

## Alvaro CASSINELLI (Researcher, Inventor & Media Artist)



Alvaro Cassinelli was born in Montevideo (Uruguay) in 1972. In 1990 he obtained both French and Uruguayan Bachelor degree, and a grant to pursue his studies in France. In 1996 he obtained a Graduate Engineering diploma from the Ecole Nationale Supérieure des Télécommunications (Télécom ParisTech). He completed the same year a Doctoral Qualifying Degree (DEA) in physics (laser and matter interaction) from the University of Paris-XI/ENST/Ecole Polytechnique. In 2000 he received a Ph.D degree from the University of Paris-XI Orsay. Since 2001 he has been working as a Research Fellow, Research Assistant and since 2006 as Assistant Professor and leader of the Meta-Perception group at the Ishikawa-Oku Laboratory, Department of Information Physics and Computing, University of Tokyo. His research interests included fundamental aspects of physical computing (optical computing, quantum computing) as well as optical telecommunications; more recently, he has been working on artificial vision systems, interactive image processing, robotics, and novel human-machine interfaces using state-of-the-art optical technology. Since 2006 he has been actively involved in the creation and development of the Meta-Perception Group, a group specialized in human-computer interfaces. In parallel, he enjoys applying the results of this research to his more personal works as a Media Artist, and has been awarded several prizes in this field, including an Honorary Mention at Ars Electronica (2006), the Grand Prize [Art Division] at the 9th Japan Media Art Festival (2006), an Excellence Prize [Entertainment Division] at the 13th Japan Media Art Festival (2009) and the Jury Grand Prize at Laval Virtual (2011).

### EDUCATION

- 1996-2000 Ph.D. on Physics/Optics** - University of Paris XI (IOTA, Lab. Charles Fabry, CNRS). Project partially sponsored by the European Community, in collaboration with Weismann Institut, Heriott-Watt University and Institut d'Electronique Fondamentale. Followed in parallel a **Cognitive Sciences Master** at the School for Advanced Studies in the Social Sciences (EHESS) as unregistered student.
- 1995-1996 DEA (Diploma of Advanced Studies)** in physics (laser and matter interaction), University of Paris XI/ENST/Ecole Polytechnique. Obtained a grant from the MNESR (Ministère National de l'Enseignement Supérieur et de la Recherche) to start a Ph.D.
- 1993-1996 Engineering degree** – Telecom Paris Tech (ENST, Ecole Nationale Supérieure des Télécommunications), a French leading school in the field of computer sciences and telecommunications. Major in Image Processing.
- 1991-1993** Two years (University-level) preparation for the highly competitive entrance exams to French engineering schools (Mathématiques Supérieures & Spéciales, major in Physics), at Bayonne and Bordeaux, France. Ranked third in the “concours commun” Mines-Pont-Telecom for foreigners in all of France.
- 1991** Attended six-month at the **Facultad de Ciencias de Montevideo**
- Sept. 1990 French and Uruguayan secondary high school diploma** with honors - Lycée Français de Montevideo. Grant to pursue University-level studies in France.

## WORK EXPERIENCE =====

- Since 2009** Technical Advisor for **EXVISION** (spin off company of Ishikawa-Watanabe lab)
- 2006-2015** Assistant Professor, University of Tokyo, Ishikawa-Watanabe Lab, Dept. of Information Physics and Computing. **Leader of the Meta-Perception group**, specialized on human-computer interfaces and new media-art related research.
- 2002-2005** Researcher (JST/CREST), University of Tokyo, Ishikawa-Namiki Lab.
- 2001-2002** Research Associate (JSPS), University of Tokyo, Ishikawa-Namiki Lab. Involved mainly in the Optoelectronic Computing and Sensor Fusion Group. Primary research themes: optical networking and human computer interfaces using laser technology.
- 1998-99** Teaching assistant (examiner) in physics at **Lycee Louis-Le-Grand** (Ecoles Preparatoires aux Grandes Ecoles).
- 7-9 1996** Internship at the **ENST Optoelectronic Lab**, Paris, France.
- 7-9 1995** Internship in the **Quantum Optics Lab at Ecole Polytechnique**, Paris, France.
- July 1994** Internship at **CONTROLES**, an electronic/telecomn company in Montevideo, Uruguay.
- 1994-95** Private tuition in mathematics & physics to first year University students, Paris, France.
- 1989** Co-founder of **RGC Hardware-Software**. Team development (with Eduardo Ricobaldi and Pablo Gindel) and commercialization of the first *true* light-pen for the micro-computer Zx-Spectrum, Montevideo, Uruguay.

## RESEARCH ACHIEVEMENTS =====

- Research Gate (RG) score: **8.58** (3/5/2015)
- Google Scholar: **h-index: 9 / i10-index: 9 / Google Scholar Citations: 385** (3/5/2015)
- Note: most PPT presentations, videos and PDF can be checked at:



Former affiliation page: [www.k2.t.u-tokyo.ac.jp/members/alvaro/](http://www.k2.t.u-tokyo.ac.jp/members/alvaro/)

Meta-Perception Group: [www.k2.t.u-tokyo.ac.jp/perception](http://www.k2.t.u-tokyo.ac.jp/perception)

Ishikawa-Watanabe Lab: [www.k2.t.u-tokyo.ac.jp](http://www.k2.t.u-tokyo.ac.jp)

Archive of media-art works: [www.alvarocassinelli.com](http://www.alvarocassinelli.com)

## Patents & Trademarks

1. Method and technology to create large displays on moving objects using afterimage (2013)
2. Trademark on Khronos Projector system ("*KhronoTouch*") (2007)
3. Optical Switch Architecture (2004)
4. Cascaded 2D integrated fiber arrays with interleaved topologies for short-distance reconfigurable optical interconnections, (2002)

## PhD Dissertation:

1. "Optoelectronic Stochastic Parallel Processors for real time image processing and application to motion detection". Domain: Physics/Optics with honors ("Tres Honorable"). Université Paris Sud - Paris XI, (Laboratoire Charles Fabry, CNRS). Sept. 21, 2000. Directed by Professor Pierre Chavel.

## Books:

1. Alvaro Cassinelli, *Kicked up from Flatland: some examples of 2.5 dimensional interactive displays*, Appears in: *Augmented Reality Urban Design (도시공간에 개입하는 미디어아트와 확장공간 프로젝트증강현실 도시디자인)*, JooYon Kim Ed., Publisher: Gimjuyeon deungjeo | Design Flux, 224 pages, ISBN: ISBN (13 digit): 9788992214964
2. Alvaro Cassinelli, *EARLIDS & Entacoustic performance and To Blink or Not To Blink* in Reynolds, C. (Ed.) (2011). *Devices that Alter Perception 2010*. ISBN-10: 1463664249. Charleston, SC: CreateSpace.
3. Alvaro Cassinelli, *Khronos Projector in Area N16 Caprices de Ville* (French Edition) [Paperback]. ISBN-13: 978-2352760368.
4. Alvaro Cassinelli, introductory essay in *Swing That Thing : moving to move. The poetics of embodied engagement*, Danielle Wilde PhD thesis and catalogue, 2011.
5. *Timescape*, with Hiroshi Naito and Masatoshi Ishikawa, Dai Nippon Printing, March 2008

## Peer reviewed journals:

1. **A. Cassinelli**, E. Sampaio, S.B. Joffily, H.R.S. Lima and B.P.G.R. Gusmão, *Do blind people move more confidently with the Tactile Radar?* IOS Press, *Technology and Disability*, Vol. 26, N.2-3, pp:161–170, (2014).
2. Yoshihiro Watanabe, **Alvaro Cassinelli**, Takashi Komuro, Masatoshi Ishikawa: *Interactive Display System based on Adaptive Image Projection to a Deformable Tangible Screen*, *Transactions of the Virtual Reality Society of Japan*, Vol. 15, No. 2, pp. 173-182, 2010 (Japanese). [2010 Best Paper Award Virtual Reality Society Japan]
3. N. Ogawa, K. Kikuta, H. Oku, T. Hasegawa, **A. Cassinelli** and M. Ishikawa. *Proposal for Real-World-Oriented Interaction System with Microorganisms and Its Preliminary Study*. *IPSJ Journal*, Vol.49, No.10, Oct. (2008).
4. **A. Cassinelli**, M. Naruse and M. Ishikawa, *Multistage Network with Globally Controlled Switching Stages and its implementation using Optical Multi-interconnection Modules*, *IEEE/OSA Journal of Lightwave Technology*, Vol.22, No.2, pp.315-328, February (2004).
5. **A. Cassinelli**, P. Chavel and M. Desmulliez, *Dedicated Optoelectronic Stochastic Parallel Processor (OSPP) for real-time image processing: motion detection demonstration and design of a hybrid CMOS/SEED based prototype*, *Applied Optics*, Vol.40, No.35, pp.6479-6491, December (2001).
6. **A. Cassinelli**, *Optoelectronic Stochastic Parallel Processors for real-time image processing*, full-length article submitted in 2000 to *Annl.Phys. France*.
7. R.Pankoke, **A.Cassinelli**, P.Sillard, C.Dorrer, P.Leishing et R.Frey, *Generateurs et amplificateurs parametriques optiques monomode transverse*, *Ann.Phys.Fr.* 20, pp.593-594 (1995).

## Proceedings:

1. Lihui Wang, **Alvaro Cassinelli**, Hiromasa Oku, Masatoshi Ishikawa, *A pair of diopter adjustable eyeglasses for presbyopia vision correction*, SPIE Optics + Photonics 2014 (San Diego, California, USA, 2014.08.17-21)
2. Watanabe Ch., **Cassinelli A.**, Watanabe Y., Masatoshi I.: *Generic Method for Crafting Deformable Interfaces to Physically Augment Smartphones*, CHI '14 Extended Abstracts: ACM SIGCHI Conference on Human Factors in Computing Systems, *CHI 2014*, Apr 26 - May 01 2014, Toronto, ON, Canada (2014).
3. Puig J., Perkis A., Pinel P., **Cassinelli A.**, Masatoshi I., *The neuroscience social network project*, SIGGRAPH ASIA 2013 (poster), 19-22 Nov. 2013, Hong Kong. (2013)
4. Puig J., Perkis A., Hoel A.S., **Cassinelli A.**, *A-me: Augmented Memories*, SIGGRAPH ASIA 2013, (art paper), 19-22 Nov. 2013, Hong Kong. (2013)
5. 安井雅彦, カシネリ アルバロ, 奥村光平, 奥寛雅, 石川正俊, *Proposal and Fundamental Study of a Large Field Laser Display Relying on Afterimage and a Flying Tracked Object as Support for Projection*, 第18回日本バーチャルリアリティ学会大会(VRSJ2013), 大阪, 2013.9.20/論文集, pp.499-502
6. Steimle J., Benko H., **Cassinelli A.**, Ishii H., Leithinger D., Maes P., Poupyrev I.: *Displays Take New Shape: An Agenda for Future Interactive Surfaces*. CHI'13 Extended Abstracts on Human Factors in Computing, ACM Press, 2013 (Paris, 2013.4.26)/pp.3283-3286
7. Väänänen-Vainio-Mattila K., Häkkinen J., **Cassinelli A.**, Müller J., Rukzio E., Schmidt A.: *Experiencing Interactivity in Public Spaces (EIPS)*. CHI'13 Extended Abstracts on Human Factors in Computing, ACM Press, 2013, (Paris, 2013.4.26)/pp.3275-3278
8. **Cassinelli A.**, Angelesleva, J., Watanabe, Y., Frasca, G., Ishikawa, M.: *Skin Games*, Proceedings of the ACM international conference on Interactive Tabletops and Surfaces (ITS'12), (Cambridge, MA, 2012/11/11-14), pp: 323-326
9. **Cassinelli A.**, Manabe D., Perrin S., Zerroug A. and Ishikawa M.: *scoreLight & scoreBots*, In *Proceedings of the 2012 ACM annual conference extended abstracts on Human Factors in Computing Systems Extended Abstracts (CHI EA '12)*, May 5-10, 2012, Austin, Texas, USA., pp.1011-1014 (2012)
10. Wilde D., **Cassinelli A.**, Zerroug A.: *LightArrays*, In *Proceedings of the 2012 ACM annual conference extended abstracts on Human Factors in Computing Systems Extended Abstracts (CHI EA '12)*, May 5-10, 2012, Austin, Texas, USA (2012) pp. 987-990
11. **Cassinelli A.**, Watanabe, Y., and Masatoshi, I.: *The Volume Slicing Display: a tangible interface for slicing and annotation of volumetric data*, (invited paper), Optics & Photonics Japan 2011 (OPJ 2011) Symposium (Recent Advance of Digital Opto-electronic Systems and Their Great Applications), Osaka, Nov. 29, (2011).
12. **Cassinelli A.**, Zhou, Y., Zerroug A and Ishikawa, M.: *The Laser Aura: a prosthesis for emotional expression*, SIGGRAPH ASIA 2011, Tech. Sketches and Posters, Hong Kong, 12-15 Dec. (2011).

13. 宮下令央, **Cassinelli A.**, 石川正俊: マウスチェア *-restless-interface-*, エンタテインメントコンピューティング 2011, (EC2011), セッション 6B 測, 06B-01, Oct. 7-10 (2011).
14. 藏悠子, **Alvaro Cassinelli**, 石川正俊: *Extroverting Interface*, エンタテインメントコンピューティング 2011, (EC2011), セッション 6B 測, 06B-07, Oct. 7-10 (2011).
15. Wilde, D., **Cassinelli, A.** *The Light Arrays project: The in-visible skirt and other imaginary things*. SEAM Symposium: Spacing Movements Outside in. (SEAM2011). Sydney, September (2011).
16. Zerroug, A., **Cassinelli, A.**, Ishikawa, M. *Invoked computing: Spatial audio and video AR invoked through miming*, Proceedings of Virtual Reality International Conference (VRIC 2011), pp. 31-32 (04-2011), Laval, France. [2011 Jury Grand Prize Laval Virtual]
17. **A. Cassinelli** and S. Perrin, *To Blink or Not To Blink*, Third Workshop on Devices that Alter Perception (DAP 2010) in conjunction with ISMAR 2010, October 13th, 2010, Seoul, South Korea.
18. **A. Cassinelli**, *EARLIDS & Entacoustic performance*, Third Workshop on Devices that Alter Perception (DAP 2010) in conjunction with ISMAR 2010, October 13th, 2010, Seoul, South Korea.
19. Wilde, D., **Cassinelli, A.**, Zerroug, A., Helmer, R J N., Ishikawa, M. *Light Arrays: a system for extended engagement*. Proc. ICDVRAT with ArtAbilitation Viña del Mar/Valparaíso, Chile. September (2010).
20. Takehiro Niikura, Yuki Hirobe, **Alvaro Cassinelli**, Yoshihiro Watanabe, Takashi Komuro, Masatoshi Ishikawa: *In-air Typing Interface for Mobile Devices with Vibration Feedback*, ACM International Conference on Computer Graphics and Interactive Techniques, SIGGRAPH 2010 Proceedings, Los Angeles, (2010).
21. **A. Cassinelli**, A. Zerroug, Y. Watanabe, J. Angeseleva and M. Ishikawa, *Camera-less Smart Laser Projector*, SIGGRAPH 2010 (invited to Emerging Technologies). July 25-29 2010, Los Angeles. One paper abstract.
22. **A. Cassinelli**, Y. Kuribara, A. Zerroug, D. Manabe and M. Ishikawa, *scoreLight: playing with a human sized laser pickup*, International Conference on New Instruments for Musical Expression (NIME2010), 15-18th June 2010 Sydney, Australia, pp:144-149, (2010).
23. Reynolds C., Hertrich, S., **Cassinelli, A.**, Ishikawa, M. and Smith, M. (2010) *Ethical Aspects of Video Game Experiments*. Video Games as Research Instruments Workshop in conjunction with Conference on Human Factors in Computing Systems (CHI 2010), April 10 - 15, 2010, Atlanta, Georgia, USA (2010).
24. **A. Cassinelli**, A. Zerroug, J. Angeseleva and M. Ishikawa, *Camera-less Smart Laser Projector*, 12th Virtual Reality International Conference, Laval Virtual 2010, VRIC Proceedings / ReVolution demo session, [SIGGRAPH E-tech Revolution Award: invited to SIGGRAPH E-Tech 2010]. Extended abstract: pp.291-295, (2010).
25. Reynolds, C., **Cassinelli, A.**, Watanabe, Y., and Ishikawa, M. (2009) *I am near my navel: learning mappings between location and skin*. Key Issues in Sensory Augmentation Workshop, March 26 - 27, 2009, University of Sussex, Brighton, UK. (2009).
26. **A. Cassinelli**, Y. Kuribara, D. Manabe and M. Ishikawa, *scoreLight*, SIGGRAPH ASIA 2009, Art Gallery, Yokohama (2009). Art Gallery Catalog, p.15, (2009).

27. A. Zerroug, **A. Cassinelli** and M. Ishikawa, *Virtual Haptic Radar*, sketch at SIGGRAPH ASIA 2009, Yokohama, one page abstract (2009).
28. **A. Cassinelli** and M. Ishikawa, *Volume Slicing Display*, SIGGRAPH ASIA 2009, Emerging Technologies, Yokohama, Emerging Technologies Catalog, p.88. (2009).
29. Reynolds, C. and **Cassinelli, A.**, *Machine Self-Sacrifice*. Eighth International Conference of Computer Ethics: Philosophical Enquiry. June 26-28, Corfu, Greece,(2009).
30. Hideyuki Ando, **Alvaro Cassinelli**, Junji Watanabe, *Ghostly Images Appearing in Moving Human Eyes and Still Machine Eyes*, DIGITAL EXPERIENCES Synthesis - Curated Show at Siggraph ASIA 10-13/12/2008, pp52, Singapore, (2008).
31. **Cassinelli, A.**, and Ishikawa, M. (2008). *Boxed Ego*, Devices that Alter Perception Workshop (DAP 2008) in conjunction with UbiComp, Sept. 21st, Seoul, South Korea (2008).
32. Reynolds, C., **Cassinelli, A.**, and Ishikawa, M. (2008). *Aural Antennae*, Devices that Alter Perception Workshop (DAP 2008) in conjunction with UbiComp, Sept. 21st, Seoul, South Korea (2008).
33. Zerroug, A., **Cassinelli A.** and Ishikawa, M. (2008). *Spatial coverage vs. sensorial fidelity in VR*, Devices that Alter Perception Workshop (DAP 2008) in conjunction with UbiComp, Sept. 21st, Seoul, South Korea (2008).
34. Stephane, P., Riva G. and **Cassinelli A.** (2008). *Creation of Sympathetic Media Content*, Devices that Alter Perception Workshop (DAP 2008) in conjunction with UbiComp, Sept. 21st, Seoul, South Korea (2008).
35. Y. Watanabe, **A. Cassinelli**, T. Komuro and M. Ishikawa. *The Deformable Workspace: a Membrane between Real and Virtual Space*, IEEE Tabletops and Interactive Surfaces, Oct. 1-3, Amst., the Netherlands, (2008).
36. Reynolds, C., **Cassinelli, A.**, Watanabe, Y., and Ishikawa, M. *Manipulating Perception*. 6th European Conference on Computing and Philosophy, June 16 - 18, Montpellier, France(2008).
37. Reynolds, C., **Cassinelli, A.**, and M. Ishikawa (2008) *Meta-perception: reflexes and bodies as part of the interface*. Conference on Human Factors in Computing Systems (CHI 2008), April 5-10, Florence, Italy (2008).
38. Reynolds, C., **Cassinelli, A.**, and M. Ishikawa *Economically Autonomous Robotic Entities*. Workshop on Roboethics in conjunction with IEEE Inter. Conf. on Robotics and Autom. (ICRA'07). April 10-14, Rome, (2007).
39. 伊藤崇仁, **AlvaroCassinelli**, 小室孝 and 石川正俊, *タンジブルスクリーンを用いた3次元物体表現 (Volume Slicing Display)*, 計測自動制御学会システムインテグレーション部門学術講演会 (SI2006).
40. **Cassinelli, A.**, Reynolds, C. and Ishikawa, M. (2006) *Augmenting spatial awareness with Haptic Radar*. Tenth International Symposium on Wearable Computers (ISWC), October 11 - 14, 2006, Switzerland, pp.61-64 (2006).
41. **A. Cassinelli**, C. Reynolds, and M. Ishikawa, *Haptic Radar*. The 33rd International Conference and Exhibition on Computer Graphics and Interactive Techniques (SIGGRAPH), August 1, (2006), Boston, Massachusetts, USA.

42. **A. Cassinelli**, T. Ito and M. Ishikawa, *Khronos Projector*. Interactive Tokyo 2005, Miraikan Museum of Science and Technology, Tokyo, 25-26 August (2005). One page abstract (english/japanese, p.23).
43. **A. Cassinelli** and M. Ishikawa. *Khronos Projector*. E-Tech., SIGGRAPH2005, LA (2005).
44. **A. Cassinelli**, S. Perrin and M. Ishikawa, *Smart Laser-Scanner for 3D Human-Machine Interface*, ACM SIGCHI 2005, Portland, Oregon. Extended Abstract, pp.1138-1139 (2005).
45. **A. Cassinelli**, A. Goulet, M. Naruse, F. Kubota and M. Ishikawa, *Load-balanced optical packet switching using two-stage time-slot interchangers*, Proc. 2004 IEICE, Sept. 21-24, Tokushima, Japan, pp.49-50 (2004).
46. A. Goulet, **A. Cassinelli**, M. Naruse, F. Kubota and M. Ishikawa, *A load-balanced optical packet switch architecture with an  $O(1)$  scheduling complexity*, 9th OptoElectronics and communications Conference/3rd International Conference on Optical Internet (OECC/COIN 2004), July 2004, (2004).
47. **A. Cassinelli**, S. Perrin and M. Ishikawa, *Markerless Laser-based Tracking for Real-Time 3D Gesture Acquisition*, ACM SIGGRAPH 2004, Los Angeles, 8-12 August (2004).
48. S. Perrin, **A. Cassinelli** and M. Ishikawa, *Gesture Recognition Using Laser-based Tracking System*, 6th International Conference on Automatic Face and Gesture Recognition 2004 (FG 2004), Seoul, Korea, 17-19 May 2004, pp.541-546, (2004).
49. **A. Cassinelli**, M. Naruse, A. Goulet and M. Ishikawa, *Arbitration-free Time-Division Permutation Switching Suitable for All-Optical Implementation*, IEICE meeting, Yamanashi Univ., 18-19 Dec. (2003).
50. S. Perrin, **A. Cassinelli** and M. Ishikawa, *Laser-Based Finger Tracking System Suitable for MOEMS Integration*, Image and Vision Computing, New Zealand (IVCNZ), Massey Univ., 26-28 Nov., pp.131-136, (2003).
51. **A. Cassinelli**, M. Naruse and M. Ishikawa, *Stage-Distributed Time-Division Permutation Routing in a Multistage Optically Interconnected Switching Fabric*, 29th European Conference on Optical Communication (ECOC-IOOC 2003), September 21-25, Rimini, Italy, pp.830-831 (2003).
52. **A. Cassinelli**, M. Naruse, M. Ishikawa and F. Kubota, *Reconfigurable optical interconnections using multi-permutation-integrated fiber modules*, Extended Abstracts of the Optics Japan 2003 Conference, Japanese Society of Applied Physics (JSAP), Kanagawa, Tokyo, March 2003, p.1256 (27a-W12), (2003).
53. M. Naruse, **A. Cassinelli**, M. Ishikawa: *Two-dimensional fiber array with integrated topology for short-distance optical interconnections*, 2002 IEEE LEOS Annual Meeting (Glasgow, 2002.11.14)/Conference Proceedings, pp.722-723, (2002).
54. **A. Cassinelli**, M. Naruse, M. Ishikawa and F. Kubota, *A modular, guided wave approach to plane-to-plane optical interconnects for multistage interconnection networks*, Extended Abstracts of the Optics Japan 2002 Conference, Japanese Society of Applied Physics (JSAP), Koganei, Tokyo, Nov. 2-4, p.124-125 (3aES4), (2002).
55. M. Naruse, **A. Cassinelli**, M. Ishikawa: *Real-Time Alignment Using Mechanical Dynamics of Optical Interconnection Systems*, OSA Annual Meeting & Exhibit 2002 (Orlando, 2002.10.1). Conf. p.77, (2002).

56. **A. Cassinelli**, M. Naruse, M. Ishikawa, *Quad-tree image compression using reconfigurable free-space optical interconnections and pipelined parallel processors*, Proc. of the Optics in Computing conference, Grand Hotel Taipei (Taiwan) April 8-11 2002, pp.23-25, (2002).
57. **A. Cassinelli**, M. Naruse, and M. Ishikawa: *Elemental optical fiber-based blocks for building modular computing parallel architectures*, The 49th Spring Meeting, 2002, The Japan Society of Applied Physics (JSAP) and Related Societies, (Kanagawa 2002.3.27), Extended Abstracts, pp.1204. (2002).
58. P. Chavel, **A. Cassinelli**, I. Glaser, *Optoelectronic implementation of cellular automata for complex vision algorithms*, ROMOPTO 2000, 6th Conf. no Optics, September 4-7, Bucharest, Romania, (2000).
59. P. Chavel, **A. Cassinelli** and I. Glaser, *Optoelectronic cellular automata for real time vision*, OC'2000, Canada, Quebec 18-23 juin 2000, SPIE 2000, pp.374-381, (invited), (2000).
60. **A. Cassinelli**, P. Chavel, *Video-Rate Optoelectronic Parallel Processors for Image Processing using Simulated Annealing*, III. Euro Amer. Workshop on Optoelectronic Information Processing, pp.27, 31 May-2-June 1999, Colmar, France (1999).
61. **A. Cassinelli**, Ph. Lalanne, P. Chavel and I. Glaser, *Demonstration of Video-Rate Optoelectronic Parallel Processors for Noise Cleaning in Binary Images by Simulated Annealing*, OC'98, Bruges. SPIE Proc. Vol 3490, p; 163-166 (1998).

## **SUMMARY OF TEACHING EXPERIENCE** =====

- Introduction to on AVR microcontrollers, マイコンプログラミング演習, (course at the Department of Information Physics and Computing), since 2006.
- Optical technologies for HCI (review through practical examples), since 2006.
- Direction of PhD work (Tomas Lorenzo, Universidad de la Republica, Uruguay), supervision of PhD students at the University of Tokyo.
- Director of bachelor and master thesis work (Uruguay, France and Japan, list on demand)
- Private tuition in mathematics and physics to first year University students, Paris, France.

## **LIST OF PRESENTATIONS** =====

### **Invited (and fully funded talks)**

1. *Time Delayed Cinema*, at **Microwave New Media Art Festival**, Hong Kong 4-15 Nov. (2006)
2. *El Khronos Projector: un interfaz organico para pintar con el Tiempo*, /**ArtFutura**, Barcelona 25-28 Oct. (2007).
3. Invited talk at the **Tokyo C-Wave** symposium.
4. *Research and Media Art at the Ishikawa-Komuro Laboratory*, **ArsElectronica Campus exhibition** (9.9.2008).
5. Invited talk at **Samsung Electronic headquarters**, Suwon, Korea (25.9.2008).



6. *From Science to Art and beyond*, Invited talk at **Hong-Ik University**, Seoul, Korea, (25.9.2008).
7. *Kicked up from Flatland*, invited talk at the Sympathetic Media Symposium: Augmented Space Through Media, **Hongik University**, Seoul, Korea (24.6.2009).
8. Invited talk at "*IDD meets DigitaleKlasse*" (Tama Art University / Belin University).
9. **ISMAR2010 Arts, Media and Humanities panel**: Art/Social/Novel Media, (15/10) & OpenSession (16/10/2010).
10. Conferencia "*Alvaro Cassinelli: Proyectos*", MÁSTER ARTES DIGITALES (MAD), **Universidad Pompeu Fabra** (Barcelona, 21/6/2011).
11. Invited talk at "*Exploring Possibilities of Disseminating Science for Society*" workshop (**Science Agora**), Kyoto University Museum, Monday 12 Sept. (2011)
12. Interview at the **MIT Media Lab**, "*Embodying Elusive Realities*", 15 May (2012).
13. Talk at **Dagstuhl Seminar "Interaction Beyond the Desktop"**, 26-31 Aug. 2012, organized by Alan Dix, James D. Hollan, Albrecht Schmidt & Jurgen Steimle.
14. Invited talk at **Microsoft Research** (Seattle), "*Performing Time, Space and Light*" (video, 1h08m), hosted by Andy Wilson, 20 Nov. (2012).
15. Invited talk at "**Kyoto University Seminar: Perspectives in Informatics**", January 27, (2013).
16. Invited talk and workshop at the **Meta Industrial Design Lab**/Industrial Design at Korea Advanced Institute for Science and Technology (**KAIST**), 25-27 Nov. 2013.
17. Invited talk at **NAIST** (Nara Institute of Science and Technology / Interactive Media Design Lab), 28.5.2014
18. Speaker at Making Augmented Reality Real symposium (**MARR2014**): "*Minimal Displays or Breaking the Pixel Spell*", hosted by Christian Sandor, 4/8/2014, Nara Institute of Science and Technology.
19. Invited speaker at Taiwan **DOIT 2014**, Open Innovation Festival, Taiwan, 15-16 Feb. 2014.

### Other scientific presentations and demos

1. **A. Cassinelli** and K. Takashi, Presentation of OCULAR-III architecture (using guide-wave interconnection modules), OSAKA Research Meeting, 28 Oct. 2002.
2. **A. Cassinelli** and M. Naruse, Presentation of Active Alignment, fiber-bundle interconnection modules and Ocular-II Quad-tree compression demonstration, OSAKA Research Meeting, 20 Nov. 2001.
3. **A. Cassinelli**, Alexis Zerroug and M. Ishikawa, Wireless Haptic Radar exhibited at new Ars Electronica Center (AEC, Linz) as part of the permanent exhibition New Views of Humankind/Main Gallery/Robolab (since Feb.2009).
4. **A. Cassinelli** and M. Ishikawa, Volume Slicing Display, exhibited at LAVAL VIRTUAL 2009, 22-26 April 2009. Awarded a prix in the section Medicine and Health.
5. **A. Cassinelli**, Alexis Zerroug and M. Ishikawa, Haptic Radar and HaptiKar, exhibited at LAVAL VIRTUAL 2009, 22-26 April 2009.

6. **A. Cassinelli**, D. Manabe, Y. Kuribara and M. Ishikawa: *scoreLight*, exhibited at CONTEX2009 (Digital Content Expo 2009 at Miraikan - Museum of Emerging Science and Innovation, Tokyo), 22-25 October 2009. Presentation at the Symposium (25 October 2009).
7. D. Wilde, **A. Cassinelli**, "in-visible skirt and other imaginary things", talk at the Yebisu International Festival of Art and Alternative Visions (commissioned work in collaboration with Danielle Wilde, 18-27/2/2011).
8. **A. Cassinelli**, Laser Sensing Display & scoreLight shown at the JST Symposium in conjunction with IEEE VR2011, SUNTEC Convention Center, SINGAPORE (20-27.3.2011).

## LIST OF RESEARCH GRANTS =====

1. **Grants-in-Aid for Scientific Research (Kakenhi B, JSPS)**, "Memory Blocks for Spatialized Knowledge" Subject: Collaborative Augmented Reality. Principal researcher. Amount: **90K-USD** over three years (2012-2014)
2. **Grants-in-Aid for Scientific Research (Houga, JSPS)**, "Book Flipping Printing". Subject: Spatial Augmented Reality and new printing methods. Secondary researcher. Amount: **36K-USD** over two years (2011-2012)
3. **Grants-in-Aid for Scientific Research (Wakate A)**. Subject: Human Computer interfaces, Smart laser scanner". Principal researcher. Budget: **50K-USD** over two years (2006-2007).
4. 基盤研究(S), 分担者/連携研究者, Subject: Vision Chip applications. Period: H19-H23. Total: **700K-USD**.
5. Principal researcher at the University of Tokyo for the **collaborative project with University of LAPLAND and UDK BERLIN** (2010-2011). Research topic "Interactive Laser Projection System for Downhill Skiing Slope". Total budget handled: **17K-USD**.
6. In charge of collaboration with various tech companies that provided funding, space and material to my lab: **Samsung Electronics, TOYOTA Tsusho Electronics, Nissan Research labs, Omron and Hamamatsu Photonics**.

## Awards and personal grants

1. Excellence Grant by the French government (Ministere de l'Education Nationale, de l'Enseignement Superieure et de la Recherche) to study in France (Ecole Preparatoire aux Grandes Ecoles)
2. Excellence Grant by the French government to continue studies in France (based on results from the competitive entrance examinations - ranked third in the Mines-Pont-Telecom entrance examination in all France for foreigners).
3. Grant by the French government to pursue a PhD (based on DEA honors)
4. NHK Digital Stadium, Best Selection Award (aired at NHK-BS2, 8/10/2005).
5. NHK Digital Stadium, Finalist Award (aired at NHK-BS, 14/1/2006).
6. Panasonic Prize at the Digital Art Festival 2005(9-13/12/2005).
7. Grand Prize [Art Division] at the 9th Japan Media Art Festival (24/2-5/3/2006).
8. Honorary Mention at Prix Ars Electronic 8/2006 (Interactive Art Category).

9. Awarded a prix in the category Medicine and Health for the Volume Slicing Display, at LAVAL VIRTUAL 2009, 22-26 April 2009.
10. Winner Dorbot Tokyo 2009 ("It's a Donnie World" interactive installation).
11. Excellence Prize at the 2009 [13th] Japan Media Arts Festival for scoreLight, in collaboration with Daito Manabe.
12. SIGGRAPH E-TECH AWARD at Laval Virtual / ReVolution Demos 2010
13. NISSAN Research Challenge Innovative Concept Award, Nissan Research Center (11.2010)
14. Best Paper Award VRSJ (Virtual Reality Society of Japan), 2011.
15. Laval Virtual 2011 (6-10 April 2011), Jury Grand Prize (for "Invoked Computing")

## COMMITTEE ACTIVITY IN ACADEMIC SOCIETY =====

### Organized Workshops & Conferences

1. **Workshop teacher** on Physical Computing (Processing and Arduino/Wiring, focused in communication protocols), "Invention Workshop" at the *Yotsuya Art Studium*, 17 Nov (2007). Code examples in the workshop website.
2. **Workshop organizer** on Physical Computing (focused on motor control), 13.12.2007. Ishikawa-Namiki-Komuro Lab.
3. **Invited as a teacher** at the *Interactivos08 international workshop* at the MEDIALAB-PRADO (Madrid), on the theme "Vision Play". Lead by Alvaro Cassinelli and Simone Jones, with the participation of Daniel Canogar, Julian Oliver and Pablo Valbuena, 5/30 – 6/14 2008.
4. **Invited as teacher at the first Physical Computing Workshop in Montevideo**, Uruguay (January 2009) [co-created the "Taller Computacion Fisica Montevideo"]
5. **Program Chair**, The Fifth Asia-Pacific Computing and Philosophy Conference (AP-CAP 2009). October 1st-2nd, 2009. Tokyo, Japan.
6. **Workshop Chair**, "Devices that Alter Perception 1" (**DAP2008**), in conjunction with UbiComp 2008. September, 21st 2008. Seoul, Korea.
7. **Workshop Chair**, "Devices that Alter Perception 3" (**DAP2010**), in conjunction with IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2010), Oct.13th, 2010, Seoul, Korea.
8. **Art's track Chair TEI 2013** (with Josep Perelló and Roc Parès).
9. **Workshop Organizer/Program Committee**, Experiencing Interactivity in Public Spaces (EIPS), at ACM SIGCHI Conference on Human Factors in Computing Systems CHI2013, April 27-May 2, Paris, France.
10. **Workshop Organizer/Program Committee**, Displays Take New Shape: An Agenda for Future Interactive Surfaces, at ACM SIGCHI Conference on Human Factors in Computing Systems CHI2013, April 27-May 2, Paris, France.
11. **Invited lecture** on "minimal interactive displays using laser technology" at ART+COM, Berlin 14-20 Oct. 2013.

## Reviewing / Editorial activity

- Editorial committee member of the electronic journal CLEI (Centro Latinoamericano de Estudios en Informática).
- Reviewer for CHI, SIGGRAPH, IEEE (Transactions on Communications, Photonics Technology Letter), IEEE Conference on Virtual Reality, International Conference on Robotics and Automation (ICRA), Elsevier, Optics and Lasers in Engineering, International Journal of Imaging Systems and Technology (IJIST, Korea), ACE International Conference on Advances in Computing Entertainment Technology, Tangible and Embedded Interaction (TEI), New Instruments for Musical Expression (NIME), International Symposium for Wearable Computers (ISWC), etc.

## Professional Memberships

- ACM (Association for Computer Machinery) Professional Member / SIG Affiliation: SIGCHI
- IEICE (The Institute of Electronics, Information and Communication Engineers)
- VRSJ (Virtual Reality Society of Japan)

## COLLABORATIONS (INDUSTRY AND GOVERNMENT) =====

1. Worked yearly on technical reports *roadmap for optoelectronics* for the **European Commission** (1996-2000)
2. **Technical Advisor** and board member of **EXVISION** (spinoff company of the Ishikawa-Watanabe Laboratory).
3. **Consultant** (and later collaborator) for SigongTech (Korean Multimedia company), in charge of Yeosu World Expo Thematic Pavillon 2012.
4. **Principal researcher** in Tokyo for the “LASERINNE” project, an international collaborative project (**European Regional Development Fund Programming period 2007 to 2013**), between Lapland University (Finland), University of Berlin, and The University of Tokyo. (interactive laser games on the ski slope during a Skiing World Cup at Levi resort in 2012).
5. Research collaboration with various tech companies (**Samsung Electronics, TOYOTA Tsusho Electronics, Nissan Research** labs, **Omron** and **Hamamatsu Photonics**).
6. Since 2006, I’ve been consultant for a large Japanese furniture company (**Okamura**) planning the design of the “office of the future”, as well as a big car maker (**Nissan**) designing a futuristic personal mobility system.
7. Contributor to **Open Source** software (OpenFrameworks, mbed and Processing libraries).

# WORKS AS A MEDIA ARTIST =====

## Media Art Exhibitions (solo or in collaboration)

### 1. Khronos Projector interactive installation:

- Split Film Festival (Croatia), 3/6-10/7/2005
- Interactive Tokyo 2005 (25-26/8/2005).
- NHK Digital Stadium, Best Selection Award (aired at NHK-BS2, 8/10/2005).
- NHK Digital Stadium, Finalist Award (aired at NHK-BS, 14/1/2006).
- Digital Art Festival 2005 (awarded the Panasonic Prize) (9-13/12/2005).
- 9th Japan Media Art Festival, (Grand Prize in Art Division) the (24/2-5/3/2006).
- Laval Virtual (France), (25-30/4/ 2006)
- Aired in "On a tout essaye" TV program, France2 television (4/5/2006).
- TIMESCAPE installation at the Okamura Design Space (collaboration with architect Hiroshi Naito), Tokyo (13-28/07/2006), TV-Tokyo, 知恵の和 program 13/08/2006.
- Honorary Mention at Prix Ars Electronica 2006 (Interactive Art Category). Piece exhibited at the O.K. Center for Contemporary Art in Linz, Austria. (Prix Ars and Cyberarts 2006 exhibition, 31/08-8/10/2006).
- Exhibited (for two years since 2006) at the ArsElectronica Center (AEC) in Linz, Austria.
- Future of Design Pavillon at WIRED NEXTFEST 2006\_in New York (20/09-01/10/2006).
- Animatronica - Microwave International New Media Arts Festival, Hong Kong (4-15/11/2006).
- NTT Inter Communication Center "Sight & Sound: Watch the sound, listen to the images" exhibition, 14/7-2/9 2007. Featured *spatialized sound* on the screen.
- Design Pavillon at WIRED NEXTFEST 2007, LA, Convention Center (13-16/09/2007)
- Festival ArtFutura, Barcelona 25-28 Oct. (2007).
- "OpenPlay", Digital Art Festival Taipei, 23/11 - 2/12 Taipei, Taiwan (2007)
- VIA Festival International (20-22/3 in Maubeuge), and EXIT08 festival international (28/3-5/4, Maison des Arts de Creteil), France (2008).
- Tokyo Science and Technology museum, (6/7/2008, Tokyo).
- J-PARC opening ceremony, Ibaraki-ken (10.8.2008)
- Scopitone Festival (Nantes, France, 17-21 Sept. 2008)
- Various TV programs in Japan and abroad (see *Media Appearances*).

### 2. **Dis-Chorde** interactive sound/video installation with Philippe Chatelain and Daito Manabe. Museum of Contemporary Art (MOT), Tokyo (2007).

### 3. **Flat Elephant Walks**, 12-27.7.2007, Okamura Design Space R / New Otani Garden Coat, Tokyo. By Shin Egashira with the help of Okamura technical team, Yuji Fukui (mechanical structures) & Alvaro Cassinelli (visual interaction).

### 4. **dorkbotswisstokyo** 2007 (interactive sound/image performance with Stephane Perrin).

### 5. **NoForkDroise (toys + percussions) + alvarocassinelli**

- N.1. Live performance at Nana Hari, interactive visuals (22.12.2007).
- N.2. Live performance at Nana Hari, Interactive visuals & sound (19.1.2008).

### 6. **boxedEgo** interactive-art installation:

- Commissioned for Sonar/SonarMatica 2008 FUTURE PAST CINEMA (curated by Jose Luis de Vicente, Oscar Abril Ascaso and Advanced Music. With the collaboration of Medialab-Prado and the Museu de Cinema de Girona).

- Exhibited at the Media Lab Prado, Madrid, "Vision Play", 2008.
  - Exhibited at ArsElectronica - Tokyo University Campus Exhibition: HYBRID EGO
  - SNUMOA, Game+Interactive Media Art, Museum of Art, Seoul National University (2010.12.2-2011.1.9)
- 7. Sticky Light** exhibited at ArsElectronica - University Campus Exhibition: HYBRID EGO
- 8. Hapti-cat mask & Electric Silhouette**
- Maker Fair Tokyo 2009
  - DOIT Taiwan Open Innovation Festival (DOIT TAIWAN 2014)
- 9. Wireless Haptic Radar**
- ArsElectronica - Tokyo University Campus Exhibition: HYBRID EGO, 2008.
  - ArsElectronica Center (AEC, Linz) as part of the permanent exhibition New Views of Humankind/Main Gallery/Robolab (since Feb.2009).
- 10. Ghostly Images Appearing in Moving Human Eyes and Still Machine Eyes** (with H. Ando, and J. Watanabe), DIGITAL EXPERIENCES Synthesis - Curated Show at Siggraph ASIA 2008, pp52, Singapore, (2008).
- 11. It's a Donnie World**, winner Dorbot Tokyo 2009. Face/pose recognition, Augmented Reality.
- 12. scoreLight** (with Daito Manabe)
- Invited at CONTEX2009, 22-25 October 2009, Miraikan, Museum of Emerging Science and Innovation, Tokyo, JAPAN.
  - 13th Japan Media Art Festival 2009 (Excellence Prize), The National Art Center, Tokyo, JAPAN (3/2-14/2/2009).
  - SIGGRAPH ASIA 2009 (juried), *Art Gallery: Adaptation*. Yokohama, Japan, 17-19 december 2009. Art Gallery & Emerging Technologies DIGITAL EXPERIENCES, p.15
  - EXIT & VIA festival , Creteil and Maubeuge, FRANCE (18-28/3/2010)
  - Fuji TV stage, ホルスの好奇心, 3.1.2010.
  - Scopitone 2010 (15-19/9.2010, Nantes, FRANCE)
  - Lille3000, "Dancing Machine" (2/7 - 31/10 2010, Lille, FRANCE)
  - Kyoto Media Art Festival (2/9-12/9/2010, Kyoto, JAPAN)
  - Okayama Media Art Festival (30/10-7/11/2010, Okayama, JAPAN)
  - Japanese television (Nihon Terebi, 「世界一受けたい授業」), aired 18.12.2010.
  - SNUMOA, Game+Interactive Media Art, Museum of Art, Seoul National University (2010.12.2-2011.1.9)
  - Japanese television, TV Asahi, "Sakicho" program (Dec.2010).
  - Sonar Tokyo Festival (2-3.4.2011)
  - The sense of Machines (one year exhibit at Disseny Hub Barcelona - DHUB), (21.06.2011 – 15/01/2012)
  - Dancing Machine / Monaco Dance Forum (10-17 Dec. 2011).
  - Microwave Festival: Alchemy: Drifting lab (6-21/11/2011)
  - CHI2012 Interactivity session (5-10/5/2012)
  - Tokyo Designer Week (Some experiments with 3d shapes and scorelight in collaboration with Daito Manabe (2012/10/31).
  - DOIT Taiwan Open Innovation Festival (DOIT TAIWAN 2014)

### 13. LightArrays (with Danielle Wilde)

- Performance and installation at the Yebisu International Festival of Art and Alternative Visions (commissioned work in collaboration with Danielle Wilde, 18-27/2/2011)
- Spacing Movements Outside in. (SEAM2011). Sydney, September (2011)
- Microwave Festival: Alchemy: Drifting lab (6-21/11/2011).
- CHI2012 Interactivity session (5-10/5/2012)

14. **Numbers, Time & Space: seeing through numbers** (by Alvaro Cassinelli & Philippe Chatelain), Taller de Produccion directed by Chris Sugrue and Daniel Sanchez / Media Lab Prado, Madrid (March 2011). Exhibition: 29/3/2011.

15. **Line-Surface-Noise**, with Philippe Chatelain. Fundacio Pilar i Juan Miro, Mallorca, October 11th - November 30<sup>th</sup> 2008.

16. **Fil Rouge**, with Horacio Cassinelli, 2011, Galerie Schumm-Braunstein, Paris.

17. **Brilliant Cube** (by Jin-Yo Mok) / contributed visuals (in collaboration with Jussi Angesleva), Gangnam district, October to December 2013.

18. **Songe d'une Nuit d'Hiver (A Midwinter Night's Dream)**, by A.Cassinelli, S. Shibatsu Perrin and M. Ishibashi.

- Institut francais du Japon, DIGITAL SHOCK -Tokyo, 21/2-23/3 2014
- Toro-bots at DOIT Taiwan Open Innovation Festival (DOIT TAIWAN 2014)
- Dancing Torobots (contribution to Emil Montgomery event "Quantum"), 11.2.2015, SODRE, Montevideo, Uruguay.

19. **Cybernetic RattenKonig**. With Horacio Cassinelli for the exhibition "IMAGEN", Galerie Schumm-Braunstein, Paris (13 mars - 25 avril 2012).

20. **SimulTa-ngo (2013)**. Connecting Studio RADA with other *milongas* around the world in time and space. Made with ofxGstRTP from Arturo Castro and Seth Hunter, and ofTwitter. System synch iTunes in real time.

21. **Interactive Notebook Exhibition (2014)**. Interactive exhibition of 10 years of notebooks at Cafe & Shop Uma Merdre (September 2014). Made with OF.

### Media Appearances

- **NHK BS2 (デジスタ)** with the "*KhronosProjector*", Best Selection Award (8/10/2005)
- **NHK BS2 (デジスタアウワード)** with the "*KhronosProjector*" (14/1/2006)
- **TV Tokyo (テレビ東京)**, 「知恵の和」 with the "*KhronosProjector*" (13/8/2006)
- **France 2 (French broadcasting television)** with the "*KhronosProjector*" at "On a tout essaye", (4/5/2006)
- **NTV Japan Television (日本テレビ)**, 「世界一受けたい授業」, with "*HapticRadar*" (7/6/2008)
- **FNN (Fuji-terebi)**, 「ホルスの好奇心」 with "*scoreLight*", (3/1/2010)
- **FNN (Fuji-terebi)**, 「ホルスの好奇心」 with "*Khronos Projector*", (11/4/2010)
- **TV Tokyo (テレビ東京)**, 「さきっちよ」, with "*Khronos Projector*", (22/6/2010)
- **TV Tokyo**, ワールドビジネスサテライト 「トレンドたまご」, "Volume Slicing Display", (19/7/2010).
- **TBS**, 「夢の扉」, with "*Khronos Projector*", (5/9/2010)
- **BS Japan**, 「世の中進歩堂」, with *Khronos Projector* & Volume Slicing Display (17/9/2010)
- **NTV Japan Television (日本テレビ)**, 「世界一受けたい授業」, with Volume Slicing Display (9/10/2010).

- **NTV Japan Television** (日本テレビ), 「世界一受けたい授業」, with Smart Laser Scanner (18/12/2010).
- **テレ朝**, 「さきっちょ」, with “Sensing Display” (17/1/2011).
- **TBS**, 「教科書に載せたい」, with “Khronos Projector” (3/5/2011).
- "Laser Scanner Reads Air Writing", article on **Discovery Channel.com** (Sept. 1, 2005)
- **Discovery Channel** (covering **WIRED NEXT FEST**), with the "Khronos Projector"
- **The Daily Planet (Discovery Channel Canada)**, about "Haptic Radar" (Nov. 6, 2007)
- **RTVE** (radio television Espanola), interview 17.6.2008
- **RTVE**, **Japan\_ON** (Metropolis) Fall 2010.
- **ITV1 British Television**, with Joanna Lumley as "Catwoman", aired on 6<sup>th</sup>-13<sup>th</sup> Sept. 2009.
- Interview at **Cite des Sciences** (<http://www.universcience.tv>) WebTV, (23/9/2010)
- **ANTENA 3 TV**, *El Hormiguero*, (scoreLight), with special guest Hugh Jackman, June 2014.
- **Canal Doce**, Montevideo, Uruguay (showing dancing robots), February 2015.
- **CHINA TIMES CTV**, with *Torobots in the garden*, 15.11.2015.
- **Several newspapers and international magazines**: including **Nikkei Shinbun** (Japan), **Tokyo Shinbun** (Japan), **アスキ** (Japan), **ArtTop** (Japan), **PopEye** (Japan), **Nikkan Kogyo Shimbun** (Japan), **Metropolis** (Japan), **Sankei Shinbun** (Japan), **Tokyo Design Brand** (Japan), **Okamura Design Space-R** (Japan), **ID Magazine**, **Wired Magazine** (USA), **Liberation** (France), **Le Soir** (France), **Avantages** (France), **L'Ordinateur Individuel** (France), **The Guardian** (UK), etc.
- **Online**: Works featured in **Gizmodo**, **IEEE magazine**, **Ubergizmo**, **BoingBoing**, **We-make-money-not-art**, **Wired**, etc.

### Some video-taped interviews (with links)

- Talk at **Microsoft Research** (Seattle): "[Performing Time, Space and Light](#)", hosted by Andy Wilson, 20 Nov. 2012 [[PDF-94MB](#)] (in **English**).
- "[I/O/I. Els sentits de les màquines](#)" ("The sense of machines", Bcelona, 2011) (in **Spanish**).
- Interview at **Cite des Sciences**, [WebTV](#), 23/9/2010 (in **French**)
- Interview **RTVE** (radio television Espanola): 17.6.2008
- **RTVE**, [Japan\\_ON](#) (Metropolis) Fall 2010 (in **English**)
- Speaker at **MARR symposium** (Making Augmented Reality Real): "[Minimal Displays or Breaking the Pixel Spell](#)", hosted by Christian Sandor, 4/8/2014, Nara Institute of Science and Technology [[PDF-9MB](#)] (in **English**).



## SUMMARY OF ACHIEVEMENTS AND FUTURE PLANS =====

My previous research at the Ishikawa-Watanabe laboratory was on optical networks and optical computing. My research on these topics can be found [here](#). In 2004 I co-founded and became leader of the [Meta-Perception group](#), a group specialized in developing new technologies and algorithms in the field of human computer interfaces to be deployed on wearables and public space (hence my work as a Media Artist). Most of the projects described there are directly or indirectly the result of my 14 years of work in that laboratory. If I had to explain my research in a generic way, I would say that I have been working to bridge the gap between multiple disciplines, creating new avenues for research and opening the eyes to new *design dimensions* that would have been difficult to appreciate if I had not have a wide range of interests and background (physics & mathematics, cognitive sciences, and art).

If I had to list a few research achievements in a more concrete way, I would say that I have done some paradigm-shifting work on the following fields:

- 1. Human Computer interfaces using novel optical technologies**, in particular smart sensors using laser technology capable of tracking at 10kHz or realizing simple-shape projection mapping on highly deformable surfaces in real time without any perceivable delay or mismatch;
- 2. Mediated Self & Devices that Alter Perception.** I co-created a specific workshop called "DAP" in conjunction with ISMAR, and I have been continuously working since 2005 on devices to help the blind navigating in complex environments (Haptic Radar, Virtual haptic radar, haptic-car, etc.), in collaboration with cognitive scientists but also companies concerned about the accessibility of their technology (for instance, NISSAN).
- 3. Studied the concept of "Space as Media"**, both from the point of view of the Media Art and architecture (how to integrate technology in the living space, in collaboration with Okamura furniture company), as well as the point of view of "spatialized" computer human interfaces. The **Volume Slicing display** is a concrete example of a technology that could be used in the near future to explore CT or MRI scans; The **BrainCloud** is another example of a large scale ongoing project whose goal is to create a spatialized database for neurosciences and genetics (the common "support" of academic papers and latest results appear in the form of twits in a virtual brain volume).
- 4. Ubiquitous computing and augmented inter-personal communication.** I have coined the term "Invoked Computing" and presented a prototype of this futuristic form of ambient intelligence. I have also developed the concept of "**minimal displays**" ( $\neq$  ambient displays) capable of augmented inter-personal communication using Spatial Augmented Reality at the scale of the individual or public spaces (the biggest experiment took place over a mountain).

For more details, I refer to the [Meta-Perception group](#) page as well as my presentations at [slideshare](#), and of course my personal page [www.alvarocassinelli.com](http://www.alvarocassinelli.com)

Date: 24/2/2015

