



# Workshop

## Geometric Algebra in the High School and Undergraduate Curriculum

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**Location:** ICCA 10 ([icca10.ut.ee](http://icca10.ut.ee)), University of Tartu

**Abstract:** “Converts” to geometric algebra often find it difficult to return to traditional methods after experiencing its advantages. It provides a single, consistent language for representing a wide variety of geometric entities and operations; it is practical and efficient to calculate with; it often provides the most compact and elegant formulations of problems. And yet the penetration of geometric algebra in the undergraduate mathematical curriculum (to say nothing of the high school one) has up until now been modest. In this workshop we want to explore this situation by sharing our experiences and visions for the future. We invite contributions including but not limited to the following topics:

- The use of geometric algebra to teach elementary euclidean (and/or noneuclidean) geometry.
- Comparison of geometric algebra with traditional vector + linear algebra approach for “doing geometry”.
- Comparison of models of geometric algebra (vector, homogeneous, conformal) with regard to their appropriateness for the general curriculum.
- Case studies of how particular problem settings can be handled with geometric algebra in a pedagogically sound way.
- Recommendations and strategies for introducing geometric algebra into the curriculum: challenges, concept-building, software support, etc.
- How can geometric algebra be adapted for the high school curriculum?

**Registration:** You can register for the workshop when you register online for ICCA 10. Please provide a title and an abstract for your presentation in the space provided there. Or if you have already registered and wish to participate in the workshop, contact the organizers directly at the email addresses provided above. The organizers will contact you to confirm that your contribution fits into the framework of the workshop. Deadline is June 22, 2014.