



***3rd International Workshop on Computational
Topology
in Image Context
10-12th November 2010
Chipiona - Spain***

Scientific Program



Wednesday, 10th Nov.

9:30 – 10:00 Registration

10:00 - 11:00 - Plenary Talk: [Persistent Homology and Partial Matching of Shapes](#). Claudia Landi.

11:00 - 11:30 - Coffee Break

11:30 - 13:30

- Paper 2: [Perfect Discrete Morse Functions on 2-Complexes](#). Jose Antonio Vilches, Rafael Ayala, Desamparados Fernandez-Ternerros.
- Paper 24: [Tracking Features in Image Sequences using Discrete Morse Functions](#). Neza Mramor Kosta, Gregor Jerse.
- Paper 26: [Towards optimality in Discrete Morse Theory through Chain Homotopies](#). Helena Molina-Abril, Pedro Real.
- Paper 30: [Algorithm to Compute the Minimal Length Basis of Representative Cocycles of Cohomology Generators](#). Mabel Iglesias, Edel Garcia-Reyes, Walter Kropatsch, Rocio Gonzalez-Diaz.

13:30 - 15:30 – Lunch

15:30 - 17:00

- Paper 3: [Counting Excellent Discrete Morse Functions on Compact Orientable Surfaces](#). Jose-Antonio Vilches, Rafael Ayala, Desamparados Fernandez-Ternerros.
- Paper 28: [Operators for Multi-resolution Morse Complexes in Arbitrary Dimensions](#). Lidija Comic, Leila de Floriani, Federico Luricich.
- Paper 15: [3D Body Shape Classification based on Shape Segmentation](#). Aileni Raluca Maria.

17:00 - 17:30 - Coffee Break

17:30 - 19:00

Paper 18: [Obtaining Cell Complexes Associated to 4D Digital Objects](#). Ana Pacheco, Jean-Luc Mari, Pedro Real.

Paper 19: [Well-composed Cell Complexes](#). Rocio Gonzalez-Diaz, María José Jiménez, Belen Medrano.

Paper 13: [On the Recognition of Tori Embedded in \$R^3\$](#) . Helene Arnaud.

Thursday, 11th Nov.

10:30 - Bus to Jerez.

12:00 - Equestrian Ballet Exhibition (see www.realescuela.org).

13:45 - Bus to Chipiona.

14:30 - Lunch

16:00 - 17:30

- Paper 23: [Strong Separating \$\(k,k\)\$ -Surfaces in \$Z^3\$](#) . Ángel Francés, Jose Carlos Ciria, Eladio Domínguez, Antonio Quintero.
- Paper 16: [Ronse Deletability and \$\(N,k\)\$ -Retractions](#). Antonio Giraldo, Carmen Escribnao, Maria Asuncion Sastre.
- Paper 11: [Improved Locally Adaptive Sampling Criterion for Topology Preserving Reconstruction of Multiple Regions](#). Leonid Tcherniavski, Christian Bähnsch, Hans Meine.

17:30 - 18:00 - Coffee Break

18:00 - 19:30

- Paper 9: [Topology-preserving Perceptual Segmentation using Combinatorial Pyramids](#). Esther Antunez, Rebeca Marfil, Antonio Bandera.
- Paper 14: [Combining Regular Decimation and Dual Graph Contraction for Hierarchical Image Segmentation](#). Fuensanta Torres, Rebeca Marfil, Yll Haxhimusa, Antonio Bandera.
- Paper 10: [Invariant Spectral Hashing of Image Saliency Graph](#). Maxime Taquet, Laurent Jacques, Christophe De Vleeschouwer, Benoit Macq.

21:00 Gala Dinner (Restaurante El Gato).

Friday, 12th Nov.

10:00 - 11:00 - Plenary Talk: [Point Calculus for Interlevel Homology](#). Herbert Edelsbrunner.

11:00 - 11:30 - Coffee Break

11:30 - 13:30

- Paper 22: [Distributed Computing of Coverage in Sensor Networks by Homological Methods](#). Mateusz Juda, Pawel Dlotko.
- Paper 25: [Linear Structure Extraction by Homological Methods](#). Andrzej Krajniak, Marian Mrozek, Marcin Zelawski, Andrzej Gryglewski, Sejin Han.
- Paper 7: [Human Gait Recognition Using Topological Information](#). Javier Lamar-Leon, Edel Garcia-Reyes, Rocio Gonzalez-Diaz.
- Paper 12: [On the Search of Optimal Reconstruction Resolution](#). Erald Vucini, Walter Kropatsch.

13:30 - 15:30 - Lunch

15:30 - 17:00

- Paper 27: [The Efficiency of a Homology Algorithm based on Discrete Morse Theory and Coreductions](#). Shaun Harker, Konstantin Mischaikow, Marian Mrozek, Vidit Nanda, Hubert Wagner, Mateusz juda, Pawel Dlotko.
- Paper 20: [A fast Algorithm to Compute Cohomology Group Generators of Orientable 2-manifolds](#). Pawel Dlotko.
- Paper 17: [Computing the Cubical Cohomology Ring](#). Tomasz Kaczynski, Pawel Dlotko, Marian Mrozek.

17:00 - 17:30 - Coffee Break

17:30 - 19:00

- Paper 21: [Image Segmentation Inspired by Cellular Models using Hardware Programming](#). Helena Molina-Abril, Daniel Diaz-Pernil, Javier Carnero, Pedro Real.
- Paper 6: [Mereotopological Patterns for Ontology Evolution and Debugging](#). Antonia Chavez-Gonzalez, Joaquin Borrego-Diaz, Gonzalo Aranda-Corral.
- Paper 31: [Gabor frames and topology-based strategies for astronomical images](#). Pedro Real, Darian Onchis.

19:00 - 19:30 - Closing.