present insights into your students' HIP participation:

Overall HIP Participation
Displays the percentage of students who participated in one HIP and in two or more HIPs, relative to those at your comparison group institutions.

Statistical Comparisons

High Impact Practices

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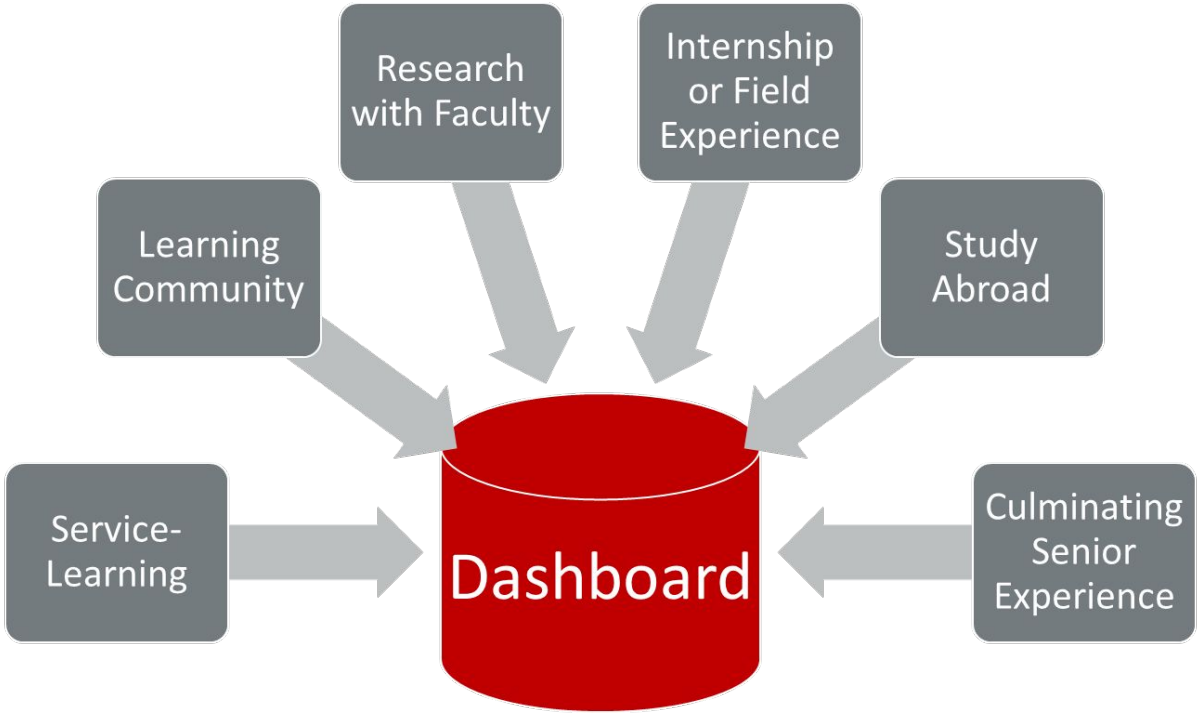
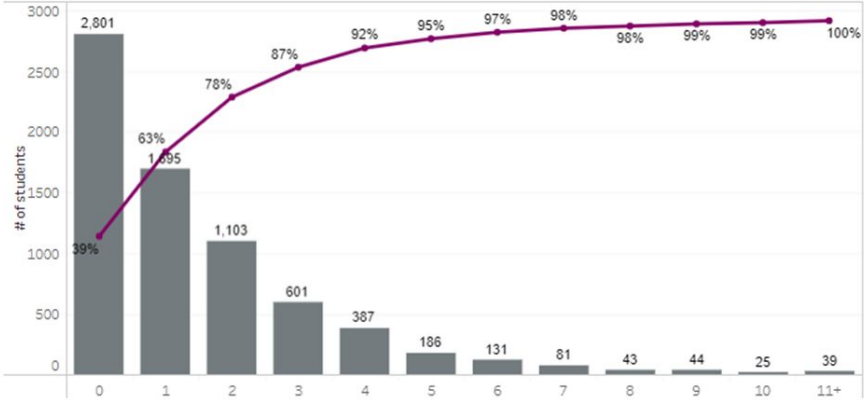


High Impact Practices - Cumulative Participation Breakdown

Cohort	Cohort Size	Year 1 Participants (cumul.)	Year 1 % of initial cohort	Year 2 Participants (cumul.)	Year 2 % of initial cohort	Year 3 Participants (cumul.)	Year 3 % of initial cohort	Year 4 Participants (cumul.)	Year 4 % of initial cohort
2017	7136	1,768	24.8%	3,665	51.4%	4,059	56.9%	4,335	60.7%
2018	7851	2,558	32.6%	4,266	54.3%	4,433	56.5%		
2019	7630	2,240	29.4%	3,675	48.2%				
2020	8602	2,193	25.5%						
Grand Total		8,759	28.1%	11,606	51.3%	8,492	56.7%	4,335	60.7%

Distribution: HIPs per student - **2017 Cohort** as Seniors



Demographics: Race/Ethnicity by Sex
2017 Cohort as Seniors

		Cohort Size	# of participants	# of HIPs	Avg HIPs per Student	% Participation
American Indian/Native Alaskan	Female	3	2	5	1.67	66.7%
	Male	1	0	0	0.00	0.0%
Asian	Female	289	188	576	1.99	65.1%
	Male	281	133	366	1.30	47.3%
Black or African American	Female	217	133	401	1.85	61.3%
	Male	129	57	149	1.16	44.2%
Hispanic	Female	188	110	316	1.68	58.5%
	Male	154	66	178	1.16	42.9%
Native Hawaiian/Pac. Islander	Male	1	0	0	0.00	0.0%
Non-Resident Alien	Female	265	90	157	0.59	34.0%
	Male	323	48	108	0.33	14.9%
None Given/Race Unknown	Female	128	76	233	1.82	59.4%
	Male	167	75	198	1.19	44.9%
Two or More Races	Female	163	108	287	1.76	66.3%
	Male	116	55	142	1.22	47.4%
White	Female	2,422	1,491	4,200	1.73	61.6%
	Male	2,289	969	2,316	1.01	42.3%
Grand Total		7,136	3,601	9,632	1.35	50.5%

Cohort: 2017

Rank: Seniors

Demographic Level 1: Race/Ethnicity

Demographic Level 2: Sex

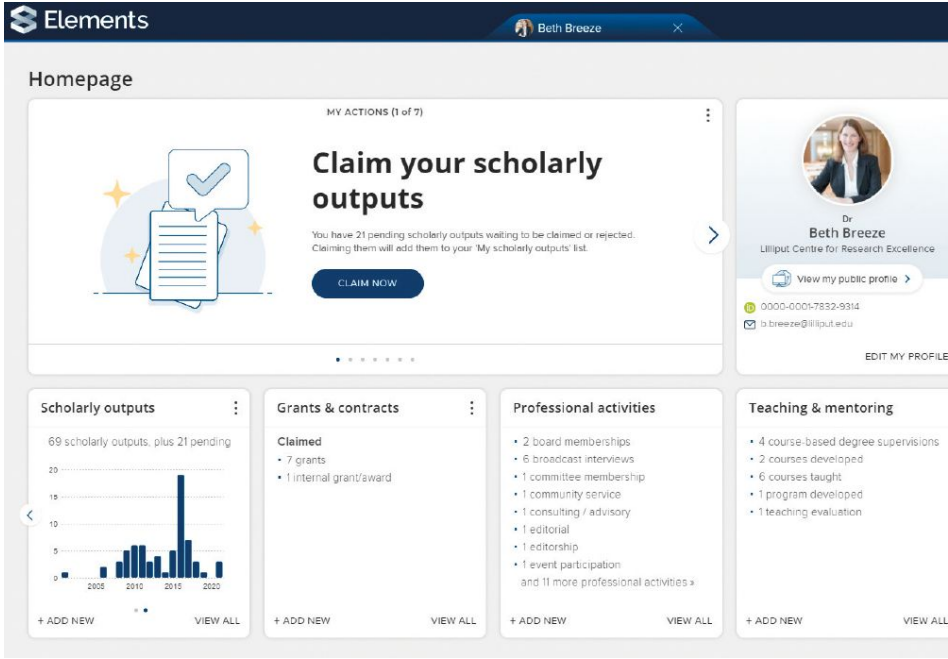
Select HIPs: (All)

- Buck-I-Serv ✓
- Buckeye Leadership Fellows ✓
- Internship ✓
- Non-Profit Immersion Program ✓
- Scholars Program ✓
- Service Learning ✓
- STEP ✓
- Student Life LC ✓
- Study Abroad ✓
- Undergrad Research (credit) ✓
- Undergrad Research (paid) ✓

Benefits of Symplectic Elements

Continuous, Automated Capture of Research Outputs

- Populate researcher profiles before their first login
- Auto-claim research objects based on user identifiers
- Harvest publications and grants from external sources
- Import data from on-campus systems

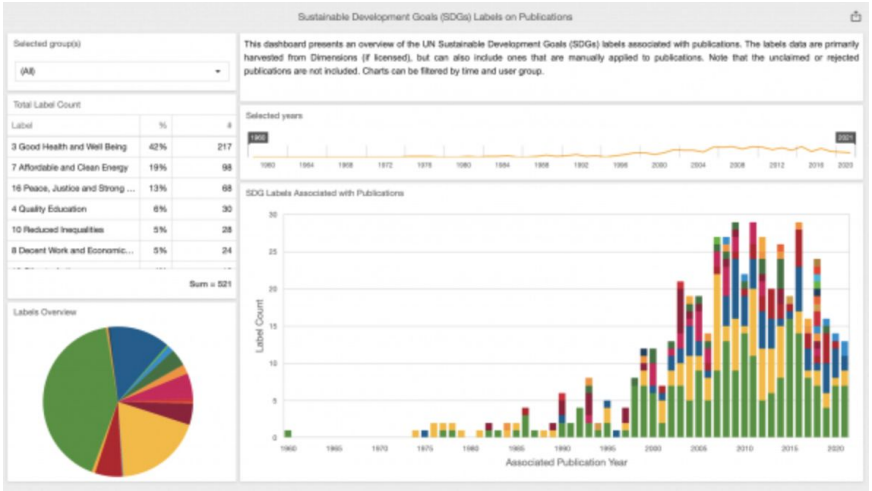


[Learn more about Symplectic Elements]

Benefits of Symplectic Elements

Map Research Outputs to Strategic Goals

- Build and share custom reports, dashboards, visualizations
- Narrow by keywords, trends, subject areas, and initiatives
- Tracking progress on Sustainable Development Goals (SDGs)
- Track your organization's unique goals



[Learn more about SDGs in Elements]

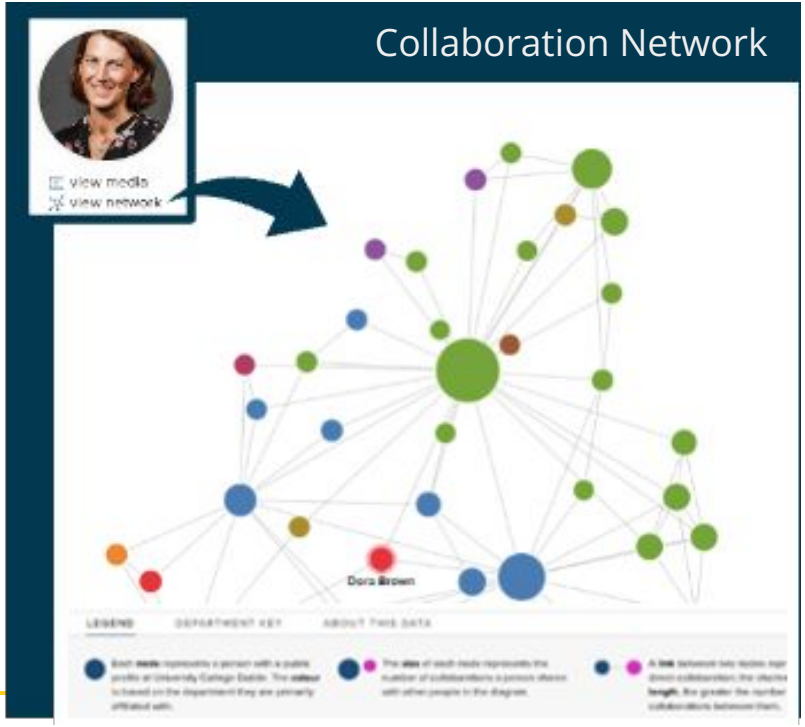
[Learn more about Elements Dashboards]

Benefits of Symplectic Elements

Elements Discovery for Public Profiles

- Professional, accessible display
- Search engine optimized
- Repository integrations
- Collaboration Network map
- Discover colleagues and peers
- Be discovered by project partners

[Learn more about Discovery profiles]



Lessons and Recommendations

THANK YOU

www.digital-science.com

www.ohioinnovationexchange.org