Dr. Dominique Loqué
Director of Cell Wall Engineering at the Joint BioEnergy Institute; Biological Engineer at the Lawrence Berkeley National laboratory; Adjunct Professor at the University of California, Berkeley; Affiliate at the Synthetic Biology Institute, U.C. Berkeley; Co-founder of Afingen.inc

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USA

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Education and Training

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	MAJOR/AREA
Coutance Agricultural High School	HS	1991-1994	Agronomy
Le Robillard Agricultural School		1994-1996	Agronomy
Caen University, France		1996-1997	Biology
Montpellier University, France		1997-1999	Biology
ENSAM Montpellier, France	MS	1999-2000	Plant Biology
Hohenheim University, Germany	PhD	2001-2005	Agronomy

Personal Statement

Dominique Loqué's primary interests are discoveries and innovations and his current research activities are related to the understanding and optimization of plant development and biomass characteristics for sustainable production of food, bioenergy and bioproducts. He is developing expression tools and additional accessories, and using synthetic biology principles to engineer crops. His current focus is on generating "universal" tools – applicable to many plant species – to reduce cell-wall recalcitrance and, ultimately, optimized energy-crop production. He has also a strong interest in metabolic engineering in plants to isolate new pathways, and improve plant robustness to environmental stresses and valorize them for downstream applications such as bioenergy and chemical production. For example, he implements new pathways in lignifying cells to inhibit lignin biosynthesis, produce novel lignin monomers to modify the physical properties of lignin with the aim of reducing lignin recalcitrance and valorizing this aromatic polymer for down-stream applications. He is redesigning cell wall biosynthetic pathways and regulatory networks to improve cell wall properties and expressing specific pathways to further enrich plant cell wall with sugars to optimize bioenergy traits. Beyond cell wall engineering for he is expending his toolbox for plant root engineering and his goal is to use them to understand and optimize plant nutrient acquisition and plant-microbial interactions in order to reduce chemical inputs.

Research and Professional Experience

02/2016 - present **Visiting scientist**, UMR5240 Microbiology, Adaptation and Pathogenesis, Université Lyon 1, France

07/2016 - present **Adjunct Professor**, Department of Plant and Microbial Biology, UC Berkeley, CA, USA

08/2012 - present **Affiliate at the Synthetic Biology Institute,** UC Berkeley, CA, USA

01/2008 - present **Director of Cell Wall Engineering Group,** Feedstock Division, Joint BioEnergy Institute, Emeryville, CA, USA

01/2008 - present **Biological Engineer and Staff Scientist**, Biological Systems and Engineering Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA

03/2015 - 04/2016 **Deputy Vice President of Feedstocks division**, Joint BioEnergy Institute, Emeryville, CA, USA

04/2005 - 01/2008 **Postdoctoral Researcher** in Wolf Frommer's lab**,** Carnegie Institution for Science, Stanford University, CA 94305, USA

Teaching Activities

- Lecturer at the Master program, Module "Microbe engineering" (subject: synthetic biology and engineering), University Lyon 1 - INSA, France (Fall 2016)
- Lecturer at PhD summer school "SYNthetic BIOlogy: From pro- to eukaryotic SYStems" Copenhagen University, Denmark (Summer 2016)
- Introductory lectures about JBEI's research and Bioenergy to students including high-school, undergrad and grad students (2010-2015)
- Activity Leader for public awareness about synthetic biology at Chabot Space & Science Center, CA, USA (2015)
- Lecturer at the Advanced School on Biochemistry of Biofuels (subject lignin biosynthesis and engineering). Program sponsored by ASBMB, IUBMB and SBBq, Sao Paulo, Brazil (2010)
- Teaching instructor in plant genetics at the Oakland Technical High School, Oakland, CA, USA (2010)
- Teaching instructor in plant molecular biology at Hohenheim University, Germany (2004)
- Teaching assistant in plant physiology at Hohenheim University, Germany (2002)

Synergistic Activities

- Co-Founder and Scientific Adviser at Afingen.inc (Biotech startup)
- ASPB Rabson Award Committee member 2015-2016
- Chair of the "International Conference on Plant Synthetic Biology and Bioengineering" December 16-18, 2016
- Session Chair and Discussion group lead in workshops and conferences
- Presenter for a Career fair organized by "A Better Chance" (http://www.abetterchance.org), Organization supporting minorities
- Regular participation to institutional open-houses
- Regular participation to grant review panel USDA-NIFA and JGI
- Grant reviewer for NSF, DOE, USDA, AgreenSkills (European Union Mobility program), DFG (German Research Foundation), Polish governmental agency of National Science Centre NSERC/SSHRC/CIHR grant agency (Canada)
- Reviewer for: Nature, Nature Biotechnology, Nature Plant, PNAS, Plant Journal, Plant Cell, Plant Biotechnology Journal, Plant physiology, Trends in Bioetchnology, Physiologia Plantarum, Planta, New Phytologist, Plant Science, Frontier in Plant Science, Biomacromolecules, PlosOne, Metabolic Engineering, and Microbial Cell Factories
- PhD committees: Melanie Boeckstaens (Brussels University), Rachel Li (UC Berkeley)
- Member of the American Chemical Society (ACS), the American Institute of Chemical Engineers (AIChE), the American Society of Plant Biologists (ASPB), the Society for Experimental Biology (SEB) and the European Plant Science Organization (EPSO).

Honors and Awards

- Certificate of Appreciation for LBNL Biosciences Area Reorganization task force (2015)
- R&D 100 Award (2014)
- LBNL Director's Award for Exceptional Achievement (2014)
- Robert Rabson Award (2014)
- JBEI Outstanding Invention Award (2014)

- JBEI Entrepreneurship Award (2014)
- US Department of Energy Early Career award (2013)
- LBNL Director's Award for Exceptional Achievement (2012)
- JBEI Inventor Award (2012)
- JBEI Research Contribution Award (2011)
- Fellowship of McClintock fellowship (2007 - 2008)

Received Grants

- US Department of Energy, Joint Genome Institute Community Science Program - Title: "Generation of plant universal promoter and terminator libraries" - (2015; Lead Primary Investigator)
- US Department of Energy, Joint Genome Institute Community Science Program - Title: "Large scale characterization of BAHD enzymes for lignin and biomass valorization" - (2015; Lead Primary Investigator)
- US Department of Energy Early career award - Title: "Developing synthetic biology tools to engineer plant root system and improve biomass yield and carbon sequestration" (2013-2017; Primary Investigator)
- US Department of Energy, BER - Title: "The Joint BioEnergy Institute" Coordinator: Jay Keasling (2007-2012 and 2012-2017; Co-Primary Investigator)
- US Department of Energy, Strategic LDRD - Title: "Optimizing plant-microbe interactions for sustainable supply of nitrogen for bioenergy crops" (2013 and 2014; Lead Primary Investigator)
- US Department of Energy, Strategic LDRD - Title: "Engineering of a positive feedback loop to improve wax deposition and plant water use efficiency" - (2012; Primary Investigator)

Selected Oral Presentations:

Invited as Conference Speaker:

06/2016 2nd Leibniz Plant Biochemistry Symposium, Halle, Germany
05/2016 Plant Genome Engineering Symposium, Berkeley, CA, USA
10/2015 19th International Conference on Nitrogen Fixation. Pacific Grove, CA, USA
09/2015 Joint 7th Conference of PSEPB and IFB UG & MUG. Gdańsk, Poland
07/2015 Gordon Conference - Plant Metabolic Engineering. Waterville Valley, NH, USA
06/2015 Fine-tuning gene expression in Cereals. Cereal Engineering Consortium Workshop. Boston, MA, USA
04/2015 SIMB 37th Symposium on Biotechnology for Fuel and Chemical, San Diego, CA, USA
03/2015 ACS National Meeting, Denever, CO, USA
11/2014 SynBio Conference, Berkeley, CA, USA
10/2014 Synthetic Biology Congress, London, UK
05/2014 First Plant Synthetic Biology Workshop, MIT Cambridge, MA, USA
04/2014 Local Talent Seminar Series, UC Berkeley, CA, USA
03/2014 Plant Cell Wall Engineering Workshop, Tokyo University of Agriculture and Technology, Japan
02/2014 US Department of Energy, Genomic Science Contractor-Grantee Meeting XII, Crystal City, VA, USA
03/2013 Frontiers in Large Scale Organism and Pathway Engineering Workshop. JGI, Walnut Creek, CA, USA
11/2012 AIChE 2012 Annual Meeting, Pittsburgh PA, USA
10/2012 57th Lignin Symposium, Japan
10/2012 LignoBiotech II Symposium, Japan
05/2012 Pan American Plant Membrane Biology Workshop, Asilomar, CA, USA
10/2011 4th Conference on Biosynthesis of Plant Cell Wall 2011, Japan
08/2011 Synthetic Biology International Workshop 2011, Berkeley, USA
02/2011 2nd Annual Next Generation Bio-based Chemicals Summit 2011, San Diego, USA

08/2010 Synthetic Biology International Workshop Copenhagen 2010, Copenhagen, Denmark
11/2009 6Th symposium Mexico-USA and XIII National Congress of Biochemistry and Plant Molecular Biology, Guanajuato, Mexico
06/2007 XIV International Workshop Plant Membrane Biology, Valencia, Spain

Invited as Guest speaker:
06/2016 Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben, Germany
04/2016 Bayer CropScience, Lyon, France
11/2015 Laboratoire de Reproduction et Développement des Plantes - Ecole National Supérieure (ENS) – INRA Lyon, France
05/2015 Plant Microbial Biology Department, UC Berkeley, CA, USA
03/2015 Colorado State University, Fort Collins, CO
01/2015 Glasgow University, Glasgow UK
04/2014 Laboratoire de Microbiologie, Adaptation et Pathogénie, Université Lyon I, France
04/2014 Local Talent Seminar Series, UC Berkeley, CA, USA
03/2014 National Institute of Advance Industrial Science and Technology, Japan
03/2014 University of Tokyo, Japan
03/2013 Laboratoire de Reproduction et Développement des Plantes - Ecole National Supérieure (ENS) – INRA Lyon, France
03/2013 Université de Lausanne, Switzerland
09/2012 Université de Genève, Switzerland
04/2012 ZMBP-Tuebingen University, Germany
04/2012 UMR Agroécologie-INRA-Dijon, France
05/2010 UC-Davis, CA, USA
11/2009 Michigan Technological University, MI, USA

Graduate Advisors and Postdoctoral Sponsors:

PhD Advisor: Prof. Dr. Nicolaus von Wirén
Institute of Plant Nutrition, Hohenheim University (Germany)
Postdoctoral Advisor: Wolf Frommer
Plant Biology Department Carnegie Institution for Science, Stanford University (USA)

Research Assistants and Postgraduate-Scholars:

Current:
Scientist: Aymerick Eudes (2009-Now); Nicolas Jacquet (2016, *visiting scientist from University of Liege*).
Postdoctoral associate: Yan Liang (2012-Now); Patrick Shih (2013-now); Sonya Chiu (2014-now); Nasim Mansoori Zangir (2014-now); Ann Hao (2014-now)
Research assistant: Veronica Benites (2013-now); Khanh Vuu (2013-now); Lionadi The (2015-now); Sasha Yogiswara (2015-now); Bianca Manalansan (2013; 2016-now)

Past: Nakako Shibagaki (2008) now assistant professor at Osaka University; Jin Sun Kim (2009-2012) now work at Korea Research Institute of Bioscience and Biotechnology, Korea; Fan Yang (2008-2013) now Postdoctoral associate at Ohio State University; Prajakta Pradhan Mitra (2008-2013) now Scientist at BioRad; Vimaliez Reyes-Ortiz (2014-2015) now Process Engineer at Advent Engineering Services; Carlos Hermandez Garcia (2014-2015) now Senior Scientist and lead of transformation pipeline at Epicrop; Fabrice Masson (2015-2016) now Research Assistant at the Advanced Biofuels and Bioproducts Process Demonstration Unit, LBNL; Thu Tran (2015) now Research Associate at Thermo Fischer Scientific; Clarabelle Cheng-Yue (2014-2015) now studying computer science at Santa Clara University; Leila Ayad (2014) now Scientist at Philip Morris International, Switzerland; Hugo Vargas (2013-2014) now student in Medical school in Colombia; Millie Chan (2013) now IT Analyst at Pandora Media Inc;

Parul Tomar (2008-2010) moved as Grad student at Boston University; Wint Lwin (2011-2012) moved as Research assistant II at UCSF; Kejian Zheng (2009-2013)

Current and past students:

PhD students: Ling Zhang (2008-2011)
Graduate students: Roland Berthomieu (2016); Lucien Roux (2016); Sonia Chapiro (2015); Maxence Mouille (2015); Fabrice Masson (2015); Simon Alamos (2014); Leila Ayad (2014); Valerie Cornuault (2011); Davy Baratiny (2010); Alex Schultink (2008)
Undergraduate students: Saeed Nassef (2016-now); Anagh Sinha (2016-now); Reo Yamanaka (2016-now); Nanxia Zhoa (2014-2016); Sasha Yogiswara (2013-2015); Noah Tseng (2015); Clarabelle Cheng-Yue (2013-2014); Alyssa Kehlenbach (2012)
High-School students from minorities: Makeda Nuruddin (2015); Phoenix Kayler (2015); DiAndre Campbell (2009); Alexander Durniak (2009)

Additional Skills and Hobbies:

English: fluent, French: mother tongue and German: basic skills
Competition: Marathons and Duathlons
Gardening, Cooking

Publications and Patents:

Publications (Google Scholar: h-index: 22; i10-index: 32; citations >2500)

51) Konda M, **Loqué D** and Scown C, (2016). Towards economically sustainable lignocellulosic biorefineries (Chapter 10). **In Valorization of Lignocellulosic Biomass in a Biorefinery: From Logistics to Environmental and Performance Impact**, Nova Publishing Science Publishers, ISBN: 978-1-63485-827-4
50) Eudes A, Zhao N, Sathitsuksanoh N, Baidoo E, Lao J, Wang G, Yogiswara S, Lee TS, Singh S, Mortimer J, Keasling J, Simmons B and **Loqué D** (2016). Expression of S-adenosylmethionine Hydrolase in Tissues Synthesizing Secondary Cell Walls Alters Specific Methylated Cell Wall Fractions and Improves Biomass Digestibility. **Front. Bioeng. Biotechnol.** 4:58. doi: 10.3389/fbioe.2015.00153
49) Shih P, Liang Y, **Loqué D** (2016). Biotechnology and synthetic biology approaches for metabolic engineering of bioenergy crops. **The Plant Journal** 87(1): 103-117
48) Eudes A, Pereira JH, Yogiswara S, Wang G, Teixeira Benites V, Baidoo E, Lee TS, Adams P, Keasling J, **Loqué D** (2016). Exploiting the substrate promiscuity of hydroxycinnamoyl-CoA:shikimate hydroxycinnamoyl transferase to reduce lignin. **Plant Cell Physiology** 57(3):568-579
47) Deng K, Guenther JM, Gao J, Bowen BP, Tran H, Reyes-Ortiz V, Cheng X, Sathitsuksanoh N, Heins R, Takasuka TE, Bergeman LE, Geertz-Hansen H, Deutsch S, **Loqué D**, Sale K, Simmons BA, Adam PD, Singh AK, Fox BG, Northen TR (2015). Development of a High Throughput Platform for Screening Glycoside Hydrolases based on Oxime-NIMS. **Front. Bioeng. Biotechnol.** 3:153. doi: 10.3389/fbioe.2016.00058
46) Eudes A, Teixeira Benites V, Wang G, Baidoo EEK, Lee TS, Keasling JD, **Loqué D** (2015). Precursor-directed combinatorial biosynthesis of cinnamoyl, dihydrocinnamoyl, and benzoyl anthranilates in Saccharomyces cerevisiae. **PLoS one** 10(10):e0138972
45) Chiu T-Y, Lao J, Manalansan B, **Loqué D**, Roux SJ, Heazlewood JL (2015) Biochemical characterization of Arabidopsis APYRASE family reveals their roles in regulating endomembrane NDP/NMP homeostasis. **Biochem J.** 72(1):43-54
44) Gonzalez T, Liang Y, Nguyen B, Staskawicz B, **Loqué D**, Hammond M (2015) Tight regulation of plant immune responses by combining promoter and suicide exon elements. **Nucleic Acid Research.** 433(14):7152-7161.
43) Patron NJ, Orzaez D, Marillonnet S, Warzecha H, Matthewman C, Youles M, Raitskin O, Leveau A, Farré G, Rogers C, Smith A, Hibberd J, Webb AA, Locke J, Schornack S, Ajioka J, Baulcombe DC,

Zipfel C, Kamoun S, Jones JD, Kuhn H, Robatzek S, Van Esse HP, Sanders D, Oldroyd G, Martin C, Field R, O'Connor S, Fox S, Wulff B, Miller B, Breakspear A, Radhakrishnan G, Delaux PM, **Loqué D**, Granell A, Tissier A, Shih P, Brutnell TP, Quick WP, Rischer H, Fraser PD, Aharoni A, Raines C, South PF, Ané JM, Hamberger BR, Langdale J, Stougaard J, Bouwmeester H, Udvardi M, Murray JA, Ntoukakis V, Schäfer P, Denby K, Edwards KJ, Osbourn A, Haseloff J (2015). Standards for Plant Synthetic Biology: A Common Syntax for Exchange of DNA Parts. **New Phytologist.** 208(1):13-19.

42) **Loqué D**, Scheller HV, Pauly M. (2015). Engineering of plant cell walls for enhanced biofuel production. **Curr Opinion Plant Biol.** 25:151-161.
41) Scullin CS, Cruz AG, Chuang Y, Simmons BA, **Loqué D**, Singh S (2015). Engineering secondary cell wall deposition enhances monomeric sugar release after low temperature ionic liquid pretreatment. **Biotechnology for Biofuels**. 8:95.
40) Schicklberger M, Shapiro N, **Loqué D**, Woyke T, Chakraborty R (2015). Draft Genome Sequence of Raoultella terrigena R1Gly, a Diazotrophic Endophyte. **Genome Announcements**. 3(3): e00607-15.
39) Eudes A, Sathitsuksanoh N, Baidoo E, George A, Liang Y, Yang F, Singh S, Keasling J, Simmons B, **Loqué D** (2015). Expression of a bacterial 3-dehydroshikimate dehydratase reduces lignin content and improves biomass saccharification efficiency. **Plant Biotech J**. 13(9):1241-1250.
38) Vega-Sanchez M, **Loqué D**, Lao J, Catena M, Verhertbruggen Y, Herter T, Yang F, Harholt J, Ebert B, Baidoo E, Keasling J, Scheller H, Heazlewood J, Ronald P, (2015) Engineering temporal accumulation of a low recalcitrance polysaccharide leads to increased C6 sugar content in plant cell walls. **Plant Biotechnology Journal**. 13(7):903-914.
37) Gondolf V, Stoppel R, Ebert B, Rautengarten C, Liwanag A, **Loqué D** and Scheller H (2014). A gene stacking approach leads to engineered plants with highly increased galactan levels in Arabidopsis. **BMC Plant Biology.** 14(1):344.
36) Eudes A, Liang Y, Mitra P, **Loqué D** (2014). Lignin Bioenginerring. **Curr Opin Biotechnol** 26:189-198.
35) Lao J, Oikawa A, Bromley Jr, McInerney P, Suttangkakul A, Smith-Moritz A, Plahar H, Chiu TY, González Fernández-Niño S, Ebert B, Yang F, Christiansen K, Hansen S, Stonebloom S, Adams P, Ronald P, Hillson N, Hadi M, Vega-Sanchez M, **Loqué D**, Scheller H, Heazlewood J. (2014) The Plant Glycosyltransferase Clone Collection for Functional Genomics. **The Plant Journal** 79(3):517-529
34) Pradhan-Mitra P and **Loqué D** (2014). Histochemical staining of Arabidopsis thaliana secondary cell wall elements. **J. Vis. Exp**. 87:e51381.
33) Tobimatsu Y, Wagner A, Donaldson L, Mitra P, Niculaes C, Dima O, Kim JI, Anderson N, **Loqué D**, Boerjan W, Chapple C, Ralph J. (2013) Visualization of Plant Cell Wall Lignification Using Fluorescence-tagged Monolignols. **The Plant Journal** 76(3):357-366.
32) Eudes A, Juminaga D, Baidoo E, Collins FW, Keasling JD, **Loqué D.** (2013) Production of hydroxycinnamoyl anthranilates from glucose in *Escherichia coli***. Microbial Cell Factories,** 12:62.
31) De Michele R, Ast C, **Loqué D**, Ho CH, Andrade SLA, Lanquar V, Grossmann G, Gehne S, Kumke MU, Frommer WB (2013). Fluorescent sensors reporting the activity of ammonium transceptors in live cells. **eLife**, 2:e00800.
30) Yuan L, Gu R, Xuan Y, Valle-Smith E, **Loqué D**, Frommer WB, von Wirén N (2013). Allosteric Regulation of Transport Activity by Hetero-Trimerization of Ammonium Transporter Complexes in vivo. **Plant Cell**. 25(3): 974-984.

29) Yang F, Mitra P, Zhang L, Prak L, Verhertbruggen Y, Kim JS, Sun L, Zheng K, Tang K, Auer M, Scheller HV, **Loqué D** (2013) Engineering secondary cell wall deposition in plants. **Plant Biotech. J**., 11(3): 325-335.
28) Petersen PD, Lau J, Ebert B, Yang F, Verhertbruggen Y, Kim JS, Varanasi P, Suttangkakul A, Auer M, **Loqué D,** Scheller HV (2012) Engineering of plants with improved properties as biofuels feedstocks by vessel-specific complementation of xylan biosynthesis mutants. **Biotechnol Biofuels** 5(1):84
27) Chiu TY, Christiansen K, Moreno I, Lao J, **Loqué D**, Orellana A, Heazlewood JL, Clark G, and Roux S (2012) AtAPY1 and AtAPY2 function as Golgi localized nucleoside diphosphatases in Arabidopsis

thaliana. **Plant Cell Physiol**. 53(11): 1913-1925.

26) Eudes A, George A, Mukerjee P, Kim JS, Pollet B, Benke PI, Yang Y, Pradhan P, Sun L, Persil-Cetinkol O, Chabout S, Mouille G, Soubigou-Taconnat L, Balzergue S, Singh S, Holmes BM, Mukhopadhyay A, Keasling JD, Simmons BA, Lapierre C, Ralph J, **Loqué D** (2012) Biosynthesis and incorporation of side-chain-truncated lignin monomers to reduce lignin polymerization and enhance saccharification. **Plant Biotech. J.,** 10(5): 609-620
25) Parsons HT, Christiansen K, Knierim B, Carroll A, Ito J, Batth TS, Smith-Moritz AM, Morrison S, McInerney P, Hadi M, Auer M, Mukhopadhyay A, Petzold CJ, Scheller HV, **Loqué D**, Heazlewood JL (2012) Isolation and Proteomic Characterization of the Arabidopsis Golgi Defines Functional and Novel Components Involved in Plant Cell Wall Biosynthesis, **Plant Physiol.**, 159(1): 12-26
24) Varanasi P, Katsnelson J, Larson DM, Sharma R, Sharma MK, Vega-Sánchez ME, Zemla M, **Loqué D**, Ronald PC, Simmons BA, Singh S, Adams PD, Auer M (2012) Mechanical Stress Analysis as a Method to Understand the Impact of Genetically Engineered Rice and Arabidopsis Plants. **Ind. Biotechnol.** 8(4): 245-249.
23) Sun L, Varanasi P, Yang F, **Loqué D**, Simmons BA, Singh S (2012) Rapid Determination of Syringyl:Guaiacyl Ratios Using FT-Raman Spectroscopy. **Biotechnology and Bioengineering,** 109: 647-656
22) De Michele R, **Loqué D**, Lalonde S, Frommer WB (2012) Ammonium and Urea transporter inventory of the selaginella and physcomitrella genomes. **Front. Plant Sci.** 3:62.
21) Wipf D, **Loqué D**, Lalonde S, Frommer WB (2012) Amino acid transporter inventory of Seleginella genome. **Front. Plant Sci.** 3:36.
20) **Loqué D**, Eudes A, Yang F (2011) Biomass Availability and Sustainability for BioFuels. **Chemical and Biochemical Catalysis for Next Generation Biofuels**, RSC Energy and Environment Series No. 4, Blake Simmons ed., Royal Society of Chemistry
19) Banks JA, Nishiyama T, Hasebe M, Bowman JL, Gribskov M, dePamphilis C, Albert VA, Aono N, Aoyama T, Ambrose BA, Ashton NW, Axtell MJ, Barker E, Barker MS, Bennetzen JL, Bonawitz ND, Chapple C, Cheng C, Correa LG, Dacre M, DeBarry J, Dreyer I, Elias M, Engstrom EM, Estelle M, Feng L, Finet C, Floyd SK, Frommer WB, Fujita T, Gramzow L, Gutensohn M, Harholt J, Hattori M, Heyl A, Hirai T, Hiwatashi Y, Ishikawa M, Iwata M, Karol KG, Koehler B, Kolukisaoglu U, Kubo M, Kurata T, Lalonde S, Li K, Li Y, Litt A, Lyons E, Manning G, Maruyama T, Michael TP, Mikami K, Miyazaki S, Morinaga S, Murata T, Mueller-Roeber B, Nelson DR, Obara M, Oguri Y, Olmstead RG, Onodera N, Petersen BL, Pils B, Prigge M, Rensing SA, Riaño-Pachón DM, Roberts AW, Sato Y, Scheller HV, Schulz B, Schulz C, Shakirov EV, Shibagaki N, Shinohara N, Shippen DE, Sørensen I, Sotooka R, Sugimoto N, Sugita M, Sumikawa N, Tanurdzic M, Theissen G, Ulvskov P, Wakazuki S, Weng JK, Willats WW, Wipf D, Wolf PG, Yang L, Zimmer AD, Zhu Q, Mitros T, Hellsten U, **Loqué D**, Otillar R, Salamov A, Schmutz J, Shapiro H, Lindquist E, Lucas S, Rokhsar D, Grigoriev IV. (2011) The Selaginella Genome Identifies Genetic Changes Associated with the Evolution of Vascular Plants. **Science**, 332:960-963
18) Eudes A, Baidooa EEK., Yang F, Burd H, Hadia MZ, Collins FW, Keasling JD and **Loqué D** (2011) Production of Tranilast [N-(3',4'-dimethoxycinnamoyl)-anthranilic acid] and its analogs in yeast *Saccharomyces cerevisiae*. **Appl Microbiol. Biotechnol.,** 89: 989-1000
17) Graff L, Obrdlik P, Yuan L, **Loqué D**, Frommer WB and von Wiren N (2011) N-terminal cysteines affect oligomer stability of the allosterically regulated ammonium transporter LeAMT1;1. **J Exp Bot.**, 62: 1361-1373
16) Lalonde S, Sero A, Pratelli R, Pilot G, Chen J, Sardi MI, Parsa SA, Kim DY, Acharya BR, Stein EV, Hu HC, Villiers F, Takeda K, Yang, Y, Han YS, Schwacke R, Chiang W, Kato N, **Loqué D**, Assmann SM, Kwak JM, Schroeder J, Rhee SY and Frommer WB (2010) A membrane protein / signaling protein interaction network for Arabidopsis version AMPv2, Frontiers in Plant Physiology *doi: 10.3389/fphys.2010.00024*
15) Simmons BA, **Loqué D**, Ralph J. (2010) Advances in modifying lignin for enhances biofuel production. **Curr. Opin. Plant Biol.,** 13: 1-8

14) Lanquar V*, **Loqué D***, Hörmann F, Lixing Yuan, Anne Bohner, Wolfgang R. Engelsberger, Sylvie Lalonde, Waltraud X. Schulze, von Wirén N and Frommer WB (2009) Feedback Inhibition of Ammonium Uptake by a Phospho-dependent Allosteric Mechanism. **Plant Cell**, 11: 3610-3622 (*: Equal contribution)
13) **Loqué D**, Morac SI, Andrade SLA, Pantoja O and Frommer W.B. (2009) Pore mutations in the ammonium transporter AMT1 with increased electrogenic ammonium transport activity. **J. Biol. Chem.**, 284 (37): 24988-24995.
12) Yuan L, Graff L, **Loqué D**, Kojima S, Tsuchiya Y N, Takahashi H, and von Wirén N (2009) AtAMT1;4, a Pollen-specific High-affinity Ammonium Transporter of the Plasma Membrane in Arabidopsis. **Plant Cell Physiology** 50(1):13-25
11) Simmons BA, **Loqué D**, Blanch HW. (2008) Next-generation biomass feedstocks for biofuel production **Genome Biol.** 9(12):242
10) Dynowski D, Schaff G, **Loqué D**, Moran O, Ludewig U (2008) Plant plasma Membrane water channel conduct the signaling molecule H_2O_2. **Biochem J**. 414: 53-61
9) Lalonde S, Ehrhardt D W, **Loqué D**, Chen J, Rhee SY, Frommer WB (2008) Molecular and cellular approaches for detecting protein-protein interactions and generating protein interaction maps. **The Plant Journal** 53: 610-635
8) Yuan L, **Loqué D**, Kojima S, Rauch S, Ishiyama K, Inoue E, Takahashi H, von Wirén N (2007) The Organization of high-affinity ammonium uptake in Arabidopsis roots relies on the isoform-specific localization and biochemical properties of AMT1-type transporters. **Plant Cell** 19: 2636-2652
7) **Loqué D**, Lalonde S, Looger LL, von Wirén N, Frommer WB (2007) A cytosolic *trans*-activation domain essential for ammonium uptake. **Nature** 446: 195-198
6) Yuan L, **Loqué D**, Ye F, Frommer WB, von Wirén N (2007) Nitrogen-dependent Posttranscriptional Regulation of the Ammonium Transporter AtAMT1;1. **Plant Physiol.** 143: 732-744
5) **Loqué D**, Yuan L, Kojima S, Gojon A, Wirth J, Gazzarrini S, Ishiyama K, Takahashi H, von Wirén N (2006) Additive contribution of AMT1;1 and AMT1;3 to high-affinity ammonium uptake across the plasma membrane of nitrogen-deficient Arabidopsis roots. **The Plant Journal** 48: 522-534
4) **Loqué D** (2005) Molecular Identification and Characterization of Ammonium Transporters in the Model Plant Species Arabidopsis Thaliana (L.) Heynh. ISBN-13: 978-1411643215
3) **Loqué D**, Ludewig U, Yuan L, von Wirén N (2005) Tonoplast aquaporins AtTIP2;1 and AtTIP2;3 facilitate NH_3 transport into the vacuole. **Plant Physiol.** 137: 671-680
2) **Loqué D**, von Wirén N (2004) Regulatory levels for the transport of ammonium in plant roots. **J Exp Bot.** 55: 1293-1305
1) **Loqué D**, Tillard P, Gojon A, Lepetit M (2003) Gene expression of the NO_3^- transporter *NRT1.1* and the nitrate reductase *NIA1* is repressed in *Arabidopsis* roots by NO_2^-, the product of NO_3^- reduction. **Plant Physiol.** 132: 958-967

Patents

11) PCT Patent Application 62/360,195: Liang Y and **Loqué D**: *Translation Control Tool for Plants*
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