

Marco Livesu

Born

August 11th, 1983, Cagliari (Italy)

Tel: (Italy) +39 010 64 75 624

Email: marco.livesu@gmail.com

Web: <http://pers.ge.imati.cnr.it/livesu/>

Work address

CNR - IMATI

Consiglio Nazionale delle Ricerche

Istituto di Matematica Applicata e Tecnologie Informatiche

Via de Marini, 6

16149, Genoa, Italy

RESEARCH INTERESTS

My main research subject is computer graphics, with special focus on geometry processing. Here is a non exhaustive list of the research topics I have investigated the most:

- mesh generation and optimization [IJ22, IJ8, IJ7, IJ6, IJ5, IJ14, IJ15, IP5]
- surface and volumetric maps [IJ13, IJ10, IJ4]
- computational geometry [TR5, IJ24, IJ23]
- digital fabrication [IJ20, B1, IJ18, IJ12, IJ9, IP6, TR1]
- computer animation [IJ21, IJ17, IP5]
- shape analysis [IJ1, IJ3, IP3]

CURRENT POSITION

Tenured Researcher

(since Dec 2016)

Institute for Applied Mathematics and Information Technologies (IMATI)

National Research Council of Italy (CNR)

PREVIOUS POSITIONS

Researcher

(Nov 2016 - Dec 2016)

Institute for Applied Mathematics and Information Technologies (IMATI)

National Research Council of Italy (CNR)

Post-Doctoral Fellow, with Dott. Michela Spagnuolo

(Oct 2015 - Oct 2016)

Institute for Applied Mathematics and Information Technologies (IMATI)

National Research Council of Italy (CNR)

Post-Doctoral Fellow, with Prof. Riccardo Scateni

(Mar 2015 - Sep 2015)

University of Cagliari, Italy

Post-Doctoral Fellow, with Prof. Alla Sheffer

(Jun 2014 - Jan 2015)

University of British Columbia, Vancouver, Canada

VISITING

Visiting Academic at University of Cagliari, Italy

(since Mar 2020)

Visiting Academic at New York University, USA

(Feb 2019 - Mar 2019)

Host: Prof. Daniele Panozzo

Visiting Academic at University of Genoa, Italy

(Feb 2015 - Sep 2015)

Host: Prof. Enrico Puppo

Visiting Phd Student at University of British Columbia, Canada
Host: Prof. Alla Sheffer

(Sep 2012 - Apr 2013)

ITALIAN HABILITATION

Scientific habilitations awarded by the Italian Ministry of University and Research (MIUR):

- Habilitation as **Associate Professor** in Computer Science (01/B1)
from 14/01/2020 to 14/01/2029
- Habilitation as **Associate Professor** in Information Elaboration Systems (09/H1)
from 16/01/2020 to 16/01/2029

EDUCATION

PhD in Mathematics and Computer Science at University of Cagliari, Italy (Jan 2010 - May 2014)

Grade: Excellent

Thesis: Understanding the Structure of 3D Shapes: PolyCubes and Curve-Skeletons

Advisor: Prof. Riccardo Scateni

Reviewers: Prof. Konrad Polthier, Prof. Leila De Floriani

Master of Computer Science at University of Cagliari, Italy (Oct 2008 - Sep 2010)

Grade: 110/110 cum laude

Thesis: Automatic 3D Skeletonization Using Multiple Views (see IJ1)

Advisor: Prof. Riccardo Scateni

Bachelor of Computer Science at University of Cagliari, Italy (Oct 2005 - Jul 2008)

Grade: 110/110 cum laude

Thesis: Digital Terrain Models Construction Using Delaunay Triangulations

Advisor: Prof. Riccardo Scateni

LANGUAGES

Italian (mother tongue), English (proficient)

AWARDS

1. Honorable mention for article *A Mesh Generation Perspective on Robust Mappings* (IP9), presented at STAG 2020
2. Winner of the CNR Short Term Mobility Grant (2018)
spent visiting Prof. Daniele Panozzo at New York University from Feb 10, 2019 to Mar 03, 2019
3. Best paper award, for article *Gradient Field Estimation on Simplicial Meshes* (IP7), presented at STAG 2018 and shortlisted for journal extended version (IJ16)
4. Best paper award, for article *slice2mesh : meshing sliced data for the simulation of AM Processes* (IP6), presented at STAG 2018 and shortlisted for journal extended version(IJ15)
5. Elsevier Reviewer of Distinction (2018)
Awarded by The Editors of Computers & Graphics Journal
6. Co-author of Matteo Bracci for the article Hexalab, based on his thesis work at the University of Pisa, and awarded as Best Bachelor Thesis in Computer Graphics at the Eurographics Italian Chapter conference (STAG2018)
7. Special mention at the IEEE TVCG Best Reviewer Award (2017)
8. Elsevier Outstanding Contribution in Reviewing (2017)
Awarded by The Editors of Computers & Graphics Journal

9. Best paper award, for article *Heat Flow Based Relaxation of n Dimensional Discrete Hyper Surfaces* (IP4), presented at STAG 2017 and shortlisted for journal extended version(IJ11)
10. Co-advisor (with Prof. Riccardo Scateni) of the thesis *Polycubes Optimization*, authored by Gianmarco Cherchi and awarded as Best Master Thesis in Computer Graphics at the Eurographics Italian Chapter conference (STAG2016)
11. Winner of an Alain Bensoussan 12 months PostDoctoral Fellowship (2015/2016), funded by European Research Consortium for Informatics and Mathematics (ERCIM)
refused due to another offer
12. Three years PhD scholarship, funded by
P.O.R. Sardegna F.S.E. Operational Programme of the Autonomous Region of Sardinia
European Social Fund 2007-2013 - Axis IV Human Resources, Objective 1.3, Line of Activity 1.3.1

OPEN SOURCE PROJECTS

1. *CinoLib* – A generic programming header only C++ library for processing polygonal and polyhedral meshes
<https://github.com/mlivesu/cinolib> (341★, 27 forks)
2. *HexaLab* – An Online Viewer for Hexahedral Meshes
www.hexalab.net (51★, 18 forks)
3. *Slice2Mesh* – A Direct Meshing Tool for the Simulation of Additive Manufacturing Processes
<https://github.com/mlivesu/slice2mesh> (19★, 2 forks)
4. *CageLab* – An Interactive Tool for Cage-Based Deformations
<https://github.com/cordafab/Cagelab2018> (2★, 2 forks)

TALKS

1. *A Mesh Generation Perspective on Robust Mappings*
paper presented at Smart Tools and Applications in Graphics (STAG)
13 November, 2020 - Florence, Italy
(given remotely due to COVID)
(presenting [IP9])
2. *LoopyCuts: Practical Feature-Preserving Block Decomposition for Strongly Hex-Dominant Meshing*
invited talk at M.I.T. Graphics Seminars
9 September, 2020 - Cambridge, USA
(given remotely due to COVID)
Host: Paul Zhang
3. *Generation, Visualization and Assessment of Hexahedral Meshes*
invited talk at INRIA
26 September, 2019 - Sophia-Antipolis, France
Host: Evelyne Hubert
4. *From 3D Models to 3D Prints: an Overview of the Processing Pipeline*
invited talk at University of Verona
16 November, 2018 - Verona, Italy
Host: Prof. Andrea Giachetti
5. *slice2mesh : meshing sliced data for the simulation of AM Processes*
paper presented at Smart Tools and Applications in Graphics (STAG)
18 October, 2018 - Brescia, Italy
(presenting [IP6])
6. *slice2mesh : meshing sliced data for the simulation of AM Processes*
invited talk at EGIT PhD School on Graphics and Geometry Processing for AM
17 October, 2018 - Brescia Italy
7. *From 3D Models to 3D Prints: an Overview of the Processing Pipeline*
invited talk at EGIT PhD School on Graphics and Geometry Processing for AM
17 October, 2018 - Brescia Italy
with Jonas Martínez (INRIA)

8. *Fabrication-Aware Shape Decomposition*
invited talk at EGIT PhD School on Graphics and Geometry Processing for AM
17 October, 2018 - Brescia Italy
9. *Fabrication-Aware Shape Decomposition*
invited talk at Mini-Symposia on Mathematical Aspects of 3D Printing - Curves and Surfaces (C&S)
28 June, 2018 - Arcachon, France
Host: Georg Muntingh
10. *Cinolib – A generic programming header only C++ library for processing polygonal and polyhedral meshes*
invited talk at University of Cagliari
February, 2018 - Cagliari, Italy
Host: Prof. Riccardo Scateni
11. *Research and Challenges in Polygonal/Polyhedral Mesh Generation*
talk at ERC CHANGE Workshop
30 January, 2018 - Leysin, Switzerland
Host: Prof. Annalisa Buffa
12. *CAxMan: Computer Aided Technologies for Additive Manufacturing*
paper presented at Smart Tools and Applications in Graphics (STAG)
12 September, 2017 - Catania, Italy
13. *Heat Flow Based Relaxation of n Dimensional Discrete Hyper Surfaces*
paper presented at Smart Tools and Applications in Graphics (STAG)
11 September, 2017 - Catania, Italy
(presenting [IP4])
14. *Explicit Cylindrical Maps for General Tubular Shapes*
paper presented at Solid and Physical Modeling (SPM)
2 June, 2017 - Berkeley, USA
(presenting [IJ10])
15. *From 3D Models to 3D Prints: an Overview of the Processing Pipeline*
paper presented at Eurographics 2017
25 April, 2017 - Lyon, France
(presenting [IJ9])
16. *European Projects at CNR IMATI*
talk at Eurographics 2016
12 May, 2016 - Lisbon, Portugal
17. *Practical Medial Axis Filtering for Occlusion-Aware Contours*
paper presented at Smart Tools and Applications in Graphics
16 October, 2015 - Verona, Italy
(presenting [IP3])
18. *Practical Hex-Mesh Optimization via Edge-Cone Rectification*
paper presented at ACM SIGGRAPH
13 August, 2015 - Los Angeles, USA
(presenting [IJ6])
19. *Coarse Layouts for Structured Surface and Volumetric Meshing*
invited talk at INRIA
22 June, 2015 - Sophia-Antipolis, France
Host: Pierre Alliez
20. *Automatic Generation of Hexahedral Meshes of Articulated Objects*
invited talk at CNR-IMATI
12 May, 2015 - Genoa, Italy
Hosts: Michela Spagnuolo, Marco Attene
21. *PolyCut: Monotone Graph-Cuts for PolyCube Base-Complex Construction*
paper presented at ACM SIGGRAPH Asia
20 November, 2013 - Hong Kong
(presenting [IJ4])

22. *Extracting curve-skeletons from digital shapes using occluding contours*
paper presented at Computer Graphics International (CGI)
11 June, 2013 - Hannover, Germany
(presenting [IJ3])
23. *Rigid registration of different poses of animated shapes*
paper presented at Winter School of Computer Graphics (WSCG)
June, 2013 - Plzen, Czech Republic
(presenting [IJ2])
24. *Reconstructing the Curve-Skeleton of 3D Shapes Using the Visual Hull*
invited paper presented at Eurographics Symposium on Parallel Graphics and Visualization (EGPGV)
5 May, 2013 - Girona, Spain
(presenting [IJ1])

PROFESSIONAL ACTIVITIES

Editor for International Scientific Journals:

- Guest Editor, Computers & Graphics (Special Issue on STAG 2018) 2019
- Academic Editor, PLOS One 2020, 2019, 2018
- Guest Academic Editor, PLOS One 2017

Chair:

- Awards Chair, Smart Tools and Apps in Computer Graphics (STAG) 2020,2019
- Student Volunteer Chair, Eurographics (EG) 2019
- Program Chair, Smart Tools and Apps in Computer Graphics (STAG) 2018
- Session Chair, Eurographics (EG) 2020
- Session Chair, Smart Tools and Apps in Computer Graphics (STAG) 2020, 2019, 2018
- Session Chair, Shape Modeling International (SMI) 2017

Committees:

- Program Committee, Replicability Stamp 2020
- Program Committee, Eurographics, short papers (EG) 2021, 2020
- Local Organizing Committee, Eurographics (EG) 2019
- Program Committee, SIBGRAPI 2017
- Program Committee, Int. Conference on Computer Graphics Theory and Applications (GRAPP) since 2017
- Program Committee, Smart Tools and Apps in Computer Graphics (STAG) 2020, 2019, 2017, 2016
- Best Thesis Award Jury, Smart Tools and Apps in Computer Graphics (STAG) 2018, 2017, 2016

PhD Thesis Committee:

- Alvaro Fuentes Suarez (INRIA, Université Cote D'Azur) 2019

Project Evaluator for Competitive Industrial Funding:

- Technical evaluator for the Italian Ministry of Economic Growth (MISE, FCS projects) 2020,2019

Reviewer:

- SIGGRAPH 2020, 2019, 2018, 2016
- SIGGRAPH Asia 2020, 2017, 2016
- ACM Transactions on Graphics (TOG) 2018, 2017, 2016, 2015
- IEEE Transactions on Visualization and Computer graphics (TVCG) 2020, 2018, 2017, 2016
- Computer-Aided Design (CAD) 2020, 2015, 2014
- EuroGraphics (EG) 2021, 2020, 2019, 2017, 2016
- IEEE Access 2020, 2019
- Computer Graphics Forum (CGF) 2020, 2019, 2017, 2016
- Symposium on Geometry Processing (SGP) 2016, 2015
- Pacific Graphics (PG) 2019, 2018, 2017, 2016
- CAD Conference 2019, 2018
- T&F, Computer Methods in Biomechanics and Biomedical Engineering 2016, 2015
- Robotics and Computer Integrated Manufacturing 2017
- PLOS One 2017
- Numerical Algorithms 2017, 2016
- Computers & Graphics (C&G) 2020, 2019, 2018, 2017, 2016, 2015, 2013
- Shape Modeling International (SMI) 2016

— Intern. Conf. on Geometric Modeling and Processing (GMP)	2016
— The Visual Computer	2020, 2016
— Graphical Models	2015
— Computer-Aided Design and Applications	2018
— Intern. Conf. on Comp. Graphics Theory and Appl. (GRAPP)	2017, 2016, 2015
— WSCG	2015

EDUCATIONAL ACTIVITIES

Teaching:

— Lecturer, Video Game Design (VGD), <i>University of Cagliari, Italy</i>	2021
— Lecturer, Geometry Processing for Digital Manufacturing, <i>EGIT PhD School</i>	2018
— Teaching assistant, Advanced Data Structures, <i>University of Cagliari, Italy</i>	2015, 2013, 2011, 2010
— Teaching assistant, Computer Architectures, <i>University of Cagliari, Italy</i>	2011, 2010

Thesis Supervision (13):

1. E. Pau - *HoloSculpt: un Tool per Modellazione 3D di Mesh Fabbricabili* (2019)
Master Thesis - University of Cagliari
2. S. Staglianò - *Temporal Integration Analysis in Geodesic Distances Comput. through Heat Eq.*(2017)
Master Thesis - University of Genoa
3. G. Cherchi - *PolyCubes Optimization* (2015)
Master Thesis - University of Cagliari (next step: PhD student at University of Cagliari)
- full paper published at **Symposium on Geometry Processing 2016 [IJ8]**
- awarded as **Best Master Thesis in computer Graphics at STAG 2016**
4. F. Winkelmolen - *Hexahedral Meshes from Curve-Skeletons* (2015)
Master Thesis - University of Genoa (next step: Amazon)
- full paper published at **Pacific Graphics 2016 [IJ7]**
5. S. Casti and F. Corda - *CageLab: Interactive Tool for Cage-based Animation* (2015)
Master Thesis - University of Cagliari (next step: PhD students at University of Cagliari)
- full paper published at **STAG 2018 [IP5]**
6. S. Volpe - *Building Anisotropic Cages for Digital Character animation* (2015)
Master Thesis - University of Genoa
7. A. Muntoni - *Simplifying the Shape of Triangle Meshes for Unfolding, Milling and Fabrication* (2014)
Master Thesis - University of Cagliari (next step: PhD student at University of Cagliari)
8. D. Cabiddu and G. Marcias- *Detecting Shape Features from Meshes Using JMAPT* (2012)
Master Thesis - University of Cagliari (next step: researchers at IMATI-CNR and ISTI-CNR, respectively)
9. S. Podda, *Semplificazione Concorrente di Mesh Poligonali con Connettivita' Fissa* (2012)
Bachelor Thesis - University of Cagliari (next step: PhD student at University of Cagliari)
10. F. Usai - *A novel Technique for Shape Matching Based on Skeletal Feature Points* (2011)
Master Thesis - University of Cagliari (next step: developer at MoneyFarm)
11. G. Broccia - *Riconoscimento di Gestì Umani per la Guida di Robot* (2011)
Bachelor Thesis - University of Cagliari (next step: co-founder at Lively & freelance Android consultant)
- full paper published at **Eurographics Italian Chapter 2011 [IP2]**
12. T. Puggioni - *Studio ed Implementazione dello Smoothing Basato sul Mean Curvature Flow* (2011)
Bachelor Thesis - University of Cagliari
13. E. Alimonda - *CGView: un Agile Visualizzatore di Mesh* (2010)
Bachelor Thesis - University of Cagliari

FUNDING

1. **Hex and hex-dominant meshing** (10K\$) (Oct 2020)
Consultancy to HyperComp, Inc. for the use of LoopyCuts (IJ22)
Principal Investigator
2. **CHANGE** (2.2M€) (from Oct 2016)
New CHallenges for PDE solvers: the interplay of ANalysis and GEometry.
ERC Advanced Grant
Co-investigator
3. **CaxMan** (7.1M€) (Oct 2015 - Sep 2018)
Computer Aided Technologies for Additive Manufacturing.
Horizon 2020 - Research and Innovation action - Grant Agreement N° 680448
Co-investigator
4. **Automated Hexahedral Meshing** (124K\$) (Jun 2014 - Jan 2015)
NSERC Idea to Innovation (I2I)
Co-investigator
5. **Virtuoso** (300K€) (Mar 2015 - Sep 2015)
Un osservatore sanitario virtuale per la prevenzione di malattie cardio-metaboliche nella pratica di attività fitness & wellness nei centri turistici.
Funded by Sardinia Regional Government (CUP F78C13000530002)
Co-investigator

PUBLICATIONS and PATENTS

Legend:

- B Book
- P Patent
- IJ Peer-reviewed International journal
- IP Proceedings of a peer-reviewed international conference
- PD Project Deliverable
- TR Technical Report

Books (1):

- [B1] Design, Representations and Processing for Additive Manufacturing
M. Attene, M. Livesu, S. Lefebvre, T. Funkhouser, S. Rusinkiewicz, S. Ellero, J. Martínez, A. H. Bermano
Morgan & Claypool Publishers - Synthesis Lectures on Visual Computing, 2018

Patents (2):

- [P2] *Methods and Systems for Hex-mesh Optimization via Edge-cone rectification*
M. Livesu, A. Sheffer, N. Vining
US Patent *US20170024931 A1*
- [P1] *Methods and Systems for Generating PolyCube Segmentations from Input Meshes of Objects*
M. Livesu, A. Sheffer, N. Vining, J. Gregson
US Patent *US20160240001 A1*

Peer-reviewed International Journals (24):

- [IJ24] Fast and Robust Mesh Arrangements Using Floating-point Arithmetic
G. Cherchi, M. Livesu, R. Scateni, M. Attene
ACM Transactions on Graphics, 2020 (SIGGRAPH Asia)

- [IJ23] Scalable Mesh Refinement for Canonical Polygonal Schemas of Extremely High Genus Shapes
M. Livesu
IEEE Transactions on Visualization and Computer Graphics, 2020
- [IJ22] LoopyCuts: Practical Feature-Preserving Block Decomposition for Strongly Hex-Dominant Meshing
M. Livesu, N. Pietroni, E. Puppo, A. Sheffer, P. Cignoni
ACM Transactions on Graphics, 2020 (SIGGRAPH)
- [IJ21] Real-time Deformation with Coupled Cages and Skeletons
F. Corda, J.M. Thiery, M. Livesu, E. Puppo, T. Boubekeur, R. Scateni
Computer Graphics Forum, 2020
- [IJ20] Parametric Shape Optimization for Combined Additive-Subtractive Manufacturing
L. Tamellini, M. Chiumenti, C. Altenhofen, M. Attene, O. J. D. Barrowclough,
M. Livesu, F. Marini, M. Martinelli, V. Skytt,
JOM - The Journal of The Minerals, Metals & Materials Society, 2020
- [IJ19] CinoLib: a generic programming header only C++ library for processing polygonal and polyhedral meshes
M. Livesu
Lecture Notes in Computer Science. Transactions on Computational Science XXXIV, 2019
- [IJ18] Surface2Volume: Surface Segmentation Conforming Assemblable Volumetric Partition
C. Araujo, D. Cabiddu, M. Attene, M. Livesu, N. Vining, A. Sheffer
ACM Transactions on Graphics, 2019 (SIGGRAPH, Los Angeles, USA)
- [IJ17] Skeleton Based Cage Generation Guided by Harmonic Fields
S. Casti, M. Livesu, N. Mellado, N. Abu Rumman, R. Scateni, L. Barthe, E. Puppo
Computers & Graphics, 2019
- [IJ16] A Comparison of Methods for Gradient Field Estimation on Simplicial Meshes
C. Mancinelli, M. Livesu, E. Puppo
Computers & Graphics 80, 2019 (extended version of [IP7])
- [IJ15] slice2mesh: a Meshing Tool for the Simulation of Additive Manufacturing Processes
M. Livesu, D. Cabiddu, M. Attene
Computers & Graphics 80, 2019 (extended version of [IP6])
- [IJ14] Hexalab.net: an Online Viewer for Hexahedral Meshes
M. Bracci, M. Tarini, N. Pietroni, M. Livesu, P. Cignoni
Computer Aided Design 110, 2019
- [IJ13] Topology-Driven Shape Chartification
T. Sorgente, S. Biasotti, M. Livesu, M. Spagnuolo
Computer Aided Geometric Design 65, 2018
- [IJ12] Axis-Aligned Height-Field Block Decomposition of 3D Shapes
A. Muntoni, M. Livesu, R. Scateni, A. Sheffer, D. Panozzo
ACM Transactions on Graphics 37(5), 2018 (presented at SIGGRAPH Asia, Tokyo, Japan)
- [IJ11] A Heat Flow Based Relaxation Scheme for n Dimensional Discrete Hyper Surfaces
M. Livesu
Computers & Graphics 71, 2018 (extended version of [IP4])

- [IJ10] Explicit Cylindrical Maps for General Tubular Shapes
M. Livesu, M. Attene, G. Patanè, M. Spagnuolo
Computer Aided Design 90, 2017 (Solid and Physical Modeling, Berkeley, USA)
- [IJ9] From 3D Models to 3D Prints: an Overview of the Processing Pipeline
M. Livesu, S. Ellero, J. Martínez, S. Lefebvre, M. Attene
Computer Graphics Forum 36(2), 2017 (Eurographics STAR, Lyon, France)
- [IJ8] Polycube Simplification for Coarse Layouts of Surfaces and Volumes
G. Cherchi, M. Livesu, R. Scateni
Computer Graphics Forum 35(5), 2016 (Symposium on Geometry Processing, Berlin, Germany)
- [IJ7] Skeleton-driven Adaptive Hexahedral Meshing of Tubular Shapes
M. Livesu, A. Muntoni, E. Puppo, R. Scateni
Computer Graphics Forum 35(7), 2016 (Pacific Graphics, Okinawa, Japan)
- [IJ6] Practical Hex-Mesh Optimization via Edge-Cone Rectification
M. Livesu, A. Sheffer, N. Vining, M. Tarini
ACM Transactions on Graphics 34(4), 2015 (SIGGRAPH, Los Angeles, USA)
- [IJ5] Extraction of the Quad Layout of a Triangle Mesh Guided by its Curve-Skeleton
F. Usai, M. Livesu, E. Puppo, M. Tarini, R. Scateni
ACM Transactions on Graphics 35(1), 2015 (presented at SIGGRAPH Asia, Kobe, Japan)
- [IJ4] PolyCut: Monotone Graph-Cuts for PolyCube Base-Complex Construction
M. Livesu, N. Vining, A. Sheffer, J. Gregson, R. Scateni
ACM Transactions on Graphics 32(6), 2013 (SIGGRAPH Asia, Hong Kong)
- [IJ3] Extracting curve-skeletons from digital shapes using occluding contours
M. Livesu, R. Scateni
The Visual Computer 29(9), 2013 (Computer Graphics International, Hannover, Germany)
- [IJ2] Rigid registration of different poses of animated shapes
M. Livesu, R. Scateni
Journal of WSCG 21(1), 2013 (WSCG, Plzen, Czech Republic)
- [IJ1] Reconstructing the Curve-Skeleton of 3D Shapes Using the Visual Hull
M. Livesu, F. Guggeri, R. Scateni
IEEE Transactions on Visualization and Computer Graphics 18(11), 2012

Peer-reviewed International Conferences (9):

- [IP9] A Mesh Generation Perspective on Robust Mappings
M. Livesu
Smart Tools and Applications in Graphics, 2020 (Florence, Italy)
- honorable mention
- [IP8] FETI-DP preconditioners for the Virtual Element Method on general 2D meshes
D. Prada, S. Bertoluzza, M. Pennacchio, M. Livesu
Lecture Notes in Computational Science and Engineering, 2019
Numerical Mathematics and Advanced Applications - ENUMATH 2017

- [IP7] Gradient Field Estimation on Simplicial Meshes
C. Mancinelli, M. Livesu, E. Puppo
Smart Tools and Applications in Graphics, 2018 (Brescia, Italy)
- best paper award (extended version [IJ16])
- [IP6] slice2mesh : meshing sliced data for the simulation of AM Processes
M. Livesu, D. Cabiddu, M. Attene
Smart Tools and Applications in Graphics, 2018 (Brescia, Italy)
- best paper award (extended version [IJ15])
- [IP5] CageLab: An Interactive Tool for Cage-based deformations
S. Casti, F. Corda, M. Livesu, R. Scateni
Smart Tools and Applications in Graphics, 2018 (Brescia, Italy)
- [IP4] Heat Flow Based Relaxation of n Dimensional Discrete Hyper Surfaces
M. Livesu
Smart Tools and Applications in Graphics, 2017 (Catania, Italy)
- best paper award (extended version [IJ11])
- [IP3] Practical Medial Axis Filterig for Occlusion-Aware Contours
M. Livesu, R. Scateni
Smart Tools and Applications in Graphics, 2015 (Verona, Italy)
- [IP2] Gestural Interaction for Robot Motion Control
G. Broccia, M. Livesu, R. Scateni
Proceedings of the 9th Eurographics Italian Chapter, 2011 (Salerno, Italy)
- [IP1] Tools and Applications for Teaching and Research in Computer Graphics
F. Guggeri, M. Livesu, R. Scateni
Proceedings of the 8th Eurographics Italian Chapter, 2010 (Genoa, Italy)

EU Project Deliverables (7):

- [PD7] Deliverable n. D3.4 — AM Process Plan Assessment
J. C. Morel, M. Attene, M. Livesu, T. Ventura
CAxMan (H2020-FoF-2015-680448)
- [PD6] Deliverable n. D2.6 — Analysis Based Optimization Tools
L. Tamellini, M. Attene, M. Martinelli, M. Chiumenti, F. Marini, M. Livesu,
P. Pietra, M. Pennacchio, S. Bertoluzza, V. Skytt, O. Barrowclough, C. Altenhofen
CAxMan (H2020-FoF-2015-680448)
- [PD5] Deliverable n. D1.6 — Cloud Infrastructure Version 3
S. Bergweiler, J. Hjelmervik, C. Altenhofen, F. Loosmann, M. Livesu,
D. Cabiddu, M. Martinelli, E. Neiva, J. Cauchois, M. North, N. Arcontara, A. Mata
CAxMan (H2020-FoF-2015-680448)
- [PD4] Deliverable n. D2.5 — Analysis Tools for AM, Non-Linear Setting
L. Tamellini, R. Vazquez, M. Martinelli, F. Marini, P. Pietra, M. Pennacchio,
S. Bertoluzza, M. Attene, M. Livesu, V. Skytt, O. Barrowclough, M. Chiumenti
CAxMan (H2020-FoF-2015-680448)

- [PD3] Deliverable n. D3.3 — First Implementation of Process Planning Workflows
M. Attene, O. Barrowclough, D. Cabiddu, J. Cauchois, S. Ellero,
J. Haenisch, M. Livesu, J.C. Morel, T. Ventura
CAxMan (H2020-FoF-2015-680448)
- [PD2] Deliverable n. D3.2 — AM Process Planning Workflows
M. Attene, D. Cabiddu, J. Cauchois, S. Ellero, M. Livesu, J.C. Morel
CAxMan (H2020-FoF-2015-680448)
- [PD1] Deliverable n. D3.1 — Requirement: Process Planning for AM
S. Ellero, T. Zerbi, M. Attene, M. Livesu, M. Spagnuolo, O. Barrowclough,
T. Dokken, J.C. Morel, B. Ellingsen, D. Sørli, S. Canard
CAxMan (H2020-FoF-2015-680448)

Technical Reports (5):

- [TR5] Deterministic Linear Time Constrained Triangulation using Simplified Earcut
M. Livesu, G. Cherchi, R. Scateni, M. Attene
arXiv:2009.04294
- [TR4] A Survey of Algorithms for Geodesic Paths and Distances
K. Crane, M. Livesu, E. Puppo, Y. Qin
arXiv:2007.10430
- [TR3] Benchmark of Polygon Quality Metrics for Polytopal Element Methods
M. Attene, S. Biasotti, S. Bertoluzza, D. Cabiddu, M. Livesu,
G. Patanè, M. Pennacchio, D. Prada, M. Spagnuolo
arXiv:1906.01627
- [TR2] TopChart: from Functions to Quadrangulations
T. Sorgente, S. Biasotti, M. Livesu, M. Spagnuolo
CNR IMATI Technical Report 18-05
- [TR1] A Study of the State of the Art of Process Planning for Additive Manufacturing
M. Livesu, M. Attene, M. Spagnuolo, B. Falcidieno
CNR IMATI Technical Report 39