

# CURRÍCULUM VITAE

## 1.PERSONAL DATA

### NAME

Luiz Velho

### INSTITUCIONAL ADDRESS

IMPA - Instituto de Matemática Pura e Aplicada  
Estrada Dona Castorina, 110  
Rio de Janeiro, RJ, Brazil, 22460-320  
tel.: (5521) 2529-5000

### ELECTRONIC ADDRESSES

`lvelho@impa.br`  
`http://lvelho.impa.br`

### UPDATED ON

8 of December of 2021

## 2. EDUCATION

### 2.1. DEGREES

*Doctor of Philosophy in Computer Graphics and Vision*  
Department of Computer Science, University of Toronto,  
Toronto, Canada, 1994  
Thesis: “*Piecewise Description of Implicit Surfaces and Solids*”  
Supervisor: Demetri Terzopoulos

*Master of Science in Computer Animation*  
The Media Laboratory, Massachusetts Institute of Technology  
Cambridge, Massachusetts, 1985  
Dissertation: “*SCRIPTS: On the Description of Computer Animated Images*”  
Supervisor: David Zeltzer

*Bacharel em Comunicação Visual e Desenho Industrial*  
ESDI, Universidade Estadual do Rio de Janeiro  
Rio de Janeiro, Brasil, 1979  
Project: “*A Imagem no Computador*”

*Especialização em Informática*  
Pontifícia Universidade Católica  
Rio de Janeiro, Brasil, 1978  
Project: “*Desenho de Formulários por Computador*”

### 2.2. SCHOLARSHIPS AND GRANTS

*Pesquisador Senior*, CNPq  
Mar 2021 to Feb 2026

*Produtividade em Pesquisa*, CNPq  
Nível 1A, Mar 2015 to Feb 2020  
Nível 1B, Mar 2005 to Feb 2015  
Nível 1C, Aug 2001 to Feb 2005  
Nível 2A, Aug 1999 to Jul 2001  
Nível 2B, Aug 1997 to Jul 1999

*Cientista do Nosso Estado*, Faperj  
Oct 2015 to Sept 2019  
10/2007 a 09/2009 - 10/2009 a 09/2012 - 10/2012 a 09/2015 - 10/2015 a 09/2018 - 10/2018 a 09/2020

*Pesquisador Associado*, CNPq  
Nível 2C, Aug 1994 to Jul 1997

*Doutorado*, CNPq  
Jan 1991 to Jul 1994

*University of Toronto Open Fellowship*  
Jan to May 1991

*Mestrado*, CAPES / MEC  
Sept 1984 to Jul 1986

*Extensão*, CAPES / EMBRAFILME  
Nov 1981 to Feb 1982

*Projetos Especiais*, FUNARTE / MEC  
Mar 1979 to Dec 1979

*Trabalho-Arte*, UERJ / MEC / DAC  
Mar to Dec of 1978 e 1977

### 2.3. FOREIGN LANGUAGES

#### 2.3.1. ENGLISH

TOEFEL (Test of English as a Foreign Language), Oct 1982  
ALIGU (English Usage Test - American Language Institute, Georgetown University), Apr 1981  
Cultura Inglesa, Mar 1968 to Dec 1974

#### 2.3.2. FRENCH

Aliança Francesa, Mar 1970 to Dec 1972

### 3. PROFESSIONAL EXPERIENCE

#### 3.1. POSITIONS

*Instituto de Matemática Pura e Aplicada*

Pesquisador Titular e Professor, since August de 2003

Pesquisador Associado, de September de 1997 a July de 2003

Coordenador do Laboratório VISGRAF, since January de 2000

Membro da Comissão de Atividades Científicas, since July de 2008

Membro eleito do Conselho Técnico Científico, de May de 2009 a July de 2015

Membro do Conselho Técnico Científico, de Março de 2002 a July de 2005

Membro da Comissão de Informática, de September de 2001 a August de 2010

*Centre National de la Recherche Scientifique, UMI-CNRS-IMPA*

Chercheur, since July de 2005.

*Universidade Federal do Rio Grande do Norte*

Professor Pleno, since November de 2009.

*Instituto Superior Técnico, Universidade Técnica de Lisboa*

Professor Catedrático, de September de 2009 a November de 2012.

*Microsoft Research*

Visiting Scientist, de November de 2002 a February de 2003.

*Tecgraf, PUC-Rio,*

Consultor Científico, de January 2001 a November de 2002.

*Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina*

Membro da Comissão de Informática, de June de 2000 a June de 2002.

*Instituto de Matemática Pura e Aplicada*

Pesquisador do projeto VISGRAF

September de 1994 a August de 1997

*Hewlett Packard Laboratories, Palo Alto,*

Visiting Scientist

November a December 1994

*Courant Institute of Mathematical Sciences, New York University, New York*

Visiting Professor

July a August 1994

*Globo Computer Graphics, Rio de Janeiro*

Principal Engineer

October 1986 a September 1990

*The Fantastic Animation Machine, New York*

Software Engineer.

July 1985 a September 1986

*Tele Cine Maruim, Rio de Janeiro,*

Software and Animation Designer.

November 1983 a August 1984

*TV Globo Network, Rio de Janeiro,*

Animation Consultant

Março a August 1984

*National Film Board of Canada, Montreal*

Visiting Researcher

September 1981 a Março 1982

*Morena Filmes - L.C. Barreto - Embrafilme, Rio de Janeiro,*

Cameraman and Assistant Cinematographer

January 1980 a April 1982

*Serviço Federal de Processamento de Dados, Rio de Janeiro,*

Computer Programmer

Março 1978 a December 1980

### 3.2. COURSES

*Neural Networks for Implicit Representations of 3D Scenes*  
SIBGRAPI, October 2021

*Futuro das Mídias Digitais*  
Cursos de Cinema da ABC, September 2020, March 2021

*Chunity Workshop*  
IMPA, February 2019

*Developing Mobile Multimedia Apps, Botanic: A Case Study*  
SIBGRAPI, September 2014

*Kinect and RGBD Images: Challenges and Applications*  
SIBGRAPI, September 2012  
Luiz Velho, Leandro Cruz and Djalma Lucio

*Tópicos em Modelagem: Variedades Computacionais e Aplicações*  
IMPA, Rio de Janeiro, August a December, 2011.  
Luiz Velho, Luis Gustavo Nonato, Marcelo Siqueira e Jean Gallier

*Sketch-Based Interfaces and Modeling*  
SIBGRAPI, September 2010  
Luiz Velho, Leandro Cruz

*Métodos Matemáticos e Computacionais em Musica*  
XXXII CNMAC, October 2009  
Luiz Velho, Paulo Cezar Carvalho, Marcelo Cicconet, Sergio Krakowski

*Compressive Sensing*  
27 Colóquio Brasileiro de Matemática, Rio de Janeiro, July 2007  
Luiz Velho, Adriana Schulz, Eduardo Silva

*Workshop on Panoramic Images and Narratives*  
IMPA, Rio de Janeiro, Marco a July 2009

*Parametric Pseudo-Manifolds and Applications*  
IMPA, February 2009  
Luiz Velho, Marcelo Siqueira

*Multidisciplinary Workshop on Interactive Media and Natural Interfaces*  
IMPA, Rio de Janeiro, October a December 2008

*Fitting Surfaces to Polygonal Meshes using Parametric Pseudo-Manifolds*  
SIBGRAPI Conference, Campo Grande, October 2008  
Luiz Velho, Marcelo Siqueira, Jean Gallier, Dimas Martinez, Luiz Gustavo Nonato, Dianna Xu

*Métodos de Reconstrução 3D*  
IMPA, Rio de Janeiro, August a December 2007  
Luiz Velho, Thomas Lewiner

*Topics Seminar on NPR*  
IMPA, Rio de Janeiro, August a December 2007  
Luiz Velho, Luiz Henrique Figueiredo

*Análise e Síntese Luiz Velho, Coleções de Imagens*  
IMPA, Rio de Janeiro, Janeiro e February 2006  
Luiz Velho, Paulo Cezar Carvalho

*Fotografia 3D*  
25 Colóquio Brasileiro de Matemática, Rio de Janeiro, July 2005  
Luiz Velho, Paulo Cezar Carvalho, Asla Sá, Esdras Soares, Anselmo Montenegro, Adailson Peixoto, Luiz Rivera

*Introdução ao Processamento de Imagens*  
IMCA, Peru, December de 2004  
Luiz Velho, Marcelo Bernardes Vieira

*Tópicos em Modelagem: Superfícies de Subdivisão e Multiresolução*  
IMPA, Rio de Janeiro, August a December, 2004.

*Métodos de Otimização em Computação Gráfica*  
VI Seminario Internacional en Optimizacion, IMCA, Peru, October 2003  
Luiz Velho, Paulo Cezar Carvalho.

*Otimização e Aplicações em Computação Gráfica*  
CATI 2003, Maceio, October 2003.

*Mathematical Optimization in Graphics and Vision*

SIGGRAPH Conference, San Diego, July 2003

Luiz Velho, Paulo Cezar Carvalho

*3D photography: a structured light approach*

SIBGRAPI Conference, Fortaleza, October de 2002

Luiz Velho, Paulo Carvalho, Asla M. e Sá, Esdras Soares Filho

*Design and Implementation of Three-Dimensional Graphics Systems*

IMPA, Rio de Janeiro, Marco a June, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021.

*Processamento de Imagens para Computação Gráfica e Visão Computacional*

IMPA, Rio de Janeiro, August a December, 2000, 2001, 2002, 2003, 2005, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020.

*Tutorial on Mathematical Optimization in Graphics and Vision*

SIGGRAPH Conference, San Antonio, July 2002

Luiz Velho, Paulo Cezar Carvalho

*Optimization Methods in Graphics*

XXII CNMAC - Congresso Nacional de Matematica Aplicada e Computacional, Caxambú, September 2000

Luiz Velho, Paulo Cezar Carvalho e Luiz Henrique Figueiredo

*Image Processing and Wavelets*

First Latin American Congress of Mathematicians, IMPA, Rio de Janeiro, July 2000

Luiz Velho, Paulo Cezar Carvalho

*Numerical Analysis*

IMPA, Rio de Janeiro, August a December, 1999

*Métodos de Otimização e suas Aplicações em Computação Gráfica*

22 Colóquio Brasileiro de Matemática, Rio de Janeiro, July 1999

Luiz Velho, Jonas Gomes, Paulo Cezar Carvalho e Luiz Henrique Figueiredo

*Introdução à Teoria de Wavelets*

Petrobrás, Rio de Janeiro, May 1998 e June 1999

Luiz Velho, Jonas Gomes

*From Fourier Analysis to Wavelets*

SIGGRAPH Conference, Orlando, July 1998 e Los Angeles, August 1999

Luiz Velho, Jonas Gomes

*Implicit Surfaces: Modeling and Visualization*

IMPA, Escola de Computação Gráfica, Rio de Janeiro, February 1998

*Multiresolution Structures for Graphical Objects*

IMPA, Escola de Computação Gráfica, Rio de Janeiro, Janeiro 1998

Luiz Velho, Jonas Gomes

*Wavelets and Applications*

SIBGRAPI Conference, October 1997

21 Colóquio Brasileiro de Matemática, Rio de Janeiro, July 1997

Luiz Velho, Jonas Gomes

*Applications of Wavelets in Computer Graphics*

IMPA, Escola de Computação Gráfica, Rio de Janeiro, Janeiro e February 1996

Luiz Velho, Jonas Gomes e Siome Goldstein

*Warping and Morphing in Computer Graphics*

SIGGRAPH Conference, Los Angeles, August 1995 e August 1997

Luiz Velho, Jonas Gomes, Lucia Darsa, Bruno Costa e Thad Beier

*Transformações de Objetos Gráficos*

SIBGRAPI Conference, São Carlos, November 1995

Luiz Velho, Jonas Gomes

*Deformação e Metamorfose de Objetos Graficos*

20 Colóquio Brasileiro de Matemática, Rio de Janeiro, July 1995

Luiz Velho, Jonas Gomes e Siome Goldstein

*Implicit Objects*

SIBIGRAPI Conference, Curitiba, November 1994

*Computer Graphics*

New York University, July e August, 1994

*Implicit Objects in Computer Graphics*

IMPA, Escola de Computação Gráfica, Janeiro e February 1993

*Modeling for Computer Graphics*

SIGGRAPH Conference, Anaheim, August 1993

Luiz Velho, Jonas Gomes, Vadim Shapiro e Chris Hoffman

*Geometric Modeling*

SIBIGRAPH Conference, Aguas de Lindóia, October 1993

Recife, November 1993

*Digital Image,*

Universidade Estadual Paulista, S. J. Rio Preto, September 1990

*Basic Concepts of Image Syntesis*

Universidade de São Paulo, São Paulo, VII Escola de Computação, July, 1990

Luiz Velho, Jonas Gomes

*The Twixt Animation System,*

Globo Computer Graphics, Rio de Janeiro, October e November 1988

*Introduction to Computer Graphics*

IMPA, Janeiro e February 1988

Luiz Velho, Jonas Gomes

*HP 2100 / 21MX Systems Architecture*

TECNOCOOP, Rio de Janeiro, Janeiro a March 1981

*Assembler HP, LCS Language, DOS HP, STV 1600 Operating System*

SERPRO, Rio de Janeiro, August a November 1980

## 4. SCIENTIFIC PRODUCTION

### 4.1. BOOKS

1. *GPU Ray Tracing in Non-Euclidean Spaces*, Morgan ClayPool Lecture Series, 2021.  
Tiago Novello, Vinicius da Silva and Luiz Velho.
2. *Intrinsic Visualization in the Thurston's Geometries*. 33rd Brazilian Mathematical Colloquium, 2021.  
Tiago Novello, Vinicius da Silva and Luiz Velho.
3. *Proceedings of the Live Coding Music Seminar*. IMPA, 2019.  
Luiz Velho and Vitor Rolla.
4. *OBSERVATOR!O 2016 - Experiências em Deep Learning* IMPA / VISGRAF Lab, 2016  
Luiz Velho, Juliana Giannella.
5. *Um Olhar nos Espaço de Dimensão 3* IMPA / MAST, 2015  
Luiz Velho, Pierre Berger, Pierre-Yves Fave and Juliana Giannella.
6. *From Fourier Analysis to Wavelets* Springer Verlag, IMPA Monographs Series, 2015  
Luiz Velho, Jonas Gomes.
7. *Design and Implementation of 3D Graphics Systems* Taylor and Francis, 2012  
Luiz Velho, Jonas Gomes and Mario Costa Souza.
8. *Computer Graphics: Theory and Practice* Taylor and Francis, 2011  
Luiz Velho, Jonas Gomes and Mario Costa Souza.
9. *Métodos Matemáticos e Computacionais em Musica* XXXII CNMAC - Congresso Nacional de Matemática Aplicada e Computacional, 2009  
Luiz Velho, Marcelo Cicconet, Sergio Krakowski, Paulo César Carvalho.
10. *Compressive Sensing* 27 Colóquio Brasileiro de Matemática, IMPA, 2009  
Luiz Velho, Adriana Schulz, Eduardo Silva.
11. *Image Processing for Computer Graphics and Vision* Springer Verlag, 2008  
Luiz Velho, Alejandro Frery and Jonas Gomes.
12. *Mathematical Optimization in Graphics and Vision* Morgan Kaufmann,, 2008  
Luiz Velho, Paulo Carvalho, Luiz Henrique Figueiredo, Jonas Gomes
13. *High Dynamic Range Image Reconstruction* Morgan and Claypool Publishers, 2008  
Luiz Velho, Asla Sa, Paulo Cezar Carvalho
14. *Fotografia 3D* 25 Colóquio Brasileiro de Matemática, IMPA, 2005  
Luiz Velho, Paulo César Carvalho, Esdras Soares, Anselmo Montenegro, Asla Sá, Adelailson Peixoto e Luiz Rivera.
15. *Fundamentos da Computação Gráfica* IMPA, Serie Computação e Matemática, 2004  
Luiz Velho, Jonas Gomes.
16. *Métodos de Otimização em Computação Gráfica* Notas de Curso, IMCA 2003  
Luiz Velho, Paulo Cezar Carvalho.
17. *Mathematical Optimization Methods in Graphics and Vision* Course Notes, SIGGRAPH 2003  
Luiz Velho, Paulo Cezar Carvalho
18. *Tutorial on Mathematical Optimization in Graphics and Vision* SIGGRAPH Tutorial Notes, 2002  
Luiz Velho, Paulo Cezar Carvalho

19. *Implicit Objects for Computer Graphics*  
Springer Verlag, 2002  
Luiz Velho, Jonas Gomes e Luiz Henrique de Figueiredo
20. *Sistemas Gráficos 3D*  
IMPA - SBM, 2001  
Luiz Velho, Jonas Gomes
21. *Otimização e Aplicações em Computação Gráfica*  
XXII CNMAC - Congresso Nacional de Matemática Aplicada e Computacional, 2000  
Luiz Velho, Jonas Gomes, Paulo César Carvalho e Luiz Henrique Figueiredo
22. *Image Processing and Wavelets*  
First Latin American Congress of Mathematicians, UMACA, 2000  
Luiz Velho, Jonas Gomes e Paulo César Carvalho
23. *Introdução aos Espaços de Escala*  
Escola de Computação 2000  
Luiz Velho, Ralph Teixeira e Jonas Gomes (colaborador)
24. *Métodos de Otimização e suas Aplicações em Computação Gráfica*  
22 Colóquio Brasileiro de Matemática, IMPA, 1999  
Luiz Velho, Jonas Gomes, Paulo César Carvalho e Luiz Henrique Figueiredo
25. *Computação Gráfica: Volume 1*  
IMPA - SBM, 1999  
Luiz Velho, Jonas Gomes
26. *From Fourier Analysis to Wavelets*  
Siggraph Course Notes, 1998 e 1999  
Luiz Velho, Jonas Gomes
27. *Warping and Morphing of Graphical Objects*  
Morgan Kaufmann, 1998  
Luiz Velho, Jonas Gomes, Bruno Costa, Lúcia Darsa
28. *Wavelets e Aplicações em Computação Gráfica*  
21 Colóquio Brasileiro de Matemática, IMPA, 1997  
Luiz Velho, Jonas Gomes e Siome Goldstein
29. *Image Processing for Computer Graphics*  
Springer Verlag, 1997  
Luiz Velho, Jonas Gomes
30. *Warping and Morphing of Graphical Objects*  
Siggraph Course Notes, 1995 e 1997  
Luiz Velho, Jonas Gomes, Bruno Costa, Lúcia Darsa, George Wolberg e John Berton
31. *Deformação e Metamorfose de Objetos Gráficos*  
20 Colóquio Brasileiro de Matemática, IMPA, 1995  
Luiz Velho, Jonas Gomes, Bruno Costa e Lúcia Darsa
32. *Computação Gráfica: Imagem*  
Coleção Computação e Matemática, SBM / IMPA, 1995  
Luiz Velho, Jonas Gomes
33. *Introdução à Computação Gráfica*  
Course Notes, IMPA, 1994  
Luiz Velho, Jonas Gomes e Paulo Roma Cavalcante
34. *Implicit Objects in Computer Graphics*  
Série Monografias em Matemática, IMPA, 1992  
Luiz Velho, Jonas Gomes
35. *Conceitos Básicos de Computação Gráfica*  
VII Escola de Computação, IME-USP, 1990  
Luiz Velho, Jonas Gomes



## 4.2. BOOK CHAPTERS

1. chapter 33 - *Real-Time Rendering of Complex Fractals*.  
in "Ray Tracing Gems II", NVIDIA, 2021.  
Tiago Novello, Vinicius da Silva, Helio Lopes and Luiz Velho.
2. chapter *Video and Virtual Reality*.  
in "Illustrating Mathematics", American Mathematical Society, 2020.  
Tiago Novello, (collaborators) Vinicius da Silva, and Luiz Velho.
3. *Visual Representations for Music Understanding Improvement*,  
In Lecture Notes in Computer Science. Springer Verlag, 2018.  
Luiz Velho, Leandro Cruz, Vitor Rolla, Juliano Kestenberg
4. *Virtual Emotion to Expression: A Comprehensive Dynamic Emotion Model to Facial Expression Generation Using the MPEG-4 Standard*  
in Computer Animation, Jaron S Wright and Lloyd M Hughes (eds.), Nova Science Publishers, November 2009  
Luiz Velho, Paula Rodrigues, Asla S 
5. *Togetherness: How Real is that Presence*  
in Virtual Worlds, IBS – Kochi, 2008  
Luiz Velho, Antonia Lucinelma Pessoa Albuquerque
6. *Projective Texture Atlas and Applications*  
in Curves and Surfaces: Avignon 06, T. Lyche,, L. Schumaker, (editors), Nashboro Press, Brentwood, 2007  
Luiz Velho, Jonas Sossai
7. *Point Cloud Denoising*  
in Geometric Design and Computing - Seattle 03, Mike Neatmu, (editor), SIAM Press, 2004  
Luiz Velho, Boris Mederos Madrazo, Luiz Henrique de Figueiredo
8. *Adaptive Mesh Extraction using Simplification and Refinement*  
in Curve and Surface Design: Saint-Malo 02, T. Lyche, M.-L. Mazure, L. Schumaker, (eds), Nashboro Press, 2003  
Luiz Velho, Adelailson Peixoto
9. *A Generic Programming Approach to Multiresolution Spatial Decompositions*,  
in Visualization and Mathematics III. pg. 340-362. Springer Verlag, 2002  
Luiz Velho, Vinicius Mello, Paulo Roma Cavalcanti, e Claudio Silva
10. *Generalizing the C4 Four-directional Box Spline to Surfaces of Arbitrary Topology*  
in Mathematical Methods in CAGD: Oslo, T. Lyche and L. Schumaker ed., 2001
11. *Virtual Sets: Concepts and Trends*  
in *Design and Management of Multimedia Information Systems: Opportunities and Challenges*, Idea Group, 2000  
Luiz Velho, Lucinelma Pessoa Albuquerque e Jonas Gomes
12. *Computa  o Gr fica: Uma Proposta de Plano Pedag gico*  
in *II Curso de Qualidade de Cursos de Gradua  o da  rea de Computa  o e Inform tica*  
SBC, p. 291-304, 2000
13. *Graphical Objects*  
in *II Pr mio Compaq de Est mulo   Pesquisa e Desenvolvimento em Inform tica*,  
Academia Brasileira de Ci ncias e Minist rio de Ci ncia e Tecnologia,, Instituto UNIEMP, S o Paulo, SP, p. 68-83, 1997  
Luiz Velho, Jonas Gomes, Bruno Costa e Lucia Darsa
14. *Visualiza  o e Computa  o Gr fica*  
in, Diana Domingues (ed.), *Arte no S culo XXI*, Editora UNESP, p. 113-117, 1997
15. *Algorithmic Modeling*  
in J. Gomes (org), *Modeling in Computer Graphics*  
Siggraph Course Notes, p. 98-134, 1993

## 4.3. ARTICLES IN SCIENTIFIC JOURNALS

1. *How to see the eight Thurston geometries*  
Ensaios Matem ticos, SBM, 2021.  
Tiago Novello, Vinicius da Silva, Mikhail Belolipetsky and Luiz Velho.
2. *Interdisciplinaridade, colabora  o e imers o: o design de uma experi ncia em realidade virtual com o objetivo de preserva  o da mem ria*  
Revista Museologia e Interdisciplinaridade, Revista Museologia e Interdisciplinaridade , 2021.  
Andrea Lennhoff , Luiza Novaes and Luiz Velho.
3. *Predicting Dengue Outbreaks in Brazil with Manifold Learning on Climate Data*.  
Expert Systems With Applications, 2021.  
Caio Souza, Pedro Maia, Lucas Stolerma n, Vitor Rolla and Luiz Velho.

4. *A Simple and Complete Discrete Exterior Calculus on General Polygonal Meshes.*  
Computer Aided Geometric Design, 2021.  
Lenka Ptackova and Luiz Velho.
5. *Data Visualization in the Time of Coronavirus.*  
SDRJ - Strategic Design Research Journal, 2, 2021.  
Special Issue on Design contributions for the COVID-19 global emergency.  
Julia Giannella and Luiz Velho.
6. *Self-similarity of Classical Music Networks.*  
Fractals, 2020.  
Vitor Rolla, Pablo Riera, Pedro Souza, Luiz Velho, and Jorge Zubelli.
7. *Global Illumination of Non-Euclidean Spaces.*  
Computers and Graphics, SIBGRAPI Special Edition, 2020.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
8. *Visualization of Nil, Sol, and  $SL_2(R)$  Geometries.*  
Computers and Graphics, 2020.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
9. *Experiments in Situated Participatory Virtual Reality.*  
Brazilian Journal of Development, 2020.  
Luiz Velho, Djalma Lucio, and Leo Carvalho.
10. *TensorPose: Real-time pose estimation for interactive applications.*  
Computers and Graphics, 2019.  
Luiz Schirmer, Djalma Lucio, Alberto Raposo, Luiz Velho, and Helio Lopes.
11. *Visualizacao de Colecao de Imagens.*  
Dialogo com a Economia Criativa, 2019.  
Luiz Velho and Julia Giannella.
12. *VR Tour: Guided Participatory Meta-Narrative for Virtual Reality Exploration.*  
Revista GEMInS, 2019.  
Luiz Velho, Julia Giannella, Djalma Lucio, and Vinicius Silva.
13. *The complexity of classical music networks,*  
Europhysics Letters, 2018,  
Luiz Velho, Vitor Rolla, Juliano Kestenberg.
14. *Hough Transform for Real-Time Plane Detection in Depth Images,*  
Pattern Recognition Letters, 2018.  
Luiz Velho, Eduardo Vera Sousa, Djalma Lucio, Leandro Fernandes
15. *Local Moebius Transformations Applied to Omnidirectional Images.*  
Computers and Graphics, 2017.  
Luiz Velho, Leonardo Souto, Leonardo Sacht
16. *Automatic reconstruction of ancient Portuguese tile panels*  
IEEE Computer Graphics and Applications,, 2016.  
Luiz Velho, Fernanda Andalo, Gustavo Carneiro, Gabriel Taubin, Siome Goldenstein
17. *Sketch-Based Modeling and Adaptive Meshes*  
Computers and Graphics, 2015.  
Luiz Velho, Emilio Brazil, Ronan Amorim, Mario Costa Souza and Luiz Henrique Figueiredo
18. *Real-time Correction of Panoramic Images using Hyperbolic Moebius Transformations*  
Journal of Real-Time Image Processing, 2015.  
Luiz Velho, Luis Penaranda, and Leonardo Sacht
19. *Facing the High-dimensions: Inverse Projection Luiz Velho, Radial Basis Functions*  
Computers and Graphics, 2015.  
Luiz Velho, Elisa Portes, Emilio Vital Brazil, Jesus Mena-Chalco, Luis Gustavo Nonato, Faramarz Samavati, Mario Costa Sousa
20. *ChoreoGraphics: An Authoring Tool for Dance Shows*  
Journal of Graphics Tools, 2014.  
Luiz Velho, Adriana Schulz, Wojciech Matusik
21. *An image-space algorithm for immersive views in 3-manifolds and orbifolds*  
Visual Computer, 2014.  
Luiz Velho, Pierre Berger, Alex Laier
22. *Adaptive multi-chart and multiresolution mesh representation*  
Computers and Graphics, 38:332–340, February 2014.  
Luiz Velho, Andre Maximo, and Marcelo Siqueira.

23. *Efficient 3D object recognition using foveated point clouds*  
Computers and Graphics, 2013  
Luiz Velho, Rafael Gomes, Bruno Silva, Lourena Rocha, Rafael Aroca, and Luiz M. Goncalves.
24. *Virtual Table-Teleporter: Image Processing and Rendering for Horizontal Stereoscopic Display*  
International Journal of Virtual Reality, 2013.  
Luiz Velho, Bruno Madeira.
25. *Conic-like subdivision curves on surfaces*  
The Visual Computer, 2012.  
Luiz Velho, Jorge Estrada, Victoria Hernadez, Dimas Martinez, and Nayla Gil.
26. *Interactive 3D Caricature from Harmonic Exaggeration*  
Computers and Graphics, 2011.  
Luiz Velho, Thomas Lewiner, Adelailson Peixoto, Dimas Martinez Morera, Vinicius Mello, and Thales Vieira.
27. *Exoskeleton: Curve Network Abstraction for 3D Shapes*  
Computers and Graphics, 2010.  
Luiz Velho, Fernando de Goes, Siome Klein, Mathieu Desbrun
28. *Shape and Tone Depiction for Implicit Surfaces*  
Computer and Graphics, 2010.  
Luiz Velho, Emilio Vital Brazil, Ives Macedo, Mario Costa Sousa, and Luiz Henrique Figueiredo
29. *RGBN sketch-based image warping*  
Graphical Models, 2010.  
Luiz Velho, Thiago Pereira, Emilio Vital Brazil, Ives Macedo, Mario Costa Sousa, Luiz Henrique de Figueiredo
30. *Simplicial Diffeomorphisms*  
Computer Aided Geometric Design, 2010.  
Luiz Velho, Vinicius Mello
31. *Hermite Radial Basis Functions Implicits*  
Computer Graphics Forum, 2010.  
Luiz Velho, Ives Macedo, Joao Paulo Gois
32. *Subdivision de courbes sur les surfaces avec controle de la longueur d'arc*  
Revue Electronique Francophone d'Informatique Graphique, v.4, n1, 2010  
Luiz Velho, Jorge Estrada-Sarlabous, Victoria Hernandez, Dimas Morera
33. *On 2D Solid Alpha-Complexes of Poisson Disc Samplings*  
International Journal of Shape Modeling, 2010.  
Luiz Velho, Esdras Medeiros, Helio Lopes, Thomas Lewiner.
34. *Topological Mesh Operators*  
Computer Aided Geometric Design, 2010.  
Luiz Velho, Esdras Medeiros, Geovan Tavares, Helio Lopes, Thomas Lewiner.
35. *3D Face Computational Photography Using PCA Spaces.*  
The Visual Computer, 2009.  
Luiz Velho, Jesus Mena-Chalco, Ives Macedo, and Roberto Cesar.
36. *A New Construction of Smooth Surfaces from Triangle Meshes Using Parametric Pseudo-Manifolds.*  
Computers and Graphics, 2009.  
Luiz Velho, Marcelo Siqueira, Dianna Xu, Jean Gallier, Luis Gustavo Nonato, Dimas Martinez Morera.
37. *Affine Skeletons and Monge-Ampère Equations*  
SIAM Journal on Imaging Sciences, 2009.  
Luiz Velho, Ralph Teixeira, Moacyr Silva
38. *Learning good views through intelligent galleries*  
Computer Graphics Forum, 2009.  
Luiz Velho, Thales Vieira, Alex Bordignon, Adelailson Peixoto, Geovan Tavares, Helio Lopes, Thomas Lewiner.
39. *Scalable GPU rendering of CSG models*  
In Computer and Graphics, 2008  
Luiz Velho, Fabiano Romeiro, Luiz Henrique de Figueiredo
40. *Modeling on Triangulations Luiz Velho, Geodesic Curves*  
In The Visual Computer, 2008  
Luiz Velho, Dimas Martinez Morera, Paulo Cezar Carvalho
41. *A Hierarchical Segmentation of Articulated Bodies*  
In Computer Graphics Forum, 2008.  
Luiz Velho, Fernando de Goes, Siome Goldenstein

42. *A Cybernetic Observatory Based on Panoramic Vision*  
In Technoetic Arts, v. 6, n. 1, March 2008  
Luiz Velho, Andre Parente.
43. *A Simple and Flexible Framework to Adapt Dynamic Meshes*  
In Computer and Graphics, 2008  
Luiz Velho, Fernando de Goes, Siome Goldenstein.
44. *Reconstruction of 3D object meshes from silhouette images*  
In Journal of Mathematical Imaging and Vision, 2007  
Luiz Velho, Anselmo Montenegro, Paulo Carvalho, and Jonas Sossai.
45. *Regularized Implicit Surface Reconstruction from Points and Normals*  
in Journal of the Brazilian Computer Society, 2007  
Luiz Velho, Boris Mederos, Marcos Lage, Sueni Arouca, Fabiano Petronetto, Thomas Lewiner, and Helio Lopes
46. *Projective Texture Atlas Construction for 3D Photography*  
in The Visual Computer, v. 23, n. 9-11, 2007  
Luiz Velho, Jonas Sossai Jr.
47. *GEncode: Geometry-driven compression for general meshes*  
In Computer Graphics Forum, 2006  
Luiz Velho, Thomas Lewiner, Marcos Craizer, Helio Lopes, Sinesio Pesco, and Esdras Medeiros.
48. *Extraction And Compression Of Hierarchical Isocontours From Image Data*  
In journal on Computerized Medical Imaging and Graphics (CMIG), 2006  
Luiz Velho, Thomas Lewiner, Helio Lopes and Vinicus Mello.
49. *Adaptive Deformable Models for Graphics and Vision*  
In Computer Graphics Forum (CGF) , 2005  
Luiz Velho, Siome Goldenstein, Christian Vogler
50. *Computing Geodesics on Triangular Meshes*  
In Computer & Graphics, 29(5), 2005  
Luiz Velho, Dimas Martinez Morera, Paulo Cezar Carvalho
51. *Adaptive multi-resolution triangulations based on physical compression*  
In Communications in Numerical Methods in Engineering, Volume 21 Issue 6, p. 269 – 335, June 2005,  
Luiz Velho, Ricardo Marroquim, Paulo Roma Cavalcanti, Claudio Esperança
52. *Silhouette Enhanced Point-Based Rendering*  
In Journal of WSCG, v. 13, n. 5, p. 105-111, 2005.  
Luiz Velho, Jose Luiz Luz, Paulo Cezar Carvalho.
53. *Assistive Interfaces for the Visually Impaired Using Force Feedback Devices and Distance Transforms*  
Information Technology and Disabilities E-Journal, EASI, Vol. X No. 2, 2004  
Luiz Velho, Marcelo Medeiros Carneiro.
54. *Realistic, Real-Time Rendering of Ocean Waves*  
Computer Animation and Virtual Worlds, Special Issue on Game Technologies, 2004  
Luiz Velho, Yaohua Hu, Xin Tong, Baining Guo, and Harry Shum.
55. *Smooth Surface Reconstruction from Noisy Clouds*  
Journal of the Brazilian Computing Society, 2004  
Luiz Velho, Boris Mederos, and Luiz Henrique de Figueiredo.
56. *Stellar Mesh Simplification Using Probabilistic Optimization*  
Computer Graphics Forum, 2004  
Luiz Velho, Antônio Wilson Vieira, Thomas Lewiner, Luiz Velho, Hélio Lopes, and Geovan Tavares.
57. *A Dynamic Adaptive Mesh Library based on Stellar Operators*  
Journal of Graphics Tools - ACM, 9(2):1-29, 2004.
58. *Visualização de Objetos Tridimensionais Baseada em Interpolação Projetiva*  
Revista Eletrônica de Iniciação Científica, SBC, 2004  
Luiz Velho, Aldo Nogueira e Elaine Prata.
59. *Synthesis of Progressively Variant Textures on Arbitrary Surfaces*  
ACM Transactions on Graphics, v. 22., n. 3, , p. 295-302 July 2003  
Luiz Velho, Jingdan Zhang, Kun Zhou, Baining Guo, Heung-Yeung
60. *Approximating Parametric Curves Luiz Velho, Strip Trees using Affine Arithmetic*  
Computer Graphics Forum, v.22, n.2, 2003  
Luiz Velho, Luiz Henrique Figueiredo, Jorge Solfi
61. *Coded Structured Light for 3D-Photography: An Overview*  
Revista de Informática Teórica e Aplicada, v. XI, n. 2, p. 203-219, 2002.  
Luiz Velho, PauloCezar Carvalho, Asla Sá e Esdras Soares

62. *B-Spline Wavelet Paint*  
Revista de Informática Teórica e Aplicada, 2002.  
Luiz Velho, Ken Perlin
63. *Expressive Talking Heads*  
Revista SCIENTIA – WTDCGPI, v. 13, n. 2, Jul/Dez 2002, pg. 1-12 October 2002  
Luiz Velho, Paula Salgado Lucena e Marcelo Gattass
64. *Algorithmic Shape Modeling Luiz Velho, Subdivision Surfaces*  
Computer & Graphics, v. 26, n. 6, p. 859-870, December 2002.  
Luiz Velho, Ken Perlin, Henning Biermann e Lexing Ying
65. *A virtual memory system for real-time visualization of multi-resolution 2D objects*  
Journal of WSCG, v. 10, n. 1, p. 365-373. January 2002  
Luiz Velho, Sergio Pinheiro
66. *Color Representation: Theory and Techniques*  
Cubo Matemática Educacional, v 4, n.2, p. 141-162, June 2002.  
Luiz Velho, Jonas Gomes
67. *4-8 Subdivision*  
Computer-Aided Geometric Design (Special Issue on Subdivision Techniques),  
v. 18, n. 5, p. 397-427, 2001.  
Luiz Velho, Denis Zorin
68. *Quasi 4-8 Subdivision*  
Computer-Aided Geometric Design, v. 18, n. 4, p. 345-357, 2001.
69. *Using Semi-Regular 4-8 Meshes for Subdivision Surfaces*  
Journal of Graphics Tools, v. 5, n. 3, p. 35-47, 2001.
70. *Towards Interactivity On Texturing Implicit Surfaces: A Distributed Approach*  
Journal of WSCG 2001, v. 9, n. 1, p. 360-366, February 2001,  
Luiz Velho, R. Zonenshein, J. Gomes, and N. Rodriguez
71. *Towards a Unified Framework for Spatial Data Models*  
Journal of the Brazilian Computing Societ, 7(1):17-25, 2000,  
Luiz Velho, Gilberto Camara, Antonio Monteiro, Joao Paiva e Jonas Gomes
72. *Free Deformation of Multiresolution B-Spline Curves*  
Revista de la Fac CC. MM. de la Universidad Nacional Mayor de San Marcos,  
v. 3, n. 1, p. 65-79, 2000,  
Luiz Velho, Luis Rivera e Paulo Cezar Carvalho
73. *Variable Resolution 4-K Meshes: Concepts and Applications*  
Computer Graphics Forum, v. 19, n. 4, p. 195-214, 2000,  
Luiz Velho, Jonas Gomes
74. *A Unified Approach for Hierarchical Adaptive Tessellation of Surfaces*  
Transactions on Graphics, ACM, v. 18, n. 4, p. 18-32, 2000,  
Luiz Velho, Jonas Gomes e Luiz Henrique Figueiredo
75. *Hierarchical Generalized Triangle Strips*  
The Visual Computer, Springer-Verlag, v 15, n. 1, p. 21-35, 1999.  
Luiz Velho, Jonas Gomes e Luiz Henrique Figueiredo
76. *A Methodology for Piecewise-Linear Interpolation of Surfaces*  
Journal of the Brazilian Computer Society (JBSC),  
Special issue on Computer Graphics and Image Processing, v. 3, n. 3, p. 30-42 April 1997  
Luiz Velho, Jonas Gomes e Luiz Henrique Figueiredo
77. *Implicit Manifolds, Triangulations and Dynamics*  
Journal of Neural Parallel and Scientific Computations, Special Issue in Computer Aided Geometric Design, 1,2, p. 103-120,  
Dynamic Publishers, Atlanta. 1997  
Luiz Velho, Jonas Gomes e Demetri Terzopoulos
78. *Simple and Efficient Polygonization of Implicit Surfaces*  
Journal of Graphics Tools, v. 1, n. 2, p 5-25, A.K.Peters, 1996
79. *Approximate Conversion of Parametric to Implicit Surfaces*  
Computer Graphics Forum, v 15, n. 5, p. 327-338 Elsevier Science Publishers, 1996  
Luiz Velho, Jonas Gomes
80. *Graphical Objects*  
The Visual Computer, v. 12, n. 6, p. 269-282, Springer-Verlag, 1996  
Luiz Velho, Jonas Gomes, Bruno Costa e Lucia Darsa

81. *Live Paint: Painting Luiz Velho, Procedural Multiscale Textures*  
Computer Graphics, Annual Conf. Series, p. 153-160, ACM SIGGRAPH, August 1995  
Luiz Velho, Ken Perlin
82. *Stochastic Screening Dithering Luiz Velho, Adaptive Clustering*  
Computer Graphics, Annual Conf. Series, p. 273-276, ACM SIGGRAPH, August 1995  
Luiz Velho, Jonas Gomes
83. *Constructing Implicit Shape Models from Boundary Data*  
Graphical Models and Image Processing, 57 (3), p.220-234, Academic Press, May 1995  
Luiz Velho, Demetri Terzopoulos e Jonas Gomes
84. *Abstraction Paradigms for Computer Graphics*  
The Visual Computer, 11 (5), p. 227-239, Springer-Verlag, 1995  
Luiz Velho, Jonas Gomes
85. *Digital Halftoning Luiz Velho, Space Filling Curves,*  
Computer Graphics, 25 (4), p. 81-90, ACM SIGGRAPH, August 1991  
Luiz Velho, Jonas Gomes

#### 4.4. TECHNICAL PAPERS IN CONFERENCE PROCEEDINGS

1. *Can We Use Neural Regularization to Solve Depth Super-Resolution?.*  
In Proceedings of VISAPP, 2022.  
M. Gazdieva, O. Voinov, A. Artemov, Y. Zheng, L. Velho, E. Burnaev
2. *3D Reconstruction with Drone Images: optimization by reinforcement learning.*  
In Proceedings of ICAS - The Seventeenth International Conference on Autonomic and Autonomous Systems, 2021.  
Thiago Baldvieso, Taise Batista, Luiz Velho, Paulo Rosa.
3. *Semantic graph attention networks and tensor decompositions for computer vision and computer graphics.*  
In Proceedings of WTD -SIBGRAPI, 2021.  
Luiz Schirmer, Helio Lopes, Luiz Velho.
4. *SGAT: Semantic Graph Attention for 3D human pose estimation.*  
In Proceedings of SIBGRAPI, 2021.  
Luiz Schirmer, Djalma Lucio, Leandro Cruz, Alberto Raposo, Helio Lopes and Luiz Velho.
5. *Deep Neural Networks for Implicit Representations of 3D Scenes.*  
In SIBGRAPI Tutorials, 2021.  
Luiz Schirmer, Guilherme Schardong, Vinicius da Silva, Tiago Novello, Daniel Yukimura, Thales Magalhaes, Helio Lopes, Hallison Paz, and Luiz Velho.
6. *Deep Reinforcement Learning for Task Planning of Virtual Characters.*  
In Proceedings of Computing Conference 2021.  
Caio Souza, Luiz Velho.
7. *Projeto de datasets de light fields sintéticos.*  
In Proceedings of WUW, 2020.  
Harllon da Paz, Luiz Velho, and Carla Pagliari.
8. *A lightweight 2D Pose Machine with attention enhancement.*  
In Proceedings of SIBGRAPI, 2020.  
Luiz Velho and Vinicius da Silva and Tiago Novello.
9. *Immersive Visualization of the Classical Non-Euclidean Spaces using Real-Time Ray Tracing in VR.*  
In Proceedings of 46th Annual Conference on Computer graphics, Visualization and Human-Computer Interaction,, 2020.  
Luiz Schirmer, Djalma Lucio, Helio Lopes, and Luiz Velho.
10. *Latent-Space Laplacian Pyramids for Adversarial Representation Learning with 3D Point Clouds.*  
In Proceedings of VISAPP, 2020.  
V. Egiazarian, S. Ignatiev, A.Artemov, O. Voynov, A. Kravchenko, Y. Zheng, L.Velho, and E. Burnaev.
11. *Expanded Virtual Puppeteering.*  
In Proceedings of 15th International Joint Conference on Computer Vision, Imaging and Computer Graphics, 2020.  
Luiz Velho and Bernard Lupiac.
12. *The Tempest.*  
In Proceedings of Besides the Screen, 2019.  
Luiz Velho.
13. *Expanded Virtual Puppeteering e O Boneco.*  
In Proceedings of Besides the Screen, 2019.  
Luiz Velho, Bernard Lupiac, Vida Oliveira, and Miguel Araujo

14. *Adaptive Reconstruction of Implicit Surfaces from Depth Images*  
In Proceedings of WTD - SIBGRAPI, 2018.  
Luiz Velho, Hallison Paz
15. *Dois métodos eficientes para criação de miniaturas virtuais sobre telas horizontais a partir de imagens*  
In Proceedings of SVR, 2018.  
Luiz Velho, Bruno Madeira, Paulo Rosa, and Luiz Velho.
16. *Live Probabilistic Editing for Virtual Cinematography.*  
In Proceedings of Entertainment Computing, Springer Verlag, 2018.  
Luiz Velho, Leonardo Carvalho, and Djalma Lucio.
17. *Novel Interaction Techniques for Collaboration in VR.*  
In Proceedings of ACM SIGCHI, 2018.  
Luiz Velho, Misha Sra, Ken Perlin, Mark Bolas.
18. *D-KHT: Real-Time Plane Detection in Depth Images.*  
In Proceedings of Workshop of Theses and Dissertations in the 30th Conference on Graphics, Patterns and Images, 2017.  
Luiz Velho, Eduardo Vera Sousa, Leandro Fernandes
19. *ObservatoRIO2016 - intersecoes entre arte e tecnicas de Deep Learning.*  
In Proceedings of INDISCIPLINAS - A Arte Frente ao Urgente, 2016.  
Luiz Velho, Julia Giannella, Juliano Kestenberg, Vitor Guerra, and Djalma Lucio.
20. *Visual Representations for Improvement of Music Understanding.*  
In Proceedings of 13th International Symposium on Computer Music Multidisciplinary Research, 2017.  
Luiz Velho, Leandro Cruz, Vitor Rolla, Juliano Kestenberg
21. *ObservatoRIO 2016.*  
In Catalogo da 12 Bienal Brasileira de Design Grafico, 2017.  
Luiz Velho, Julia Giannella
22. *Web Orchestra Studio: a real-time interactive platform for music and education.*  
In Proceedings of 16th Brazilian Symposium on Computer Music, 2017.  
Luiz Velho, Juliano Kestenberg, Vitor Rolla, Djalma Lucio
23. *Situated Participatory Virtual Reality.*  
In Proceedings of XVI Simposio Brasileiro de Jogos e Entretenimento Digital, 2017.  
Luiz Velho, Djalma Lucio, and Leo Carvalho.
24. *Music2Image: A synesthetic approach for music perception.*  
In proceedings of 42nd International Computer Music Conference, 2016.  
Luiz Velho, Leandro Cruz, Vitor Rolla
25. *Deep Image Classification of a Wild Data Set for Olympic Sports.*  
In Proceedings of Workpedia, 2016.  
Luiz Velho, Daniel Ferreira Moreira, Cristina Nader Vasconcelos, Aline Paes
26. *Esquema hibrido para renderizacoes foto-realistas Luiz Velho, mapas de iluminacao.*  
In Proceedings of Lat.Am.Symp. on Computer Graphics, Virtual Reality, and Image Processing. CLEI, 2016.  
Luiz Velho, Aldo Zang
27. *High-Level Techniques for Landscape Creation.*  
In proceedings of SIBGRAPI Workshop of Theses and Dissertations, 2015.  
Luiz Velho, Leandro Cruz
28. *Síntese de Modelos de Elevação Digital a partir de Análise de Dados Reais.*  
In Proceedings of SIBGRAPI Workshop of Works in Progress, 2015.  
Luiz Velho, Leandro Cruz
29. *Geometry independent game encapsulation for Non-Euclidean geometries.*  
In Proceedings of SIBGRAPI Workshop of Works in Progress, 2015.  
Luiz Velho, Filipe Guimaraes, Vinicius Mello,
30. *3-D Modeling from Concept Sketches of Human Characters Luiz Velho, Minimal User Interaction.*  
In Proceedings of DICTA. International Conference on Digital Image Computing: Techniques and Applications, 2015.  
Luiz Velho, Adrian Johnston, Gustavo Carneiro, Ren Ding,
31. *Sketches on natural interactions Luiz Velho, virtual scenes.*  
In Proceedings of SIBGRAPI Workshop of Works in Progress, 2015.  
Luiz Velho, Andrea Lins, Ricardo Marroquim,
32. *Panoramas RGBD Omnidirecionais Luiz Velho, Multiplas Camadas e suas Aplicacoes.*  
In Proceedings of SIBGRAPI Workshop of Works in Progress, 2015.  
Luiz Velho, Aldo Zang

33. *Patch-based Terrain Synthesis*  
In Proceedings of GRAPP, 2015  
Luiz Velho, Leandro Cruz, Eric Galin, Adrien Peytavie, and Eric Guerin,
34. *Horizontal stereoscopic display based on homologous points*  
In Proceedings of VISAPP, 2015.  
Luiz Velho, Bruno Madeira, Paulo Rosa, Carlos Volotao,
35. *A Sketch-Based Modeling Framework Based on Adaptive Meshes*  
In Proceedings of SIBGRAPI - XXVII Conference on Graphics, Patterns and Images, 2014.  
Luiz Velho, Emilio Brazil, Ronan Amorim, Luiz Henrique Figueiredo, Mario Costa Sousa,
36. *Landscape Specification Resizing*  
In Proceedings of CLEI, 2014.  
Luiz Velho, Leandro Cruz, Djalma Lucio, Eric Galin, Adrien Peytavie, and Eric Guerin.
37. *Sistema Revelar: educação, fotografia e interação no Jardim Botânico do Rio de Janeiro*  
In Anais do 11 Congresso Brasileiro de Pesquisa e Desenvolvimento em Design, 2014.  
Luiz Velho, Juliano Kestenberg, Washington Lessa,
38. *Developing Mobile Multimedia Apps, Botanic: A Case Study*  
In XXVII SIBGRAPI Tutorials, 2014.
39. *Jobim Botanic*  
In Proceedings of SIGGRAPH Asia Symposium on Mobile Graphics and Interactive Applications, 2014.  
Luiz Velho, Fernanda Groetaers
40. *Corporeal interval: sensory indeterminacy as the poetic bloom of interactive art.*  
In Proceedings of Re-New, 2013.  
Luiz Velho, Barbara Castro, Doris Kosminski.
41. *Exemplar-based Terrain Synthesis.*  
In Proceedings of WIP - SIBGRAPI, 2013.  
Luiz Velho, Leandro Cruz, Francisco Ganacim, Djalma Lucio, and Luiz Henrique de Figueiredo.
42. *Motion Estimation from RGBD Images Using Graph Homomorphism.*  
In Proceedings of CIARP - 18th Iberoamerican Congress on Pattern Recognition,, 2013.  
Luiz Velho, David da Silva Pires, Roberto Marcondes Cesar-Jr
43. *Improving Object Extraction Luiz Velho,Depth-Based Methods.*  
In Proceedings of CLEI, 2013.  
Luiz Velho, Fabian Prada, Leandro Cruz.
44. *Complex Plane Transformations for Manipulation and Visualization of Panoramas*  
in Proceedings of GRAPP 2013 - International Conference on Computer Graphics Theory and Applications, 2013.  
Luiz Velho, Leonardo Sacht
45. *Rendering Synthetic Objects Into Full Panoramic Scenes Using Light-Depth Maps*  
in Proceedings of GRAPP 2013 - International Conference on Computer Graphics Theory and Applications, 2013.  
Luiz Velho, Aldo Zang, Dalai Felinto,
46. *Production Framework for Full Panoramic Scenes Luiz Velho,Photorealistic Augmented Reality*  
In Proceedings of CLEI - XXXVIII Conferencia Latinoamericana en Informática, 2012.  
Luiz Velho, Dalai Felinto and Aldo Zang
47. *Keyframe Control of Fluid Warping and Morphing using Adjoint Method*  
In Proceedings of WGARI - Workshop on Industry Applications, 2012.  
Luiz Velho, Dalia Bonilla, and Luis Gustavo Nonato.
48. *Fluid Simulation on Surfaces in the GPU.*  
In Proceedings of XXV SIBGRAPI - Conference on Graphics, Patterns and Images, 2012.  
Luiz Velho, Leonardo Carvalho, Maria Andrade
49. *Generating textures on Surfaces Luiz Velho,Reaction-Diffusion systems in the GPU.*  
In Proceedings of NVIDIA GCDF - GPU Computing Developer Forum, 2012.  
Luiz Velho, Leonardo Carvalho, Maria Andrade
50. *Integrarte: digital art using body interaction.*  
In Proceedings of Computational Aesthetics in Graphics, Visualization, and Imaging, 2012.  
Luiz Velho, Barbara Castro, and Doris Kosminsky.
51. *Realistic Shadows on Mobile Augmented Reality.*  
In Proceedings of XIV Symposium on Virtual and Augmented Reality, 2012.  
Luiz Velho, Tassio Castro, Luiz Henrique de Figueiredo
52. *Kinect and RGBD Images: Challenges and Applications.*  
In XXV SIBGRAPI Tutorials. IEEE CPS, 2012.  
Luiz Velho, Leandro Cruz, Djalma Lucio



53. *RGBD Camera Effects*.  
In Proceedings of SIBGRAPI Workshop on Interactive Visualization, 2012.  
Luiz Velho, Djalma Lucio, Leandro Cruz
54. *Virtual Table–Teleporter: Image Processing and Rendering for Horizontal Stereoscopic Display*.  
In Proceedings of XIV Symposium on Virtual and Augmented Reality, 2012.  
Luiz Velho, Bruno Madeira
55. *M4G: Manifolds for GPUs Library*  
In Proceedings of Mini-symposium on Publicly Available Geometric/Topological Software, 2012.  
Luiz Velho, Andre Maximo
56. *Motion segmentation from texture and depth images using graph homomorphism*.  
In Proceedings of SIBGRAPI Workshop of Works in Progress, 2012.  
Luiz Velho, David Pires, Roberto Cesar Jr.
57. *Object Extraction in RGBD Images*.  
In Proceedings of SIBGRAPI Workshop of Works in Progress, 2012.  
Luiz Velho, Fabian Prada, Leandro Cruz
58. *3D Facial Expression Analysis by using 2D and 3D Wavelet Transforms*  
In Proceedings of IEEE ICIP2011  
Luiz Velho, Sílvia Pinto, Fabricio Lopes, Jesús Mena-Chalco, Roberto Cesar Junior
59. *Animating Liquids in a Still Image*  
In Proceedings of Computer Graphics International, 2011.  
Luiz Velho, Marcos Aurelio Batista, Gustavo Buscaglia, Celia Zorzo Barcelos, and Luis Gustavo Nonato.
60. *Real-time Terrain Modeling using CPU-GPU Coupled Computation*  
In Proceedings of SIBGRAPI - 24th Conference on Graphics, Patterns, and Image, 2011.  
Luiz Velho, Adrien Bernhardt, Andre Maximo, Houssam Hnaidi, and Marie-Paule Cani.
61. *Control Methods for Fluid-Based Image Warping*  
In Proceedings of WTD, 2011.  
Luiz Velho, Dalia Bonilla.
62. *Generating sketch based adaptive meshes*  
In Proceedings of WGARI, 2011.  
Luiz Velho, Leonardo Carvalho
63. *Métodos para Criação de Terrenos Baseados em Traços*  
In Proceedings of WTD, 2011.  
Luiz Velho, Leandro Cruz
64. *Mobile HDR Video*  
In Eurographics - HDRI Area Papers, 2011.  
Luiz Velho, Tassio Knop de Castro, Alexandre Chapiro, Marcelo Cicconet
65. *3D human face reconstruction using principal components spaces*  
In Proceedings of WTD, 2011.  
Luiz Velho, Jesus Mena-Chalco, Roberto Marcondes
66. *Sketch-Based Adaptive Mesh Augmentation using Stellar Operators*  
In Proceedings of SIBGRAPI - 24th Conference on Graphics, Patterns, and Image, 2011.  
Luiz Velho, Afonso Paiva, Ronan Amorim and Mario Costa Sousa
67. *Geodesic conic subdivision curves on surfaces*  
In Proceedings of SIBGRAPI - 24th Conference on Graphics, Patterns, and Image, 2011.  
Luiz Velho, Jorge Estrada Sarlabous, Victoria Hernandez Mederos, Dimas Martinez Morera, and Nayla Lopez Gil. "
68. *ChoreoGraphics: An Authoring Environment for Dance Shows*  
In Proceedings of WTD, 2011.  
Luiz Velho, Adriana Schulz
69. *Um framework para renderizações foto-realistas de cenas Luiz Velho, realidade aumentada*  
In Proceedings of XXXVII Conferencia Lationamericana de Informática, 2011.  
Luiz Velho, Aldo Zang
- A Platform for Spatial Augmented Reality*  
In Proceedings of WRVA - VII Workshop de Realidade Virtual e Aumentada, 2010  
Luiz Velho, Julio Martin
70. *Uma plataforma para visualização estereoscópica horizontal*  
In Proceedings of WRVA - VII Workshop de Realidade Virtual e Aumentada, 2010  
Luiz Velho, Bruno Madeira

71. *Visual Pitch Class Profile: A Video-Based Method for Real-Time Guitar Chord Identification*  
In Proceedings of VISAPP - International Conference on Computer Vision Theory and Applications, 2010  
Luiz Velho, Marcelo Cicconet, Marcelo Gattass, and Paulo Cezar Carvalho
72. *Sketching Variational Hermite-RBF Implicits*  
In Proceedings of SBIM, 2010. EUROGRAPHICS Symposium on Sketch-Based Interfaces and Modeling.  
Luiz Velho, Emilio Vital Brazil, Ives Macedo, Mario Costa Sousa, Luiz Henrique de Figueiredo
73. *A sketch on Sketch-Based Interfaces and Modeling*  
In Tutorials of SIBGRAPI - 23rd Conference on Graphics, Patterns, and Images, 2010.  
Luiz Velho, Leandro Cruz
74. *3D Linear Facial Animation Based on Real Data*  
In Proceedings of SIBGRAPI - 3rd Conference on Graphics, Patterns, and Images, 2010.  
Luiz Velho, Andrea Britto Mattos, Jesus Mena-Chalco, Roberto Cesar Jr
75. *NormalShop: Modeling surface mesostructure*  
In Proceedings of SIBGRAPI WTD, 2010.  
Luiz Velho, Thiago Pereira
76. *Content-Based Projections for Panoramic Images and Videos*  
In Proceedings of SIBGRAPI WTD, 2010.  
Luiz Velho, Leonardo K. Sacht, Paulo C. Carvalho
77. *Panoramic images as optimizing projections from the unit sphere to the plane*  
In Proceedings of XXXIII CNMAC, 2010.  
Luiz Velho, Leonardo K. Sacht, Paulo C. Carvalho
78. *Esquema Híbrido para Amostragem de Mapas de Iluminação em renderizações foto-realistas*  
In Proceedings of XXXIII CNMAC, 2010.  
Luiz Velho, Aldo R. Zang and Luiz Velho
79. *Esquema Híbrido para Amostragem de Mapas de Iluminação em renderizações foto-realistas*  
In Proceedings of CLEI - CLTM, 2010.  
Luiz Velho, Aldo R. Zang
80. *A Few Good Samples: Shape & Tone Depiction for Hermite RBF Implicits*  
In Proceedings of NPAR, 2010  
Luiz Velho, Emilio Vital Brazil, Ives Macedo, Mario Costa Sousa, and Luiz Henrique de Figueiredo
81. *Visual Pitch Class Profile: A Video-Based Method for Real-Time Guitar Chord Identification*  
In Proceedings of VISAPP - International Conference on Computer Vision Theory and Applications, 2010  
Luiz Velho, Marcelo Cicconet, Marcelo Gattass, and Paulo Cezar Carvalho
82. *On Bimodal Guitar-Chord Recognition*  
In Proceedings of ICMC, 2010  
Luiz Velho, Marcelo Cicconet, Paulo Cezar Carvalho
83. *Normal Synthesis on RGBN Images*  
In Proceedings of GRAPP - International Conference on Computer Graphics Theory and Applications, 2010  
Luiz Velho, Thiago Pereira
84. *Um ambiente tangível para criação de animações 2D.*  
In Anais do SIECI - 7 Simposio Iberoamericano en Educaci3n, Cibern3tica e Inform3tica, 2010  
Luiz Velho, Alexandra Alves, Patrik Matos, Roseli Lopes
85. *REACTOONS: A Tangible Environment for Creating Animations*  
In Proceedings of DIGITEL - IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning, 2010  
Luiz Velho, Alexandra Alves, Patrik Matos, Roseli Lopes
86. *A Tangible Environment for Creating Animations*  
In Proceedings of CELDA, 2009.  
Luiz Velho, Alexandra Alves, Patrik Matos, Roseli Lopes
87. *Multitouch Sketch Based Modeling*  
In Proceedings of Workshop of Undergraduate Works, 2009  
Luiz Velho, Leandro Cruz, and Luiz Rivera.
88. *Subdivision curves on surfaces Luiz Velho,arc-length control*  
In Proceedings of AFIG, 2009.  
Luiz Velho, Jorge Estrada-Sarlabous, Victoria Hernandez-Mederos, Dimas Martinez-Morera
89. *Esquema Híbrido para Amostragem de Mapas de Iluminação em renderizações foto-realistas*  
In Proceedings of Workshop of Theses and Dissertations, 2009.  
Luiz Velho, Aldo Zang

90. *On the Empirical Rate-Distortion Performance of Compressive Sensing*  
In Proceedings of ICIP, 2009.  
Luiz Velho, Adriana Schulz, and Eduardo A. B. da Silva.
91. *Uma investigação empírica do desempenho da amostragem compressiva em codificação de imagens*  
In Anais do SBrT, 2009.  
Luiz Velho, Adriana Schulz, and Eduardo A. B. da Silva.
92. *M-Cube: A Visualization Tool for Multi-dimensional Multimedia Databases*,  
In Proceedings of Interaction, 2009.  
Luiz Velho, Andre Maximo, Maria Paula Saba.
93. *collecTable: uma Interface Natural para Coleções de Musica*.  
In Proceedings of 4o CIDI / 3o Infodesign, 2009  
Luiz Velho, Andre Maximo and Maria Paula Saba Reis
94. *Geometry Super-Resolution by Example*,  
In Proceedings of SIBGRAPI - XX Brazilian Symposium on Computer Graphics and Image Processing. SBC, 2009  
Luiz Velho, Thales Vieira, Alex Bordignon, Thomas Lewiner
95. *RGBN image editing*,  
In Proceedings of SIBGRAPI - XX Brazilian Symposium on Computer Graphics and Image Processing. SBC, 2009  
Luiz Velho, Thiago Pereira
96. *Perspective Contouring in Illustrative Visualization*,  
In Proceedings of SIBGRAPI - XX Brazilian Symposium on Computer Graphics and Image Processing. SBC, 2009  
Luiz Velho, Jonatas Medeiros, Carla Freitas, Mario Sousa
97. *Hermite Interpolation of Implicit Surfaces Luiz Velho, Radial Basis Functions*,  
In Proceedings of SIBGRAPI - XX Brazilian Symposium on Computer Graphics and Image Processing. SBC, 2009  
Luiz Velho, Ives Macedo Jr., Joao Paulo Gois
98. *Image Fluid Warping*  
In Proceedings of IV Symposium Iberoamericano de Computacion Grafica. SIACG, 2009.  
Luiz Velho, Dalia Bonilla, Luis Gustavo Nonato, Andre Nachbin.
99. *Symmetry-based Completion*  
In Proceedings of GRAPP 2009, 2009.  
Luiz Velho, Thiago Pereira, Renato Paes Leme, and Thomas Lewiner.
100. *Interactive Media and Natural Interfaces*  
In Proceedings of FILE SYMPOSIUM, 2009
101. *A Computer-Assisted Colorization Approach based on Efficient Belief Propagation and Graph Matching*  
In Proceedings of CIARP, 2009.  
Luiz Velho, Alexandre Noma, and Roberto M. Cesar-Jr.
102. *Fluid Warping*  
In Proceedings of WTDCGPI. SBC, 2008  
Luiz Velho, Dalia Bonilla, Luis Gustavo Nonato, Andre Nachbin
103. *PCA-based 3D Face Photography*,  
In Proceedings of SIBGRAPI - XXI Brazilian Symposium on Computer Graphics and Image Processing. SBC, 2008  
Luiz Velho, Jesus Mena-Chalco, Ives Macedo, Roberto Marcondes Junior
104. *Sistema Composto para Amostragem e Geracao de Luzes a partir de Mapas de Iluminacao*,  
In Proceedings of WTDCGPI. SBC, 2008.  
Luiz Velho, Aldo Zang
105. *Subdivision Curves on Triangular Meshes*  
In Proceedings of CIARP 2008 - 13th Iberoamerican Congress on Pattern Recognition, 2008.  
Luiz Velho, Dimas Martinez Morera and Paulo Cezar Carvalho.
106. *Expressive Trajectories*  
In Proceedings of CAe 2008 - International Symposium on Computational Aesthetics, 2008,  
Luiz Velho, Julio Martins, Alice Bodanzky, Ilana Paterman, and Analivia Cordeiro.
107. *An iterative framework for registration Luiz Velho, reconstruction*.  
In Proceedings of VMV - 12th Vision, Modeling, and Visualization Workshop, 2007  
Luiz Velho, Thales Vieira, Thomas Lewiner and Adailson Peixoto
108. *Um Sistema Generico de Calibracao de Camera*.  
In Proceedings of SIBGRAPI - VI Workshop de Teses de Dissertações, 2007  
Luiz Velho, Clarissa Coda, Thomas Lewiner and Adailson Peixoto
109. *Registro Automatico de Superficies Usando Spin-Images*.  
In Proceedings of SIBGRAPI - VI Workshop de Teses de Dissertações, 2007  
Luiz Velho, Thales Vieira, Thomas Lewiner and Adailson Peixoto

110. *Calibração Robusta de Vídeo.*  
In Anais do XXVII Congresso da SBC - XX Concurso de Teses e Dissertações, 2007  
Luiz Velho, Bruno Madeira and Paulo Cezar Carvalho
111. *Some Case Studies in Automatic Descriptor Extraction.*  
In Proceedings of 11th Brazilian Symposium on Computer Music, 2007  
Luiz Velho, Giordano Cabral, Sergio Krakowski, Francois Pachet, Jean-Paul Briot
112. *Uma Arquitetura Aberta para Aplicações de Calibração de Camera*  
In Proceedings of CLEI 2007, November 2007  
Luiz Velho, Clarissa Coda Marques, Adelailson Peixoto, Luis Rivera
113. *Geodesic Bézier Curves: a Tool for Modeling on Triangulations*  
In Proceedings of SIBGRAPI 2007 – IEEE Press, October 2007  
Luiz Velho, Dimas Morera, Paulo Carvalho
114. *MUAN: A Stop Motion Animation System*  
In Proceedings of WSL 07. 2007  
Luiz Velho, Margareth Catoia, Bruno Madeira, Hedlana Bezerra, Marcos Magalhaes.
115. *Projective Texture Atlas for 3D Photography*  
In Proceedings of CGI 07. 2007  
Luiz Velho, Jonas Sossai
116. *Automatically Generating Eye Motions in Virtual Agents*  
In Proceedings of SRV 07. SBC, 2007  
Luiz Velho, Paula Lucena, Rossan Baptista, Leandro Barros, Soraia Musse, Bruno Feijo,
117. *Calibração de Vídeo para Realidade Aumentada*  
In Proceedings of SRV 07. SBC, 2007  
Luiz Velho, Bruno Madeira, Paulo Carvalho,
118. *Rastreamento de Componentes Conexas em Vídeo 3D para Obtenção de Estruturas Tridimensionais*  
In Proceedings of WTDCGPI. SBC, October 2006  
Luiz Velho, Roberto Cesar Jr., David Pires, Marcelo Vieira,
119. *Calibração robusta de vídeo para realidade aumentada*  
In Proceedings of WTDCGPI. SBC, October 2006  
Luiz Velho, Bruno Madeira, Paulo Cezar Carvalho
120. *Narrating Stories in Participatory Games*  
In Proceedings of SBGAMES. SBC, 2006  
Luiz Velho, Paula Lucena Rodrigues, Bruno Feijó, Luiz Velho, Cesar Pozzer, Angelo Ciarlini, and Antonio Furtado,
121. *Polygonization of volumetric reconstructions from silhouettes*  
In Proceedings of SIBGRAPI 2006 – IEEE Press, October 2006  
Luiz Velho, Anselmo Antunes Montenegro, Paulo Carvalho, Jonas Sossai,
122. *Expression Transfer between Photographs through Multilinear AAMs*  
In Proceedings of SIBGRAPI 2006 – IEEE Press, October 2006  
Luiz Velho, Ives Macedo, Emilio Vital Brazil
123. *A Computer-Assisted Colorization Algorithm based on Topological Difference*  
In Proceedings of SIBGRAPI 2006 – IEEE Press, October 2006  
Luiz Velho, Hedlana Bezerra, Bruno Feijo
124. *Adapted Dynamic Meshes for Deformable Surfaces*  
In Proceedings of SIBGRAPI 2006 – IEEE Press, October 2006  
Luiz Velho, Fernando de Goes, Felipe Bergo, Alexandre Falcao, Siome Goldenstein
125. *Hardware-assisted Rendering of CSG Models*  
In Proceedings of SIBGRAPI 2006 – IEEE Press, October 2006  
Luiz Velho, Fabiano Romeiro, Luiz Henrique de Figueiredo
126. *Actively Illuminated Objects using Graph-Cuts*  
In Proceedings of SIBGRAPI 2006 – IEEE Press, October 2006  
Luiz Velho, Asla Sa, Marcelo Bernardes, Anselmo Montenegro, Paulo Cezar Carvalho
127. *A Camera-Projector System for Real-Time 3D Video*  
In Proceedings IEEE International Workshop on Projector-Camera Systems, PROCAMS 2005  
Luiz Velho, Marcelo Bernardes Vieira, Luiz Velho, Asla Sá, and Paulo Cezar Carvalho
128. *Range-Enhanced Active Foreground Extraction*  
In Proceedings of IEEE International Conference on Image Processing, 2005, Gênova.  
Luiz Velho, Asla Sá, Marcelo Vieira, Paulo Carvalho.

129. *Video Interpolation through Green's Functions of Matching Equation*  
In Proceedings of IEEE International Conference on Image Processing, 2005, Gênova.  
Luiz Velho, Perfilino Ferreira Jr, Jose R. Torrea, Paulo Cezar Carvalho
130. *Surface Reconstruction for Noisy Point Clouds*  
In Proceedings of Symposium of Geometry Processing, 2005  
Luiz Velho, Boris Mederos, Nina Amenta, Luiz Henrique Figueiredo
131. *Modeling Luiz Velho, Simplicial Diffeomorphisms*  
In Proceedings of Symposium of Geometry Processing, 2005
132. *Boolean Operations on Surfel-Bounded Objects using Constrained BSP-Trees*  
in Proceedings of SIBGRAPI, IEEE Press, October 2005  
Luiz Velho, Marcus Farias, Carlos Scheidegger, João Comba
133. *GEncode: Geometry-driven compression in arbitrary dimension and co-dimension*  
in Proceedings of SIBGRAPI, IEEE Press, October 2005  
Luiz Velho, Thomas Lewiner, Marcos Craizer, Helio Lopes, Sinesio Pesco, Esdras Medeiros
134. *CHF: A scalable Topological Data Structure for Tetrahedral Meshes*  
in Proceedings of SIBGRAPI, IEEE Press, October 2005  
Luiz Velho, Marcos Lage, Thomas Lewiner, Helio Lopes
135. *An image-based shading pipeline for 2D animation*  
in Proceedings of SIBGRAPI, IEEE Press, October 2005  
Luiz Velho, Hedlena Bezerra, Bruno Feijo
136. *Tracking and Matching Connected Components from 3D Video*  
in Proceedings of SIBGRAPI, IEEE Press, October 2005  
Luiz Velho, David da Silva Pires, Roberto Cesar Jr., Marcelo Vieira
137. *Operações Booleanas na Modelagem por Pontos*  
in Proceedings of WTDCGPI, 2005  
Luiz Velho, Heloisa Reis Leal and Waldemar Celes
138. *Multi-Resolution 3D Triangulations for Non-manifold Heterogeneous Objects*  
in Proceedings of WTDCGPI, 2005  
Luiz Velho, Ricardo Marroquim and Paulo Roma Cavalcanti and Claudio Esperança
139. *Learning Based Super-Resolution Using YUV Model for Remote Sensing Images*  
in Proceedings of WTDCGPI, 2005  
Luiz Velho, Cléber Rubert and Leila Fonseca
140. *Automatic 3D Facial Expression Analysis in Videos*  
in Proceedings of IEEE International Workshop on Analysis and Modeling of Faces and Gestures, 2005  
Luiz Velho, Y. Chang and M. Vieira and M. Turk
141. *Physically Based Multi-Resolution Triangulations for 3D Objects*  
in Proceedings of the 17th IMACS World Congress, Scientific Computation, Applied Mathematics and Simulation. ERCIM, June 2005  
Luiz Velho, Ricardo Marroquim, Paulo Roma Cavalcanti, Claudio Esperanca
142. *Super-Resolução de Imagens Usando a Transformada de Cor YUV para Estimção das Altas Frequências*  
IV Workshop dos Cursos de Computação de Computação Aplicada do INPE. October de 2004  
Luiz Velho, Cléber Rubert, Leila Fonseca
143. *A Framework for Real-Time Terrain Visualization Luiz Velho, Adaptive Semi-Regular Meshes*  
in Proceeding of GEOINFO 2004 – VI Brazilian Symposium on GeoInformatics, November 2004  
Luiz Velho, Lourena Rocha, Sergio Pinheiro, Marcelo Bernardes Vieira
144. *Simplicial Isosurface Compression*  
in Proceeding of VMV - 9th International Fall Workshop in Vision, Modeling and Visualization, November 2004  
Luiz Velho, Thomas Lewiner, Helio Lopes, and Vinicius Mello
145. *A Panoramic View on Visorama*  
in Anais do III Simpósio Ciberultura, October 2004  
Luiz Velho, André Parente
146. *Simplificação de Superfícies Implícitas Não-Compactas Luiz Velho, Preservação de Topologia*  
in SIBGRAPI Workshop of Thesis and Dissertations, October 2004  
Luiz Velho, Aruquia Peixoto, Ricardo Farias
147. *Um sistema de cache preditivo para o processamento em tempo-real de grandes volumes de dados gráficos*  
in SIBGRAPI Workshop of Thesis and Dissertations, October 2004  
Luiz Velho, Sergio Pinheiro, Waldemar Celes

148. *Multi-Resolution Triangulations Luiz Velho, Adaptation to the Domain Based on Physical Compression*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Ricardo Marroquim, Paulo Roma and Claudio Esperanca.
149. *Hierarchical Isocontours Extraction and Compression*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Thomas Lewiner, Helio Lopes and Vinicus Mello.
150. *Geodesic Paths on Triangular Meshes*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Dimas Martinez Morera and Paulo Cesar Carvalho.
151. *Restricted BPA: Applying Ball-Pivoting on the Plane*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Esdras Soares and Helio Lopes.
152. *Motion Reconstruction using Moments Analysis*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Lourena Rocha and Paulo Cesar Carvalho.
153. *Adaptive Deformable Models*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Siome Goldenstein and Christian Vogler.
154. *Space Carving Luiz Velho, a Hand-Held Camera*  
in Proceedings of SIBGRAPI / SIACG, IEEE Press, October 2004  
Luiz Velho, Anselmo Montenegro, Paulo Cesar Carvalho and Marcelo Gattass.
155. *Expressive Talking Heads: uma ferramenta de animação Luiz Velho, fala e expressão facial sincronizadas para o desenvolvimento de aplicações interativas*, In Proceedings of Webmmidia. SBC, 2004,  
Luiz Velho, Paula Lucena Rodrigues, Bruno Feijó.
156. *Cross-Media and Elastic Time Adaptive Presentations: the Integration of a Talking Head Tool into a Hypermedia Formatter*,  
In Proceedings of Adaptive Hypermedia. ACM SIGART, 2004.  
Luiz Velho, Rogerio Ferreira Rodrigues, Paula Salgado Lucena Rodrigues, Bruno Feijó, and Luiz Fernando Gomes Soares.
157. *Adaptive Space Carving*,  
2nd International Symposium on 3D Data Processing, Visualization, and Transmission, 3DPVT, 2004.  
Luiz Velho, Anselmo Montenegro, Paulo Carvalho, and Marcelo Gattass.
158. *Denoising Point Set Geometry*  
in Proceedings of 3D Modeling, April de 2004  
Luiz Velho, Boris Mederos e Luiz Henrique de Figueiredo
159. *Expressive Talking Heads: uma ferramenta de animação Luiz Velho, fala e expressão facial sincronizadas para o desenvolvimento de aplicações interativas*  
in Proceedings of WebMídia, November de 2003  
Luiz Velho, Paula Lucena e Bruno Feijó
160. *Connecting Presence Factors to Guide Measurements*  
in Proceedings of 6th Annual International Workshop on Presence, October 2003  
Luiz Velho, Antonia Lucinelma Pessoa Albuquerque e Rubens Melo
161. *Expressive Talking Heads: Um Estudo de Fala e Expressão Facial em Personagens Virtuais*  
XVI Concurso de Teses e Dissertações, Sociedade Brasileira de Computação, August 2003  
Luiz Velho, Paula Lucena, Marcelo Gattass
162. *Extração de malhas adaptativas Luiz Velho, operações de simplificação e refinamento*  
XVI Concurso de Teses e Dissertações, Sociedade Brasileira de Computação, August 2003  
Luiz Velho, Adailson Peixoto, Marcelo Gattass
163. *Visualização de Objetos Tridimensionais Baseada em Interpolação Projetiva*  
in Proceedings of I Workshop de Trabalhos de Iniciação Científica  
em Computação Gráfica e Processamento de Imagens (WICCGPI'2003), October 2003  
Luiz Velho, Aldo Nogueira, Elaine Prata,
164. *Fast Stellar Mesh Simplification*  
in Proceedings of SIBGRAPI 2003, IEEE Press. October 2003  
Luiz Velho, Wilson Vieira, Helio Lopes. Geovan Tavares, Thomas Lewiner
165. *Moving Least Squares Multiresolution Surface Approximation*  
in Proceedings of SIBGRAPI 2003, IEEE Press. October 2003  
Luiz Velho, Boris Mederos, Luiz Henrique de Figueiredo
166. *A Topological Framework for Advancing Front Triangulation*  
in Proceedings of SIBGRAPI 2003, IEEE Press. October 2003  
Luiz Velho, Esdras Medeiros, Helio Lopes

167. *Computing the In/Out function of Point Clouds*  
in Proceedings of the 8th ACM Symposium on Solid Modeling and Applications, June 2003  
Luiz Velho, Vinicius Mello, Gabriel Taubin
168. *Stellar Subdivision Grammars*  
in Proceedings of Eurographics Symposium on Geometry Processing, June 2003
169. *Recovering Registered Geometry and High Dynamic Range Texture* Luiz Velho, *Coded Structured Light*  
in Proceedings of The 11th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, February 2003  
Luiz Velho, Asla Sa, Paulo Cezar Carvalho
170. *Oriented Bounding Boxes Based on Multi-resolution Contours*  
Anais do Primeiro Congresso Internacional De Cientificos Peruanos, 2003  
Luiz Velho, Luis Rivera e Paulo Carvalho
171. *Visorama*  
Anais do Primeiro Workshop de Realidade Virtual e Visualização Científica, 2002  
Luiz Velho, André Parente e Sergio Pinheiro
172. *Togetherness through Virtual Worlds: How real can be that Presence?*  
Proceedings of the 5th International Workshop on PRESENCE 2002. October 2002,  
Luiz Velho, Antonia Lucinelma Pessoa Albuquerque
173. *(b,s)-BCSL : Structured Light Color Boundary Coding for 3D Photography*  
Proceedings of VMV - 7th International Fall Workshop on Vision, Modeling, And Visualization, November 2002  
Luiz Velho, Asla Medeiros Sá, Paulo Cezar Carvalho
174. *Approximating Parametric Curves* Luiz Velho, *Strip Trees using Affine Arithmetic*  
Proceedings of SIBGRAPI 2002, IEEE Press, p. 163-170, October 2002  
Luiz Velho, Luiz Henrique de Figueiredo, e Jorge Stolfi
175. *Multiscale Moment-Based Painterly Rendering*  
Proceedings of SIBGRAPI 2002, IEEE Press, p. 244-251, October 2002,  
Luiz Velho, Diego Nehab
176. *Image Moments-Based Structuring and Tracking of Objects*  
Proceedings of SIBGRAPI 2002, IEEE Press, p. 99-106, October 2002,  
Luiz Velho, Lourena Rocha, e Paulo Cezar Carvalho
177. *A Representation of Implicit Objects Based on Multiscale Euclidean Distance Fields*  
Proceedings of SIACG 2002 - First Ibero-American Symposium on Computer Graphics, pages 119-129, Guimaraes, Eurographics Portuguese Chapter, p. 119-129, July 2002  
Luiz Velho, Antonio Apolinario Jr., e Claudio Esperanca
178. *Discrete Scale Spaces*  
Proceedings of the International Symposium on Mathematical Morphology, p. 241-253, April 2002  
Luiz Velho, Anderson Cunha, e Ralph Teixeira
179. *Color Halftoning* Luiz Velho, *Stochastic Dithering and Adaptive Clustering*  
Proceedings of the First European Conference on Color in Graphics, Image and Vision. Society for Imaging Science and Technology, p. 627-632, April 2002  
Luiz Velho, Jonas Gomes
180. *Animation Based in Dynamic Simulation Involving Irregular Objects* Luiz Velho, *Non-Homogeneous Rugosities*  
Computer Animation 2001, pages 128-135, November 2001.  
Luiz Velho, Luis Antonio Rivera Escriba e Paulo Cezar Carvalho
181. *Discrete Scale Spaces via Heat Equation*  
Proceedings of SIBGRAPI 2001, Florianópolis, October 2001, IEEE Press  
Luiz Velho, Anderson Cunha e Ralph Teixeira.
182. *Procedural Shape Synthesis on Subdivision Surfaces*  
Proceedings of SIBGRAPI 2001, Florianópolis, October 2001, IEEE Press.  
Luiz Velho, Ken Perlin, Lexing Ying, and Henning Biermann
183. *Mesh Simplification using Four-Face Clusters*  
Proceedings of SMI 2001 - International Conference on Shape Modeling and Applications, IEEE Computer Society, May 2001.
184. *Utilização de um Modelo de Contorno Ativo para Extração de Arestas em Imagens*  
Anais do ERMAC 2001 - Encontro Regional de Matemática Aplicada e Computacional, April 2001.  
Luiz Velho, Bruno Madeira.
185. *Quadrilateral Meshing using 4-8 Clustering*  
Proceedings of CILANCE - Symposium on Mesh Generation and Self-adaptivity, p. 61-64, December 2000.

186. *Teaching Computer Graphics in Brazil*  
 Proceedings of SIBGRAPI 2000, Gramado, p. 327-330, October 2000.  
 Luiz Velho, Alejandro Frery, Carla M.D.S. Freitas, Léo P. Magalhães e Marcelo Walter
187. *Variable Resolution 4-K Meshes*  
 Proceedings of SIBGRAPI 2000, Gramado, p. 123-130, October 2000.
188. *Semi-Regular 4-8 Refinement and Box Spline Surfaces*  
 Proceedings of SIBGRAPI 2000, Gramado, p. 131-138, October 2000.
189. *Visorama: a Arte do Observador*  
 Proceedings of SIGraDI 2000, Sociedade Ibero-americana de Gráfica Digital, p. 1-4, September 2000  
 Luiz Velho, Andre Parente.
190. *An Overview on Virtual Sets*  
 Proceedings of Virtual Worlds 2000, International Institute of Multimedia, p. 91-99, July 2000  
 Luiz Velho, Antonia Lucinelma Pessoa de Albuquerque e Jonas Gomes..
191. *Towards A Unified Framework For Geographical Data Models*  
 Proceedings of GeoInfo 2000. Sociedade Brasileira de Computação, p. 37-44, 2000.  
 Luiz Velho, Gilberto Camara, Antonio Monteiro, Joao Argemiro Paiva e Jonas Gomes
192. *Embedding a Motion-Capture Interface in a Control Structure for Human-Like Agent Behavior Achievement*  
 Proceedings of Agents, ACM, May 2000  
 Luiz Velho, Fernando Wagner da Silva, Jonas Gomes, Luiz-Garcia Gonçalves e Antonio Oliveira
193. *Motion Processing using Variable Harmonic Components*  
 Proceedings of COMPUTER ANIMATION '2000, IEEE Computer Society, May 2000  
 Luiz Velho, Fernando Wagner da Silva, Jonas Gomes e Siome Goldenstein.
194. *Motion Cyclification by Time x Frequency Warping*  
 Proceedings of SIBGRAPI 99, IEEE Computer Society, p. 49-58, October 1999  
 Luiz Velho, Fernando Wagner da Silva, Jonas Gomes e Siome Goldenstein.
195. *Quasi 4-8 Subdivision Surfaces*  
 Proceedings of SIBGRAPI 99, IEEE Computer Society, p 17-26, October 1999  
 Luiz Velho, Jonas Gomes.
196. *Interactive Manipulation of Multiresolution Curves*  
 Proceedings of 2<sup>nd</sup> Computer Graphics and Imaging, IASTED, October 1999  
 Luiz Velho, Paulo César Carvalho e Luis Antonio Rivera Escriba
197. *Segmentation of Video Sequences using Volumetric Image Processing*  
 Proceedings of Eurographics Multimedia'99, Springer-Verlag, September 1999  
 Luiz Velho, Romildo Jose da Silva, Jonas Gomes
198. *Um Sistema de Animação Baseado em Movimento Capturado*  
 XXV Latinamerican Conference on Computer Science, UNESCO, September 1999  
 Luiz Velho, Fernando Wagner da Silva
199. *Um Sistema de Animação Baseado em Movimento Capturado*  
 SBC'99 - Sociedade Brasileira de Computação, Rio de Janeiro, July 1999  
 Luiz Velho, Fernando Wagner da Silva
200. *Interactive Specification of 3D Displacement Vectors Using Arcball*  
 Proceedings of Computer Graphics International, IEEE Press, pages 70-75, June 1999  
 Luiz Velho, Sergio Pinheiro, Jonas Gomes
201. *Texturing composite deformable implicit objects*  
 Proceedings of SIBGRAPI 98, IEEE Computer Society, p. 346-353, October 1998  
 Luiz Velho, Ruben Zonenschein, Jonas Gomes, L. H. de Figueiredo, Mark Tigges, Brian Wyvill.
202. *A system's architecture for warping and morphing of graphical objects*  
 Proceedings of SIBGRAPI 98, IEEE Computer Society, p. 192-199, October 1998  
 Luiz Velho, Bruno Costa, Lucia Darsa e Jonas Gomes.
203. *Cache Management for Real Time Visualization of 2D Data Sets*  
 Proceedings of SIBGRAPI 98, IEEE Computer Society, p. 111-118, October 1998  
 Luiz Velho, Andre Matos e Jonas Gomes
204. *Controlling Texture Mapping onto Implicit Surfaces Luiz Velho, Particle Systems*  
 Proceedings of the Third International Workshop on Implicit Surfaces, p. 131-138, Seattle, July 1998. Eurographics and ACM SIGGRAPH  
 Luiz Velho, Ruben Zonenschein, Jonas Gomes e Luiz Henrique de Figueiredo.
205. *Color Image Quantization by Pairwise Clustering*  
 Proceedings of SIBGRAPI'97, IEEE Computer Society, p. 49-58, October 1997  
 Luiz Velho, Marcos Sobeiro e Jonas Gomes,



206. *An Architecture for Motion Capture Based Animation*  
 Proceedings of SIBGRAPI'97, IEEE Computer Society, p. 203-210, October 1997  
 Luiz Velho, Fernando Silva, Paulo Roma e Jonas Gomes,
207. *A New Interface Paradigm for Motion Capure Based Animation Systems*  
 Proceedings of the Eurographics Workshop on Computer Animation and Simulation, p. 19-38, September 1997  
 Luiz Velho, Fernando Silva, Paulo Roma e Jonas Gomes,
208. *The Visorama System: A Functional Overview of a New Virtual Reality Environment*  
 Proceedings of Computer Graphics International, IEEE Press, p. 205-212, June 1997  
 Luiz Velho, Jonas Gomes, Andre Parente, Andre Matos e Heloisa Siffert
209. *O Sistema Visorama: Um novo sistema de Multimedia e Realidade Virtual*  
 Proceedings of III Workshop Multimedia and Hypermedia System, p. 79-93, May 1997  
 Luiz Velho, Jonas Gomes, Andre Parente, Andre Matos e Heloisa Siffert
210. *Image Effects using Contractive Mappings*  
 Proceedings of SIBGRAPI '96, p. 313-320, Caxambu, October 1996  
 Luiz Velho, Jonas Gomes, Cicero Mota, e Romildo Silva
211. *Optimal Adaptive Polygonal Approximation of Parametric Surfaces*  
 Proceedings of SIBGRAPI '96, p. 127-133, SBC, October 1996  
 Luiz Velho, Luiz Henrique de Figueiredo
212. *Visualização Baseada em Imagens*  
 Anais do Colóquio Arte no Século XXI, 1996
213. *Adaptive Polygonization Made Simple*  
 Proceedings of SIBGRAPI '95, p. 111-118, SBC, October 1995
214. *Approximate Conversion of Parametric to Implicit Surfaces*  
 Proceedings of Implicit Surfaces '95, p. 77-96, Eurographics, April, 1995  
 Luiz Velho, Jonas Gomes
215. *Multiscale Implicit Models*  
 Proceedings of SIBGRAPI '94, p. 93-100, SBC, November 1994  
 Luiz Velho, Demetri Terzopoulos e Jonas Gomes
216. *Space Filling Curve Dither Luiz Velho, Adaptive Clustering*  
 Proceedings of SIBGRAPI 92, p. 1-9, SBC, November 1992  
 Luiz Velho, Jonas Gomes
217. *Physically Based Methods for Polygonization of Implicit Surfaces*  
 Proceedings of Graphics Interface '92, CIPS, p. 250-257, May 1992  
 Luiz Velho, Luiz Henrique Figueiredo, Jonas Gomes e Demetri Terzopoulos
218. *Automatic Generation of Spring-Mass Meshes for Implicit Objects*  
 Proceedings of Compugraphics 91, p. 57-71, September 1991
219. *A Dynamics Simulation Environment for Implicit Objects using Discrete Models,*  
 Proceedings of 2nd Eurographics Workshop on Animation and Simulation, p. 183-190, September 1991,  
 Luiz Velho, Jonas Gomes
220. *Pyramid Dithering*  
 Proceedings of SIBGRAPI '91, p. 167-178, SBC, July 1991
221. *Image Compression by First Order Approximation,*  
 Proceedings of IMAGE'Luiz Velho, 90, ADERA, p. 387-391, November 1990  
 Luiz Velho, Claudia Alvarenga
222. *Adaptive Polygonization of Implicit Objects,*  
 Proceedings of Ausgraph '90, ACGA, p. 339-343, September 1990
223. *Interactive Modeling of Soft Objects,*  
 Proceedings of Ausgraph '90, ACGA, p. 227-230, September 1990
224. *Adaptive Polygonization of Implicit Surfaces using Simplicial Decomposition and Boundary Constraints,*  
 Proceedings of Eurographics '90, p. 125-136, Elsevier Science Publishers, September 1990
225. *Compressão de Imagens por Blocos Lineares*  
 Proceedings of SIBGRAPI '90, SBC, p. 121-136, May 1990  
 Luiz Velho, Claudia Alvarenga
226. *Modelagem Procedural e Animação,*  
 Proceedings of EPUSP/IEEE Symposium on Visual Computing, USP, p.437-448, December 1990
227. *Modeling and Animation of Non-Rigid Objects,*  
 Proceedings of Abusi 89, Abusi, p. 1-10, September 1989

228. *Scripts: On The Description of Computer Animated Images*,  
Proceedings of SIBGRAP '89, p. 509-518, SBC, April 1989
229. *Graphics Interface Design Using Unix Tools*,  
Proceedings of Ausgraph '88, p. 291-296, ACGA, July 1988

#### 4.5. SHORT PAPERS AND ABSTRACTS IN CONFERENCE PROCEEDINGS

1. *Ray-VR: Ray Tracing Virtual Reality in Falcor*.  
In Proceedings of NVIDIA GTC - GPU Technology Conference, 2021.  
Vinicius da Silva and Luiz Velho.
2. *V-Horus*.  
In Proceedings of SIGGRAPH Asia, 2020.  
Luiz Velho, Andrea Lennhoff, Bernardo Alevato, Luiza Novaes, and Jorge Lopes.
3. *Projeto V-Horus: relato de uma experiencia colaborativa e multidisciplinar de preservacao de acervo em realidade virtual*.  
In Proceedings of HDRio, 2020.  
Andrea Lennhoff, Bernardo Alevato, Luiz Velho, Jorge Lopes, Luiza Novaes, Antonio Brancaglion, Sheila Mendonca, and Gerson Ribeiro.
4. *An end-to-end framework for 3D capture and human digitization with a single RGB camera*.  
In Proceedings of Eurographics, 2020.  
Luiz Schirmer, Helio Lopes, Djalma da Silva, and Luiz Velho.
5. *Procedural Music in Games*.  
In Proceedings of SBCM, 2019.  
Jose Aires, Pedro Souza, Vitor Rolla, and Luiz Velho.
6. *Liquid Galaxy Visualization of IMS's Photographic Collections*.  
In Proceedings of Digital Humanities, 2019.  
Julia Giannella, Luiz Velho, Bruno Buccalon, Sergio Burgi, and Rachel Rezende.
7. *Children Do Not Play War: Gaze-Based Interaction in Cinematic 360 VR*.  
In SIGGRAPH VR Theater Proceedings, 2019.  
Fabiano Mixo and Luiz Velho.
8. *VR Kino+Theater: from the ancient greeks into the future of media*.  
In Proceedings of ACM SIGGRAPH / Eurographics Symposium on Computer Animation, 2018.  
Luiz Velho, Leonardo Carvalho, and Djalma Lucio
9. *OBSERVATOR!O 2016*.  
In proceedings of Digital Humanities Conference, 2017.  
Luiz Velho, Julia Giannella
10. *Aqui e agora*.  
In Proceedings of Encontro Internacional de Arte e Tecnologia - #16.ART - Artis Intelligentia: IIMAGINAR O REAL, 2017.  
Luiz Velho, Julianio Kestenberg, Doris Kosminsky
11. *A imensidao esta em nos: experimentacoes elementares do respirar*.  
In Proceedings of Encontro Internacional de Arte e Tecnologia - #16.ART - Artis Intelligentia: IIMAGINAR O REAL, 2017.  
Luiz Velho, Julianio Kestenberg, Doris Kosminsky
12. *A Primal-to-Primal Discretization of Exterior Calculus on Polygonal Meshes*.  
In Proceedings of Eurographics Symposium on Geometry Processing, 2017.  
Luiz Velho, Lenka Ptackova
13. *Olhar 3D*,  
In proceedings of Appy Hour - SIGGRAPH, 2016.  
Luiz Velho, Mariana Duprat.
14. *Composição Algorítmica em Redes Complexas*,  
In Proceedings of Simposio Brasileiro de Computacao Musical, 2015.  
Luiz Velho, Vitor Rolla.
15. *Base Mesh Construction using Global Parametrization*,  
In SIGGRAPH Technical Sketches and Posters, 2012.  
Luiz Velho, Francisco Ganacim, Andre Maximo.
16. *Segmentação de movimento a partir de imagens RGBD usando homomorfismo entre grafos*,  
In VI Simpósio de Iniciação Científica e Pós-Graduação do IME, 2012.  
Luiz Velho, David Pires, Roberto Marcondes

17. *An Open Source Framework for Photo-Realistic Render of Synthetic Elements in Captured Panoramas*,  
In Blender Conference, 2012.  
Luiz Velho, Aldo Zang, Dalai Felinto
18. *Augmented Reality Using Full Panoramic Captured Scene Light-Depth Maps*,  
In SIGGRAPH Asia Technical Sketches and Posters,, 2012.  
Luiz Velho, Aldo Rene Zang, Dalai Felinto
19. *Real-time Terrain Modeling using CPU-GPU Coupled Computation*  
In SIGGRAPH Technical Sketches and Posters, 2011.  
Luiz Velho, Adrien Bernhardt, Andre Maximo, Houssam Hnaidi, and Marie-Paule Cani
20. *Filter Based Deghosting for Exposure Fusion Video*  
In SIGGRAPH Technical Sketches and Posters, 2011.  
Luiz Velho, Alexandre Chapiro, Marcelo Cicconet
21. *Towards Mobile HDR Video*  
In IEEE International Conference on Computational Photography, 2011.  
Luiz Velho, Alexandre Chapiro, Tassio Knop de Castro, Marcelo Cicconet
22. *Scalable Motion Aware Panoramic Videos*  
In SIGGRAPH Asia Technical Sketches and Posters, 2011.  
Luiz Velho, Leonardo Sacht, Diego Nehab, and Marcelo Cicconet
23. *ChoreoGraphics: An Authoring Environment for Dance Shows*  
In SIGGRAPH Technical Sketches and Posters, 2011.  
Luiz Velho, Adriana Schulz
24. *The Making of Love Affair*  
In Proceedings of SIBGRAPI WIP, 2010.  
Luiz Velho, Bernardo Schorr
25. *Face and Straight Line Detection in Equirectangular Images*  
In Proceedings of WVC, 2010.  
Luiz Velho, Leonardo K. Sacht, Paulo C. Carvalho and Marcelo Gattass
26. *Motion Scoring*  
In SIGGRAPH Abstracts and Applications, 2010.  
Luiz Velho, Adriana Schulz, Marcelo CicconetGuitar-Leading Band
27. *Guitar-Leading Band*  
In SIGGRAPH Conference Abstract and Applications, 2010  
Luiz Velho, Marcelo Cicconet, Paulo Cezar Carvalho, Giordano Cabral,
28. *Panosuite: a Production Pipeline for Panoramas*  
In IEEE International Conference on Computational Photography, 2010
29. *N-PAN: Narratives Luiz Velho, Gigapixel Panoramas*  
In IEEE International Conference on Computational Photography, 2010
30. *The Blues Machine*  
In SIGGRAPH 2009 Conference Abstract and Applications, 2009.  
Luiz Velho, Marcelo Cicconet, Ilana Paterman, Paulo Carvalho.
31. *Pandeiro Funk: Experiments on Rhythm-Based Interaction*  
In SIGGRAPH 2009 Conference Abstract and Applications, 2009.  
Luiz Velho, Sergio Krakowski, Francois Pachet.
32. *collecTable: a Natural Interface for Music Collections*  
In SIGGRAPH 2009 Conference Abstract and Applications, 2009  
Luiz Velho, Andre Maximo, Maria Paula Saba.
33. *Choreographisms*  
In SIGGRAPH 2008 Conference Abstract and Applications, 2008.  
Luiz Velho, Alice Bodanzky, Silvia Steinberg, Analivia Cordeiro, Julio Lucio, Ilana Paterman.
34. *Adaptive Fitting of C-Infinity Surfaces to Dense Triangle Meshes*  
In Proceedings of Curves and Surfaces 2008 - Seventh Conference on Mathematical Methods for Curves and Surfaces, 2008.  
Luiz Velho, Dimas Martinez Morera, Marcelo Siqueira, Dianna Xu, Jean Gallier, Luis Gustavo Nonato.
35. *Shallow-Water Simulation in Digital Images*  
In Mathematical Methods in Image Processing - AMS/SBM Joint International Meeting, 2008.  
Luiz Velho, L. G. Nonato, M. A. Batista, and C. Barcelos.
36. *Computational Applications in Complex Dynamics*  
In Global and Local Aspects of Holomorphic Foliations, 2008  
Luiz Velho, Evilson Vieira.

37. *Soft Segmentation for Comparative Image Editing*  
In Proceedings of SIBGRAPI, 2007.  
Luiz Velho, Anna Regina Corbo
38. *Muan: Animation for the rest of us*  
In Proceedings of SIBGRAPI, 2007.  
Luiz Velho, Margareth Varela, Hedlena Bezerra, Bruno Madeira and Marcos Magalhaes
39. *Histogram-Based HDR Video*  
In SIGGRAPH 2007 Conference Abstract and Applications, ACM Press, 2007.
40. *Dynamic Meshes for Deformable Surfaces*  
In SIGGRAPH 2006 Conference Abstract and Applications, ACM Press, 2006  
Luiz Velho, Fernando de Goes, Felipe Bergo, Alexandre Falcao, Siome Goldenstein.
41. *Geodesic Bezier Curves on Triangle Meshes*  
In SIGGRAPH 2006 Conference Abstract and Applications, ACM Press, 2006  
Luiz Velho, Dimas Martinez Morera, Paulo Cezar Carvalho.
42. *Hardware-Assisted CSG Rendering*  
In SIGGRAPH 2006 Conference Abstract and Applications, ACM Press, 2006  
Luiz Velho, Fabiano Romeiro, and Luiz Henrique de Figueiredo.
43. *Object Reconstruction Luiz Velho, Photometric Stereo*  
In Proceedings of SIBGRAPI 2006.  
Luiz Velho, Otavio Schipper.
44. *Variational Texture Atlas Construction and Applications,*  
In Curves and Surfaces – AVIGNON abstracts, 2006.  
Luiz Velho, Jonas Sossai Jr.
45. *Simulating Film Response Curves Luiz Velho, HDR images,*  
In Symposium on Computational Photography and Video, Posters, 2005.  
Luiz Velho, Asla Sá and Paulo Cezar Carvalho
46. *A shading pipeline for 2D animation techniques,*  
In SIBGRAPI / SIACG Posters, 2004.  
Luiz Velho, Hedlena Bezerra, Bruno Feijó
47. *A Virtual Environment for 3D-Photography,*  
In SIBGRPI / SIACG Posters, 2004.  
Luiz Velho, Victor Bogado, Asla Sá
48. *VISGRAF: Vision and Graphics Laboratory,*  
In SIBGRAPI / SIACG Lab Presentations, 2004.  
Luiz Velho, Paulo Cezar Carvalho, and Luiz Henrique de Figueiredo
49. *Real-Time 3D Video,*  
In Visual Proceedings of SIGGRAPH. ACM, 2004.  
Luiz Velho, Marcelo Bernardes Vieira, Asla Sa, and Paulo Carvalho
50. *Towards Realtime Space Carving Luiz Velho, Graphics Hardware.*  
In Proceedings of the ACM Workshop on General Purpose Computing on Graphics Processors, 2004.  
Luiz Velho, Anselmo Montenegro, Paulo Carvalho, and Marcelo Gattass.
51. *Visorama: Cybernetic Observatory,*  
In ICHIM 2004, Berlin.  
Luiz Velho, André Parente.
52. *Point Cloud Denoising*  
SIAM Conference on Geometric Design & Computing, November 2003  
Luiz Velho, Boris Mederos, Luiz Velho, Luiz Henrique de Figueiredo
53. *Reconstrução de Objetos 3D*  
11º Simpósio Internacional de Iniciação Científica da USP – SIICUSP, October 2003  
Luiz Velho, Jonas Sossai Jr.
54. *Dynamic Adaptive Meshes for Intrinsic and Extrinsic Multiresolution*  
Dagstuhl Seminar on Hierarchical Methods in Computer Graphics, June 2003
55. *The VISGRAF Laboratory*  
SIACG 2002 - Lab Presentations, July 2002  
Luiz Velho, Paulo Carvalho
56. *Multiresolution Mesh Generation using Combined Simplification and Refinement*  
Fifth International Conference on Curves and Surfaces, July 2002  
Luiz Velho, Adelailson Peixoto

57. *Binary Multi-Triangulations: Issues and Developments*  
Workshop on Mesh Processing Techniques,  
Schloss Dagstuhl, February 2002
58. *Revisiting Adaptively Sampled Distance Fields*  
SIBGRAPI 2001 - , Florianópolis, October 2001  
Luiz Velho, Luiz Henrique Figueiredo e João Batista de Oliveira
59. *4-8 Factorization of Quadrilateral Subdivision*  
Sixth ACM Symposium on Solid Modeling and Applications,  
Ann Arbor, June 2001
60. *4-8 Subdivision Surfaces*  
5<sup>th</sup> Conference On Mathematical Methods For Curves And Surfaces, p. 69, Oslo, July 2000
61. *4-8 Meshes and Subdivision Surfaces*  
Workshop On Subdivision In Geometric Modeling And Computer Graphics, p. 23, Schloss Dagstuhl, March 2000
62. *On 4-8 and Quasi 4-8 Meshes*  
Sixth SIAM Conference on Geometric Design, p. 34, SIAM, November 1999  
Luiz Velho, Jonas Gomes
63. *Incremental Camera Motion Calibration*  
SIBGRAPI, SBC, October 1999  
Luiz Velho, Antonia Lucinelma Pessoa Albuquerque e Jonas Gomes
64. *Content Based Video Query*  
SIBGRAPI, SBC, October 1999  
Luiz Velho, Alexandre Ferreira, Paulo Mattos, Rodrigo Toledo, e Jonas Gomes
65. *Motion Reparametrization*  
Eurographics Technical Note, Eurographics 98, p. 1.5.1-1.5.4, Springer-Verlag, Lisbon, September 1998.  
Luiz Velho, Fernando Wagner da Silva and Jonas Gomes
66. *Visualization of Color Image Quantization*  
Proceedings of 14th ACM Symposium on Computational Geometry, p. 407-408. Minneapolis, June 1998  
Luiz Velho, Marcos Sobeiro e Jonas Gomes
67. *Visorama: A Complete Virtual Panorama System*  
SIGGRAPH 98 Conference Abstract and Applications, p.252. ACM SIGGRAPH, July 1998  
Luiz Velho, Andre Matos, Jonas Gomes, Andre Parente e Heloisa Siffert
68. *The Visorama System*  
First Workshop on Image-Based Modeling and Rendering, ACM SIGGRAPH, 1998  
Luiz Velho, Andre Matos, Jonas Gomes, Andre Parente e Heloisa Siffert
69. *Hierarchical Triangle Strips*  
Fifth SIAM Conference on Geometric Design, SIAM, p. 23, November 1997  
Luiz Velho, Luiz Henrique Figueiredo e Jonas Gomes
70. *Visualização de Panoramas Matriciais*  
SIBGRAPI, SBC, October 1997  
Luiz Velho, Andre Matos e Jonas Gomes
71. *Texturing Implicit Surfaces Luiz Velho, Particle Systems*  
SIGGRAPH'97 Visual Proceedings, ACM, p. 172, August 1997  
Luiz Velho, Ruben Zonenschein, Luiz Henrique de Figueiredo e Jonas Gomes
72. *Cenário Virtual e Composição de Imagens*  
SIBGRAPI 96, p. 343-344, SBC, October 1996  
Luiz Velho, Bruno Consta, Lucia Dears, Ruben Zonenschein, Paulo Roma e Jonas Gomes
73. *Arteônica*  
IV Congresso Internacional de Semiotica Visual, PUC-SP, August 1996  
Luiz Velho, Ana Claudia Ribeiro
74. *Adaptive polygonal approximation of parametric surfaces*  
4rd SIAM Conference on Geometric Design, SIAM, November 1995  
Luiz Velho, Luiz Henrique de Figueiredo
75. *Textura de superficies implicitas Luiz Velho, sistemas de particulas*  
SIBGRAPI '95, p. 305-306, SBC, October 1995  
Luiz Velho, Ruben Zonenschein, Luiz Henrique de Figueiredo e Jonas Gomes
76. *B-Spline Wavelet Paint,*  
SIGGRAPH '94, Technical Sketches,. August 1994  
Luiz Velho, Ken Perlin

77. *A Multiscale Spline Representation for Implicit Objects*  
3rd SIAM Conference on Geometric Design, SIAM, November 1993  
Luiz Velho, Jonas Gomes
78. *A Simulation Environment for Implicit Objects*,  
2nd SIAM Conference on Geometric Design, SIAM, November 1991  
Luiz Velho, Jonas Gomes

#### 4.6. TECHNICAL REPORTS

1. "Machine Learning for New Media".  
Technical Report TR-03-2021, VISGRAF Lab - IMPA, 2021.  
Hallison da Paz and Luiz Velho.
2. "Proceduray: A light-weight engine for procedural primitive ray tracing".  
Technical Report TR-01-2021, VISGRAF Lab - IMPA, 2021.  
Vinicius da Silva, Tiago Novello, Helio Lopes, and Luiz Velho.
3. "Creating Software for Interaction and Participation: A Documentation for Videolab, Klak, and MIDI in Unity".  
Technical Report TR-02-2021, VISGRAF Lab - IMPA, 2021.  
Santiago Guisasola and Luiz Velho.
4. "Physically Based Differentiable Rendering".  
Technical Report TR-05-2021, VISGRAF Lab - IMPA, 2021  
Thales Magalhaes, Luiz Henrique Figueiredo, and Luiz Velho..
5. "Learning Behaviors for a Virtual Character".  
Technical Report TR-04-2021, VISGRAF Lab - IMPA, 2021.  
Caio Souza and Luiz Velho.
6. "About Idle Behaviors of Autonomous Agents".  
Technical Report TR-07-2021, VISGRAF Lab - IMPA, 2021.  
Caio Souza and Luiz Velho. .
7. "Space XR: Ambientes Colaborativos em Realidade Expandida".  
Technical Report TR-08-2021, VISGRAF Lab - IMPA, 2021.  
L. Velho, J. Lopes, B. Alevato, G. Ribeiro, I. Cordeiro, M. Duarte, and V. Arcoverde .
8. "Experiments with Expanded Virtual Puppeteering".  
Technical Report TR-12-2020, VISGRAF Lab - IMPA, 2020.  
Luiz Velho, Bernard Lupiac, Miguel Araujo, and Vida Oliveira.
9. "LightField-Blender: Datasets de LightFields Sinteticos".  
Technical Report TR-11-2020, VISGRAF Lab - IMPA, 2020.  
Harllon da Paz, Carla Pagliari, and Luiz Velho.
10. "Visualizacao em Tempos de Coronavirus - Parte 1".  
Technical Report TR-07-2020, VISGRAF Lab - IMPA, 2020.  
Julia Giannella and Luiz Velho.
11. "Visualizacao em Tempos de Coronavirus - Parte 2".  
Technical Report TR-10-2020, VISGRAF Lab - IMPA, 2020.  
Julia Giannella and Luiz Velho.
12. "Global Illumination of Non-Euclidean Spaces".  
Technical Report TR-06-2020, VISGRAF Lab - IMPA, 2020.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
13. "Design and Visualization of Riemannian Metrics".  
Technical Report TR-08-2020, VISGRAF Lab - IMPA, 2020.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
14. "How to see the eight Thurston geometries".  
Technical Report TR-09-2020, VISGRAF Lab - IMPA, 2020.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
15. "Light Fields".  
Technical Report TR-01-2020, VISGRAF Lab - IMPA, 2020.  
Harllon Paz, Carla Pagliari, and Luiz Velho.
16. "Captura de Movimento com Optitrack no VISGRAF Lab".  
Technical Report TR-04-2020, VISGRAF Lab - IMPA, 2020.  
Gabrielle Pinto and Luiz Velho.

17. "Deep Reinforcement Learning for High Level Character Control".  
Technical Report TR-05-2020, VISGRAAF Lab - IMPA, 2020.  
Caio Souza and Luiz Velho.
18. "3D Models Database".  
Technical Report TR-02-2020, VISGRAAF Lab - IMPA, 2020.  
Luiz Velho.
19. "Aerial Models Dataset".  
Technical Report TR-03-2020, VISGRAAF Lab - IMPA, 2020.  
Luiz Velho.
20. AR Puppeteering.  
Technical Report TR-02-2019, VISGRAAF Lab. - IMPA, 2019.  
Bernard Lupiac and Luiz Velho.
21. Ray Tracing in NIL Geometry Spaces.  
Technical Report TR-06-2019, VISGRAAF Lab - IMPA, 2019.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
22. Ray Tracing in SL2 Geometry Spaces.  
Technical Report TR-07-2019, VISGRAAF Lab - IMPA, 2019.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
23. Ray Tracing in Sol Geometry Spaces.  
Technical Report TR-08-2019, VISGRAAF Lab - IMPA, 2019.  
Tiago Novello, Vinicius da Silva, and Luiz Velho.
24. Tensorpose: Real-Time Pose Estimation using Tensorflow for Interactive Applications.  
Technical Report TR-03-2019, VISGRAAF Lab - IMPA / PUC-Rio, 2019.  
Luiz Schirmer, Djalma Lucio, Luiz Velho, and Helio Cortes.
25. Ray-VR: Ray Tracing Virtual Reality in Falcor.  
Technical Report TR-05-2019, VISGRAAF Lab - IMPA, 2019.  
Vinicius Silva and Luiz Velho.
26. Introducao ao Aprendizado por Reforco.  
Technical Report TR-04-2019, VISGRAAF Lab. - IMPA, 2019.  
Caio Souza and Luiz Velho.
27. Interactive 360 VR.  
Technical Report TR-01-2019, VISGRAAF Lab - IMPA, 2019.  
Luiz Velho.
28. A Simple and Complete Discrete Exterior Calculus on General Polygonal Meshes  
Preprint series a784/2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Lenka Ptackova.
29. *Probabilistic Editing Luiz Velho, Virtual Cinematography.*  
Technical Report TR-04-2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Leonardo Carvalho, and Djalma Lucio.
30. *Zoom for Virtual Reality based on Moebius Transformations.*  
Technical Report TR-03-2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Andre Potengy, Leonardo Sacht, and Leonardo Souto.
31. *VR Kino+Theater: a platform for the future digital media.*  
Technical Report TR-01-2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Leonardo Carvalho, and Djalma Lucio.
32. *"VR Tour: Guided Participatory Meta-Narrative for Virtual Reality Exploration".*  
Technical Report TR-06-2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Leonardo Carvalho, and Djalma Lucio.
33. *Making The Tempest.*  
Technical Report TR-02-2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Manoel Prazeres, Leonardo Carvalho, Djalma Lucio, Affonso Beato, Eduardo Cronemberger, Julia Giannella, Vitor Rolla, Helena Varvaki, Daniela Salles Abreu, and Rick Yates.
34. *"Estudo do Framework de Realidade Aumentada da Apple".*  
Technical Report TR-05-2018, VISGRAAF Lab - IMPA, 2018.  
Luiz Velho, Joao Pedro Xavier.
35. *VR Kino+Theater.*  
Technical Note TR-11-2017, VISGRAAF Lab - IMPA, 2017.

36. *A Linguagem Cinematográfica Frente aos Desafios da Realidade Virtual*  
Technical Report TR-10-2017, VISGRAf Laboratory - IMPA, 2017.  
Luiz Velho, Andre Potengy
37. *Zoom para Realidade Virtual Baseado em Transformação de Moebius*.  
Technical Report TR-09-2017, VISGRAf Laboratory - IMPA, 2017.  
Luiz Velho, Andre Potengy
38. *Avaliacao Experimental de uma Modelagem para Simulator Sickness*.  
Technical Report TR-08-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Vitor Balbio, Alexandre Sena, Rosa Maria Costa, Djalma Lucio,
39. *Um Framework para Escolha de Modelos em Grandes Bases de Dados*.  
Technical Report TR-04-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Leandro Cruz
40. *Visualizacao de Musica*.  
Technical Report TR-05-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Leandro Cruz
41. *Web Orchestra Studio: a real-time interactive platform for music and education*.  
Technical Report TR-06-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Juliano Kestenberg, Vitor Guerra Rolla, Djalma Lucio
42. *Musica, Matematica e Computacao*.  
Technical Report TR-07-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Vitor Guerra Rolla, Juliano Kestenberg
43. *Moebius Transformations Applied to Omnidirectional Images*.  
Technical Report TR-02-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Leonardo Souto, Leonardo Sacht
44. *Situated Participatory Virtual Reality*.  
Technical Report TR-03-2017, VISGRAf Laboratory - IMPA, 2017.  
Luiz Velho, Leo Carvalho, and Djalma Lucio
45. *Construcao e Visualizacao Interativa de Panoramas Omnidirecionais Luiz Velho, Multiplas Camadas*.  
Technical Report TR-01-2017, Laboratorio VISGRAf - IMPA, 2017.  
Luiz Velho, Aldo Zang
46. *"Automatic reconstruction of ancient Portuguese tile panels"*.  
Preprint impa a773, Laboratorio VISGRAf - IMPA, 2016.  
Luiz Velho, Fernanda Andaló, Gustavo Carneiro, Siome Goldenstein, Gabriel Taubin, .
47. *"Aplicabilidade Industrial de Tecnologias Avancadas de Visualizacao Movei"*.  
Technical Report TR-06-2016, Laboratorio VISGRAf - IMPA / UFRJ, 2016.  
Luiz Velho, Elton Fernandes, Gabriel Fernandes, .
48. *"Sistema Revelar"*.  
Technical Report TR-07-2016, Laboratorio VISGRAf - IMPA, 10 2016.  
Luiz Velho, Gabriel Fernandes, Juliano Kestenberg, .
49. *"OBSERVATOR!O2016"*.  
Technical Report TR-08-2016, Laboratorio VISGRAf - IMPA, 2016.  
Luiz Velho, Julia Giannella .
50. *"Mecanismos de Compensacao da Distorcao em Imagens Estereoscopicas Visualizadas de Forma Obliqua"*.  
Technical Report TR-01-2016, Laboratorio VISGRAf - IMPA, 2016.  
Luiz Velho, Bruno Madeira .
51. *"Adaptive Polygonization Methods for RGB-D Images"*.  
Technical Report TR-05-2016, Laboratorio VISGRAf - IMPA, 2016.  
Luiz Velho, Hallison Paz .
52. *"Imagens RGB-D em plataformas moveis"*.  
TR-02-2016, Laboratorio VISGRAf - IMPA, 2016.  
Luiz Velho, Hallison Paz .
53. *"The Expo Framework"*.  
Technical Report TR-03-2016, Laboratorio VISGRAf - IMPA, 2016.
54. *"Deteccao de Planos em Tempo Real em Imagens de Profundidade"*.  
Technical Report TR-04-2016, IMPA / UFF, 2016.  
Luiz Velho, Eduardo Vera, Djalma Lucio, Leandro A. F. Fernandes, .
55. *Fluid Simulation and Generating Textures Luiz Velho, Reaction-Diffusion Systems on Surfaces in the GPU*.  
Preprint A767, IMPA, 2015.  
Luiz Velho, Leonardo Carvalho, Maria Andrade.



56. *Técnicas de Alto Nível para Criação de Terrenos*.  
Technical Report TR-05-2015, IMPA - VISGRAF Laboratory, 2015.  
Luiz Velho, Leandro Cruz.
57. *Authoring Tools for Mesa-3D*.  
Technical Report TR-07-2017, IMPA - VISGRAF Laboratory, 2015.  
Luiz Velho, Dalai Felinto, Djalma Lucio.
58. *Discrete Exterior Calculus and Applications*.  
Technical Report TR-03-2015, VISGRAF Laboratory - IMPA, April 2015.  
Luiz Velho, Lenka Ptackova.
59. *Discrete Exterior Calculus: History, Theory and Applications*.  
Technical Report TR-06-2015, IMPA - VISGRAF Laboratory, 2015.  
Luiz Velho, Lenka Ptackova.
60. *Motion Creation from Motion Capture Data*  
Technical Report TR-02-2015, IMPA - VISGRAF Laboratory, 2015.  
Luiz Velho, Louise Roy
61. *Architectures for Distributed Mobile Applications*  
Technical Report TR-01-2015, IMPA - VISGRAF Laboratory, 2015.  
Luiz Velho, Gabriel Fernandes, Djalma Lucio, Bruno Silva
62. *Banco de Dados de Movimento Capturado*  
Technical Report TR-01-2014, IMPA - VISGRAF Laboratory, 2014.  
Luiz Velho, Alexandra Camargo Alves
63. *A Graph Cut Approach to Texture Synthesis on 3D Surfaces*  
Technical Report TR-02-2014, IMPA - VISGRAF Laboratory, 2014.  
Luiz Velho, Fernanda Andalo
64. *Framework para Aplicações em Plataformas Moveis usando Panoramas Luiz Velho, Camadas*  
Technical Report TR-04-2014, IME, 2014.  
Luiz Velho, Carlos Eduardo Rocha, Diego Bretas, Hallison da Paz, Paulo Rosa
65. *Scrambled Videos: Sistema de inserção e manipulação de video clips curtos*  
Technical Report TR-03-2014, IMPA - VISGRAF Laboratory, 2014.  
Luiz Velho, Bruno Silva, Djalma Lucio Botanic: New Directions in Mobile Research.
66. Technical Report - VISGRAF Laboratory TR-05-2013, IMPA, 2013.  
Luiz Velho, Fernanda Groetaers, and Mariana Duprat
67. *Improving Projections of Panoramic Images Luiz Velho, Moebius Transformations*  
Technical Report TR-03-2013, IMPA - VISGRAF Laboratory, 2013.  
Luiz Velho, Luis Peaaranda, Leonardo Sacht
68. *Modeling Sound in 3-Orbifolds*.  
Technical Report TR-02-2013, MPA - Laboratorio VISGRAF, 2013.  
Luiz Velho, Sergio Krakowski
69. *An image-space algorithm for immersive views in 3-manifolds and orbifolds"*.  
Technical Report TR-01-2013, IMPA - Laboratorio VISGRAF,, 2013.  
Luiz Velho, Pierre Berger, Alex Laier
70. *Image puzzle methods applied to the automatic reconstruction of ancient Portuguese tile panels*.  
Technical Report TR-04-2013, IMPA - VISGRAF Laboratory, 2013.  
Luiz Velho, Fernanda Andalo, Gustavo Carneiro, Siome Goldenstein, Gabriel Taubin
71. *Fluid Simulation and Reaction-Diffusion Textures on Surfaces*  
Technical Report - VISGRAF Laboratory TR-01-2012, IMPA, 2012.  
Luiz Velho, Maria Andrade
72. *Classificação de sinais Luiz Velho, Scattering Operators*  
Technical Report TR-04-2012, IMPA - Laboratorio VISGRAF, 2012.  
Luiz Velho, Leandro Cruz
73. *Object Recognition using RGB-D images: Some preliminary results*  
Technical Report TR-05-2012, IMPA, october 2012.  
Luiz Velho, Noslen Hernandez
74. *An Adaptive Multiresolution Mesh Representation for CPU-GPU Coupled Computation*  
Technical Report TR-06-2012, IMPA - Laboratorio VISGRAF, 2012.  
Luiz Velho, Andre Maximo, and Marcelo Siqueira.
75. *Multiresolution analysis as a numerical technique*  
Technical Report TR-2012-02, IMPA, 2012.  
Luiz Velho, Francisco Benavides Murillo

76. *Constructing 3D skeleton-based models for base mesh generation*  
Technical Report TR-03-2012, IMPA - Laboratorio VISGRAf, sept 2012.  
Luiz Velho, Erwan Renaut
77. *ChoreoGraphics: An Authoring Environment for Dance Shows*  
Technical Report TR-07-2012, IMPA - Laboratorio VISGRAf, 2012.  
Luiz Velho, Adriana Schulz, and Wojciech Matusik.
78. *Computational Photography and Video*  
Technical Report - VISGRAf Laboratory TR-11-03, IMPA, 2011.  
Luiz Velho, Tassio Knop de Castro, Alexandre Chapiro
79. *A note on approximation on the real line Luiz Velho, nonnegative derivative constraints by Hermite interpolation using RBFs and convex quadratic programming*  
Technical Report TR-01-2011, IMPA, January 2011. VISGRAf Laboratory Technical Report.  
Luiz Velho, Ives Macedo
80. *Scalable Motion Aware Panoramic Videos*  
Technical Report 26/2011, IMPA, 2011.  
Luiz Velho, Leonardo Sacht, Diego Nehab, and Marcelo Cicconet.
81. *On Multi-Touch Interfaces for Music Improvisation: The Blues Machine Project.*  
Technical Report TR-2010-05, IMPA, 06 2010,  
Luiz Velho, Marcelo Cicconet, Ilana Paterman and Paulo Carvalho
82. *Experimentos em Realidade Aumentada,*  
VISGRAf Laboratory - Technical Report TR-2010-06, IMPA, 2010,  
Luiz Velho, Bruno Madeira and Luiz Velho
83. *Gigapixel Panoramas and Narratives: The making of Love Affair.*  
VISGRAf Laboratory - Technical Report TR-2010-07, IMPA, 2010,  
Luiz Velho, Bernardo Schorr and Luiz Velho
84. *Techniques for CG Music Video Production: the making of Dance to the Music / Play to the Motion.*  
Technical Report TR-2010-04, Laboratorio VISGRAf - IMPA, March 2010,  
Luiz Velho, Adriana Schulz, Marcelo Cicconet, Bruno Madeira, Aldo Zang
85. *Realidade Virtual e Aumentada*  
Technical Report TR-01, Laboratorio VISGRAf - IMPA, 2010.  
Luiz Velho, Bruno Madeira
86. *Character Animation from Motion Capture Data*  
Technical Report TR-2010-02, VISGRAf Laboratory Technical Report, 2010.  
Luiz Velho, Adriana Schulz
87. *Um Sketch sobre Sketch-Based Modeling*  
Technical Report TR-03, Laboratorio VISGRAf - IMPA, 2010.  
Luiz Velho, Leandro Moraes Valle Cruz
88. *The VISGRAf Video Database*  
VISGRAf Laboratory Technical Report TR-2009-04, IMPA, 2009.  
Luiz Velho, Rafaella Gappo
89. *Switching Interactive Modes*  
VISGRAf Laboratory Technical Report TR-2009-03, IMPA, 2009.  
Luiz Velho, Sergio Krakowski
90. *Simplicial Diffeomorphisms*  
VISGRAf Laboratory Technical Report TR-2009-05, IMPA, 2009.  
Luiz Velho, Vinicius Mello
91. *Editing RGBNs*  
VISGRAf Laboratory Technical Report TR-01-2009, IMPA, 2009  
Luiz Velho, Thiago Pereira
92. *collecTable: uma Interface Natural para Coleções de Musica*  
VISGRAf Laboratory Technical Report TR-02-2009, IMPA, 2009.  
Luiz Velho, Andre Maximo, Maria Paula Saba
93. *Some Case Studies in Automatic Descriptor Extraction*  
Technical Report 05-07, IMPA - VISGRAf Laboratory, 2007  
Luiz Velho, Giordano Cabral, Sergio Krakowski, Francois Pachet, and Jean-Pierre Briot
94. *Geodesic Bezier Curves: A Tool for Modeling on Triangulation*  
Technical Report 04-07, IMPA - VISGRAf Laboratory, 2007  
Luiz Velho, Dimas Martinez, and Paulo Cezar Carvalho

95. *An Aspect Ratio Upper Bound in 2D Solid Alpha Complexes of Poisson Disc Samplings*  
Technical Report 02-07, IMPA - VISGRAF Laboratory, 2007  
Luiz Velho, Esdras Medeiros, Thomas Lewiner, and Helio Lopes
96. *Reconstructing Poisson Disc Samplings of Solid Objects* Luiz Velho, *Topological Guarantees*  
Technical Report 03-07, IMPA - VISGRAF Laboratory, 2007  
Luiz Velho, Esdras Medeiros, Thomas Lewiner, and Helio Lopes
97. *Uma Abordagem Estocástica para Multiresolução de Objetos Sólidos* Luiz Velho, *Controle Topológico*  
Technical Report 01-07, IMPA - VISGRAF Laboratory, 2007  
Luiz Velho, Esdras Medeiros, Thomas Lewiner, and Helio Lopes
98. *Intrinsic Mesh Segmentation*  
Technical Report TR-07-017, Instituto de Computação UNICAMP, 2007  
Luiz Velho, Fernando de Goes, Siome Goldenstein
99. *Local Registration* Luiz Velho, *Global Reconstruction*  
Technical Report, Dept. Matemática, PUC-Rio, 2007  
Luiz Velho, Thales Vieira, Adailson Peixoto, Thomas Lewiner
100. *A Survey of Real-Time Interactive Music Systems*  
Technical Report TR-05-06, IMPA - VISGRAF Laboratory, 2006  
Luiz Velho, Sergio Krakowski
101. *Improved Partition of Unity Implicit Surface Reconstruction*  
Technical Report TR-0406, IMPA - VISGRAF Laboratory, November 2006  
Luiz Velho, Boris Mederos, Sueni Arouca, Marcos Lage, Helio Lopes
102. *Variational Texture Atlas Construction and Applications*  
Technical Report TR-0306, IMPA - VISGRAF Laboratory, 2006  
Luiz Velho, Jonas Sossai Jr
103. *MUAN: A Stop Motion Animation System*  
Technical Report 02, IMPA - VISGRAF Laboratory, 2006  
Luiz Velho, Bruno Madeira, Hedlena Bezerra, Marcos Magalhaes, Margareth Catoia Varela
104. *An Expressive Talking Head for an Interactive Storytelling System*  
Technical Report 01, PUC-Rio / IMPA, 2006  
Luiz Velho, Paula Salgado Lucena Rodrigues, Cezar T. Pozzer, Bruno Feijo, Angelo Ciarlim, Antonio Furtado
105. *Affine Skeletons and Monge-Ampère Equations*  
Preprint IMPA, serie A 405/2005  
Luiz Velho, Ralph Teixeira, Moacyr Alvim Silva
106. *Topological Mesh Operators*  
Technical Report TR-2005-03, IMPA - Laboratorio VISGRAF, 2005  
Luiz Velho, Helio Lopes, Esdras Soares, Thomas Lewiner, Geovan Tavares
107. *Modelos Avançados de Animação Facial - O Estado da Arte*  
Technical Report TR-2005-02, IMPA - Laboratorio VISGRAF, 2005  
Luiz Velho, Paula Salgado Lucena Rodrigues
108. *Sombreamento 3D para Animação 2D*  
Technical Report TR-2005-01, IMPA - Laboratorio VISGRAF, 2005  
Luiz Velho, Hedlena Bezerra, Bruno Feijo
109. *Simulating Film Response Curves from a Pair of LDR Images*  
Technical Report TR-2004-07, IMPA - Laboratorio VISGRAF, 2004  
Luiz Velho, Asla Sá, Paulo Cezar Carvalho
110. *Texture Blending to Point Sampled Geometry*  
Technical Report TR-2004-06, IMPA - Laboratorio VISGRAF, 2004  
Luiz Velho, Jose Luiz Soares Luz, Paulo Cezar Carvalho
111. *Rastreamento e Modelagem de um Objeto Rígido num Vídeo*  
Technical Report TR-2004-03, IMPA - Laboratorio VISGRAF, 2004  
Luiz Velho, Anderson Mayrink da Cunha
112. *Visualização de Terrenos em Tempo Real* Luiz Velho, *Malhas Semi-Regulares*  
Technical Report TR-2004-05, IMPA - Laboratorio VISGRAF, 2004  
Luiz Velho, Lourena Rocha, Sergio Pinheiro, and Marcelo Vieira
113. *4th Generation Video: Phase One*  
Technical Report TR-2004-04, IMPA - Laboratorio VISGRAF, 2004  
Luiz Velho, Marcelo Vieira, Asla Sa, and Paulo Cezar Carvalho
114. *Dynamic Adaptive Meshes and Stellar Theory*  
Technical Report TR-2004-01, IMPA - Laboratorio VISGRAF, 2004

115. *Interfaces Assistidas para Deficientes Visuais usando Dispositivos Reativos e Transformadas de Distancia.*  
 Technical Report - VISGRAF Laboratory TR-03-05, IMPA, Nov 2003.  
 Luiz Velho, Marcelo Medeiros e Marcelo Gattass
116. *Métodos Probabilísticos para Reconhecimento de Voz.*  
 Technical Report - VISGRAF Laboratory TR-03-04, IMPA, June 2003.  
 Luiz Velho, Anderson Mayrink da Cunha.
117. *Reconhecimento de Dígitos* Luiz Velho, HMM.  
 Technical Report TR-03-04, IMPA - VISGRAF Laboratory, August 2003  
 Luiz Velho, Anderson Mayrink da Cunha.
118. *Moving Least Squares Multiresolution Surface Approximation.*  
 Technical Report TR-0303, IMPA, 2003.  
 Luiz Velho, Boris Mederos e Luiz Henrique de Figueiredo.
119. *Global 2-D Texture Mapping for Implicit Models*  
 Technical Report 02-09, IMPA - Laboratório VISGRAF, June 2002.  
 Luiz Velho, L.H. de Figueiredo, Jonas Gomes, M. Tigges, B. Wyvill e Ruben Zonenschein
120. *Presença em Mundos Virtuais*  
 Technical Report TR-02-04, IMPA, June 2002.  
 Luiz Velho, Antonia Lucinelma Pessoa Albuquerque.
121. *Hidden Markov Models*  
 Technical Report TR-02-02, IMPA, January 2002  
 Luiz Velho, Anderson Mayrink da Cunha.
122. *A Compression Scheme for Volumetric Data Based on the Local Cosine Transform.*  
 Technical Report TR-02-07, IMPA, February 2002.  
 Luiz Velho, Anselmo Cardoso de Paiva, e Marcelo Gattass.
123. *Super-Resolution*  
 Rapport de Stage d'Option Scientifique TR-02-08, Ecole Polytechnique, June 2002.  
 (Directeur de stage: Luiz Velho) Luiz Velho, Regis Destobbeleire.
124. *Stitching and Visualization of 360 Images*  
 Technical Report TR-02-03, IMPA, March 2002.  
 Luiz Velho, Aldo Nogueira.
125. *Caixas Orientadas Envolventes na Verificação de Objetos*  
 Technical Report TR-02-05, IMPA, May 2002.  
 Luiz Velho, Luis Antonio Rivera, Paulo Cezar Carvalho.
126. *Um Sub-Sistema de Visão Computacional para Acompanhamento de Objetos*  
 Relatório Técnico TR-02-01, IMPA - Laboratório Visgraf, January 2002  
 Luiz Velho, Bruno Madeira
127. *A Lua Implementation of Image Moment-Based Painterly Rendering*  
 Technical Report TR-01-11, IMPA, December 2001  
 Luiz Velho, Diego Nehab and Luiz Velho
128. *BMT: A Generic Programming Approach to Multiresolution Spatial Decompositions.*  
 Visgraf Technical Report 01-04, IMPA, December 2001  
 Luiz Velho, Vinicius Mello, Paulo Roma Cavalcanti, e Claudio Silva
129. *Um Sistema de Memória Virtual para Objetos 2D em Multi-Resolução,*  
 Relatório Técnico 3, PUC-Rio / IMPA-Visgraf, 10 2001  
 Luiz Velho, Sergio Pinheiro e Marcelo Gattass
130. *Mundos Virtuais e Jogos por Computador: PONG - Um Estudo de Caso,*  
 Relatório Técnico TR-01-02, IMPA - Laboratório Visgraf, September 2001  
 Luiz Velho, Antonia Lucinelma Pessoa Albuquerque
131. *Texture Synthesis Algorithms,*  
 Rapport de stage d'option scientifique, Ecole Polytechnique, June 2001  
 Luiz Velho, Paul Billault
132. *Manual do Sistema Visorama - Versão 1.0,*  
 Technical Report, TR-01/01, Projeto Visgraf, IMPA 2001  
 Luiz Velho, Sergio Estevao Pinheiro
133. *Particle Texturing Implicit Surfaces,*  
 Technical Report, Projeto Visgraf, IMPA 2001  
 Luiz Velho, Ruben Zonenschein

134. *Espaços de Escala Discretos*,  
Technical Report, Projeto Visgraf, IMPA 2001  
Luiz Velho, Anderson Mayrink e Ralph Costa
135. *Modelagem de Objetos Implícitos: Uma Abordagem Hierárquica*,  
Relatório Técnico 1, UFRJ / IMPA-VISGRAF, 11 2000  
Luiz Velho, Antonio Lopes Apolinario Junior e Claudio Esperança
136. *Transformadas de Distância*,  
Technical Report MCC 35/00, PUC – Rio, September 2000  
Luiz Velho, Adelailson Peixoto
137. *Um Estudo de Algoritmos para Visualização Simultânea de Dados Volumétricos e Superfícies Poligonais*,  
Technical Report MCC 14/00, PUC – Rio, March 2000  
Luiz Velho, Marcelo Medeiros Carneiro
138. *Color Halftoning Luiz Velho, Stochastic Screening and Adaptive Clustering*,  
Technical Report, Projeto Visgraf, IMPA 1999  
Luiz Velho, Jonas Gomes
139. *Modelagem e Manipulação de Objetos Complexos*  
Monografias em Ciência da Computação, n. 6/99, PUC – Rio, 1999  
Luiz Velho, Luiz Antonio Rivera Escriba e Paulo Cezar Pinto Carvalho
140. *A General Architecture for Implicit Surfaces Systems*  
Technical Report - Projeto Visgraf, IMPA (in preparation)  
Luiz Velho, Ruben Zonenschein, Luiz Henrique Figueiredo e Jonas Gomes
141. *Sistemas de Captura de Movimento*  
Technical Report - Projeto Visgraf, IMPA, 1998  
Luiz Velho, Fernando Silva e Jonas Gomes
142. *Visualização de Panoramas Virtuais*  
Technical Report - Projeto Visgraf, IMPA, 1998  
Luiz Velho, Andre Matos e Jonas Gomes
143. *MBONE- Vídeo na Internet*  
Technical Report - Projeto Visgraf, IMPA, 1996  
Luiz Velho, Jonas Gomes
144. *A Wavelet Representation for Unbounded Resolution Painting*  
Technical Report, November 1992, Courant Institute of Mathematical Sciences, NYU  
Luiz Velho, Ken Perlin
145. *Spatial Decompositions*  
Technical Report, IMPA, September 1992  
Luiz Velho, Paulo Carvalho e Jonas Gomes

#### 4.7. THESIS

*Piecewise Description of Implicit Surfaces and Solids*,  
Ph.D. Thesis, Computer Science Department, University of Toronto, June 1994  
supervisor: Demetri Terzopoulos

*SCRIPTS: On the Description of Computer Animated Images*,  
M.S. Thesis, The Media Lab., Massachusetts Institute of Technology, June 1986  
supervisor: David Zeltzer

#### 4.8. THESIS SUPERVISION

1. Thales Magalhães  
*NeRF Rendering*  
Dissertação de Mestrado, IMPA, ongoing
2. Hallison da Paz  
*AI Graphics*  
Tese de Doutorado, IMPA, ongoing
3. Caio Souza  
*Intelligent Agents*  
Tese de Doutorado, IMPA, ongoing
4. Luiz Schirmer  
*Pose Detection and Tracking*  
Tese de Doutorado, PUC-Rio, 2021

5. Andrea Lennhoff  
*Museums and Media*  
Tese de Doutorado, PUC-Rio, 2021
6. Julia Giannella  
*Visualization*  
Tese de Doutorado, ESDI-UERJ, 2020
7. Bruno Madeira  
*Métodos de Visão Computacional e Processamento de Imagens para Estereoscopia Horizontal*  
Tese de Doutorado, IMPA, 2017
8. Lenka Ptackova  
*A Discrete Wedge Product on Polygonal Pseudomanifolds*  
Tese de Doutorado, IMPA, 2017
9. Hallison da Paz  
*Reconstrução Adaptativa De Superfícies Implícitas A Partir De Imagens De Profundidade*  
Dissertação de Mestrado, IMPA, 2017,
10. Eduardo Vera Sousa  
*Panoramas em Camadas*  
Dissertação de Mestrado, UFF, 2016
11. Aldo Zang  
*Panoramas omnidirecionais expandidos*  
Tese de Doutorado, IMPA, 2016
12. Hallison da Paz  
*Panoramas em Camadas*  
Trabalho de Conclusão, IME, 2014, co-orientador Paulo Rosa
13. Juliano Kestenberg  
*Fotografia e interação no Jardim Botânico: uma abordagem do design de participação em contexto museológico*  
Dissertação de Mestrado, ESDI, 2014, co-orientador Washington Lessa.
14. Barbara Pires e Castro  
*Corpo e Mídia: a experiência artística em um intervalo*  
Dissertação de Mestrado, UFRJ, 2013, co-orientador Doris Kosminsky.
15. David da Silva Pires  
*Estimação de movimento a partir de imagens RGBD usando homomorfismo entre grafos*  
Tese de Doutorado, USP, 2012, co-orientador Roberto Cesar Jr.
16. Dália Bonila  
*Simulação de Fluidos*  
Tese de Doutorado, IMPA, 2011
17. Adriana Schulz  
*ChoreoGraphics: An Authoring Environment for Dance Shows*  
Dissertação de Mestrado, IMPA, 2011
18. Leandro Cruz  
*Modelagem de Terrenos*  
Dissertação de Mestrado, IMPA, 2011
19. Alexandra Camargo Alves  
*Sistemas de autoria para produção de animações por crianças utilizando Interfaces naturais*  
Tese de Doutorado, USP, 2011, co-orientadora Roseli Lopes
20. Alexandre Chapiro  
*Improving Mobile Videos*  
Dissertação de Mestrado, IMPA, 2011, co-orientador Paulo Cezar Carvalho
21. Ives Macedo Junior  
*HRBF Implicits*  
Tese de Doutorado, IMPA, 2011
22. Thales Vieira  
*Galerias Inteligentes e Otimização de Posicionamento de Câmera*  
Tese de Doutorado, PUC-Rio, 2010, co-orientador Thomas Lewiner
23. Anderson Mayrink  
*Learning Head Movements*  
Tese de Doutorado, IMPA, 2009

24. Sergio Krakowski  
*Rhythm-Controlled Automata Applied to Musical Improvisation*  
Tese de Doutorado, IMPA, 2009
25. Aldo Rene Zang  
*Esquema Híbrido para Amostragem de Mapas de Iluminação em Renderizações Foto-Realista*  
Dissertação de Mestrado, IMPA, 2009, co-orientador Paulo Cezar Carvalho
26. Esdras Medeiros  
*Topologia Solida*  
Tese de Doutorado, IMPA, 2008
27. Adriana Schulz  
*Compressive Sensing*  
Trabalho de Conclusão, UFRJ, 2008, co-orientador Eduardo Silva
28. João Velho  
*Motion Graphics*  
Dissertação de Mestrado, ESDI, 2008
29. Ives Macedo Junior  
*Animação e Simulação de Fluidos*  
Dissertação de Mestrado, IMPA, 2007
30. Paula Salgado Lucena  
*Animação Facial*  
Tese de Doutorado, PUC-Rio, 2007, co-orientador Bruno Feijó.
31. Dimas Martinez Morera  
*Geodésicas em Superfícies Discretas*  
Tese de Doutorado, IMPA, 2006, co-orientador Paulo Cezar Carvalho
32. Luiz Antonio Rivera  
*Animação Baseada em Física Luiz Velho, Modelos Geométricos em Multi-Resolução*  
Tese de Doutorado, PUC-Rio, 2000, co-orientador Paulo Cezar Carvalho
33. Vinícius Melo  
*Estruturas de Dados Volumétricas*  
Tese de Doutorado, IMPA 2006
34. Bruno Madeira  
*Match Move*  
Dissertação de Mestrado, IMPA 2006, co-orientador Paulo Cezar Carvalho
35. Jonas Sossai Jr.  
*Atlas Variacionais usando Mapeamentos Projetivos*  
Dissertação de Mestrado, IMPA 2006
36. Marcus Aurelius Cordenunsi Farias  
*Operações Booleanas Luiz Velho, Objetos Definidos por Pontos*  
Dissertação de Mestrado, UFRGS, 2006, co-orientador João Comba
37. Sueni de Souza Arouca  
*Método implícito para reconstrução de curvas a partir de pontos esparsos*  
Dissertação de Mestrado, PUC-Rio, 2006, co-orientador Helio Lopes
38. Fabiano Segadaes Romeiro  
*Hardware-assisted rendering of CSG models*  
Dissertação de Mestrado, IMPA, 2006, co-orientador Luiz Henrique de Figueiredo
39. Hedlana Bezerra  
*Colorização 3D para Animação 2D*  
Dissertação de Mestrado, PUC-Rio, 2005, co-orientador Bruno Feijó
40. Aruquia Peixoto  
*Simplificação de Superfícies Implícitas Não-Compactas Luiz Velho, Preservação de Topologia*  
Dissertação de Mestrado, COPPE - UFRJ, 2005, co-orientador Ricardo Farias
41. Moacyr Barbosa da Silva  
*Eixos Mediais*  
Tese de Doutorado, IMPA, 2005, co-orientador Ralph Teixeira
42. Lourena Rocha  
*Interpolação de Movimento Baseada em Momentos*  
Dissertação de Mestrado, IMPA, 2004, co-orientador Paulo Cezar Carvalho

43. José Luiz Soares Luz  
*Visualização de Superfícies usando Pontos*  
Dissertação de Mestrado, IMPA, 2004, co-orientador Paulo Cezar Carvalho
44. Antônio Apolinário  
*Representação Hierárquica de Funções de Distância*  
Tese de Doutorado, COPPE - UFRJ 2004, co-orientador Cláudio Esperança
45. Boris Medeiros Madrazo  
*Visualização de Superfícies Implícitas*  
Tese de Doutorado, IMPA 2004, co-orientador Luiz Henrique de Figueiredo
46. Heloisa Reis Leal  
*Operações CSG Luiz Velho, Representações de Pontos*  
Dissertação de Mestrado, PUC-Rio, 2004, co-orientador Waldemar Celes
47. Sergio Estevão Machado Lisboa Pinheiro  
*Um sistema de cache preditivo para o processamento em tempo-real de grandes volumes de dados gráficos*  
Tese de Doutorado, PUC-Rio, 2004, co-orientador Waldemar Celes
48. Aldo Nogueira e Elaine Prata  
*Modelagem e Visualização Baseada em Imagens*  
Iniciação Científica, UERJ, 2003
49. Marcelo Medeiros Carneiro  
*Interfaces Assistidas para Cegos usando Dispositivos Reativos e Transformadas de Distância*  
Tese de Doutorado, PUC-Rio, 2002, co-orientador Marcelo Gattass
50. Esdras Soares de Medeiros  
*Fotografia 3D*  
Dissertação de Mestrado, IMPA, 2002
51. Adailson Peixoto  
*Extração de Malhas em Multiresolução*  
Tese de Doutorado, PUC-Rio, 2002, co-orientador Marcelo Gattass
52. Regis Destobbeleire  
*Super-Resolution*  
Stage d'Option Scientifique, Ecole Polytechnique, 2002
53. Paula Salgado Lucena  
*Animação Facial*  
Dissertação de Mestrado, PUC-Rio, 2002, co-orientador Marcelo Gattass
54. Paul Billault  
*Texture Synthesis Algorithms*  
Stage d'Option Scientifique, Ecole Polytechnique, 2001
55. Bruno Madeira  
*Target Tracking*  
Trabalho de Conclusão, IME, 2001
56. Anselmo de Paiva  
*Compressão de Dados Volumétricos Baseada na Transformada do Cosseno Local*  
Tese de Doutorado, Departamento de Informática, PUC-Rio, 2001, co-orientador Marcelo Gattass
57. Anderson Mayrink  
*Espaços de Escala e Detecção de Arestas*  
Dissertação de Mestrado, Visgraf / IMPA, 2000
58. Rodrigo Toledo  
*Visualização de Terrenos em Multiresolução*  
Dissertação de Mestrado, Departamento de Informática, PUC-Rio, 2000, co-orientador Marcelo Gattass
59. Kenneth B. Russell,  
*IMPS: Implicit Surfaces for Interactive Animated Character*  
MS Thesis Reader, MIT-Media Lab, May de 1999
60. Andre de Machado Matos  
*Panoramas Virtuais*  
Dissertação de Mestrado, Departamento de Informática, PUC-Rio, 1998, co-orientador Marcelo Gattass
61. Fernando Wagner da Silva  
*Um Sistema de Animação Luiz Velho, Movimento Capturado*  
Dissertação de Mestrado, Departamento de Informática, UFRJ, 1998.



#### 4.9. POST-DOC SUPERVISION

Gulherme Schardong, 2020 -

Santiago Guisasola, 2019 -

Tiago Novello, 2019 -

Lenka Ptackova, 2017-2018

Aldo Zang, 2016.

Vitor Rolla, 2015-2017.

Leandro Cruz, 2015-2016.

Fernanda Andaló, 2013-2014.

Luiz Penaranda, 2012-2014.

Erwan Reanlt, 2010-2012.

André Maximo, 2010-2012

Noslen Hernandez, 2012.

Marcelo Cicconet, 2011.

Anderson Mayrink, 2009-2010.

#### 4.10. SCIENTIFIC DIVULGATION

1. *A Matemática da Animação por Computador*,  
in *Ciencia Hoje*, SBPC, 2013  
Luiz Velho, Luiz Henrique Figueiredo e Diego Nehab
2. “Matemática e o Desenvolvimento de Software”  
2004, Luiz Velho, Jonas Gomes e César Camacho
3. “Visorama: Arte e Matemática”  
Ciclo Arte, Ciência e Tecnologia  
ITAU Cultural, 2003
4. “Sobre o IMPA ”  
in *IMPA 50 anos*, 2003
5. “Computação Gráfica e Estilos Visuais” (November, 2000)  
Revista Eletrônica Idéias, Escola de Artes Visuais  
Luiz Velho, Jonas Gomes
6. “Descrição do Movimento na Era da Informatização ”  
in *Nota-Anna*, Analivia Cordeiro, Editora Fapesp, 1997
7. “Vislumbrando o Futuro das Comunicações: a Internet” (November, 1995)  
Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
8. “Novas Tecnologias de Video” (December, 1994)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
9. “Composição de imagens” (May, 1994)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
10. “Vídeo Digital” (March, 1993)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
11. “Padrões de Cor” (December, 1992)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
12. “Fundamentos de Cor” (September 1992)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
13. “Imagem Digital” (June, 1992)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes

14. “Computação Gráfica” (March, 1992)  
*Computação Gráfica*, Journal of the Society of Television Engineers  
Luiz Velho, Jonas Gomes
15. *Computação Gráfica*,  
in *Ciencia Hoje*, Vol. 10, No. 56, pages 36-47, SBPC, August 1989  
Luiz Velho, Jonas Gomes

## 5. PARTICIPATION IN SCIENTIFIC EVENTS

### 5.1. INVITED TALKS

#### 2021

“Novas Mídias e o Metaverso”  
Multivisões Imersivas - Universidade PETROBRAS, December 2021.

“V-Horus 2.0”  
SEMNA - Conference of Egyptology, December 2021.

“Next Media for Expanded Reality”  
VFXRio, December 2021.

“XR em Experimentações Científicas e Mercado”  
X-Reality USP, March 2021.

“As Tendências da Edição para Novas Mídias”  
LATC Program for A/V Professionals , February 2021.

#### 2020

“Digital Humans”  
VISGRAf Seminar, July 2020.

“Mediated eXperiences”  
VFXRio Online, June 2020.

“The Circle of Innovation”  
Workshop on Industrial Mathematics, IMPA-CeMEAI, February 2020.

#### 2019

“Pose Detection with Machine Learning”  
Rio Info AI Conference , September 2019.

“O Boneco.”  
Besides the Screen , September 2019.

"Expanded Virtual Puppeteering."  
VISGRAf Seminar, August 2019.

“Live Cinema”  
Semana ABC, May 2019.

“Real Time Ray-Tracing”  
Rio2C, May 2019.

“Digital Empathy, Robot Style”  
ESDI - Microsoft Design Expo Program , May 2019.

"Gaze-Based Interaction in Cinematic 360 VR"  
Forum Audiovisual do Mercosul, oct 2019.

"Jos Stam: from Art to Science."  
VISGRAf Seminar Talk, March 2019.

"A Matemática dos Filmes de Animação 3D."  
Impa Portas Abertas, oct 2019

#### 2018

“The New Museum”  
I Panorama em Tecnologias Digitais para Museus, FGV 2018.

“The Tempest”  
IMAGINA[trans]forma[inter]ação 2018.

“Future Media”  
Rio Creative Conference 2018.

“New Media: Challenges and Perspectives”  
Seminar at OITO, 2018.

## **2017**

“Early Years”

Closing Talk at Luiz Velho 60 years celebration, 2017.

“Lance J. Williams - The man and his legacy”

IMPA, 2017

“Yves Meyer ~ Wavelets”

Seminario Premio Abel, IMPA, 2017

“Multi-Player In-Situ VR”

IMPA, 2017

“OBSERVATORIO”

Campus Party, 2017

## **2016**

“Image Analysis and Synthesis: New Contexts”

Seminar on 'Photography and Urban Memory' , IMS., September 2016.

“Visualização de dados”

3 Seminario Big Data Brasil, MP-RJ

## **2015**

“Panoramic Views into the Future”

VFX 2015, December 2015

“research@visgrafab: Trends in Mobile Computing”

ABC/CNRS – Workshop de Bio-Engenharia, October 2015

“Development of Mobile Applications for New Media”

IMPA, Janeiro 2015

## **2014**

“Moebius Transformations and Ominidirectional Images”

VII Semana de Matematica da UFF, October 2014

“3D Shape Reconstruction and Applications”

Workshop on 3D Technologies, September 2014

## **2013**

“Dynamically Adapted Stellar Meshes”

Symposium on Computational Geometry, ACM, June 2013

## **2012**

“HPC for Vison and Graphics”

Workshop em Computação de Alto Desempenho, ABC, December 2012

“Ominidirectional Images and Video”

IME, November 2012

“Computação Visual e suas Aplicações”

IMPA, October 2012

“Full dome, ... and beyond”

II Workshop de Produção Fulldome, September 2012

## **2011**

“New Media at VISGRAF Lab”

TV Globo, I9, November 2011

“Authoring Tools for Digital Photograpy”

Seminario Dispositivo Fotografia e Contemporaneidade, September 2011

“Computação Grafica”

IMPA, June 2011

## **2010**

“The ZZ Buffer”

60 Anos de Jorge Stolfi, November 2010

“Image Based Graphics”

WVC, July 2010

“Town Hall Meeting on Interactive Media, Digital Magazines and Design”  
IMPA, June 2010

“VISGRAF at 21”  
IMPA, February 2010

## **2009**

“The Curricula of my Dreams”  
Workshop sobre Ensino da Computação Gráfica, October 2009

## **2008**

“Musica e Dança Interativa”  
Ciência e Artes - FIOCRUZ, September 2008

“Novas Mídias”  
Ciclo de Debates - ESDI, September 2008

“Coreografismos”  
Third Latin American SCAT Workshop, March 2008

“VISGRAF Lab: Past, Present, Future”  
IMPA, January 2008

## **2007**

“Topologia Sólida”  
ISMM, October 2007

“Relações entre Topologia e Geometria”  
SIBGRAPI. October 2007

“Computational Illumination”  
PUC-Rio 2007

“Novos Tópicos de Pesquisa em Computação Gráfica”  
IV Semana de Eletrônica e Computação, UFRJ 2007

“Fotografia 3D”  
Workshop on Graphics, Departamento de Matemática, UFC, February 2007

## **2006**

“Coleções de Imagens e Aplicações”  
XXIX CNMAC, September 2006

“O Estado da Arte em Computação Visual”  
58 Reunião Anual da SBCP, July 2006

“Novas Mídias”  
Grandes Desafios da Computação, SBC, May 2006

“A Matemática da Computação Visual”  
Escola de Verão, Departamento de Matemática, UFES, February 2006

## **2005**

“Computação Visual e Matemática”  
Palestra Inaugural, I Simpósio de Iniciação Científica, IME-USP, October 2005

“Modeling Luiz Velho, Simplicial Diffeomorphisms”  
Keynote Speech, Third Eurographics Symposium on Geometry Processing, July 2005

“Research Topics in Graphics”  
UFMG, June 2005

“TV Digital e Computação Visual”  
IETV, Simpósio sobre TV Digital, June 2005

“The Mathematics of Visual Computing”  
PUC-Rio, Colóquio do Departamento de Matemática, April 2005.

“Computer Graphics: The Next Frontier”  
UNISINOS, March 2005.

“Reconstructing the Partenon”  
IMPA – VISGRAF CG Seminar February 2005.

## **2004**

“Research Trends in Graphics and Vision”  
IMCA, Peru, December 2004

“The Future of Digital Video”  
IETV, III Encontro Internacional de Televisão, December 2004

“Mathematical Tools for Visual Computing”  
COPEA, November 2004.

“Computer Animation”  
PUC-Rio, October 2004.

“A Panoramic View on Visorama”  
III Simpósio de Ciberultura, October 2004.

“Real-Time Digitalization of Real Humans”  
VII Symposium on Virtual Reality, October 2004.

“Vídeo Digital”  
TVE, May 2004.

“Texture Synthesis on Surfaces”,  
PUC-Rio, Janeiro 2004

## **2003**

“Interstícios entre Abstrato e Concreto”,  
Itaú Cultural, Ciclo Arte, Ciencia e Tecnologia, October 2003

“Intrinsic and Extrinsic Multiresolution”,  
Schloss Dagstuhl, July 2003

“Image Processing Satellite Images”,  
CRESDA, Beijing, Janeiro 2003

## **2002**

“Procedural and Multiscale Models in Graphics”,  
XV SIBGRAPI, October 2002

“Modelos Matemáticos para Imagem Digital e Cor”,  
ESDI-UERJ, October 2002

“Multiresolução e Teoria Estelar”,  
IME-USP, September 2002

“Binary Multi-Triangulation: Issues and Developments”,  
Schloss Dagstuhl, February 2002

## **2001**

“Computação Gráfica em Projetos de Patrimônio Cultural”,  
Congresso Brasileiro de Arqueologia, September, 2001

“4-8 Subdivision”,  
IBM T.J. Watson Research Center, Janeiro 2001

## **2000**

“Visualização de Panoramas em Multiresolução”,  
Escola de Comunicação ECO - UFRJ, October 2000

“Ensino da Computação Gráfica no Brasil”,  
Mesa Redonda no XIII SIBGRAPI, October 2000

“Computação Gráfica: Uma proposta de Plano Pedagógico”,  
II Curso de Qualidade de Cursos de Graduação da Área de Computação, June 2000

“4-8 Subdivision”,  
Minisymposium on Applications of Subdivision, Curves and Surfaces Conference, June 2000

“4-8 Meshes and Subdivision Surfaces”,  
Workshop On Subdivision In Geometric Modeling And Computer Graphics,  
Schloss Dagstuhl, March 2000

**1999**

“Hierarchical 4-K Mesh Structures”,  
Princeton University, November 1999

“Quasi Stationary 4-8 Refinement and Subdivision Surfaces”,  
New York University, November 1999

“Data Capture Technologies for Film and Video”,  
III Seminário de Cinema e Televisão do Mercosul,  
Painel Novas Tecnologias do Audiovisual, June 1999

“The Visorama System”,  
II Mostra Petrobrás de Realidade Virtual, June 1999

**1998**

“Wavelet Tools for Digital Painting”,  
SIBGRAPI 98, Painel Métodos Multi-Escala, October 1998

“Variable Resolution Modeling”,  
XXI CMAC, Caxambu, Minisimpósio de Modelagem Geométrica, September 1998

“Visual Representations”,  
ESDI-UERJ, Rio de Janeiro, June 1998

“Multiresolution Meshes”,  
IME-USP, São Paulo, May 1997

**1997**

“Hierarchical Sequential Triangulations”,  
Intel Research, Palo Alto, November 1997

“Triangle Meshes and Triangle Strips”,  
University of California, Berkeley, November 1997

**1996**

“Image Based Rendering”,  
ECO / UFRJ

**1995**

“Fundamental Approaches for 3D Visualization”,  
Colóquio Arte no Século XXI, São Paulo

"Meio Tom Digital Luiz Velho, Curvas Fractais"  
20 Colóquio Brasileiro de Matemática, IMPA, Rio de Janeiro

"Metamorfose em Computação Gráfica"  
Centro Universitário da Tijuca, Rio de Janeiro

**1994**

"New Video Technologies"  
Semana de TV - ECO/UFRJ, Rio de Janeiro

"Virtual Reality and Special Effects"  
Mostra Realidade Virtual - Centro Cultural Cândido Mendes, Rio de Janeiro

**1992**

"Animation Luiz Velho, Implicit Objects"  
MIT-Media Laboratory, Boston

**1991**

"3D Modeling"  
IV Brazilian Symposium on Computer Graphics, São Paulo

**1990**

"Procedural Models in Animation"  
EPUSP/IEEE Symposium in Visual Computing, São Paulo,

**1989**

"Computer Graphics and Standards"  
Universidade de Campinas, Campinas,

"Software Development in Computer Graphics"  
I National Seminar of Computer Graphics, Porto Alegre

"Computer Animation Systems"  
Instituto Tecnológico da Aeronáutica, São José dos Campos

#### **1988**

"Trends and Directions in Computer Graphics"  
Pontifícia Universidade Católica Rio de Janeiro

"Animation by Computer"  
II Meeting of Brazilian Film Animators, São Paulo

"Computer Graphics"  
Escola Superior de Propaganda e Marketing, Rio de Janeiro

#### **1987**

"Graphical User Interfaces"  
II National Congress of Office Automation, São Paulo

"Special Effects and Computer Graphics"  
Seminar on Elements of Video Technology, EMBRAFILME, Rio de Janeiro

"Computer Imagery, Shape and Motion"  
XX National Computer Congress, SUCEU 87, São Paulo

"Computer Art"  
Universidade Santa Ursula, Rio de Janeiro

"Computer Graphics and Design"  
Escola Superior de Desenho Industrial, UERJ, Rio de Janeiro

### **5.2. CONFERENCE COMMITTEES**

#### **2019**

VFX Rio (Member of the Program Committee)  
EXPRESSIVE 2019 (Member of the Program Committee)

#### **2018**

RGB-D 2018 (Member of the Program Committee)  
EXPRESSIVE 2018 (Member of the Program Committee)  
Workshop on Novel Interaction Techniques for Collaboration in VR ACM CHI 2018 (Organizer)  
International Conference on Geometric Modeling and Processing - GMP'18 (Member of the Program Committee)  
13th International Joint Conference on Computer Vision, Imaging and Computer Graphics (Program Committee Member)

#### **2017**

EXPRESSIVE 2017 (Member of the Program Committee)  
Eurographics STAR Program (IPC Member)  
GMP 17 (Member of the Program Committee)  
GRAAP 17 (Member of the Program Committee)

#### **2016**

3rd Workshop on Computer Vision for ART Analysis (Member of the Program Committee)  
Shape Modeling 16 (Member of the Program Committee)  
GMP 16 (Member of the Program Committee)  
GRAAP 16 (Member of the Program Committee)

#### **2015**

XXI Congreso Argentino de Ciencias de la Computación (Member of the Program Committee)  
SGP 15 (Member of the Program Committee)  
GMP 15 (Member of the Program Committee)  
GRAAP 15 (Member of the Program Committee)

#### **2014**

XII Workshop de Computación Gráfica, Imágenes y Visualización (Member of the Program Committee)



Workshop on Computer Vision for Art Analysis (Member of the Program Committee)

SGP 14 (Member of the Program Committee)

GMP 14 (Member of the Program Committee)

GRAAP 14 (Member of the Program Committee)

## **2013**

GMP 13 (Member of the Program Committee)

SGP 13 (Member of the Program Committee)

SPM 13 (Member of the Program Committee)

GRAAP 13 (Member of the Program Committee)

## **2012**

CASA 12 (Member of the Program Committee)

GMP 10 (Member of the Program Committee)

SGP 12 (Member of the Program Committee)

3DPVT 12 (Member of the Program Committee)

SPM 12 (Member of the Program Committee)

SMI 12 (Member of the Program Committee)

GRAAP 12 (Member of the Program Committee)

## **2011**

SIBGRAPI 11 (Member of the Advisory Board)

CASA 11 (Member of the Program Committee)

GMP 11 (Member of the Program Committee)

SGP 11 (Member of the Program Committee)

3DPVT 11 (Member of the Program Committee)

SMI 11 (Member of the Program Committee)

GRAAP 11 (Member of the Program Committee)

## **2010**

SIBGRAPI 10 (Member of the Advisory Board)

CASA 10 (Member of the Program Committee)

CACIC 10 (Member of the Program Committee)

GMP 10 (Member of the Program Committee)

SGP 10 (Member of the Program Committee)

3DPVT 10 (Member of the Program Committee)

SPM 10 (Member of the Program Committee)

SMI 10 (Member of the Program Committee)

GRAAP 10 (Member of the Program Committee)

## **2009**

SIBGRAPI 09 (Member of the Program Committee)

WEPG 09 (Member of the Program Committee)

CASA 09 (Member of the Program Committee)

SGP 09 (Member of the Program Committee)

GPM 09 (Member of the Program Committee)

Mathematics of Surfaces 09 (Member of the Program Committee)

SMI 09 (Member of the Program Committee)

GRAAP 09 (Member of the Program Committee)

**2008**

SIBGRAPI 08 (Member of the Program Committee)

SIGGRAPH 08 (Member of the Grand Jury)

CASA 08 (Member of the Program Committee)

PBG 08 (Member of the Program Committee)

SEMISH 08 (Member of the Program Committee)

SGP 08 (Member of the Program Committee)

3DPVT 08 (Member of the Program Committee)

SBIM 08 (Member of the Program Committee)

SPM 08 (Member of the Program Committee)

Eurographics 08 (Member of the Program Committee)

SMI 08 (Member of the Program Committee)

GRAAP 08 (Member of the Program Committee)

**2007**

Workshop on Computer Vision Applications for Developing Regions 2007 (Organizer)

ICCV 2007 (Local Organizer)

Mathematics of Surfaces 2007 (Member of the Program Committee)

PBG 07 (Member of the Program Committee)

SIGGRAPH 07 (Member of the Program Committee)

SCA 07 (Member of the Program Committee)

SGP 07 (Member of the Program Committee)

PROCAMS 07 (Member of the Program Committee)

SMI 07 (Member of the Program Committee)

CGI 07 (Member of the Program Committee)

ISAMA 07 (Member of the Program Committee)

GRAAP 07 (Member of the Program Committee)

**2006**

Grandes Desafios da Computação (Invited Speaker)

SBGAMES 06 (Member of the Program Committee)

SIBGRAPI 2006 (Member of the Program Committee)

Eurographics 2006 (Member of the Posters Committee)

SIGGRAPH 2006 (Paper Reviewer, Course Reviewer)

SCA 06 (Member of the Program Committee)

VIIP 06 (Member of the Program Committee)

PBG 06 (Member of the Program Committee)

PROCAMS 06 (Member of the Program Committee)

3DPVT 06 (Member of the Program Committee)

SMI 06 (Member of the Program Committee)

SPM 06 (Member of the Program Committee)

Workshop Image Based Graphics (Organizer)

International Conference on Computer Graphics Theory and Applications (Member of the Program Committee)

WSCG 06 (Member of the Program Committee)

**2005**

SBGAMES 2005 (Member of the Program Committee)  
Workshop de TV Digital 2005 (Invited Speaker)  
SIBGRAPI 2005 (Posters Chair)  
SIGGRAPH 2005 (Paper Reviewer)  
ACM Symposium on Computer Animation 2005 (Program Committee Member)  
Coloquio Brasileiro de Matemática (Co-organizer of the Special Session on Computer Graphics and Vision)  
Microsoft Research Faculty Summit 2005 (Invited Researcher)  
Latin America Microsoft Research Academic Summit 2005 (Invited Researcher)  
XVIII Concurso de Teses e Dissertações SBC, 2005 (Jury Member)  
Third Eurographics Symposium on Geometry Processing (Program Committee Member)  
Procams 2005 (Member of the Program Committee)  
Computer Graphics International (Member of the Program Committee)  
Point Based Graphics (Member of the Program Committee)  
Tenth ACM Symposium on Solid and Physical Modeling (Member of the Program Committee)  
International Conference on Shape Modeling (Member of the Program Committee)  
WSCG 2005 (Member of the Program Committee)

**2004**

VMV 2004 (presenting a paper)  
WJogos 2004 (Member of the Program Committee)  
VII Symposium on Virtual Reality (Invited Speaker)  
III Simposio Cibercultura (Invited Speaker)  
SIBGRAPI / SIACG 2004 (Member of the Program Committee)  
Eurographics 2004 (Member of the Short Papers Program Committee)  
SIGGRAPH 2004 (Course and Papers Reviewer)  
Second Eurographics Symposium on Geometry Processing (Member of the Program Committee)  
ACM Symposium on Solid Modeling and Applications (Member of the Program Committee)  
International Conference on Shape Modeling (Member of the Program Committee)  
Symposium on Point-Based Graphics (Member of the Program Committee)  
Second Symposium on 3D Data Processing, Visualization and Transmission (Member of the Program Committee)

**2003**

SIBGRAPI 2003 (Member of the Program Committee, 3 papers, video)  
SGP 2003 (Member of the Program Committee)  
Shape Modeling and Applications 2003 (Member of the Program Committee)  
SIGGRAPH 2003 (Member of the Program Committee)  
Agents 2003 (Member of the Program Committee)  
ACM Solid Modeling 2003 (Member of the Program Committee)  
Dagstuhl Seminar (Invited Speaker)

**2002**

Computer Animation 2002, November 2002 (Member of the Program Committee)  
SIBGRAPI 2002 (Keynote Speaker, Presented 3 Papers and Teaching a Course)  
SIGGRAPH 2002, August 2002 (Papers Committee Member and Teaching a Course)  
IMPA - 50 Anos, July 2002 (Organizer Special Session on Computer Graphics and Vision)

First Ibero-American Symposium in Computer Graphics, 2002 (Co-Chair of the Program Committee and Presented a Paper)  
VisMath 2002, May 2002 (Member of the Program Committee and Presented a Paper)  
Shape Modelling and Applications 2002, May 2002 (Member of the Program Committee)

## **2001**

Computer Animation 2001, November 2001 (Member of the Program Committee)  
Visualiztion 2001, October 2001 (Paper Reviewer)  
SIBGRAPI 2001 (Paper Reviewer, Presented 2 Papers and a Poster)  
Congresso Brasileiro de Arqueologia, September 2001 (Participation in a Working Group on Computer Applications)  
ACM SIGGRAPH 2001 Computer Graphics Conference, Los Angeles, August 2001 (Paper reviewer)  
Colóquio Brasileiro de Matemática, July 2001 (Organizer of Special Session in Computer Graphics)  
23 Colóquio Brasileiro de Matemática, July 2001 (Organizer of Special Section on Computer Graphics)  
Graphics Interface 2001, June 2001 (Paper reviewer)  
Shape Modeling International, May 2001 (Presented a paper)

## **2000**

Visual 2000, September 2000 (Member of the Program Committee)  
XIII Brazilian Symposium on Computer Graphics and Image Processing, October 2000 (Panel Member)  
XXII CNMAC - Congresso Nacional de Matematica Aplicada e Computacional, September 2000 (Presented a Course)  
ACM Siggraph 2000 Computer Graphics Conference, New Orleans, August 2000 (Papers Committee Member)  
Escola de Computação, IME/USP, July 2000 (Presented a Course)  
First Latin American Congress of Mathematicians, IMPA, July 2000 (Presented a Course)  
Mathematical Methods for Curves and Surfaces, (Presented a Paper)  
SBC2000 - XX Congresso da Sociedade Brasileira de Computacao , (Presented a Course)  
IEEE Visualization 2000 (Paper Reviewer)  
Computer Animation 2000, May 2000 (Member of the Program Committee)  
Workshop on Subdivision in Geometric Modeling and Computer Graphics ,March 2000 (Presented a Paper)

## **1999**

Fourth Workshop on Modeling Luiz Velho,Implicit Surfaces, Eurographics, October 1999 (Member of the Program Committee)  
XII Brazilian Symposium on Computer Graphics and Image Processing, October 1999 (presented 2 Papers and Poster)  
Eurographics Multimedia 99 Workshop, September 1999 (Presented a Paper)  
ACM Siggraph 99 Computer Graphics Conference, August 1999 (Papers Committee Member, Presented a Course)  
22 Colóquio Brasileiro de Matemática, July 1999 (Organizer of Special Session in Computer Graphics, Presented a Course)  
IEEE Visualization 99 (Paper Reviewer)  
UIST 99 (Paper Reviewer)

## **1998**

SIBGRAPI 98, October1998 (Invited Speaker in a Panel, presented 3 Papers, a Course and 2 Videos)  
ACM Siggraph 98 Computer Graphics Conference, , July 1998 (Paper Reviewer, Presented a Technical Sketch and a Course)  
Third Workshop on Modeling Luiz Velho,Implicit Surfaces, Eurographics, July 1998 (Member of the Program Committee)  
IEEE Visualization 98 (Paper Reviewer)  
XXI CNMAC, Minisimpósio de Modelagem Geométrica (Invited Speaker)  
First Workshop on Image-Based Modeling and Rendering, Stanford, Janeiro 1998 (Presented a Poster)

## **1997**

5th SIAM Conference on Geometric Modeling, New Orleans, November 1997 (Presented a Paper)  
ACM Multimedia 97, Seattle, November 1997

SIBGRAPI 97, October 1997 (Member of the Program Committee, presented 2 Papers, a Poster and 4 Videos)  
Eurographics 97, Budapest, September 1997  
Eurographics Workshop on Computer Animation and Simulation, Budapest, September 1997 (Presented a paper)  
ACM Siggraph 97 Computer Graphics Conferences, August 1997 (Paper Reviewer, Presented a Technical Sketch)  
CG International 97, June 1997 (Member of the Program Committee, presented a Paper)  
21 Colóquio Brasileiro de Matemática (Presented a Course)  
IEEE Visualization 97 (Paper Reviewer)  
SBC Multimídia 97 (Paper Reviewer)

#### **1996**

SIBGRAPI 96, October 1996 (President of the Program Committee, Presented 2 papers and a Poster)  
ACM Siggraph 96 Computer Graphics Conference, New Orleans, August 1996 (Paper Reviewer)  
Eurographics 96 (Paper Reviewer)  
Volume Visualization 96 (Paper Reviewer)  
Second Workshop on Modeling Luiz Velho, Implicit Surfaces, Eurographics, 1996 (Member of the Program Committee)  
7th Eurographics Workshop on Rendering, June 1996 (Member of the Program Committee)  
Graphics Interface'96, May 1996 (Paper Reviewer)

#### **1995**

4rd SIAM Conference on Geometric Modeling, New Orleans, November 1995 (Presented a Paper)  
SIBGRAPI 95, October 1995 (Member of the Video and Program Committee, Presented a Paper and a Tutorial Course)  
ACM Siggraph 95 Computer Graphics Conference, (Paper Reviewer, Presented a Tutorial Course and two Papers)  
20 Colóquio de Matemática (Presented a Course)  
Computer Animation 95, April 1995  
First Workshop on Modeling Luiz Velho, Implicit Surfaces, Eurographics, April 1995 (Member of the Program Committee)

#### **1994**

The Future of Mathematics Communications, Berkeley, December 1994  
SIBGRAPI 94, Curitiba 1994 (Video Contributor, Presented a Paper and a Tutorial Course)  
ACM Siggraph 94 Computer Graphics Conference, Orlando, August 1994 (Paper Reviewer, Presented a Technical Sketch)  
Graphics Interface'94, May 1994 (Paper Reviewer)

#### **1993**

3rd SIAM Conference on Geometric Modeling, Tempe, November 1993 (Presented a Paper)  
ACM Siggraph 93, Computer Graphics Conference, Anaheim, August 1993, (Paper Reviewer, Presented a Tutorial Course)  
SIBGRAPI 93, Recife 1993 (Paper Reviewer, Presented a Paper and Tutorial Course, Organizer of Computer Art Show)

#### **1992**

SIBGRAPI 92, Linoia, November 1992 (Paper Reviewer, Presented a Paper and Tutorial Course, Organizer of Video Show)  
Workshop on NetNews, IMPA- Rio de Janeiro, August 1992  
Graphics Interface'92 and Workshop on Local Illumination, Vancouver, May 1992 (Presented a Paper)  
1992 Symposium on Interactive 3D Graphics, Boston, March 1992

#### **1991**

2nd SIAM Conference on Geometric Modeling, Tempe, November 1991 (Presented a Paper)  
RIDT'91 - Raster Imaging and Digital Typography, Boston, October 1991  
SIBGRAPI 91, São Paulo, July 1991 (Paper Reviewer, Presented a Paper)  
ACM Siggraph 91 Computer Graphics Conference - Las Vegas, August 1991 (Presented a Paper)  
IMPA Summer Workshop on Geometric Modeling, Rio de Janeiro, Janeiro 1991

**1990**

EPUSP/IEEE Symposium in Visual Computing, São Paulo, November 1990 (Invited Speaker)  
 Eurographics '90, Computer Graphics Conference, Montreux, September 1990 (Presented a Paper)  
 ACM Siggraph 90, Computer Graphics Conference, Dallas, August 1990  
 VII School of Computing, São Paulo, July.1990 (Presented a Tutorial Course)  
 III Brazilian Symposium on Computer Graphics and Image Processing, Gramado, May 1990 (Presented a Paper)  
 IMPA Workshop in Mathematical Aspects of Vision and Image Processing, R.J., Janeiro 1990

**1989**

IV Abusi Annual Congress (Brazilian Intergraph Association), São Paulo, September 1989 (Invited Speaker)  
 ACM Siggraph 89, Computer Graphics Conference - Boston, August 1989  
 II Brazilian Symposium on Computer Graphics and Image Processing, Lindoia, April 1989 (Presented a Paper)

**1988**

III Abusi Annual Congress (Brazilian Intergraph Association) Rio de Janeiro September 1988 (Invited Speaker)  
 ACM Siggraph 88, Computer Graphics Conference - Atlanta, August 1988  
 Ausgraph 88, Computer Graphics Conference, Melbourne, July 1988 (Presented a Paper)  
 I Brazilian Symposium on Computer Graphics and Image Processing, Petropolis, April 1988.

**1987**

II Abusi Annual Congress, Rio de Janeiro, September 1987 (Presented a Paper)  
 ACM Siggraph 87, Computer Graphics Conference - Anaheim, August 1987

**1986**

ACM Siggraph 86, Computer Graphics Conference - Dallas, August 1986

**1985**

ACM Siggraph/Sigact, Symposium on Computational Geometry, Baltimore, June 1985  
 ACM Siggraph 85, Computer Graphics Conference - San Francisco, July 1985

**Before 1985**

ACM Siggraph 84, Computer Graphics Conference - Minneapolis, July 1984  
 I Symposium on Computer Graphics, SUCESU, São Paulo, November 1978  
 Seminar of Design and Teaching, SESU-MEC and FAU-USP, São Paulo, September 1978  
 V Integrated Seminar of Software and Hardware, NCE-UFRJ, Rio de Janeiro, July 1978

**5.3. CONFERENCE ORGANIZATION**

Live Coding Experience 2018  
 Organizer

Computational Manifolds 2011 - Trimester Program on Computational Manifolds and Applications  
 Organizer

ICCV 2007  
 Local Organizer

Workshop on Computer Vision Applications for Developing Countries, 2007  
 Co-Organizer

CGI 2007  
 General Chair.

Workshop on Image-Based Graphics 2006  
 Organizer

SIBGRAPI 2005  
 Posters Chair

25 Coloquio Brasileiro de Matemática, 2005  
 Co-organizer of the Special Session on Computer Graphics and Vision

Workshop of Geometry Processing and Applications 2004  
Organizer

Workshop on Computer Vision 2004  
Organizer

24° Colóquio Brasileiro de Matemática  
Organizer of the special session on Computer Graphics

CEGRAPI - Workshop of Thesis and Dissertation 2002  
Member of the Examination Committee

IMPA – 50 Anos  
Organizer of the special session on Computer Graphics and Vision

First Ibero-American Symposium in Computer Graphics  
Co-Chair of the Program Committee

23° Colóquio Brasileiro de Matemática  
Organizer of the special session on Computer Graphics

RIOARTE 2001  
Membro do Juri de Bolsas para Arte e Tecnologia

22° Colóquio Brasileiro de Matemática  
Organizer of the special session on Computer Graphics

V Brazilian Symposium on Computer Graphics and Image Processing, 1992  
Chair of the Video Committee

#### **5.4. EXAMINATION COMMITTEES**

PhD thesis defense of Luiz Schirmer, (PUC-Rio), Feb 2021

PhD thesis defense of Sonia Gonzales, (PUC-Rio), Feb 2021

PhD thesis defense of Pablo Telles, (PUC-Rio), Sept 2020

MS thesis defense of Thiago Baldivieso, (IME), August 2020

PhD thesis defense of Ezequiel Soto, (IMPA), August 2020

MS thesis defense of Bernardo Alevato, (PUC-Rio), June 2002

MS thesis defense of Carlos Leal, (UFSC), February 2020

MS thesis defense of Fabio Luiz, (IME), January 2020

PhD thesis defense of Ricardo Maroquio, (IME), April 2020

PhD thesis defense of Julia Giannella, (ESDI-UERJ), February 2020

MS thesis defense of Daneil Yukimura, (IMPA), March 2018

MS thesis defense of Aline Becher, (UFSC), February 2018

PhD thesis defense of Andrea Lins, (COPPE-URFJ), September 2017

PhD thesis defense of Guilherme Otranto, (IME-USP), September 2017

PhD thesis defense of Bruno Madeira, (IMPA), August 2017

MSc dissertation defense of Hallison da Paz, (IMPA), April 2017

MSc Dissertation defense of Fernando Mazzini, (IMPA), February 2017

PhD thesis defense of Lenka Ptackova, (IMPA), January 2017

MSc thesis defense on "Detecção e descrição de características visuais", Raphael Evangelista, (UFF) , Apr 2016

PhD thesis defense on "Expanded Panoramas ", Aldo Zang, (IMPA) , Apr 2016

PhD thesis defense on "Fully-parallel pipeline for h-q rendering of vector graphics ", Francisco Ganacim, (IMPA) , Apr 2015

PhD thesis defense on " High-Level Techniques for Landscape Creation", Leandro Cruz, (IMPA) , Mar 2015

PhD thesis defense on "TetraQuad Geometric Representation", Allyson Cabral, (IMPA) , Mar 2015

PhD thesis defense on "Optimized Quasi-Interpolators for Image Reconstruction", Leonardo Koller, (IMPA) , Dez 2014

Ms dissertation defense on "Fotografia e interação no Jardim Botânico", Juliano Kestenberg (ESDI), Aug 2014

PhD thesis defense on "Foliating Marching Cube's Cases In Dimension Three And Four ", Jyrko Correa, (IMPA) , Dez 2013

Ms dissertation defense on "Corpo e Media" , Barbara Castro (UFRJ), Aug 2013

Ms dissertation defense on "Choreographics" , Adriana Schulz (IMPA), Jan 2012

Ms dissertation defense on "Improving Mobile Video" , Alexandre Chapiro (IMPA), Aug 2011

Ms dissertation defense on "Visualização por Imagens Auto-animadas de Campos Vetoriais", Renata Lins (PUC), March 2011

Ms dissertation defense on "Terrain Modeling", Leandro Cruz (IMPA), March 2011

Ms dissertation defense on "GPU Rendering of Implicit Surfaces", Francisco Ganacim (IMPA), Feb 2011

PhD thesis defense on "Sketch Based Modeling", Emilio Brazil, (IMPA) , Feb 2011

PhD thesis defense on "HRBF Implicits", Ives Macedo, (IMPA), Jan 2011

Ms dissertation defense on " Content-Preserving Projections for Panoramas", Leonardo Koller Sacht (IMPA) ), April 2010

Ms dissertation defense on "Geração de Animação Facial em Avatares", Rossana Queiroz (PUC-RS), March 2010

Ms dissertation defense on "NormalShop: Modeling Surface Mesostructure", Thiago Pereira (IMPA), March 2010

Ms dissertation defense on "Point-Based Rendering", Felipe Moura (COPPE/UFRJ) ), February 2010

Ms dissertation defense on "A Hybrid Method for Computing Apparent Ridges", Eric Jardim (IMPA), February 2010

PhD thesis defense on " Galerias Inteligentes e Otimizalcao de Posicionamento de Camera", Thales Vieira, (PUC) January 2010

PhD thesis defense on "Simulation of flows Luiz Velho,floating particles", Marcos Lage (PUC-Rio), December 2009

Ms. Thesis defense, "Redução de Ruído em Imagens", Andre Targino Costa (COPPE/UFRJ), August 2009

Ms. Thesis defense, "Using Line Integral Convolution to Render Effects on Images", Ricardo Castaneda (IMPA), February 2009

Member of Thesis Committee Ms thesis defense on " Esquema Híbrido para Amostragem de Mapas de Iluminação em Renderizações Foto-Realista", Aldo Rene Zang, IMPA, July 2009

PhD thesis defense on " Visualização Interativa de Modelos Baseados em Pontos", Ricardo Marroquim, UFRJ, September 2008

MS thesis defense on "Motion Graphics", João Velho, ESDI, July 2008

Ms thesis defense on "Efeitos de Fratura para Visualização Não-Realista", Anna Regina Corbo, IMPA, April 2008

PhD thesis defense on "A Equação de Poisson e a Decomposição de Helmholtz-Hodge", Fabiano Petronetto, PUC-Rio, 2008

PhD thesis defense on "Um sistema de geração de expressões faciais", Paula Lucena, PUC-Rio, December 2007

Ms. thesis defense on "Simulation of Fluids for Computer Graphics", Ives Jose Macedo Junior, IMPA, November 2007

PhD thesis defense on "Visualization of Massive Data on GPU", Rodrigo Toledo, LORIA, October 2007

Ms. thesis defense on "Processing Connected Components", David da Silva, IME-USP, August 2007

Ms. thesis defense on "Least Squares Meshes", Catiúscia Borges, PUC-Rio, March 2007

Ms. thesis defense on "Reconstrução de Regiões a partir de Amostras Luiz Velho, Ruído", Emilio Vital Brazil, IMPA, March 2007

PhD thesis defense on "Optic Flow", Perfilinio Ferreira, IMPA, February 2007

Ms. thesis defense on "Automatic Surface Registration", Thales Vieira, UFAL, February 2007

Ms. thesis defense on "Calibration Methods and Applications", Clarissa Codá, UFAL, February 2007

Prêmio Zeferino Vaz, UNICAMP, November 2006

Ms. thesis defense on "Automatic Surface Registration", Bruno Madeira, IMPA, December 2006

PhD thesis defense on "Novos Métodos Simpliciais em Computação Gráfica", Vinicius Mello, IMPA, April 2006

Ms. thesis defense on "High Dynamic Range Imaging", Rodrigo Martins, PUC-Rio, April 2006

PhD thesis defense on "Controlling Illumination to Boost Information on Image Collections", Asla Sa, IMPA, March 2006

Ms. thesis defense on "Estruturas de partição do Espaço", Marcus Aurelius Farias , UFRGS, March 2006

Ms. thesis defense on "Propagação de Pontos usando Transformada Unscented", Leyza Dorini, UNICAMP, February 2006

Ms. thesis defense on "Scalable Topological Data Structures", Marcos Lage Ferreira, PUC-Rio, February 2006

Ms. thesis defense on "Implicit Curve Reconstruction from Points", Sueni Arouca, PUC-Rio, February 2006

Ms. thesis defense on "Hardware-assisted rendering of CSG models", Fabiano Segadaes Romeiro, IMPA, February 2006

Ms. thesis defense on "Calculo Projetivo de Caixas", Leandro Fernandes, UFRGS, Janeiro 2006

Concurso Prof. Titular - IME/USP, May 2005



PhD thesis defense, Thomas Lewiner, PUC-Rio, July 2005

Ms. thesis defense on "Dynamic BSP-trees", Rodrigo Luque, UFRGS, July 2005

Ms. thesis defense on "Efeitos de Mosaico para Imagens" Geisa Martins Faustino, IMPA, June 2005

MS thesis defense on "3D Shading Effects for Cartoon Animation", Hedlana Bezerra, PUC-Rio, June 2005

PhD thesis defense on "Inverse Rendering", Jose Pinheiro, UFMG, June 2005

Ms. thesis defense on "Reconstrução a partir de nuvem de pontos por funções de Morse discretas", Helton, USP, May 2005

Ms. thesis defense on "Triangulações Adaptativas em Multiresolução", Ricardo Marroquim, COPPE-UFRJ, April 2005

Ms. thesis defense on "Texture Synthesis", Leandro Tonietto, UNISINOS, March 2005

Ms. thesis defense on "Simplificação de Superfícies Implícitas Não-Compactas Luiz Velho, Preservação de Topologia", Aruquia Peixoto, UFRJ, February 2005

Ms. thesis defense on "Simplificação de Moléculas", Cynthia Oliveira Ferreira, PUC-Rio, February 2005

D.Sc. thesis defense on "Affine Skeletons", Moacyr Alvim Barbosa, IMPA, Janeiro. 2005

Master thesis defense on "Inpainting", Afonso Paiva Neto, IMPA, November. 2004

Master thesis defense on "Visualização de Superfícies usando Pontos", Jose Luiz Soares Luz, IMPA. October 2004

Master thesis defense on "Interpolação de Movimento baseada em Momentos", Lourena Rocha, IMPA. October 2004

D.Sc. thesis defense on "Surface Reconstruction from Noisy Point Clouds", Boris Mederos Madrazo, IMPA, September 2004

Master thesis defense on "Operações Booleanas na Modelagem por Pontos", Heloisa Reis Leal, PUC-Rio. August 2004

D.Sc. thesis defense on "Modelagem e Visualização a Mão Livre usando Superfícies Implícitas Variacionais", Álvaro Parari, COPPE/UFRJ, June 2004

D.Sc. thesis defense on "Pertinência em Dimensão Arbitraria Luiz Velho, Multiresolução", Luciano Silva, IME –USP, May 2004

MS. defense on "Segmentação Interativa", Romaric Audigier, UNICAMP. February 2004

D.Sc. thesis defense on "Sistema de cache preditivo para processamento em tempo-real de dados gráficos", Sergio Pinheiro, PUC-Rio February 2004

Ms defense on "Uma Abordagem Topológica para Simplificação de Malhas", Antonio Vieira, PUC-Rio, October 2003

D.Sc. thesis defense on "Reconstrução de Cenas 3D", Anselmo Montenegro, PUC-Rio, September 2003

Professorship exam of Roberto Marcondes, IME-USP, July 2003

Master thesis defense on "Triangulação de Superfícies", Esdras Soares Filho, IMPA, February 2003

D.Sc. thesis defense on "Interfaces Assistidas para Cegos", Marcelo Medeiros, PUC-Rio, November 2002

D.Sc. thesis defense on "Extração de Malhas Multiresolução", Adelailson Peixoto, PUC-Rio, October 2002

Master thesis defense on "Constructing Discrete Morse Functions", Thomas Lewiner, PUC-Rio, July 2002

Public Exam for Adjunct Researcher of LNCC, June 2002

Master thesis defense on "Expressive Talking Heads", Paula Salgado Lucena, PUC-Rio, June 2002

D.Sc. thesis defense on "Propagação de Informações Locais de Dados Esparsos para Reconstrução de Superfícies", Marcelo Bernardes Vieira, UFMG, April 2002

Master thesis defense on "Algoritmo Multi-resolução para Visualização da Simulação Numérica de Reservatórios Naturais de Petróleo", Antonio Carlos Pereira de Azambuja, PUC-Rio, April 2002

Master thesis defense on "Alinhamento por Maximização de Informação Mutua", Juliano Camargo, IMPA, March 2002

D.Sc. thesis defense on "Acompanhamento de Cenas Luiz Velho, Calibração Automática de Camera", Flavio Szenberg, PUC-Rio, December 2001

CAPES, Avaliação do Programa de Doutorado em Matemática Computacional da UFPE, October 2001

Master thesis defense on "Alinhamento de Cameras Virtuais", Pablo Alfredo Baier, IMPA, September 2001.

Professorship exam of Antonio Elias Fabris, IME-USP, August 2001.

Master thesis defense on "Morfologia Matemática, Segmentação e Equações de Evolução", Marcilene Dianin, PUC-Rio, August 2001

D.Sc. thesis defense on "Volume Compression using the Lapped Cosine Transform", Anselmo Cardoso de Paiva, PUC-Rio, April 2001

Master thesis defense on "Espaços de Escala e Detecção de Arestas", Anderson Mayrink, IMPA, October de 2000

Master thesis defense on “Segmentação de Sequenciais de Imagens por Morfologia Matemática”, Franklin Cesar Flores, IME-USP, October 2000

D.Sc. thesis defense on “Animação Baseada em Física e Modelos em Multiresolução”, Luiz Antonio Rivera Escriba, PUC-Rio, September 2000

Master thesis defense on “QuadLOD: Uma Estrutura para a Visualização Terrenos”, Rodrigo Toledo, PUCRio, April 2000

Master thesis defense on “Computing Discrete Minimal Surfaces”, João Paulo Bento, UFRJ, March 2000

Master thesis defense on “Multiple Display Architecture for Virtual Environments over Heterogeneous Networks”, Alexandre G. Ferreira, PUC-Rio, December de 1999

D.Sc. thesis defense on “Curvature Operators in Vision and Image Processing”, Cicero Motta, IMPA, November de 1999

Master thesis defense on “IMPS: Implicit Surfaces for Interactive Animated Character”, Kenneth B. Russell, MIT-Media Lab, May de 1999

Master thesis defense on "Caracterizando Refinamentos e Simplificações em Malhas por Operadores Morfológicos", Mário da Silva Guimarães Neto, IMPA, April de 1999

Master thesis defense on "Cenários Virtuais Luiz Velho, um Estudo de Sincronismo de Câmera", Lucinelma Albuquerque, PUC-Rio, April de 1999

Master thesis defense on "Representação Multiescala de Objetos Implícitos", Vinicius Mello, Universidade Federal da Bahia, April de 1999

D.Sc. thesis defense on "Visualização Volumétrica de Campos Escalares Definidos em Triangulações Regulares", Jose Maria Ribeiro Neves, COPPE-UFRJ, Janeiro de 1999

D.Sc. thesis defense on “Processamento Geometrico de Dados Volumétricos”, Romildo José da Silva, IMPA, August de 1998

Master thesis defense on “Visualização de Panoramas Virtuais”, Andre Matos, PUC-Rio, July de 1998

Master thesis defense on “Geometry of Polyhedra”, Gustavo Bevilacqua, IMPA, August de 1998

Master thesis defense on “Quantização de Imagens”, Marcos Rayol, PUC-Rio, May de 1998

Master thesis defense on “A Motion Captured Animation System”, Fernando Wagner da Silva, UFRJ, March de 1998

Master thesis defense on “Compressão de Imagens”, Marcelo Ferraz, IMPA, September de 1997

PhD thesis defense on “Animação Baseada em Agentes”, Monica Costa, PUC-Rio, April 1997

Master thesis defense on “Metamorfose de Sons”, Siome Goldstein Klein, PUC-Rio, August de 1997

Master thesis defense on “Homeomorfismos e Metamorfose de Modelos Poliedrais em Tetraedracoes”, Marcelo Kallman, COPPE, UFRJ, June 1996

Master thesis defense on “Modelagem de um Sistema de Pintura Digital”, Maria Celia Paiva de Freitas, COPPE, UFRJ, Março 1995

Faculty Position in Computer Graphics Escola de Comunicação, ECO-UFRJ, November 1994

## **6. OTHER ACTIVITIES**

### **6.1. CONSULTING**

European Research Council Executive Agency, 2011

Dannemann Siemens, 2009

Israel Science Foundation

NSERC, Canada

Olympya, 2004

DRV, 2004

TVE – RJ, 2004

ACM SIGGRAPH, 2001

Tecgraf, PUC-Rio, 2001-2002

Fotorama, 2001

Espaço Telemar, 2000

CONICET

RIOARTE, 2001

CNPq

CAPES

FAPESP

FAPERJ

Programa SOFTEX 2000

IBC – International Biography Center, Cambridge, UK, 1998

### **6.2. EDITORIAL ACTIVITIES**

Computer Graphics Forum, Editorial Board Member, from 2012 to 2013

IEEE Computing Now, Member of the Advisory Board, from 2011 to 2012

IEEE Computer Graphics and Applications, Member of the Editorial Board, from 2010 to 2013

Graphical Models, Member of the Editorial Board, from 2010 to 2012

Computer & Graphics, Member of the Editorial Board, from 2007 to 2012

SIBGRAPI 2005 Posters Proceedings, Editor, 2005

Computer and Graphics – Special Issue SIACG, Guest Editor, 2002

Anais do SIACG, Editor, Eurographics, 2002

CD-ROM do Visorama, Editor, 1999

CD-ROM do SIBGRAPI'97, Editor, SBC, 1997

Journal of SBC - Special Issue in Computer Graphics and Image Processing, Guest Editor, SBC, 1997

Anais do SIBGRAPI'96 e CD-ROM do SIBGRAPI'96, Editor, SBC, 1996

*Waldemar Cordeiro: Arte por Computador*, Editor, SBC, 1993

Série Computação e Matemática - IMPA / SBM, Member of the Editorial Board

Revista Estudos em Design – AEND, Member of the Editorial Board, from 1993 to 1999

Revista de Informatica Teorica e Aplicada, SBC, Reviewer

Computer Aided Geometric Design, Reviewer

Morgan-Kaufmann Publishers, Reviewer

IEEE Transactions on Visualization and Computer Graphics, Reviewer

Computer Graphics Forum – Eurographics, Reviewer

Transactions on Graphics – ACM, Reviewer

The Visual Computer - Springer Verlag, Reviewer

### **6.3. SCIENTIFIC SOCIETIES MEMBERSHIP**

SBM - Sociedade Brasileira de Matemática

SBC – Sociedade Brasileira de Computação

ACM - SIGGRAPH - Association for Computing Machinery

## **7. PROJECTS AND PRODUCTION**

### **7.1. EQUIPMENT / SOFTWARE GRANTS AND DONATIONS**

1. Jetson Nano (NVIDIA)
2. Titan (NVIDIA)
3. Geforce (NVIDIA)
4. Tablets (NVIDIA)
5. Software (Microsoft)
6. Creative Suite (Adobe)
7. Maya (Autodesk)
8. Phone (Nokia)
9. Liquid Galaxy (Endpoint)
10. Computers (IBM)

### **7.2. PROJECTS**

1. PROCAD-Defesa, 2020-2022
2. PCI, MCTI, 2019-2023
3. BRICS, CNPq, 2018-2020
4. Atualização de Equipamentos, FAPERJ, 2016
5. Pos-Doc, CNPq, 2015
6. Exposição Espaços de Dimensão 3, FAPERJ, 2013
7. Projeto Universal, CNPq, 2012
8. Sistemas de Autoria, CNPq, 2011
9. Pesquisador Visitante, CNPq 2011
10. Instituto Nacional de C&T de Matematica, CNPq, 2011
11. Pos-Doutorado, CAPES / Faperj, 2011
12. Realidade Aumentada Move1, CNPq, 2010
13. Pos-Doutorado Junior, CNPq 2010
14. Projeto Infradata - Domo, FINEP, 2009
15. Instituto Nacional de C&T de Matematica, CNPq, 2009
16. Projeto de Equipamentos de Grande Porte – IMPA, FAPERJ, 2008
17. Projeto Tematico – UNICAMP, FAPESP, 2008
18. Projeto Universal – UNICAMP, CNPq, 2008
19. Infraestrutura de Pesquisa, FAPERJ, 2007
20. Pos-doc CNPq, Andei Sharf, 2007
21. 25th CGI , FAPERJ, 2007
22. Cooperação Internacional Luiz Velho, University of California, Santa Barbara, CNPq / NSF, 2006
23. University of Calgary, 2006
24. Cooperação UFAL, Fapeal, 2006
25. Mitsubishi Research Labs, Projection Software License, 2005
26. Rio Inovação 2, Visoram, Faperj, 2005
27. Cooperação Internacional Luiz Velho, INRIA – PUC-Rio. CNPq/França, 2005
28. Projeto VIRTUS. CT-Info, 2005
29. Maya Software Research. Alias, 2005

30. Software Development Donation. Microsoft Research, 2005
31. Programa RHAE-Inovação, DRV, 2005
32. Renderware Software Development Program. EletronicArts - Criterium, 2005
33. Instituto do Milênio II – Avanço Global da Matemática Brasileira - *Coordenador Computação Gráfica*, MCT , 2005
34. Cooperação Bilateral / Utah – UFRGS. CNPq/NSF, 2005
35. Fomento Tecnológico. CNPq, 2005
36. Vídeo de Quarta Geração, fase 2. CT-Info - FINEP, 2005
37. Pro-Infra. FINEP, 2005
38. Edital UNIVERSAL. CNPq, 2005
39. MUAN. IBM / Anima Mundi, 2005
40. Projeto Giga. RNP – FINEP, 2004
41. Caixa Mágica. IBM / Anima Mundi, 2003
42. Video Digital de Quarta Geração. CT-Info, FINEP, 2002
43. Terra Lib. CT-Info, CNPq, 2002
44. Video Digital em Matemática. CT-Infra 3, FINEP, 2002
45. Training Program in “*Traitment Numérique de l’Image*”. Ecole Polytechnique, 2002
46. CT-Petro (PUC-Rio / IMPA / Petrobrás). MCT – CNPq, 2001
47. Visita do Prof. Jan Flusser. Academia Brasileira de Ciências, 2001
48. Instituto do Milênio – Avanço Global da Matemática Brasileira, *Coordenador Setorial Computação Gráfica*, MCT, 2001
49. Projeto Integrado. CNPq, 2001
50. Edital Universal. CNPq, 2001
51. ACIS 3D Geometric Modeler. SPATIAL Corp, 2001
52. Training Program in “*Traitment Numérique de l’Image*”. Ecole Polytechnique, 2001
53. Projeto Maya Software. Alias/Wavefront 2000
54. Projeto Cooperação Internacional Luiz Velho, MRL-NYU. CNPq / NSF, 1998
55. Projeto Rede Metropolitana ATM. RNP – PROTEM, 1998
56. Projeto Visorama,. FAPERJ, FINEP e FUJB 1997-1998
57. Projeto Integrado,. CNPq, 1998
58. Visita do Prof. Leonidas Guibas,. FAPERJ, 1997
59. Laboratório de Video e Multimídia,. FINEP, 1996
60. PROTEM. MCT, 1995
61. Projeto VISGRAF. FAPERJ, 1994
62. Projeto Simulador de Periscópio. Marinha Brasileira, 1990

### **7.3. MOBILE APPS**

1. *Revelar*, IMPA 2016
2. *Olhar3D*, IMPA 2015
3. *RPic / CPic / QPic*, IMPA 2014
4. *Expo*, IMPA 2014
5. *Botanic*, IMPA 2013
6. *sfcDiter*, IMPA 2012
7. *S3D Mobile*, IMPA 2013

## 7.4. SYSTEMS

1. Dengue, IMPA / Code Ocean, 2021
2. DNI, IMPA 2021
3. HNI, IMPA 2021
4. RayVR, IMPA 2020
5. Expanded Puppeteering, IMPA 2019
6. Interactive 360 Cinematic VR, IMPA 2018
7. VR Tour, IMPA 2018
8. VR Kino+Theater, IMPA 2018
9. Web Orchestra, IMPA 2017
10. *RGB-D \pi*, IMPA 2015
11. *Mesa-3D*, IMPA 2015
12. *Pano Layers*, IMPA 2013
13. *Planovision*, IMPA 2013
14. *MUAN \**, IMPA 2012
15. *Panorama Viewer*, IMPA 2011
16. *Virtual Teleporter*, IMPA 2011
17. *Choreographics*, IMPA 2011
18. *Panosuite*, IMPA-Digitok 2010
19. *Normal Editing*, IMPA 2009
20. *Symmetry Completion*, IMPA 2008
21. *Photometric Stereo*, IMPA 2008
22. *X-Motion*, IMPA 2008
23. *Remote Light*, IMPA 2007
24. *Motion Control* . IMPA, 2006
25. *3D Shading Cartoon Animation* . IMPA - PUC, 2005
26. *Multiresolution Mosaics* . IMPA, 2005
27. *Texture Maps* . IMPA, 2005
28. *V4D* . IMPA, 2004
29. *MUAN* . IMPA, 2004
30. *Morpheus*. UERJ, 2003
31. *3DP* . IMPA, 2003
32. *Dynamic Meshes* . IMPA, 2003
33. *Mesh Ops*. IMPA, 2003
34. *Extração de Malhas em Multiresolução*. IMPA, 2002
35. *Multiscale Paint*. IMPA, 2002
36. *Super-Resolution*. IMPA, 2002
37. *3D Meshes*. IMPA, 2002
38. *Virtual Memory for 2D Objects*. IMPA, 2002
39. *Target Tracking*. IMPA - IME, 2001
40. *SG-3D*. IMPA, 2001
41. *Texture Synthesis*. IMPA, 2001
42. *Procedural Features for Subdivision Surfaces*. MRL-NYU, 2001
43. *4-8 Subdivision Surfaces*. Visgraf Lab, IMPA, 2000

44. *Hierarchical 4-K Meshes*. Visgraf Lab, IMPA, 1999
45. *System for Video Segmentation*. Visgraf Lab, IMPA, 1998
46. *Motion Processing System*. Visgraf Lab, IMPA, 1997
47. *Visorama Virtual Reality System*. Visgraf Lab, IMPA, 1996
48. *System for Modeling Luiz Velho, Implicit Objects*. Visgraf Lab, IMPA, 1995
49. *Half-toning Software*. Visgraf Lab, IMPA, 1993
50. *Periscope Simulator for the Brazilian Navy*. Globograph / SFB, 1990
51. *System for Image Processing and Special Effects*. Globograph, 1988
52. *Photorealistic 3D Rendering System*. Fantastic Animation Machine, 1986
53. *Parametric Surfaces Modeling System*. Fantastic Animation Machine, 1986
54. *SCRIPTS: 3D Animation System*. Fantastic Animation Machine, 1986
55. *2D Animation System*. Tele Cine Maruim, 1984
56. *Printed Circuit Drawing System*. SERPRO, 1980

## 7.5.VÍDEOS

1. *A Matemática da Animação 3D*, Ciclo de Palestras IMPA, 2021
2. *V-Horus*, SIGGRAPH Asia VR Theater, 2020
3. *Children Do Not Play War*, SIGGRAPH VR Theater, 2019
4. *VR Kino+Theater*, IEEE VR Conference Videos, 2019
5. *VR Tour*, 2018
6. *The Tempest*, 2018
7. *Indisciplinas*, 2016
8. *Mesa3D – Reconstruindo IMPA*, 2015
9. *Revelar*, 2015
10. *Dance Performance*, 2015
11. *Expo*, 2014
12. *Botanic*, 2013
13. *Choreographics*, SIBGRAPI Video Show 2011
14. *M4G*, SIBGRAPI Video Show 2011
15. *Terrain Visualization*, SIBGRAPI Video Show 2011
16. *CG Chorus Line*, SIBGRAPI Video Show 2010
17. *Motion Scoring*, SIBGRAPI Video Show 2010
18. *Tuio Sketch*, SIBGRAPI Video Show 2010
19. *Dance to the Music / Play to the Motion*, ACM SIGMAD 2010
20. *Virtual and Augmented Reality at IMPA*, IEEE VR Conference 2010
21. *Match Move*, SIBGRAPI Video Show 2009
22. *The Blues Machine*, SIBGRAPI Video Show 2009
23. *Collectable*, SIBGRAPI Video Show 2009
24. *Gramofone*, Festival HTTPVIDEO, Instituto Sergio Motta 2008
25. *Unsquare Dance*, SIBGRAPI Video Show 2008
26. *Expressive Trajectories*, SIBGRAPI Video Show 2008
27. *O Gramophone da Folia*, SIBGRAPI Video Show 2008
28. *O Gramophone Digital*. SIBGRAPI Video Show 2007
29. *Relativistic Visualization*. SIBGRAPI Video Show 2007



30. *Iterative 3D Reconstruction*. SIBGRAPI Video Show 2007
31. *Adaptive Tessellation of Deformable Models*. SIBGRAPI Video Show 2007
32. *Clay Girls*. CGI 2007
33. *Aguas de Março*. VISGRAF 2007
34. *Pandeiro +*. VSIGRAF 2006
35. *Modeling Luiz Velho, Bezier Curves*. SIBGRAPI Video Show 2006
36. *Interactive Rendering of CSG Objects*. SIBGRAPI Video Show 2006
37. *Dynamic Adapted Meshes*. SIBGRAPI Video Show 2006
38. *Visualização de Som*. SIBGRAPI Video Show 2006
39. *3D Shading for Cartoon Animation*. SIBGRAPI Video Show 2005
40. *3D Video*. SIBGRAPI Video Show 2004
41. *Space Carving*. SIBGRAPI Video Show 2004
42. *Realistic Real-Time Ocean Rendering*. SIBGRAPI, Video Show 2004 - Microsoft Research, 2003
43. *Progressively Variant Textures*. XVI SIBGRAPI, Video Show - Microsoft Research, 2003
44. *Synthesis on Surfaces*. XIV SIBGRAPI, Video Show - NYU, 2001
45. *Motion Cyclification*. XIII SIBGRAPI, Video Show, 2000
46. *4-8 Subdivision Surfaces*. XIII SIBGRAPI, Video Show, 2000
47. *4-K Meshes*. International Congress on Differential Geometry in memory of Alfred Gray, 2000
48. *Video Cut*. SIBGRAPI'99 Video Show, 1999
49. *2D Textures: an Implicit Drama*. SIBGRAPI'98 Video Show, 1998
50. *Visorama: A System for Visualization of Panoramas*. SIBGRAPI'98 Video Show, 1998
51. *Visualization of Image Quantization*. Computational Geometry 1998
52. *Quantização de Imagens*. SIBGRAPI'97 Video Show, 1997
53. *Animação por Movimento Capturado*. SIBGRAPI'97 Video Show, 1997
54. *Textura Luiz Velho, Sistemas de Partículas*. SIBGRAPI'97 Video Show, 1997
55. *Project Memory Head*. SIBGRAPI'97 Video Show, 1997
56. *Blobby Bubbles*. SIBGRAPI'97 Video Show, 1997
57. *Wavelet Paint*. SIBGRAPI'94 Video Show, 1994
58. *Globograph Demo Reel*. SIBGRAPI'91 Video Show, 1991
59. *Fantastic Animation Sample Reel*. ACM Siggraph'87 Film and Video Show, 1987
60. *Happy Birthday ENIAC*. Computer Museum, Boston, 1986
61. *Brazil Paula Z (opening)*. Video Festival, Rio de Janeiro, 1984
62. *Graphics*. National Film Board of Canada, 1982
63. *A Imagem no Computador (1979)*. SIBGRAPI'92 Video Show, 1992

## 7.6. IMAGES

1. *David*, Cover dos Anais do NPAR, 2010
2. *HRBF*, Back-Cover dos Anais do SIBGRAPI, 2009
3. *Illumination*,. Back-Cover dos Anais do WTD, 2008
4. *Hierarchical Mesh Segmentation*,. Backcover of SGP Proceedings, 2008
5. *Latin America*,. Back-Cover dos Anais do XVIII SIBGRAPI, 2005
6. *Disk Fan Enhanced*,. Cover of Book Geometric Modeling and Computing, 2004
7. *Gulf of Mexico*,. Back-Cover dos Anais do XVII SIBGRAPI, 2004
8. *Face*,. Cover of Journal of Graphics Tools, 2004

9. *Bunny*,. Back-Cover dos Anais do XVI SIBGRAPI, 2003
10. *Stones*,. Back-Cover dos Anais do XVI SIBGRAPI, 2003
11. *Pepper Bunny*,. Backcover Proceedings of SIGGRAPH 2003
12. *Parrot*,. Cover dos Anais do XV SIBGRAPI, 2002
13. *Trainy*,. Back-Cover dos Anais do XV SIBGRAPI, 2002
14. *Canoe*,. Back-Cover dos Anais do XV SIBGRAPI, 2002
15. *Butterfly*,. Back-Cover dos Anais do XV SIBGRAPI, 2002
16. *Planets*,. Back-Cover dos Anais do XIV SIBGRAPI, 2001
17. *Transition*,. Back-Cover dos Anais do XIV SIBGRAPI, 2001
18. *Skull*,. Back-Cover dos Anais do XIV SIBGRAPI, 2001
19. *Special Effects Luiz Velho, Haltoning*,. Ilustração para o livro “Non-Phorealistic Rendering”, 2001
20. *Color Quantization*,. Back-Cover dos Anais do SIBGRAPI’97, 1997
21. *Motion Capture*,. Back-Cover dos Anais do SIBGRAPI’97, 1997
22. *Noisy Sphere*,. Cover de Journal of Graphical Tools, v. 1, n. 2, 1996.
23. *Diamond House*,. Folha de Rosto dos Anais do SIBGRAPI’96, 1996
24. *Tropical Birds*,. Back-Cover dos Anais do SIBGRAPI’96, 1996
25. *Dois Toros*. Poster, Workshop on Geometric Modeling, IMPA, 1991
26. *Info 87*. Cover, Revista Dados e Idéias, 12(112), September 1991
27. *Miss Liberty*. Cover, Millimeter Magazine, June 1986
28. *EGG*. Cover, Backstage Feature Magazine, August 1986 (special issue on Animation, Image Technologies and Special Effects)
29. *70’s Couch*. Cover, POST Journal, August 1986 (special issue on Next Generation of 3D Special Effects)
30. *Frank*. Cover, Revista Info, June 1985

## 7.7. EXHIBITS

1. *V-Horus*, Museu Nacional - PUC-Rio, 2019-2020
2. *Alma do Mundo: Leonardo 500 anos*, Biblioteca Nacional, 2019
3. *+Copacabana*, Escola Eleva, March 2017
4. *Indisciplinas*, Casa França-Brasil, November 2016
5. *Olhar 3D*, MAST, Janeiro 2015
6. *Regards dans les espaces de dimension 3*, Paris, Março 2013
7. *VISGRAF Lab*, Feira FAPERJ 2011.
8. *Panoramas do Rio de Janeiro*. Mostra Art Outsiders, Semana do Brasil na França, October 2005
9. *Animação em 5 Movimentos*. Mostra Cinético Digital, Itau Cultural, July 2005
10. *Visorama 3*. Semana da Ciencia, October 2004
11. *Review on Visorama*. MCT, October 2003
12. *Visorama 2*. COPPE - UFRJ, November 2002
13. *Observatório Virtual*. A Paisagem Carioca, Museu de Arte Moderna, RJ, August 2000
14. *Visorama*. II Mostra Petrobras de Realidade Virtual, July 1999
15. *Dithering and Multiscale Implicit Models*. Mostra Retrospectiva de Imagens XV Congresso da SBC e XX Conferencia Latino-Americana de Informática, August 1995
16. *Venice 79 - The Photography*. Venice, 1979
17. *The First Show of Contemporary Latin American Photography*. Mexico City, 1979
18. *UERJ Exhibition of Photographs*. Rio de Janeiro, 1977

## 8. CAREER HIGHLIGHTS

### 8.1. PRIZES AND HONOURS

In Most Downloaded Computers & Graphics Articles - "*Efficient 3D object recognition using foveated point clouds*", 2020

Ranked in Top 600 Most Influential Brazilian Scientists - Journal Plos Biology, 2020

Top Title in Springer-IMPACT Monograph Series - "From Fourier Analysis to Wavelets" - (downloads and sales), 2018

NVIDIA Research GPU Grant, 2018

Best Computer Graphics/Visualization M.Sc. Dissertation Award (2017), Eduardo Vera Sousa, Luiz Velho (co-advisor), and Leandro A. F. Fernandes (advisor)

Homenagem pelos 60 anos de Carreira, SIBGRAPI, 2016

WIP Honourable Mention Award: "Geometry independent game encapsulation for non-Euclidean geometries", SIBGRAPI, 2015

Member of the Steering Committee of ACM SIGGRAPH Chapter Bogotá, Colombia, 2015.

Member of Fiscal Council, Fundo Patrimonial Endowment do IMPA, 2015.

Recognition Award from IEEE Computer Graphics & Applications, 2015.

Depoimento para o projeto The Communication (R)Evolution, RBS, 2014.

SIBGRAPI 2014 Best Paper Award - "A Sketch-Based Modeling Framework Based on Adaptive Meshes", SBC.

"Image Processing for CG and Vision", top 25% most downloaded eBook of the Springer Collection.

Distinguished Reviewer Award 2012 from the Computers & Graphics Journal.

Member of Comissão de Atividades Científicas - IMPA, 2012

Member elected of Conselho Técnico Científico - IMPA, 2012

SRV 2012 Best Paper Award - "Realistic Shadows on Mobile Augmented Reality", SBC.

SRV 2012 Best Paper Award - "Virtual Table-Teleporter", SBC.

CLEI 2012 Best Paper Award - "Production Framework for Full Panoramic Scenes Luiz Velho, Photorealistic Augmented Reality".

ACM Student Research Competition – Semi-Finalist- "Base Mesh Construction using Global Parametrization" of Francisco Ganacim (supervisor), SIGGRAPH. 2012

Appointed Expert Advisor, European Research Council, 2012

Mostra de Vídeos do SIBGRAPI 2011, Prêmio de Melhor Vídeo Técnico – "Real-time Terrain Modeling using CPU-GPU Coupled Computation", 2011

ACM Student Research Competition - Finalist- "Filter Based Deghosting for Exposure Fusion Video" of Alexandre Chapiro (supervisor), SIGGRAPH. 2011

ACM Student Research Competition – Semi-Finalist- "Real-time Terrain Modeling using CPU-GPU Coupled Computation" of Adrien Bernhardt (supervisor), SIGGRAPH. 2011

Mostra de Vídeos do SIBGRAPI 2010, Prêmio de Melhor Vídeo Técnico (júri e público) – *TuioSketch*, 2010.

First prize Technical Video, "Dance to the Music, Play to the Motion", ACM SIGMAD Animation Festival, 2010.

Second Prize M.Sc. Dissertation, "Esquema Híbrido para Mapas de Iluminação", Aldo Zang (supervisor), CLEI Unesco. 2010

ACM Student Research Competition - Semifinalist- "Guitar Leading Band" of Marcelo Cicconet (supervisor), SIGGRAPH. 2010

Ordem Nacional do Mérito Científico, Presidência da República, 2010

Bolsa Nota 10 – Adriana Schulz (supervisor) – FAPERJ, 2010

Member elected of Conselho Técnico Científico - IMPA, 2009

ACM Student Research Competition - Finalist- "Pandeiro Funk" of Sergio Krakowski (supervisor), SIGGRAPH. 2009

SIBGRAPI 2009 Best Paper Award - "Hermite Interpolation of Implicit Surfaces Luiz Velho, Radial Basis Functions", SBC.

Professor Catedrático, Instituto Superior Técnico. 2009

Best M.Sc. Dissertation Award, "Esquema Híbrido para Mapas de Iluminação", Aldo Zang (supervisor), SIBGRAPI. 2009

Member of Advisory Board of SIBGRAPI 2010, SBC.

Bolsa Cientista do Estado, FAPERJ. 2009

SIBGRAPI 2008 Best Paper Award - "PCA-based 3D Face Photography", SBC.

Member of Comissão de Atividades Científicas - IMPA, 2008

SIBGRAPI 2007 Best Paper Award - "Geodesic Bezier Curves: a Tool for Modeling on Triangulations", SBC.

Mostra de Vídeos do SIBGRAPI 2007, Prêmio de Melhor Animação – *Relativistic Visualization*, 2007

Prêmio Cientista do Estado, FAPERJ, 2008-2010

Concurso de Teses e Dissertações da Sociedade Brasileira de Computação, 2007

2o. Lugar Mestrado - orientador da tese de Bruno Madeira

CGI 2007 Video Festival, Best Brazilian Scientific Video, 2007

CGI 2007 Video Festival, Best Brazilian Artistic Video, 2007

Academic Advisor, Brigham Young University, 2007

Keynote Speaker, ISMM, 2007

Keynote Speaker, SIBGRAPI, 2007

General Chair, Computer Graphics International, 2007

Keynote Speaker - "The Mathematics of Visual Computing", 58 SBPC Annual Meeting, 2006.

Keynote Speaker - "Image Collections", XXIX CNMAC, 2006.

SIBGRAPI 2006 Best Technical Poster - Object Reconstruction Luiz Velho, Photometric Stereo, SBC.

Top Finalist - ACM Student Research Competition

"Hardware-Assisted CSG Rendering" of Fabiano Romeiro (supervisor), SIGGRAPH, 2006.

Grandes Desafios da Computação no Brasil: 2006 - 2016 (participante selecionado), SBC.

SIBGRAPI 2006 Best Paper Award - "Polygonization of volumetric reconstructions from silhouettes", SBC.

SIBGRAPI 2006 Best Paper Award - "Actively Illuminated Objects using Graph-Cuts", SBC.

SIBGRAPI 2005 Best Papers Award, *GEncode: Geometry-driven compression for general meshes*

SIBGRAPI 2005 Best Papers Award, *Shading via Intrinsic Normal Information for Cel Animation*

Melhor Trabalho de Mestrado WTD – SIBGRAPI 2005, *Multi-Resolution 3D Triangulations*

Mostra de Vídeos do SIBGRAPI 2005, Prêmio de 2º Lugar Animação Técnica, 2005

Prêmio Petrobras de Tecnologia, co-orientador de Ricardo Guerra Marroquim, 2005

Keynote Speaker, Third Eurographics Symposium on Geometry Processing, 2005

SIBGRAPI 2004 Best Papers Award, *Geodesic Paths on Triangular Meshes*

SIBGRAPI 2004 Best Papers Award, *Adaptive Deformable Models*

Mostra de Vídeos do SIBGRAPI 2004, Prêmio de Melhor Animação, 2004

Prêmio Cientista Inovador do Estado, FAPERJ, 2004-2007

Honorable Educador Iberoamericano, Consejo Iberoamericano, Peru, 2004

Concurso de Trabalhos de Iniciação Científica, SIBGRAPI, 2003

2o. Lugar - orientador do trabalho Final de Aldo Nogueira e Elaine Prata

Concurso de Teses e Dissertações da Sociedade Brasileira de Computação, 2003

2o. Lugar Doutorado - orientador da tese de Adelailson Peixoto

SIBGRAPI 2003 Best Papers Award, *Moving Least Squares Multiresolution Surface Approximation*

SIBGRAPI 2003 Best Papers Award, *Fast Stellar Mesh Simplification*

Professorship Advisor, Harvard University, 2002

Guest Editor, Computer and Graphics, *Special Issue for SIACG*, 2002

First Ibero-American Symposium in Computer Graphics, Co-Chair of the Program Committee, 2002

Member do Conselho Técnico Científico IMPA, 2002

SIBGRAPI 2002 Best Papers Award, *Approximating Parametric Curves Luiz Velho, Strip Trees using Affine Arithmetic*

Tenure Track Professorship Consultant, Princeton University, 2002

ACM SIGGRAPH Advisory Board, Consultant, 2001

Mostra de Vídeos do SIBGRAPI 2001, Prêmio de Melhor Animação na Categoria Técnica, 2001

SIBGRAPI 2001 Best Papers Award, *Algorithmic Shape Modeling Luiz Velho, Subdivision Surfaces*

Tenure Track Professorship Consultant, New York University, 2000

Mostra de Vídeos do SIBGRAPI 99, Prêmio de Melhor Animação na Categoria Técnica, 1999

ACM SIGGRAPH Papers Committee Member, 1999, 2000, 2002, 2003

VI CLEI-UNESCO Contest on Masters Thesis, 1999

Second Prize Award: *Um Sistema de Animação Baseado em Movimento Capturado*  
orientador da tese de Fernando Wagner da Silva

XII Concurso de Teses e Dissertações da Sociedade Brasileira de Computação, 1999

2o. Lugar Mestrado: *Um Sistema de Animação Baseado em Movimento Capturado*  
orientador da tese de Fernando Wagner da Silva

II Prêmio Compaq de Estímulo à Pesquisa e Desenvolvimento em Informática,  
Menção Honrosa na Categoria Científica, 1997

Mostra de Vídeos do SIBGRAPI 97, Prêmio de Melhor Animação na Categoria Técnica, 1997

Citado no Who's Who in Science and Technology, Marquis, New Providence, 1997

Citado no Men of Achievement 97, International Biography Center, Cambridge, 1997

Guest editor, special issue on Computer Graphics and Image Processing, Journal of the Brazilian Computer Society. 1996

IX Brazilian Symposium on Computer Graphics and Image Processing, Chair of the Program Committee, 1996

Open Fellowship - University of Toronto, 1991

## 8.2. PATENTS

1. Continuation of *Method for representing musical scales and Electronic musical device*  
Jul, 2016, United States Patent 9,424,826,
2. *Method for representing musical scales and Electronic musical device*  
Apr, 2015, United States Patent 9,099,013.
3. *Processo para exibição estereoscópica horizontal baseado em correspondências.*  
INPI, 2015
4. *Processo de captura e exibição de imagens estereoscópicas, aplicação e uso relacionado.*  
INPI, 2012
5. *Método de organização de dados multidimensional.*  
INPI, 2010
6. *Método para representar escalas musicais e Dispositivo electrónico musical*  
INPI 2010
7. *Meio Tom Digital*  
INPI, 2000
8. *Method for Color Digital Halftoning Luiz Velho,Space Filling Curve*  
Jan. 11, 1999. United States Patent 5,855,433
9. *Digital Halftoning Luiz Velho,Space Filling Curve*  
Feb. 11, 1997, United States Patent 5,602,943.

## 8.3. SOFTWARE

1. Web Orchestra  
INPI, 2017
2. Sistema Revelar  
INPI, 2016
3. *EXPO*  
INPI, 2014
4. *Reactoon 2D e 3D*  
INPI, 2013
5. *Exploratorium*  
INPI, 2013
6. *VISORAMA: A viewing device for panoramic images*  
filed under the Disclosure Document program - US Patent Office