

U.S. National Institutes of Health program: Fostering research at predominantly undergraduate institutions

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Sanford School of Medicine of the University of South Dakota is the lead research intensive institution hosting a partnership with predominantly undergraduate institutions and tribal colleges known as SD INBRE (funded by NIH). Goodman is the originator, principal investigator, and director of SD INBRE. SD INBRE has specific goals that include: 1) develop the research capacity of South Dakota in the area of the control of cell growth with special emphasis on proteomics and genomics and 2) develop human resources for undergraduate programs and graduate programs in the biomedical sciences and bioinformatics at South Dakota institutions by: a) providing research support and mentoring for junior investigators and faculty from participating institutions, b) providing opportunities for, and understanding of, cutting-edge scientific research for students at predominantly undergraduate institutions (PUIs), c) introducing undergraduates to graduate programs and future careers in biomedical sciences and bioinformatics, and d) enhancing science and research capabilities at tribal colleges to provide opportunities for further education and careers in science and research.

SD INBRE has been in partnership with Augustana College, Black Hills State University, and Sisseton Wahpeton College since 2001, added Dakota Wesleyan University, Mt. Marty College, and Oglala Lakota College as partners in 2004, and added University of Sioux Falls as a partner in 2006. Major progress has been made at the PUIs in building research infrastructure, changing the institutions to recognize and appreciate the research culture, supporting science faculty to conduct research either during the academic year or during the summer, providing research opportunities for undergraduate students in scientific research, introducing undergraduate students to potential future educational opportunities and careers in research, and enhancing the availability of scientific literature through shared library databases. During the summer of 2007, SD INBRE supported 59 undergraduate research fellows from the PUIs in their research experiences with faculty from their home institutions or from the host institution. The research network has been strengthened by encouraging camaraderie and collaborations among the faculty researchers by sharing seminar programs, gathering for travel to regional meetings on chartered buses, and visiting among institutions. In addition, each summer research experience for undergraduates begins with compliance training for use of humans and animals in research, laboratory and radiation safety, research ethics, and the goals of the program. During the summer, institutions sponsor weekly meetings among faculty and students to discuss their research. The culminating event for the summer is a convocation for all the undergraduate fellows with information about post-baccalaureate programs as a graduate fair, advice about interviewing for professional schools from both faculty interviewers and current students, a tour of the medical school research building, and a poster session with a reception honoring the fellows.