THE 2020 NSF IUSE HSI SOLICITATION (20-599) BY ELBA SERRANO & MARIAELENA ZAVALA

The October 2020 issue of the Hub newsletter is dedicated to highlighting national resources and partnering strategies that will assist investigators preparing proposals for the NSF HSI Initiative. The 2020 NSF IUSE-HSI solicitation (20-599) is active and the prior call has been retired.

The new solicitation affords exciting and more flexible options for the HSI community to develop proposals that enhance research and education opportunities for STEM students. The three proposal tracks are defined by the amount of the budget and project duration. As Lead PIs for the Hub we are keenly aware of the range of preparedness of HSIs for proposal submission and we were very pleased to note that planning grants are an option for institutions that are in the process of building research capacity and infrastructure for grant submission and management.

Also new in the 2020 call is the option to support faculty and student research projects at the home or other institution of higher education, an NSF-funded research center, and/or a national laboratory. Funds can be budgeted for undergraduate student research, supplies, research equipment, and faculty research development activities.

Partnerships and networking remain a critical component of the IUSE-HSI Initiative. NSF encourages proposals that forge collaborations with HSIs (especially HSI community colleges), other institutions of higher education, and with the NSF INCLUDES National Network. Proposal writers also should be attentive to NSF’s interest in educating students in high demand workforce areas, such as data science, artificial intelligence, next generation wireless, advanced manufacturing, quantum information science, and biotechnology.

Finding collaborators can be a challenge for all of us and proposing projects in areas that are underrepresented at many of our institutions, such as data science, can be a daunting task. For this reason, this newsletter features 5 NSF Hubs that can support your project’s goals and build your institution’s STEM expertise. We have established partnerships with these Hubs to develop joint activities and they are eager to support and include the HSI community in their network. NSF Hubs are tasked with serving the nation and if their mission aligns with your project’s goals do not hesitate to reach out for support.

Proposal writers who seek to identify an INCLUDES partner, should contact and join the INCLUDES network that is overseen by the INCLUDES Coordination Hub. Faculty and staff also can partner with the Big Data Regional Innovation Hub that serves their census area to develop proposals that respond to the 20-599 prompt for training in data science. The relevance of this STEM field is heightened by the growing demand for data science experts and the COVID-19 pandemic restrictions on face-to-face classroom activities that have led to an emphasis on virtual educational and work environments. HSI faculty who seek to build expertise in data science can register for our data science workshops that will be offered during summer 2021 in partnership with the West Big Data Innovation Hub.

Proposals are due in January (Track 1 & 2) and February of 2021 (Track 3). Be sure to prepare by viewing the Hub’s webinar with NSF Program Officers Erika Camacho and Jennifer Lewis. The webinar will be available on the portal by early November 2020. If you seek collaborators, the Hub’s member network is a powerful resource for identifying potential grant partners. Finally, HACU2020 attendees are invited to attend our NSF Grantsmanship Workshop on Monday October 26 and drop by our HACU booth!

As lead PIs we are committed to the Hub’s mission to support the efforts of the HSI community to further the success of our students in STEM fields. This is your Hub. Please do not hesitate to reach out to us with suggestions, comments, questions, concerns, and/or a newsletter contribution!

NSF HSI National STEM Resource Hub (NMSU), Lead PI
Dr. Elba Serrano is a neuroscientist and biophysicist who holds a position as a Regents Professor of Biology at New Mexico State University. Her research focuses on the development of the mechanosensory systems for hearing and balance and the role of neuroglia in maintenance of brain function. She has over 30 years of experience as a mentor and lead PI for NSF, NIH, and NASA grants, including directorship.
of student research education training programs such as NIH RISE and NIH BP-ENDURE. Serrano is a fellow of the American Association for the Advancement of Science and a recipient of a Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring that is conferred by the White House Office of Science and Technology Policy. She has served on the Advisory Committee to the NIH Director and is a member of the NIH BRAIN Multi-Council Working Group and the NIH ACD Next Generation Research Initiative Working Group.

**NSF HSI National STEM Resource Hub (CSUN), Lead PI**

Dr. Maria Elena Zavala is a plant biologist who holds a position as a Professor of Biology at California State University, Northridge. She studies plant growth and development. Her research aims to understand how normal root growth is regulated and how plant cells become specialized and maintain their specialization. Zavala has over 30 years of experience as mentor and lead PI for NSF and NIH grants, including directorship of student research education training programs such as NIH MARC and RISE. She is a fellow of the American Association for the Advancement of Science, American Society for Plant Biology, and the American Society for Cell Biology. Zavala is a recipient of a Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring conferred by the White House Office of Science and Technology Policy. She served on the ASPB Executive Committee and as president of the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS).

**NSF INCLUDES National Coordination Hub (NSF Award 1818635)**

The NSF INCLUDES Coordination Hub is funded to lead and serve the NSF INCLUDES National Network. The Hub works to: a) strengthen a common vision among those working to improve equity and inclusion in STEM, b) broker connections among Network members—and across education, industry, government, and philanthropy groups—through an online community, webinars, convenings, and related events, c) measure progress and impact across the Network, d) promote the success of Network members, and elevate expertise by developing and sharing events, tools, and resources to support learning, action, and sustainability, and e) advance the field by communicating discoveries, facilitating opportunities for engagement, and catalyzing action to improve STEM inclusion and equity. The Hub welcomes any projects, NSF-funded or otherwise, that are aligned with our mission. We invite you to join this National Network for STEM inclusion to find collaborators and build your institutional capacity[1][2]. Contact us.

**BIG DATA INNOVATION HUBS**

**REGIONAL HUBS**

Northeast Big Data Innovation Hub (NSF Award 1916585): Census Regions: CT, MA, ME, NH, NJ, NY, PA, RI & VT

The Northeast Big Data Innovation Hub is a catalyst for data science innovation. The goals of the Northeast Hub are to: a) build collaborations to address real-world challenges through translational data science approaches; b) foster innovation and scale endeavors that reflect regional interests and align with national priorities related to data science; c) support and promote representative community engagement/impact across all Hub activities; and d) increase data science capacity and talent, emphasizing underserved communities. The mission of the Northeast Hub is to build and strengthen partnerships across industry, academia, nonprofits, and government to address societal and scientific challenges, spur economic development, and accelerate innovation in the national big data ecosystem. The Northeast Hub amplifies community successes and shares credit across the community to encourage collaboration in data science endeavors[3][4]. Contact us for your data science needs!

The views, information, and opinions expressed in this newsletter are those of the authors and do not necessarily reflect the views of the National Science Foundation, NMSU, CSUN, or DACC. Supported by NSF Awards 1832338 and 1832345.
**NE Executive Director**
Florence Hudson an aerospace and mechanical engineer and a specialist in information and communications technology. Hudson is founder and CEO of FDHint LLC, and former IBM VP and Chief Technology Officer, Internet2 Senior VP and Chief Innovation Officer, aerospace engineer at Grumman and NASA, and a Special Advisor for TrustedCI. She serves on Boards at Princeton University, Cal Poly San Luis Obispo, Stony Brook University, and IEEE.

**West Big Data Innovation Hub (NSF Award 1916481)**: Census regions: AZ, AK, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA & WY

The West Big Data Innovation Hub’s mission is to build and strengthen partnerships across industry, academia, nonprofits, and government to address societal and scientific challenges, spur economic development, and foster a national big data ecosystem. Potential collaborations may consider our projects, events, activities, and initiatives that span priority thematic areas as well as cross-cutting areas. Focus areas include a) metro/urban data science; b) scientific discovery & learning; c) precision medicine; d) natural resources and hazards; and e) big data technology. Cross-cutting efforts are grouped into a) cloud computing task force and infrastructure; b) data hackathons/challenges and storytelling communities of practice; and c) groups interested in public policy, ethics/responsible data science, security, or data sharing. Potential joint efforts can include letters of collaboration for proposals, partner on, co-locate events and (virtual) workshops, promote data-related events, tools, news, or match make collaborations and partnerships. Contact the hub team to collaborate!

**South Big Data Innovation Hub (NSF Award 1916454)**: Census Regions: AL, AR, DE, D.C., FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV & PR

The South Big Data Innovation Hub accelerates partnerships across business, academia, and government to apply data science and analytics to help solve regional and national challenges. The hub priority areas are; a) health and disparities; b) smart cities and communities; c) advanced materials and manufacturing; d) environmental and costal hazards; and e) social cybersecurity. The Hub fosters partnerships by: a) accelerating public-private partnerships that break barriers between industry, academia, and government; b) growing R&D communities that connect data scientists with domain scientists and practitioners; c) facilitating data sharing and shared cyber infrastructure and services; and d) building data science capacity for education and workforce development. The South Hub supports education and workforce programs by creating resources and map assets pertaining to data science education. The DataUp program increases the capacity of southern schools to teach data science, particularly minority-serving institutions, community colleges, and 4-year liberal arts colleges. Contact us and join us as partners!

**South Executive Director**
Renata Rawlings-Goss serves as the Director for Strategic Partnerships at the Georgia Tech Institute for Data Engineering and Science (IDEaS). She has worked with the NSF directorate of Computer and Information Science and Engineering (CISE-OAD), and the White House Office of Science and Technology Policy to create the National Data Science Organizers Group. Rawlings-Gross has a Ph.D. in Biophysics and her scientific work is focused on biophysics, bioinformatics and next-generation genomics research.

**Midwest Big Data Hub (NSF Award 1916613)**: Census regions: IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD & WI

The Midwest Big Data Innovation Hub builds and cultivates communities around data, fosters innovative activities across priority areas, and increases education and training around data. The Hub develops networks across academia, industry,
government and non-governmental organizations. Its goals are to: a) increase education and training around data by delivering workshops, short-courses and training events such as student groups, webinars, data carpentry membership, big data summer school and support student participation in hackathons and other data related competitions; b) broaden access to data science research and education by facilitating data science education opportunities for underrepresented minorities; and c) engage with government and industry around workforce development and regional talent retention by promoting internships and career opportunities via hub communication channels, and by developing partnerships with private sector partners and infrastructure providers to support access and training to tools and services (e.g. cloud computing, etc.)[9][10]. Contact us and join our community!

MW Executive Director

John MacMullen has worked as an independent consultant for academia, government agencies, and non-profits worldwide. MacMullen has served as an Assistant Professor in the Graduate School of Library and Information Science at the University of Illinois at Urbana-Campaign. He obtained his MS in Information Science and his Ph.D. in Library and Information Science from the University of North Carolina at Chapel Hill.

[1] Adapted from Hub https://www.includesnetwork.org/home

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**HSI STEM HUB NEWS**

**HSI Staff Office Hours- Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program).** NSF program staff will hold "office hours" on Thursdays and Fridays, 3-5 PM EDT, for potential PIs who have questions or wish to discuss their projects.

**Thursdays, 3-5 PM EDT:** [Click here for zoom link.]
- October 29th
- November 5th - Targeted session for community college applicants 4-5 pm
- November 12th
- November 19th
- December 3rd
- December 10th
- January 7th

**Preflight Grantsmanship Certification Series**
This training is designed for first-time grant writers who are beginning to formulate ideas and prepare to write their first grant.

**New Resources for STEM Pedagogy**
– [Click for info]

**Grantwriting Help Sessions on Zoom** – HSI STEM Hub co-PI Martha Desmond & Delia Valles host session preparing proposals for NSF HSI STEM Program.
- November 6, 2020, 3:00 PM EST – [Click here to register]
- December 4, 2020, 3:00 PM EST – [Click here to register]

**Coming Soon…**
Webinar Recording for An Overview of the NSF HSI Stem Program Solicitation with Program Officer Erika Camacho and Dr. Jennifer Lewis to be Released Mid-November. Join the HSI STEM HUB Professionals Network for up to date information.

**JOIN THE HIS HUB STEM PROFESSIONALS NETWORK!**

[JOIN NOW]