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# Professor-created vs large consortium classroom undergraduate research experiences in molecular cell biology

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The Molecular Cell Biology (MCB) Concentration at Saint Mary's College includes a sophomore level MCB course followed by an upper level Classroom Undergraduate Research Experience (CURE) in either molecular (Biotechnology) or cellular biology (Cellular Physiology). MCB has been taught as a fairly traditional course incorporating D. Paetkau's research into the lab portion (yeast two-hybrid screening for fly protein interactions and development of a yeast-based biosensor for estrogen detection). Cell Physiology and Biotechnology have been developed into stand-alone CURE courses integrating lab and lecture. Cell Physiology focuses on C. Versagli's ovarian cancer research, while Biotechnology features research projects and curriculum developed through D. Paetkau's participation in the Genomics Education Partnership (GEP). The GEP is a consortium of over 100 community colleges, colleges, and universities dedicated to bringing genomics research into the undergraduate biology setting. Qualitative comparison of the independent and consortium-based experiences will highlight gains and costs for students (lab skills and attitudes, project ownership and dedication, understanding, resume building, publications, writing ability), professors (project advancement, lab chaos and preparation time, collaborative teaching, publications, advancement, work place satisfaction), and department (curricular options, collaborative teaching, mentorship, expectations) when implementing research into the undergraduate classroom experience.

**Keywords**: molecular biology, undergraduate labs, genomics education partnership

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