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**Investigating Sociocultural and Environmental
Factors Related to Students' Chemistry Identity
Development**

ABSTRACT:

While much of the research in CER has focused on students' understanding of particular concepts, integration of knowledge, and sophistication of explanations of phenomena, there is another side to students that needs to be addressed. As highlighted by the DBER report and others, students' beliefs, attitudes, and expectations toward the subject (i.e. the affective domain) can influence their success and persistence in their courses and potentially in their future career field. While a students' full identity is a complex interweaving of all of their unique facets not to be untangled, the goal of our research is to understand how these intersecting identities complement each other or work in opposition. Developing and maintaining a particular identity can be influenced by numerous factors, including the students' own beliefs, attitudes toward the subject, race/ethnicity, gender, steadfastness of their identity, and presence/absence of support. Further, identity has been demonstrated to have an effect on outcome expectations, career interest, and career choice. This presentation focus on sociocultural and environmental factors that govern our chemistry classroom spaces and how those factors affect students' chemistry identity development. Factors investigated thus far include inherent power structures in the classroom, the use of undergraduate learning assistants in the classroom, and how student characteristics (gender identity, English Language Learning status, etc.) interact with curricular decisions to affect sense of belonging.

BIO:

Justin Carmel holds a doctoral degree in Chemistry Education from Miami University, after which he completed a postdoc at Michigan State University. He has a Bachelor's degree in Chemistry and Adolescent Education from Nazareth College in his hometown of Rochester, NY. His research interests focus on students' experiences in chemistry laboratory courses as it relates to their use and understanding of scientific practices, as well as investigating how students' identities influence their success in the chemistry program. Given his prior training in K-12 education, Justin is also interested in investigating how pre-service and in-service teachers identify and how that affects their use and modeling of scientific practices in the classroom.