

Wisconsin Integrated Education Resource Center (WIERC)

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Project Description: Create an online cross-disciplinary educational resource center for K-12 teachers concentrating on the interface between biology and physical science.

We propose an online interdisciplinary center supporting elementary, middle, and high school science teachers statewide. This center will connect with teachers in real time with real people serving their immediate needs in the classroom, including connections to current interdisciplinary research, integrated classroom demonstrations, as well as content fundamentals for those teaching in unfamiliar areas. It will also provide examples at the K-12 level of interesting examples at the intersection of biological and physical sciences, answers to teacher's questions, and a forum for teachers to share their experiences.

Team members have assisted with professional development workshops with the Madison Metropolitan School District and it is clear that many teachers are asked to work outside their comfort zones, teaching unfamiliar content. Attempts at maintaining contact with these teachers through email after a workshop to provide ongoing support has not worked. Our proposed online center would foster and maintain these connections by providing links to threaded conversations with someone they trust to answer any questions. Creating an online center that teachers would use is not simple, but our team brings extensive experience with online teacher education required for the task. Once the teachers, faculty, and staff are talking we can serve their needs and provide the additional support mentioned above.

This center is a natural extension the Wisconsin Institutes for Discovery's mission to promote interdisciplinary research and education at the University of Wisconsin to K-12 education statewide. By supporting these teachers online on a daily basis we can promote the integration of science education at the K-12 level and strengthen the ties between Wisconsin communities and the University.

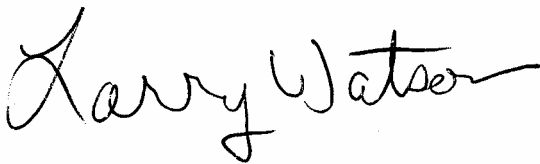
We envision that this project could broaden to provide online professional development courses fully integrating biological and physical science.

Goals: Our goal is to encourage and facilitate interdisciplinary science education in the K-12 classroom that focuses on the needs of the teachers so that they can comfortably provide middle and high school students with innovative and exciting experiences in their science courses. In turn we expect an increase in the number and diversity of students entering college considering a career in science and that they arrive with a better understand the interdisciplinary nature of biological research.

Impacts: This center will establish strong, permanent connections between the university science community and K-12 teachers because it is driven by their needs and their desire to improve science education in their classrooms. Few middle school

teachers are certified in the science fields they are required to teach and this project will help them become more comfortable in these areas which directly translates into a positive message about science to their students. Not only will this project be a vehicle for improving K-12 science education it also substantially increases the likelihood that K-12 teachers would become involved with the university science community because it is driven by the needs of these teachers. Bringing together faculty and staff from all science disciplines across campus to share their expertise with teachers will encourage discussion about science education in general as well as generate cross-disciplinary research collaborations like those that grew out of the SyMBiosis project in 2000. It is the *process* of SyMBiosis that is its important feature and this project will establish a center with this proven collaborative model, driven by the needs of the teachers who will reap the benefits. We offer a way to answer the immediate and long-term needs of busy teachers as well as a vehicle with which to disseminate the Wisconsin Institutes for Discovery's vision of interdisciplinary science throughout the state of Wisconsin. Perhaps the most important long-term impact of K-12 reform like this is the general health of scientific research community. If we want our government to aggressively fund science, we need a public turned on by science. People who distrust science do so because of their experiences and we need to ensure they get positive ones from the beginning, otherwise as adults they will not vote for science-minded candidates who would fund basic research.

Sincerely,

A handwritten signature in black ink that reads "Larry Watson". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

Larry Watson
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