

AGACSE 2018

Program of contributed talks

Tuesday, 24 July

Session Chair: LEANDRO A. FERNANDES

- 10:30-11:00 **Soheil Sarabandi**, Alba Perez-Gracia, Federico Thomas
Singularity-free computation of quaternions from rotation matrices in E^4 and E^3 .
- 11:00-11:30 **Felipe Fidalgo**
Using quaternion geometric algebra for efficient rotations in the branch-and-prune algorithm to solve the discretizable molecular distance geometry problem.
- 11:30-12:00 Rafael F. Leão and **Samuel A. Wainer**
Irreducible spinors and immersion of submanifolds.

Session Chair: SAMUEL WAINER

- 15:30-16:00 **Luke Burns**
When does the continuity equation imply Maxwell's equations?
- 16:00-16:30 Stéphane Breuils, **Vincent Nozick**, and Laurent Fuchs
GARAMON: Geometric Algebra library generator.
- 16:30-17:00 Zuleima M. Vázquez Flores, **Eduardo Bayro-Corrochano**
Quaternion fractional Fourier transform.

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Program of contributed talks

Wednesday, 25 July

Session Chair: MANUEL M. OLIVEIRA

- 10:30-11:00 **Eivind R. Eide** and Joan Lasenby
A novel way of estimating rotors between conformal objects and its applications in computer vision.
- 11:00-11:30 **Hugo Hadfield**, Joan Lasenby
Direct linear interpolation of geometric objects in conformal geometric algebra.
- 11:30-12:00 **Hugo Hadfield**, Joan Lasenby
REFORM: Rotor estimation from object resampling and matching.

Session Chair: RAFAEL LEÃO

- 15:30-16:00 **Ales Návrat**
Conic fitting in Geometric Algebra setting.
- 16:00-16:30 Tuan M. Pham, Danh C. Doan, **Eckhard Hitzer**
Application of Conformal Geometric Algebra to in-plane rotated face detection by AdaBoost-based algorithm.
- 16:30-17:00 Jesús A. Medrano and **Eduardo Bayro-Corrochano**
Decentralized dynamic control of serial robots by screw theory in the geometric algebra framework.

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Thursday, 26 July

Session Chair: RAFAEL ALVES

10:30-11:00 **Dmitri S. Shirokov**

Calculation of elements of spin groups using method of averaging in Clifford's geometric algebra.

11:00-12:00 **David Hestenes Prize lecture**

Srđan Lazendić, Aleksandra Pižurica, and Hendrik De Bie
Hypercomplex algebras for dictionary learning.

Session Chair: SARA CARDELL

15:30-16:00 **Paul Leopardi**

Gastineau-Hills' quasi-Clifford algebras and plug-in constructions for Hadamard matrices.

16:00-16:30 **Eduardo Ulises Moya-Sánchez**, Sebastián Salazar-Colores, Abraham Sánchez, Ulises Cortés

Deep learning monogenic convolutional neural network.

16:30-17:00 **Gene McClellan**

Using raising and lowering operators from geometric algebra for electroweak theory in particle physics.