AGACSE 2015
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Plenary lectures

David HESTENES (Keynote Lecture)
   Fifty Years with Geometric Algebra: a retrospective.

Pierre ANGLÈS
   Geometric algebras and spinors

Eduardo BAYRO-Corrochano
   Geometric Algebra for Cybernetics

Leo DORST
   Projective Transformations as Versors

Eckhard HITZER
   Fourier Transformations in Conformal Geometric Algebra

Anthony LASENBY
   Geometric Algebra as a unifying language for Physics & Engineering and its use in the study of Gravity

Waldyr A. RODRIGUES, Jr.

Steve SANGWINE
   MATLAB toolbox for Clifford Algebras.

Chris DORAN (pre-dinner talk)
   Game theory: From Black Holes to Battlefield 4.
Index of contributions

A  Only abstract  
|  Plenary talk.  
||  Parallel talk.  
PP  Poster presentation.

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Timo ALHO (||)
Coordinate-free evaluation of integrals in geometric calculus.

Rafael ALVES and Carlile Lavor (A, ||)
Clifford algebra applied to the molecular distance geometry problem.

Murat AN and Chueng-Ryong Ji (||)
Construction of Clifford representation of spin-1 spinors by component spinors and relation of them with left ideal spinors under Clifford and Grassmann basis.

Linda Osuna, Humberto Caballero, Oscar Carbajal, Alexander Loukianov and Eduardo BAYRO-CORROCHANO (A, PP)
Modeling, simulation and control for a bipedal robot using CGA.

Luis Lechuga-Gutiérrez, Oscar Carbajal-Espinosa and Eduardo Bayro Corrochano (A, PP)
A geometric approach for PID controller design.

Gehová López-González, Eduardo BAYRO-CORROCHANO and Nancy Arana Daniel (||)
Parallel Clifford support vector machines using the Gaussian kernel.

Gehová López-González, Nancy Arana Daniel, Olivier Stasse, Mehdi Benallegue, Eduardo BAYRO-CORROCHANO (PP)
Sphere-torus-patch bounding volumes using conformal geometric algebra.

José Gerardo Soria-García, Gerardo Altamirano-Gómez, Susana Ortega-Cisneros and Eduardo BAYRO-CORROCHANO (PP)
FPGA Implementation of a geometric voting scheme for the extraction of geometric entities from images.

Peter CAMERON (||)
Linking gauge theory gravity with quantized impedances.

Leobardo CAMPOS-MACÍAS, Oscar Carbajal-Espinosa, Alexander Loukianov and Eduardo Bayro Corrochano (||)
Inverse kinematics for a 6-DOF leg walking humanoid.
Pablo Colapinto (||)
Composing surfaces with conformal rotors.

Oliver Conradt (A, ||)
Comparing Grassmann and projective algebra.

Claude Daviau (||)
Three Clifford algebras for four kinds of interactions.

Pierre-Philippe Dechant (||)
The $E_8$ geometry from a Clifford perspective.

Leo Dorst (A, ||)
The construction of 3D conformal motions.

Rodolfo Fiorini (||)
GA and CICT for stronger arbitrary multi-scale biomedical and bioengineering solutions.

Silvia Franchini, Antonio Gentile, Filippo Sorbello, Giorgio Vassallo and Salvatore Vitabile (||)
A family of embedded coprocessors with native geometric algebra support.

Ramon González Calvet (||)
The geometric solution to the three-body problem and its application to colour image processing and quantum mechanics.

Dietmar Hildenbrand, Justin Albert and Patrick Charrier (||)
Geometric algebra computing for heterogeneous systems.

Hongbo Li, Lei Dong, Changpeng Shao and Lei Huang (||)
Elements of line geometry with geometric algebra.

Rimvydas Kraskauskas (A, ||)
Unifying theory of Pythagorean-normal surfaces.

Peter Lewintan (A, ||)
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Hongbo Li (A, ||)
Fundamentals of 3D Clifford bracket algebra.

Gene McClellan (A, ||)
Application of geometric algebra to the electroweak sector of the standard model of particle physics.
E. Ulises MOYA-SANCHEZ and Marcela Bonell Manjarrez (||)
*Quaternion atomic phase magnification for 3D motion.*

Jaroslav Hrdina, Ales NÁVRAT, Peter Vasik and Radek Matousek (|||)
*Geometric control of the trident snake robot based on CGA.*

Margarita PAPAEfTHYMIOU, George Papagiannakis, Andreas Aristidou and Marinos Ioannides (A, |)
*A conformal geometric algebra framework for mixed reality and mobile display.*

Elissavet Greasidou and George PAPAGIANNAKIS (A, |)
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Alba PÉREZ-GRACIA and Federico Thomas (PP)
*Clifford algebra representation of grasping and manipulative hand actions for kinematic synthesis.*

Alessandro PEROTTI (|)
*Slice-regular functions over Clifford algebras and harmonic functions.*

Dimiter PRODANOV (PP)
*Clifford algebra support in MAXIMA.*

Rida T. Farouki, Graziano Gentili, Carlotta Giannelli, Alessandra Sestini and Caterina STOPPATO (A, ||)
*Quaternionic polynomial problems for the construction of Pythagorean-hodograph curves.*

Murat TANISLI and Neslihan Sahin (A, PP)
*Electromagnetism-like Equations for Fluids in Higher Dimensions.*

Federico THOMAS and Alba Pérez-Gracia (||)
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Augusto Miss, Lino Resendis and Luis TOVAR (A, PP)
*Quaternionic \( F(p,q,s) \) Function Spaces.*

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Terje VOLD (|||)
*Improved computational electromagnetism by least action.*

Samuel WAINER, Waldyr Rodrigues, Eduardo Notte Cuello, Rivera Tapia and Igor Kondrashuk (||)
*A Clifford bundle approach to the wave equation of a spin 1/2 fermion in the De Sitter manifold.*
Julio Zamora-Esquivel, Alejandro Madrigal, Miguel Padilla, Allen Galaviz and Ana Paulina Cassale

Line segments extraction from images using RBF in CGA.

Václav Zatloukal

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