



Office of Research Update



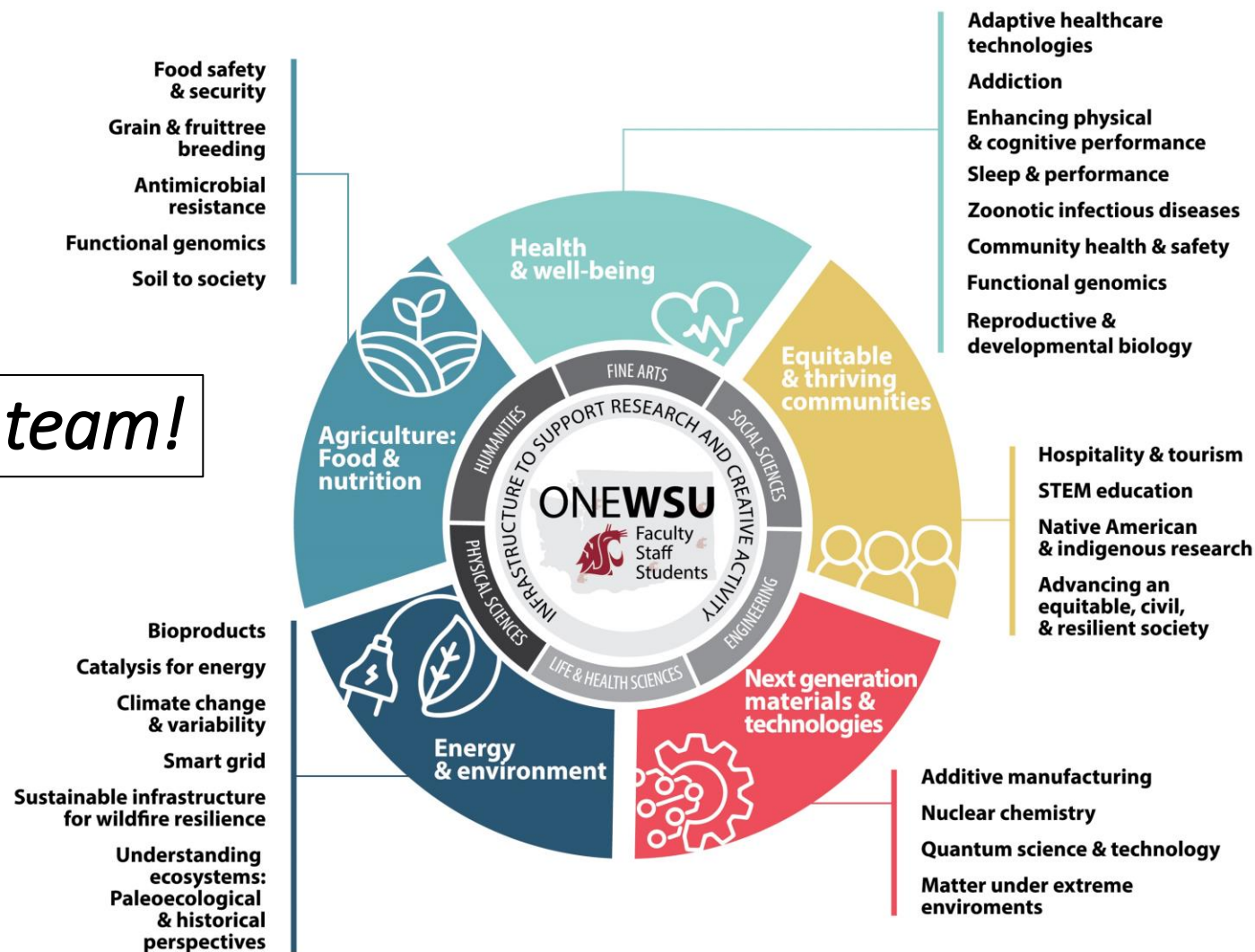
February 16, 2023

Presented by:

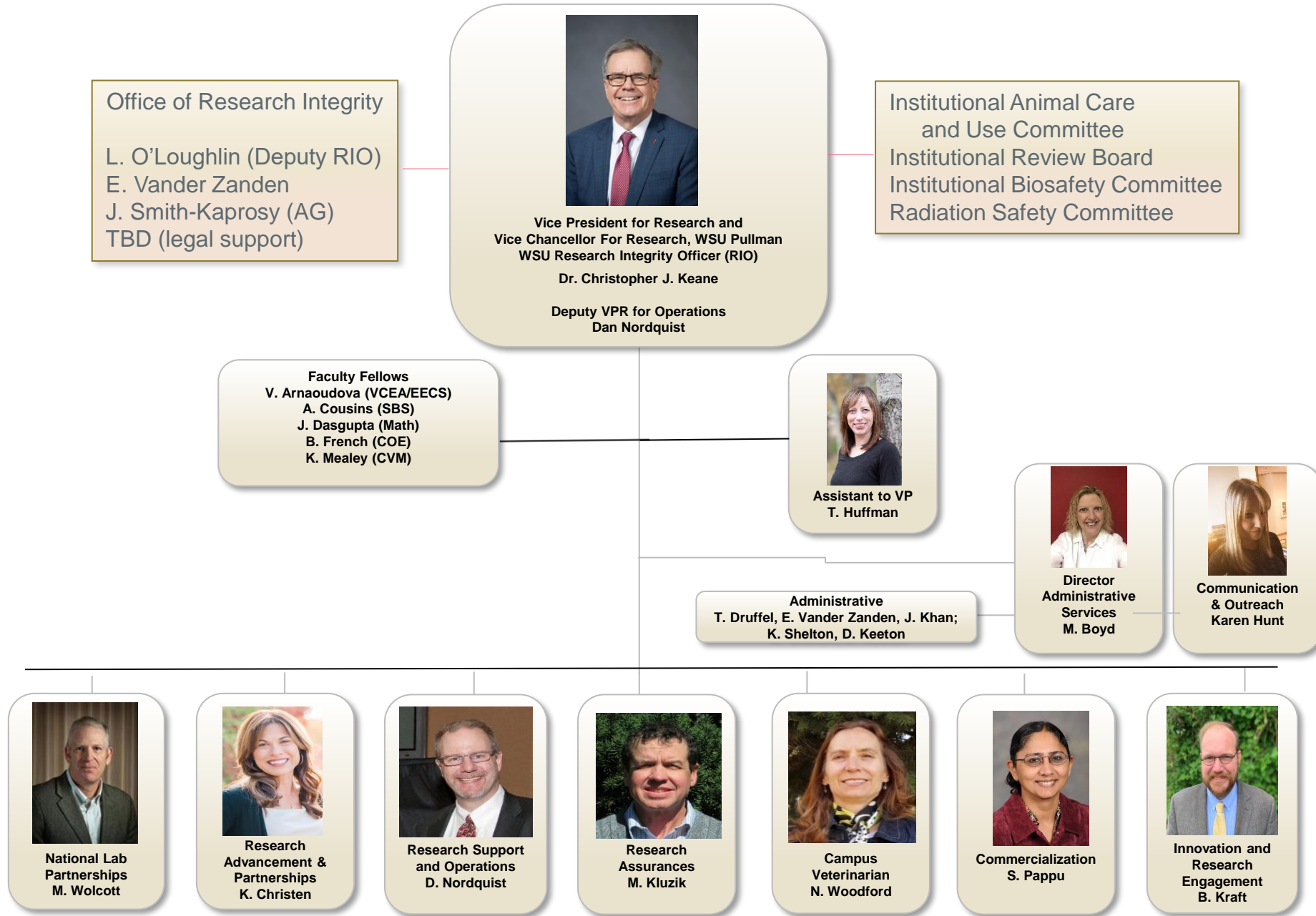
Christopher J. Keane, Vice President for Research, WSU
Vice Chancellor for Research, WSU Pullman

WSU faculty, staff, students, and partners are rising to the challenge—conducting world class research, scholarship, and creative activity that benefits WA State, the US, and the world

It takes a team!

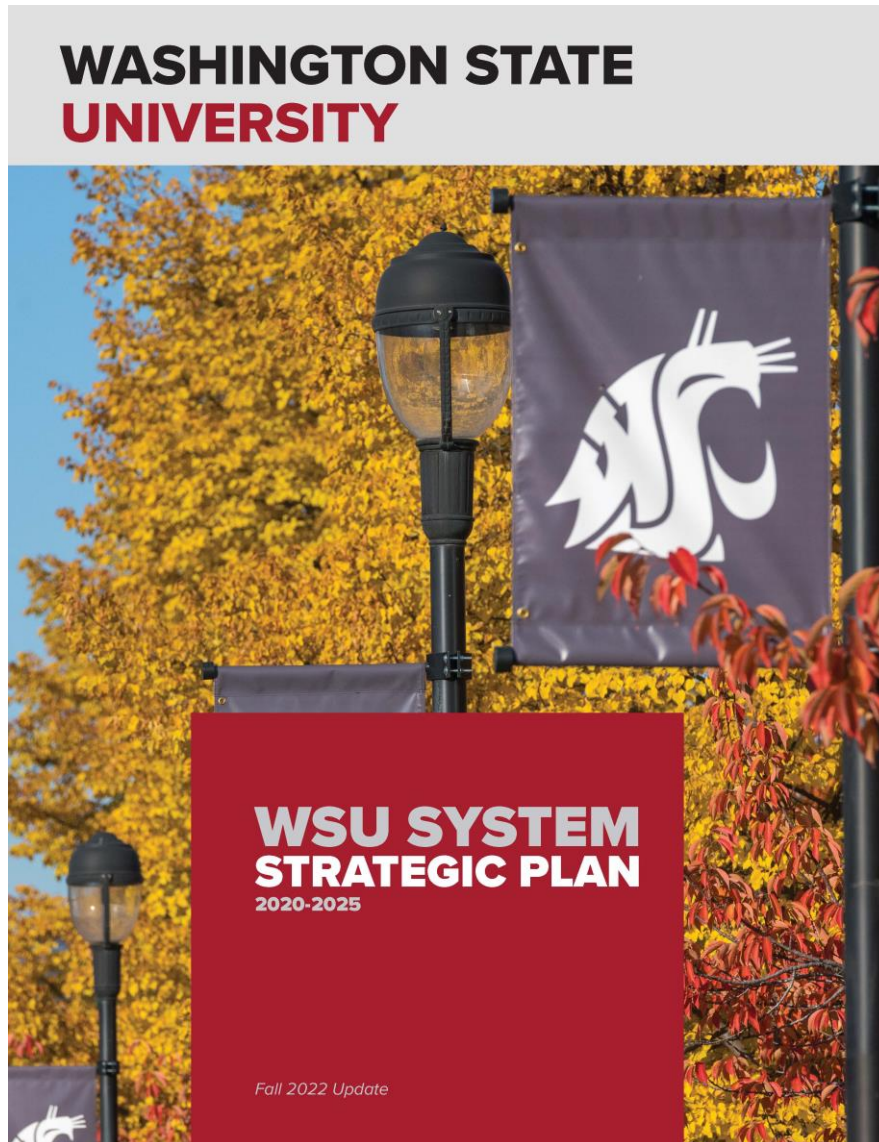


Office of Research Organization Chart





The Revised WSU System Strategic Plan Was Issued in Fall 2022



- Goal 1: Research, Innovation, and Creativity
 - Objective: Increase research expenditures 5%/yr.
- Goal 2: Student Experience
 - Objective: First to second year retention: Reduce the retention gap between our overall group and our first-generation, Pell-eligible, and people of color by 1% per year
- Goal 3: Outreach, Extension, Service, and Engagement
 - Objective: Consensus on a shared definition of community engagement, metrics to be used, and a system-wide tool for data collection.
- Goal 4: Institutional Effectiveness and Infrastructure
 - Objective: Faculty and staff demographics: Reduce reporting unknowns for race and ethnicity data: Faculty from 32.7% to 10%; Staff from 23.3% to 10%



WSU System Strategic Plan Scorecard 2022-2023

Goal 1 (Research, Innovation, and Creativity) Strategies

Goal 1 Objective: Increase R&D Expenditures 5%/yr

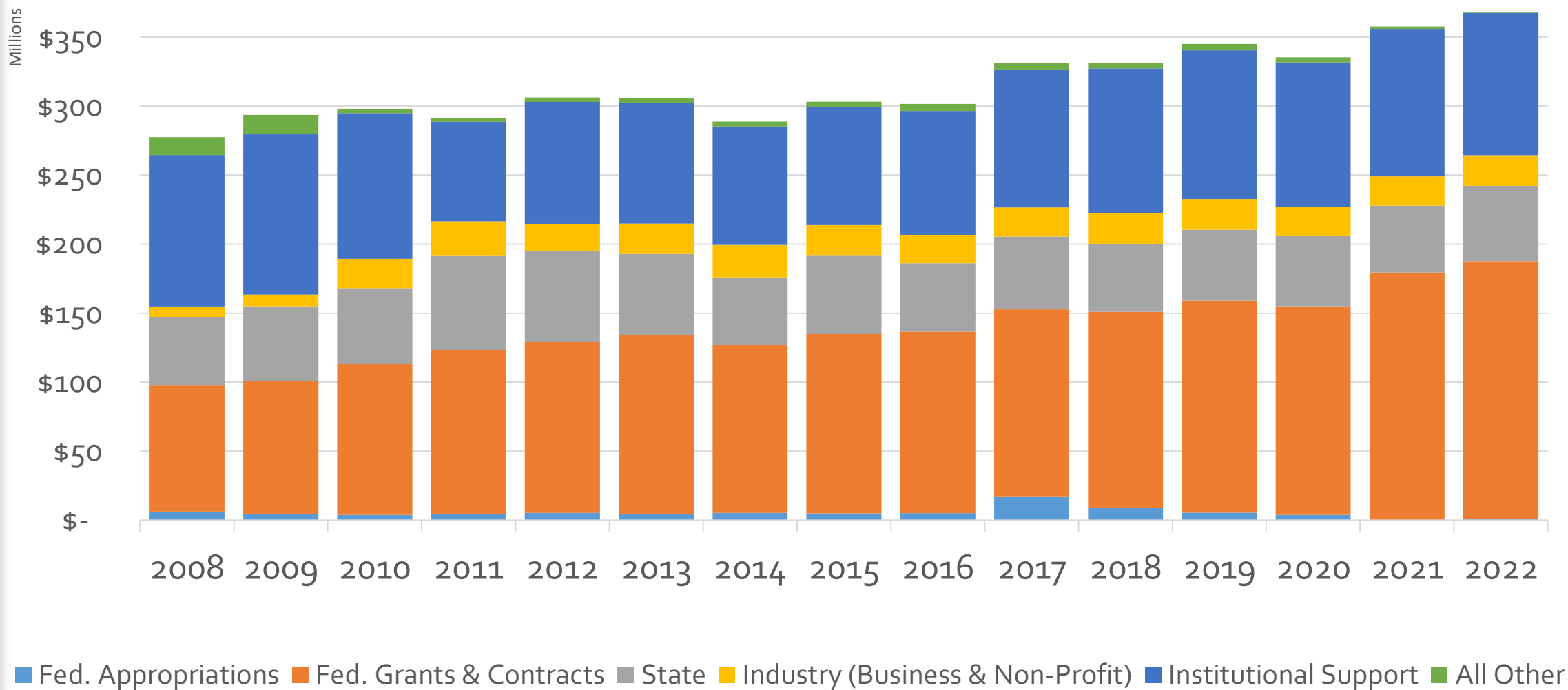
Strategies	CY 2023 metric	Next steps
1. Increase the number, quality, and success rate of large multidisciplinary proposals for research and scholarly activity.	CY 2023 Metric: Number of OR supported proposals with value greater than \$1M \geq 8.	Address ORAP effort/staffing shortfall so as to accommodate faculty requests for proposal support.
2. Expand PNNL collaboration to develop a new Institute or similar level focused activity in the life or environmental sciences, or related areas.	CY2023 Metric: Develop a proposal for this activity that includes a funding goal.	Office of National Laboratory Partnerships and involved WSU leadership/faculty to meet w/ PNNL leadership and develop options and a plan.
3. Develop a systemwide plan for climate-related research, including a symposium to identify new research opportunities.	CY 2023 Metric: Deliver plan at the end of CY2023, including a path to enhance associated sponsored research activity.	Extend current climate group research efforts to full spectrum of activities; coordinate with campus sustainability and other initiatives.
4. Develop a systemwide plan for enhancing WSU research, scholarship, and creative activity in the full range of scholarly disciplines, including the arts and humanities. The plan should include prioritized areas for internal investment.	CY 2023 Metric: Deliver plan at the end of the year, including a path to enhance associated sponsored research activity.	Request all colleges to provide 3 major areas of current interest, 3 major areas of emerging interest, and funding targets. Also request input on infrastructure. Based on this input develop a plan to enhance systemwide research expenditures.

ORSO submits ~\$1B/yr. in proposals and provides essential faculty/staff services

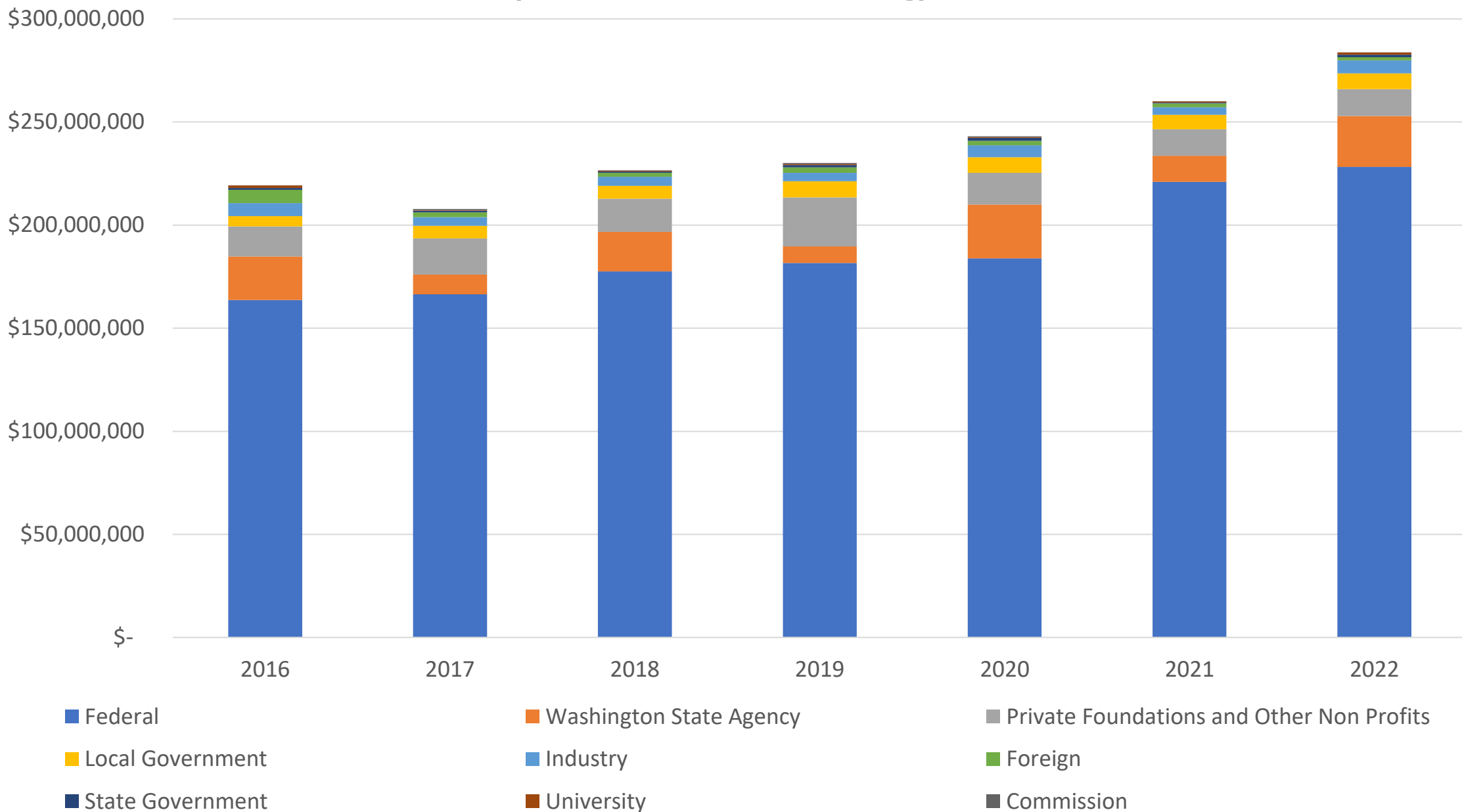
- 2214 proposals w/ value \$963M submitted in FY22 (record: FY21- \$1.23B)
- Working with WSU IR, corrected WSU expenditure data and submitted revised figures to NSF.
- Recently completed the MyResearch Award and Budget Set-Up Tabs in collaboration with SPS to improve Award set-up time. This has had a big impact on account set-ups!
- Created a new resource website and presented a Zoom webinar providing information and guidance on the new NIH Data Management and Sharing policies and processes.
- ORSO and DARPA hosted the 9/22 “DARPA FORWARD” meeting at WSU- ~500 attendees!
- Massive data clean-up project underway to crosswalk MyResearch data with Workday. Quality award data is now available, with more improvements coming!
- Research Security guideline developed- remember to “**disclose, disclose, disclose!**”



WSU NSF HERD R&D expenditures for FY2008-FY2022 (WSU expenditures per T/TT faculty are close to highest in our peer set)

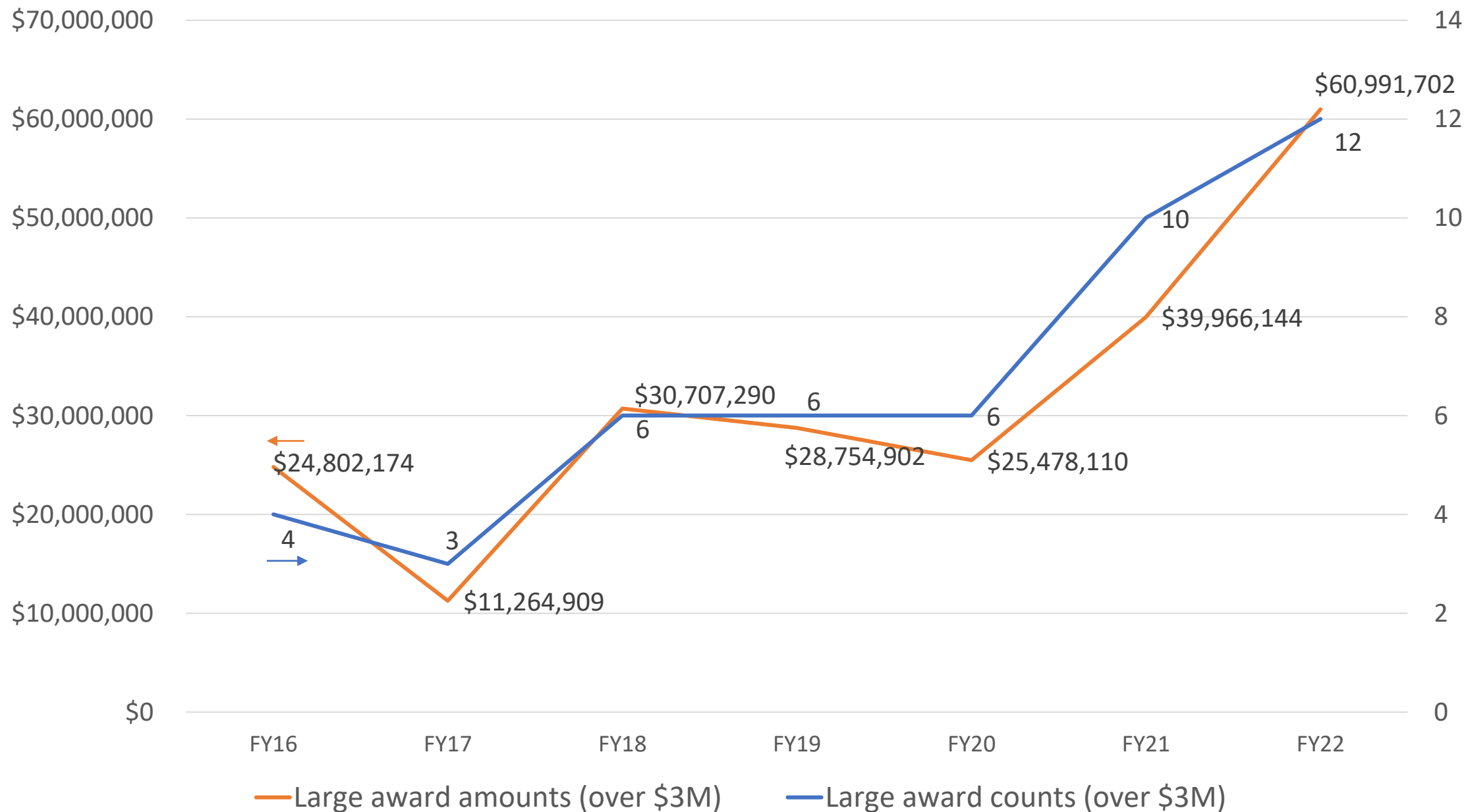


Total Value of WSU Research Awards has Steadily Increased (Excludes Stimulus Funding)



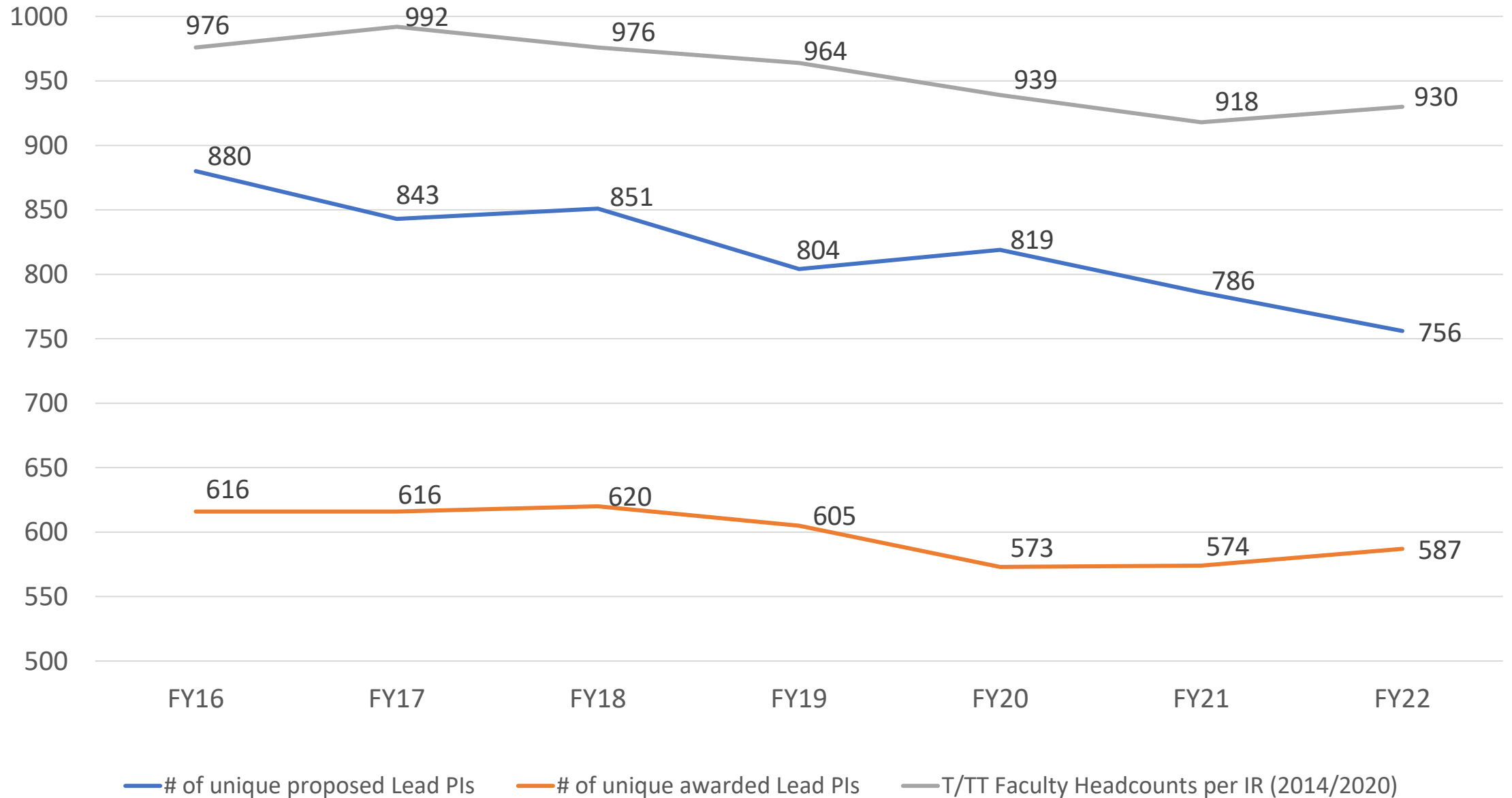
Large awards (over \$3M) have increased ~3x since 2016

(Excludes Stimulus Funding)



The Number of Involved Proposers/PIs is Decreasing

(Excludes Stimulus Funding)



Investing in Research: The Office of Research Advancement and Partnerships (ORAP)

- Established in FY2016; led by Dr. G. Dutta, now AVC/AVP Prof. Kim Christen
- Oversight of key investments in research:
 - Proposal support- and leadership training for large proposals
 - “Grand Challenge” research investment program (FY2016-FY2021; ~17x ROI)
 - New Faculty Seed Grants (Provost/OR collaboration)
 - Funding \$200K/yr, split by OR/Provost (\$305K in FY2016)
 - Since 2000: 963 proposals; 279 awards; \$4.75M invested
 - PIs have submitted 734 external proposals, garnered \$49.4M in awards (~10x ROI)
 - Climate Hackathon (May 2022; 2 \$55K seed grants; 3 \$20K/RA awards)

Investing in research works!



Through FY2022, ORAP has supported over 400 proposals (including numerous honorifics (e.g. NSF Career)) yielding over \$250M in awards

SFY 2022					
Proposal Amounts	> \$5M	\$1M < \$5M	\$500K < \$1M	< \$500K	Total
Submitted	7	7	6	14	34
Funded	0	0	1	1	2
Pending	5	4	2	8	19
Denied	2	3	3	5	13
<i>% funded so far</i>	<i>0%</i>	<i>0%</i>	<i>25%</i>	<i>17%</i>	<i>13%</i>
Total \$ Funded					\$620,108

Running 6+ Year Total					
Proposal Amounts	> \$5M	\$1M < \$5M	\$500K < \$1M	< \$500K	Total
Submitted	34	95	104	178	411
Funded	6	19	19	46	90
Pend/ Wit/ Pre	7	7	4	21	39
Denied	21	69	81	111	282
<i>% funded so far</i>	<i>22%</i>	<i>22%</i>	<i>19%</i>	<i>29%</i>	<i>24%</i>
Total \$ Funded					\$253,425,713



Outstanding new faculty have been hired via the Grand Challenges Program (FY2016-FY2021)

Notable Accomplishments

HERC

Established a practice-based research network linking hospitals and clinics, which will allow for electronic record sharing for research purposes.

Nutritional Genomics

Led to the Soil to Society initiative and a \$10M grant.

Functional Genomics

FGI Research Service Cores have increased competitiveness of over 20 research groups

HERC



Anna Zamora-Kapoor
Race, Ethnicity, & Social Determinants of Health (4/17)



Robert Danielson
Pedagogical Practices & Learning Technologies (7/17)

Justin Denney
Health & Mortality Disparities; Family; Community (8/16/17)

Mina Park
Health Communication (8/17)

Pablo Monsivais
Nutritional Epidemiology (2/17)



Nutritional Genomics

Ofer Amram
Spatial Epidemiology (8/17)



Franck Carbonero
Gut Microbiome (7/19)



Patrick Solverson,
Nutrition & Exercise Physiology (8/20)



Ryan Driskell,
Tissue Regeneration/Wound Repair, (3/17)



Samantha Noll
Bioethics, (8/17)



Michael Phelps,
Growth & Development (8/19)



James MacLean
Reproductive Genetics (7/20)



Nathan Law
Reproductive Physiology (7/20)



Kanako Hayashi
Stem Cell Biology (7/20)



FGI

Stormwater

Jenifer McIntyre
Aquatic Toxicology (5/16)



Joe Cook
Water Economics (8/17)



Courtney Gardner
Microbiology, Civil & Environmental Engineering (8/18)



The “Grand Challenge” strategic research investments very successful

Grants* & Publications Summary (FY16-21)

	Total Investment	Faculty	Awards			ROI	Publications	
	\$M	n	n	n > \$1M	\$M	X	Collaborative	Unique
HERC	2.7	33	258	26	108	40	88	458
Nutritional Genomics	2.1	17	214	13	57	27	61	473
Functional Genomics	3.95	26	105	12	43	11	27	538
Stormwater	2.1	14	185	9	47	23	12	328
Total	10.9		762	60	256	24	188	1797

**Unique awards as either PI or collaborator*



ORA and OCV are “getting the job done”- handling enhanced workload arising from increased protocol complexity

- ORA and OCV leadership team and staff provide outstanding service
 - ORA: (M. Kluzik (Director); J. Crossno (Human Research Protection Program), A. Ekstrand (Animal Welfare Program); L. O’Loughlin (Bio- and radiation safety); M. Court (IACUC Chair); A. Lazarus/C. Barry (IRB Chairs); K. Sanguinet (IBC Chair); T. Wilkinson (Radiation Safety Chair)
 - OCV: N. Woodford (Director); G. Clyde (Veterinary Services); G. Gorence (Vivarium services); G. Anderson (Administrative Services); J. DenHerder (Training)
- Near term IRB goals: Electronic IRB implementation; HRPP accreditation
- OCV: Oversight of 73,000 animals; record 3rd consecutive AAALAC accreditation (2022)

	Total active protocols (12/31/2022)	New protocols approved (2022)	Average review time (new)
IACUC/Animal Welfare Program	423	70	28 days
IRB/Human Research Protection Program	1758	409	32 days
IBC/Biosafety Program	202	95	30 days



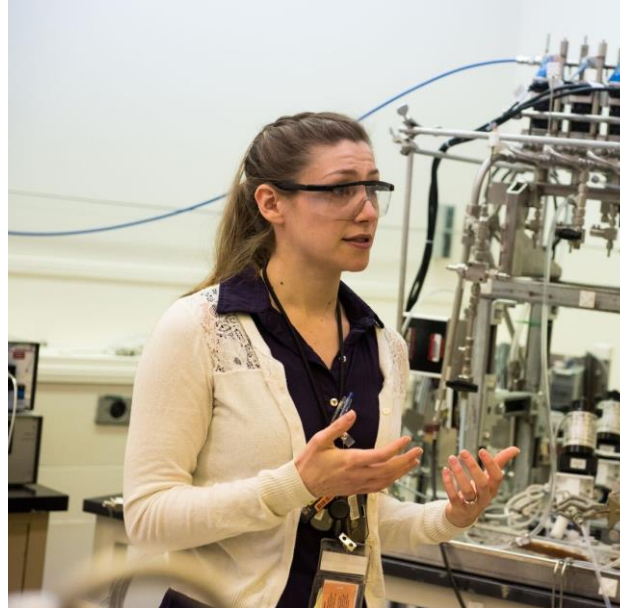
Office of National Laboratory Partnerships: Building PNNL and other collaborations, and advancing STEM research

Joint Institutes (Grid, Bioproducts, Nuclear)



~\$130M in funding since 4/18

Distinguished Graduate Research Program



42 students/alumni to date

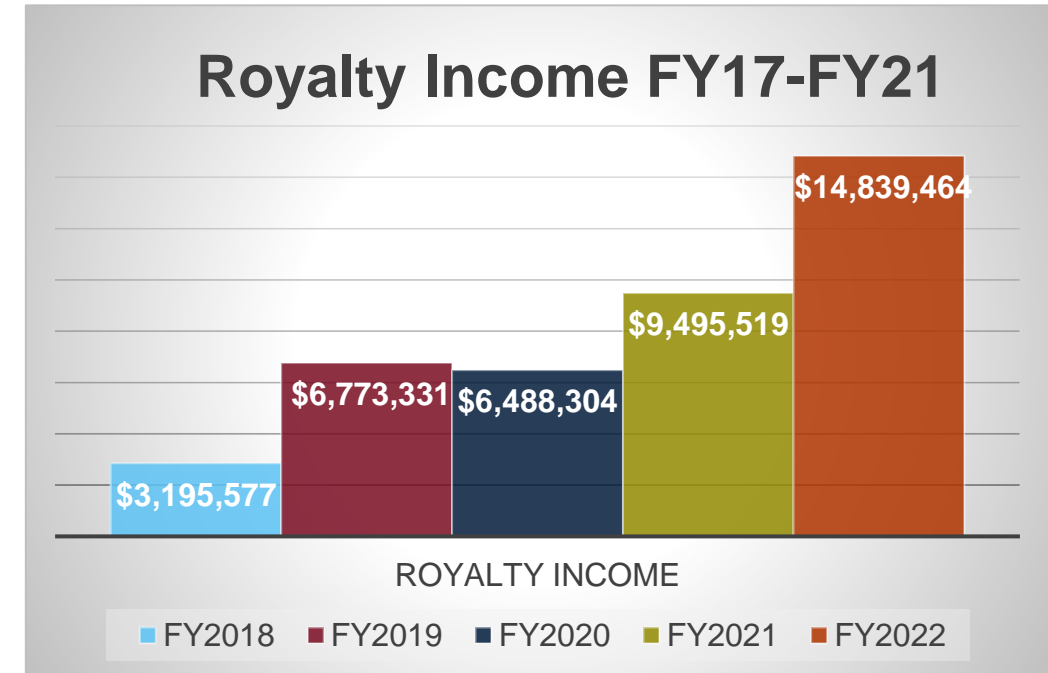
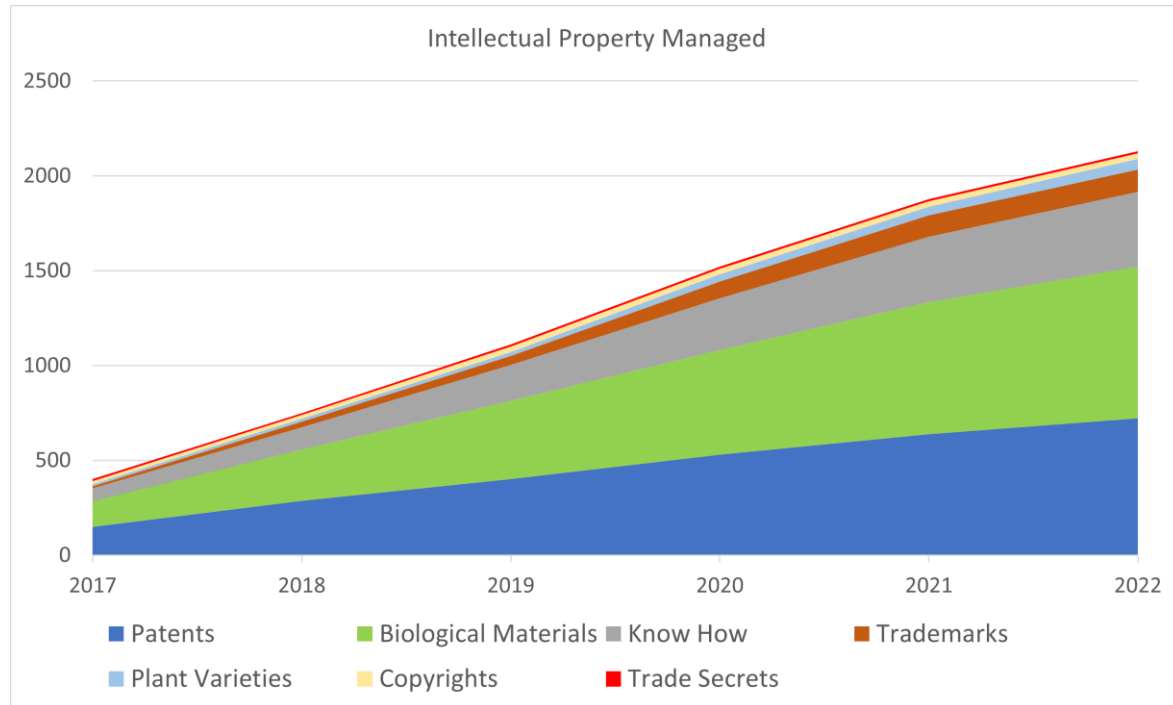
Joint appointments



50 total (WSU is PNNL's largest collaborator)



WSU IP portfolio, and licensing revenues, have grown significantly

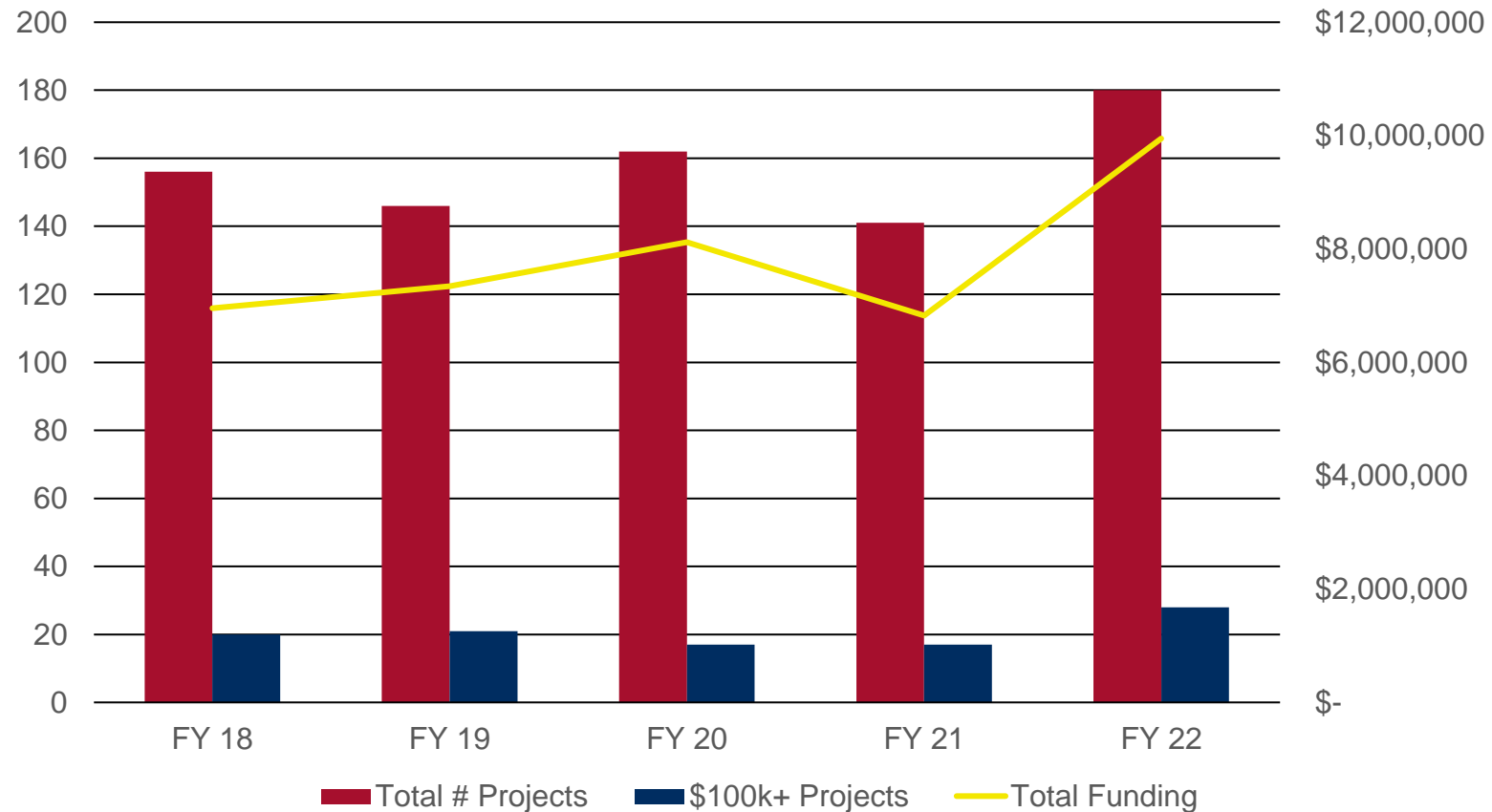


However: Disclosures and new patents are dropping due to limited resources available for patent costs



The Innovation and Research Engagement Office (IREO) grows faculty engagement with industry and manages key enabling programs (NSF I-CORPS, WA State SBDC, WSU "Industry 101," Entrepreneurial Faculty Ambassadors)

WSU research funding from industry





IREO Impacts

FY 2022 Industry Funding

- Provided support for 52% of industry funding
- 54% of \$100k+ projects are IREO engaged
- 40 IREO-supported Faculty across 71 funded projects
- Average award of \$72,747 (IREO) vs. \$43,894 (non-IREO)
- Median award \$20,000 (IREO) vs. \$10,000 (non-IREO)

Programs

- Department Seminar Program
 - \$821,874 since program launch in September 2019
 - \$358,619 in FY22
- Working with Industry 101
 - 160 participants since 2020
 - Next series May 2023
- Corteva Seminar Series:
 - 4 Faculty presenters with 2 faculty moving to sponsored project discussions
 - 5th Faculty member planned for Spring 2023 (date pending)



**Thank you for
your attention!
Questions?**