MACAS 2025 - Mathematics and its Connections to the Arts and Sciences

Université de Moncton, Campus de Moncton, Moncton, Canada.
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Proposal for a Panel Discussion

Circular Movements of Healing with Mathematics, Arts and Craft: *Opening up to the potentiality of crossing disciplinary boundaries in contexts of in/formal teaching and learning*

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Remote or hybrid mode: Hybrid

Abstract:

Despite increased awareness concerning the potential onto-epistemic linkages across mathematics, arts and craft, especially when bodily and embodied activity is emphasized for knowledge creation, efforts to enact such activity in diverse context(s) of in/formal teaching and learning reveal the complexity of crossing inter/trans/disciplinary boundaries. Specifically, as students, teachers, teacher educators and pedagogues in both the formal setting of a classroom, seminar or lecture and the informal setting of the museum, the playground or even the street, the garden or the rural landscape attempt to cross disciplinary boundaries, they may find themselves trapped within essentialist and instrumental logic(s) of knowledge creation. The felt reality of these hard disciplinary boundaries can make us all feel paralyzed with sad affects and fearful feelings preventing us from making space for alternative potentialities. How do we recognize, articulate and heal from such sad affects? And how do we work toward clearing the path for our students and student teachers to heal–themselves so that they can appreciate and embrace transdisciplinary learning spaces where mathematics, arts and craft are being entangled?

To address this question, we find value in the MACAS symposium call for 'circles of resonance in mathematics'. And in this spirit, we propose a panel discussion on 'circular movements of healing with mathematics, arts and craft bringing together mathematicians, artists and mathematics educators. Thus, based on our previous work concerning theoretical and empirical investigations between mathematics, arts and crafts (Michelsen et al. 2022) but also on important work concerning movement in relation to the body, embodiment, senses, affects and affective bodying (de Freitas & Ferrara, 2015; Chronaki, 2019, Chronaki & Lazaridou, 2023; Gerofsky, 2024; Nemirovsky, 2024; Sinclair, 2024) we come together as artists, designers, mathematicians and educators in this panel opening up to the potentiality of crossing disciplinary boundaries by attending both the circular as the movement of hands and bodies for making mathematics, arts and craft (a) and as a process of onto-epistemic linkages across

subject areas (b). Specifically, Susan Gerofsky will discuss her work on embodied and place-based experiences by focusing on work on labyrinth(s) making. Ricardo Nemirovsky will present the experience of a week-long workshop with designers at a large science museum where they explored gaussian curvature in relation to a series of sculptures crafted during that week by the participants. Anna Chronaki and Ulrika Ryan will report on the affective experience of student teachers in a primary mathematics teacher education context asked to explore actively spiral structures in a local arts museum. Maria Letsiou will discuss bodily interaction with the complex materiality of clay sculptures through creating haptic circular movements. Eirini Lazaridou and Anna Chronaki discuss art-based experimentation toward inquiring for a common language with number in the early years. Nicholas Baroncelli Torretta will open the concepts of walking counterclockwise in the Capoeira circle and flowing circurality as decolonising methods for asking what needs to be undone, repaired, healed in practices of design and arts and in ways that support the move beyond oppositional dichotomies. And finally, Per-Anders Hillgren will provide key insights and linkages across the above projects.

References

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