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### Senior Researcher at CIRAD AMAP Unit

AMAP joint unit Deputy director <https://amap.cirad.fr/en/>



### Fields of expertise

Functional structural plant growth models  
Computer graphics (Natural Phenomena), and Image processing  
Scientific animation in Applied mathematics and Computer sciences  
Interaction and projects with industry

### Education

- Dec. 2010: Habilitation à diriger des Recherches (Computer Sciences). University Blaise Pascal, Clermont-Ferrand II.
- Dec. 1987: PhD thesis in Computer Science, University of Strasbourg.
- Sep. 1985: D.E.A. (master degree) in Computer Science, University of Strasbourg.
- June 1984: Master in Computer Sciences applied to Management (MIAGE), Uni. of Mulhouse.
- June 1980: Baccalauréat C (Mathematics), Lycée Bartholdi, Colmar.

### Scientific production <https://agents.cirad.fr/pjjimg/marc.jaeger@cirad.fr/Marc-JAEGER-2025-12-Pub.pdf>

Peer reviewed articles : 45

Books and book chapters : 22

International conferences proceedings : 87 *Google Scholar (2025/12)* 2673 citations, h: 22, i-10: 52

### Ph.D. Students supervision

- Oriane Braud, University of Montpellier. Environnement de modélisation hybride multi-échelle pour les cultures intercalaires. 2023-2026
- Houssein Triki, University of Montpellier. Coupling Plant growth models to Bio-aggressor models. Application on Coffee attacks by rust and BTB. 2022-2025
- Laetitia Lemiere, University of Montpellier, Augmented reality, A tool to design agroforestry systems? 2021-2023
- Shared with S. Sabatier: Adji Beda Innocent, Univ. Jean Lorougnon Guédé, Ivory Coast, Genetic resources and plant selection: Trees Architecture and Structure-function Modeling of Plants 2018-2022
- Guilhem Brunel, University of Montpellier 2, Automated Cell file detection in wood cross section images. 2011-2014;
- HongJun LI, Beijing Forestry University and CASIA, 3D tree geometrical reconstructions from terrestrial laser scans. 2008-2012.
- Vincent le Chevalier, Ecole Centrale de Paris, Functional Landscapes (Plant and crops models in interaction with water cycle models). 2006-2010;
- Heaven WU, China Agricultural University (CAU), 3D reconstruction of wheat roots from microscopic slices, 2005-2009.
- QingQiong Deng, CASIA, Virtual plant foliage LOD and multiresolution models, 2004-2008.
- Chao Zhu, CASIA, Defining tree crown geometry from point clouds, 2006-2010;
- Mei Xing, CASIA, Landscape visualization and rendering, 2004-2006;
- Teng Jun, CASIA, GPU based Multilevel Plants and tree visualization, 2002-2007.
- ZhiFeng Cai, CASIA, Image Registration with non-linear elastic models, 2000-2004.
- Stéphane Chemouny, Univ. Montpellier II, 3D non-linear image filtering, 1997-2001.
- Frédéric Banégas, Ecole des Mines de St Etienne, 3D geometric solid characterization, 1997-2000.

### **International events organization**

- 2010. Main board and Co-Organizer of LandMod2010, the 2010 International Conference on Integrative Landscape Modelling website. Montpellier SupAgro, February 3-5, 2010
- 2009. Main board and Organizer of 2009' International symposium on plant growth models and their applications. Beijing.
- 2005. Organizer of STIC-ASIA 05 workshop October 24-26<sup>th</sup> 2005 in Beijing.
- 2003. Main board and Organizer of 2003' International symposium on plant growth models and their applications. Beijing.

### **Scientific animation**

- 2020-2023, animator of Amap's Digital Plant research line
- 2012, Research, collectivities and industry exchanges on virtual reality applications for environment and sustainable planning, 40 participants, Montpellier May 2012
- 2005, GreenLab 2nd Workshop, 55 participants, Beijing June 2005
- 2004. GreenLab First Strategy Workshop, Beijing, 45 participants, October, 2004
- 2003. Main board and Organizer of PMA03, The 2003' International symposium on plant growth models and their applications. Beijing, October 2003.
- 2000-2001: Organizer of several scientific animations on: freeware, plant geometry, image processing, stem modeling, models in decision support tools (agronomy), software engineering.
- Organizer of the Volume Imaging School. June 25-28th, 2001, Montpellier.

### **Reviewing, Committees, Event boards, Positions**

- Cirad -COSI member, as research units representative for the Information system delegation (DSI), Cirad
- IEEE member since 2000, Europe Section, France Chapter
- Reviewer (2006->2022) for Annals of Botany, Journal of Computer Sciences and Techniques, Journal of Virtual Reality, Transaction on Graphics...
- Reviewer for Eurographics: EG02,EG03,EG05,EG06,EG08 for Siggraph:SIG06,SIG09 for CARI (2000,2004,2008,2010,2014)...
- International scientific boards: FSPM2026, PMA2025, PMA2022, PMA2018, VRCAI2016, FSPMA2016, VRCAI2015, VRCAI2013, PMA'12, Regio Resources 2011, Edutainment 2010, LandMod2010, Edutainment 2009, PMA09, Edutainment 2008, PMA06, PMA03
- Expert Member of C2I2MEAD "Environment and sustainable development" certificate definition (MEN-MESR SG/STSI, 2011-2014)
- Board member of the European Land-Use Institute for technology and products (2009-2012)
- Registered at Eu-Cordis expert database (IST priority, and Co-operation with Asia)
- IADIS member (International Association for Development of the Information Society) 2010-2014

### **Projects**

- iDemo, 2025 BPI France Ecosysmap project (on evaluation), main scientific partner
- HE eco2adapt, 2022-2027 coordination Inrae, contribution: Virtual scenes for Decision theaters
- HE Digitaf, coordination Inrae, contribution : AR digital tools for agroforestry
- France Relance Cirad-Valorhiz Sa. Co-ordinator 2022-2024. Aerial images automated feature identification generation.
- EU DESira Robust. Coordination Cirad, contribution : plant model coupling with P&D models
- AMPLI ANR 2021-2024. Coordination INSA. Contributions: aerial image classification
- DigitVeg Project. Co-ordinator. 2019-2020. Digital vegetation mock-ups. Supports labex Cemeb / Cirad.
- Labex Agro 1600-027. Cordinator. 2017. Architecture et croissance des plantes. Modélisation et applications. (Book and e-book edition)
- ...

### **Software registration.**

- QIZPP (Qt Image Zbuffer Post Processing). IDDN registration at APP Owner: CIRAD (member 88.75.673). June 2012.
- GLOUPS (Plant Simulator). IDDN registration at APP no: IDDN.FR.001.210033.000.R.P.2011.000.30010. Owner: CIRAD 88.75.673. Logibox : 66948, May 27th, 2011.