

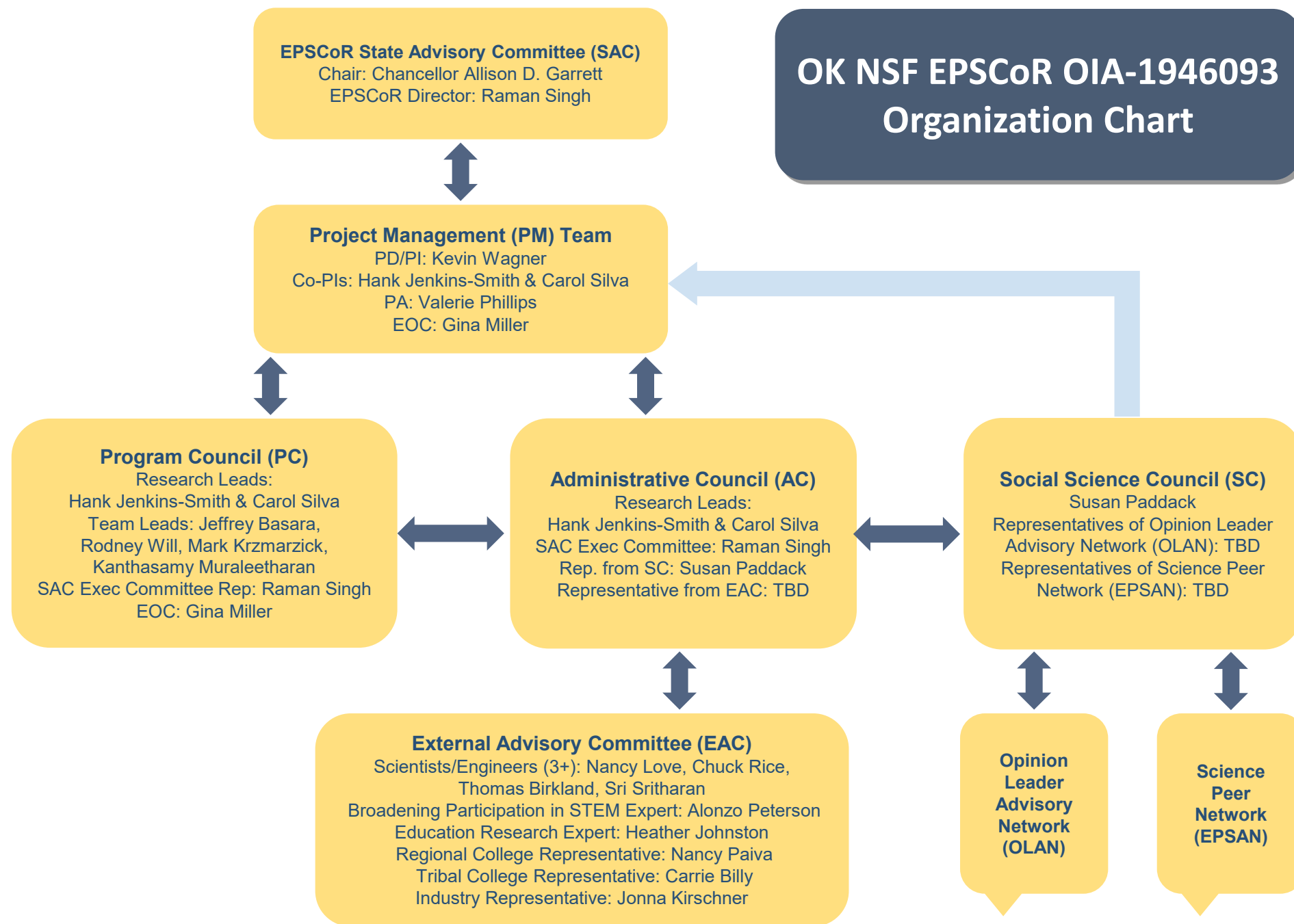
OKLAHOMA NSF EPSCoR RESEARCH

Project Overview: Management, Participating Institutions & Roles

Presenter:

Kevin Wagner, PD/PI
Oklahoma NSF EPSCoR
Oklahoma State University

OK NSF EPSCoR OIA-1946093 Organization Chart



S³OK PROGRAM – KEY COLLABORATORS

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Project Overview: Project Budget, Distribution & Leveraging

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Activity	Total (\$K)	% of NSF Total	Cost Share (\$K)
Social Dynamics	\$ 1,268	6%	\$ 400
Sub-seasonal to seasonal weather patterns	\$ 1,362	7%	
Terrestrial Water & Carbon Dynamics	\$ 1,480	7%	\$ 800
Variable and marginal quality water supplies	\$ 1,507	8%	\$ 400
Sustainable Infrastructure	\$ 1,351	7%	\$ 800
Education and Workforce Development	\$ 1,105	6%	\$ 819
Emerging Areas and Seed Funding	\$ 675	3%	\$ 307
Broadening Participation	\$ 504	3%	\$ 296
Management (includes all administrative expenses)	\$ 2,681	13%	\$ 178
Evaluation and Assessment	\$ 371	2%	
Indirect Cost	\$ 5,931	30%	
Other	\$ 1,765	9%	
Total	\$ 20,000	100%	\$ 4,000

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LEVERAGING

OK State Regents for Higher Education Funding

- Outreach projects
 - SAGE STEAM Camp
 - Underrepresented Student Travel
 - Women in Science
 - Museum Network Library Affiliate Program
 - Research Day at the Capitol
 - REUs
 - 4-H OSU
 - Summer Intense Lab Experience for Undergrads
 - Entrepreneur Workshop
 - Faculty & Grad Students Travel
 - EPSCoR State Conference
 - Convening of STEM Educators & Makers
 - OU Computing in Modern Biology

OK State Regents for Higher Education Funding

- Research
 - 6 new faculty hires (3 OU & 3 OSU faculty)
 - OLAN Coordination
 - S³BOK
- Admin. Support

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Project Overview: Programmatic Terms & Conditions

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Oklahoma Jurisdiction-Specific Program Terms & Conditions

- 8.2 – Diversity Recruitment and Retention
- 8.3 – Education and Outreach Assessment
- 8.6 – Increasing Research Capacity at Primarily Undergraduate & Minority Serving Institutions

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8.2 – Diversity Recruitment and Retention Plan ACTIVITIES

1. Adding expertise in broadening participation in STEM disciplines to External Advisory Committee:
 - Dr. LeRoy Jones II, Dean of College of Arts and Sciences at Chicago State University (2020-2021)
 - Dr. Alonzo Peterson, Dean of School of Arts and Sciences at Langston University (2022-present)
2. Employing recruitment practices designed to expand diversity of applicants and ultimately new hires
 - **Diversity emphasized** with all hiring units and search & screen committee chairs and members
 - Faculty position descriptions/job **advertisements reviewed by Institutional Diversity Offices**
 - Position **announcements advertised widely** using Indeed.com, HigherEdJobs.com, Oklahoma Works, The REGISTRY, APLU, professional org. websites, social media, personal contact, ...
 - S&S Committees worked to ensure a diversity of individuals participated in all aspects of interview

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8.2 – Diversity Recruitment and Retention ACTIVITIES

3. Training participants on diversity and inclusion:
 - Employees complete Title VII & IX Training and DEI **training** annually
 - July 26, 2021 **Professional Development Seminar** on *Understanding Diversity & Inclusion*
4. Active engagement of all project participants in co-production of knowledge and outreach
 - Monthly **team meetings**
 - **Researcher Retreat** – new faculty members were introduced & provided presentations on research
 - “Involvement of early-career faculty” added to Seed Grant Funding review criteria

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8.2 – Diversity Recruitment and Retention

RESULTS

1. Large, diverse applicant pools
 - 73 applicants for the OU Transportation Engineer
 - 55 applicants for the OSU Water Quality Engineer
 - 160 for the OSU Unit Processes Engineer
2. Enhanced team diversity via new faculty hires (50% female):
 - Dr. Mary Foltz - OSU Unit Processes for Water Management faculty position.
 - Dr. Kiran Mangalgiri - OSU Water Quality Engineering position.
 - Dr. Arif Sadri - OU Transportation Engineer position.
 - Dr. Jia Yang - OSU Fire Modeler position.
3. Student diversity metrics
 - 12 Post Docs (58% female)
 - 34 Graduate Students (44% Female; 12% URM; 3% Disabilities)
 - 45 Undergrads (62% Female; 22% URM; 2% Disabilities)

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8.3 – Education and Outreach Assessment

ACTIVITIES

1. Adding expertise in education research in STEM disciplines to External Advisory Committee:
 - Heather Johnston, State Director of Science & Engineering Education, OK State Dept of Education
2. Outreach coordinator, project administrator & KSU Office of Education Innovation & Evaluation developed:
 - **Logic models** to facilitate data collection/analysis for Education & Workforce Development (EWFD)
 - Questions related to key EWFD metrics and outcomes to assist with developing instruments to measure **impact at the EWFD initiative level**
 - Questions to implement across multiple initiatives for measuring **impacts across all EWFD initiatives**.
3. EWFD evaluated throughout the year & impacts documented annually via Annual Report & Evaluation Report

RESULTS

EWFD Progress & STEM Education Evaluation to be **presented this afternoon** in “Other Project Elements”

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8.6 – Increasing Research Capacity at Primarily Undergraduate Institutions & Minority Serving Institutions

ACTIVITIES

1. Targeted funding for PUI-MSI Institutions
 - *Involvement of Primarily Undergraduate and/or Minority-Serving Institutions* a review criteria for **Seed Grant** proposals
 - **REU** program designed to exclusively support students from PUIs & MSIs
2. Involvement of Researchers and/or Instructors from PUIs and MSIs
 - **PUI/MSI faculty involved** in Objectives SD 1.1, SD 1.2, V-MQW 1.2, and EWFD
3. Mentoring and Professional Development Opportunities
 - Team **engagement & collaboration** of new faculty and MSI/PUI faculty with their respective research teams, Research Retreat, Seed Grants, and REUs
 - Quarterly Professional Development Seminars on Knowledge Co-Production; DEI; Developing New PIs; and Interdisciplinary and Team Science

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8.6 – Increasing Research Capacity at Primarily Undergraduate Institutions & Minority Serving Institutions

ACTIVITIES

4. Integrating Research into Instructional Curriculum
 - 16 EPSCoR researchers at OU, OSU, **SWOSU** (PUI), and **LU** (HBCU) integrated research into instructional curriculum via 25 S³OK-relevant courses for undergrad and graduate students
5. Increasing Trainee Participation in S³OK Research
 - PUI/MSI Summer REU; Seed Grants
 - Student engagement supported at **Research Retreat & Annual Conference** via specialized presentations, breakout sessions, and highlight videos
 - *Building a pipeline of undergraduates to graduate school in Oklahoma by connecting research intensive universities and primarily undergraduate institutions (OU-LU initiative)*

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8.6 – Increasing Research Capacity at Primarily Undergraduate Institutions & Minority Serving Institutions

ACTIVITIES

6. Communication

- **Slack Channel** has been employed by both the student researcher group and the OLAN
- **Widely distributing funding opportunities** via email, the OK NSF EPSCoR website, social media, and “word-of-mouth”
- **PI & PA collaboration meetings** with PUIs/MSIs (East Central University, Panhandle State University, Southeastern Oklahoma State University)

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8.6 – Increasing Research Capacity at Primarily Undergraduate Institutions & Minority Serving Institutions

RESULTS

Targeted funding for PUI-MSI Institutions

- 3 of 17 seed grant proposals submitted in September 2021 (17.6%) involved PUI/MSI
- 7 of 20 seed grant proposals submitted in January 2022 (35%) involved PUI/MSI
- **50%** of Seed Grant proposals selected to date have involved a PUI or MSI
- Year 1 summer REU program resulted in support of 1 PUI-MSI student
- Year 2 summer REU program resulted in support of 4 PUI-MSI students

Involvement of Researchers and/or Instructors from PUIs and MSIs

- Langston University launched *Socially Sustainable Solutions for Black Oklahoma (S³BOK)* to better understand the sensitivities of the Black community in rural & urban OK to climate change

Communication

- REU projects selected for Summer 2022 involve students from multiple new universities (not currently involved)

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THANK YOU