UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO **ID CODE** 4733

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Bioscienze**

Scientist- in - charge: Aureliano Bombarely

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	D'Andrea
Name	Lucio Jesus
Date of birth	6/09/1986

PRESENT OCCUPATION

Appointment	Structure
Postdoctoral reseacher	Max Planck Institute of Molecular Plant Physiology

EDUCATION AND TRAINING

Degree	**Course of studies**	**University**	**year of achievement of the degree**
Degree	Bachelor in Biotechnology	Universidad Nacional de Rosario - Argentina	2010
PhD	Plant Biology and Biotechnology	Universidad Autonoma de Barcelona - Spain	2016
Master	Master in Biotechnology	Universidad Autonoma de Madrid - Spain	2011
Research visit	Training - Determination and characterization of tomato proteome	Cornell University - USA	2015
Others - Training course	Writing in the Sciences	Stanford online	2013
Others - Training course	Programa de generacio I desenvolupament d'idees de negoci en	Parc de Recerca Universitat Autonoma de Barcelona (UAB)	2013

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	ciencies experimentals aplicables en el sector bio		
Others - Training course	Biostatistics and basic R for molecular biology analyses	CENTRE FOR RESEARCH IN AGRICULTURAL GENOMICS (CRAG)	2016
Others - Training course	Grant and Proposal writing for scientistis	CENTRE FOR RESEARCH IN AGRICULTURAL GENOMICS (CRAG)	2016
Others - Training course	Introduction to R	DataCamp Online	2016
Others - Training course	Getting published and Mastering Peer Review	Science Craft	2018
Others - Training course	Proposal writing	Science Craft	2018
Others - Training course	Data visualization in R	DataCamp Online	2018
Others - Training course	Data Visualization with lattice in R	DataCamp Online	2018
Others - Training course	Differential Expression Analysis with limma in R	DataCamp Online	2018
Others - Training course	ggplot	DataCamp Online	2018
Others - Training course	Importing Data in R (part1)	DataCamp Online	2018
Others - Training course	Team Dynamics	Betty Boden	2018

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
Spanish	native
English	B2 level
German	A1 level
Italian	Intermediate level
Catalan	Intermediate level

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AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2010	Highest Grade Point Average (GFA) at Biotechnology Degree. National University of Rosario. Rosario, Argentina.
2011	Honor Roll of the province. Due to the highest GFA. Punto Biz. Sesa Select. Santa Fe, Argentina.
2010	Master and PhD Fellowship JAE PRE 2010. Consejo Superior de Investigaciones Cientificas (CSIC). Spain. (JAEPre_2010_00824)
2012	PhD Fellowship. Formación Personal Universitario (FPU). National Spain Government. Spain. (FPU12/00189)
2015	Short-term Fellowship. Formación de Personal Universitario (FPU). Full fellowship for a short stay at Cornell University, Ithaca, USA at Profess Li Li lab (USDA) (EST14/00600).
2017	Seal of Excellence from Marie Curie Fellowship: Awarded to outstanding researchers whose proposals scored 85% or more, but could not be funded due under the current budget

TRAINING OR RESEARCH ACTIVITY

description of activity	
April 2009-Aug 2010	**Undergrad student**. CENTRO DE ESTUDIOS FOTOSINTÉTICOS Y BIOQUÍMICOS (CEFOBI). Rosario Argentina. Supervisor: Paula Casati. Research topic: New molecular components involve in DNA repair in plants under UV stress.
Aug 2010-Jun 2012	**Master Student**. CENTRO NACIONAL DE BIOTECNOLOGIA (CNB). Madrid, Spain. Supervisor: Juan Antonio Garcia-Alvarez. Research topic: Role of microRNAs in plant defense during viral infections
Jul 2012 - March 2017	**PhD Student**. CENTRE FOR RESEARCH IN AGRICULTURAL GENOMICS (CRAG). Barcelona, Spain. Supervisor: Manuel Rodríguez-Concepcion and Briardo Llorente. Research topic: New biotechnological strategies to enhance carotenoid production in tomato fruits
Jun 2017-Dec 2020	**Postdoctoral researcher**. Max Planck Institute of Molecular Plant Physiology. (MPIMP) Potsdam, Germany. Supervisor: Ralph Bock. Research topic: 1. Development of new plant breeding techniques in different tobacco species exploiting the grafting-mediated horizontal genome transfer phenomena to study metabolic evolution. 2. Establishment of a platform using the microalgae Chlamydomonas reinhardtii to study the molecular basis of the RNA editing process in plastids.

PROJECT ACTIVITY

Year	Project
Apr 2009-Aug 2010	Estudio del rol de distintas proteínas remodeladoras de la cromatina en la regulación de la expresión génica y en la reparación del daño al ADN por UV-B en plantas. Funded by Agencia de Promoción de actividades Científicas y Tecnológicas (Argentina). PICT 2007 PICT-2007-

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	00717. (2009-2012). Principal investigator: Paula Casati.
Sept 2010 – Jun 2012	Función y potencial biotecnológico de los factores de transcripción de plantas (CSD2007-00057). Funded by Programa Consolider-Ingenio from the Spanish Ministry of Education and Science (Oct 2007-Oct 2012) Principal Investigator: Juan Antonio Garcia-Alvarez.
Sept 2010 – Jun 2012	Factores de la interacción planta-virus relevantes para el control del virus de la sharka y para su uso como herramienta biotecnológica (BIO2010-18541). Funded by the National I+D+I Program from Spanish Ministry of Science and Innovation. (Jan 2011-Jun 2014). Principal Investigator: Juan Antonio Garcia-Alvarez.
Jul 2012 – March 2017	TiMet—Linking the clock to metabolism" (Grant agreement 245143). Funded by : European Commission (Theme KBBE-2009-1-1-01, Call FP7-KBBE-2009-3) (2010-2015). Consortium Coordinator: Andrew Millar. CRAG Responsible Researcher: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	Metabolism and Metabolic Engineering" (2014SGR-1434). Funded by Generalitat de Catalunya, AGAUR (2014-2016). Principal investigator: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	BioCaroMet - Control of carotenoid biosynthesis in the context of plant cell metabolism (BIO2014-59092-P). Funded by Spanish Ministry of Economy and Competitiveness(2015-2017). Principal investigator: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	AmBioCar - Environmental modulation of carotenoid biosynthesis in plants (BIO2011-23680). Funded by Spanish Ministry of Economy and Competitiveness(2012-2014). Principal investigator: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	CaRed - Carotenoides en red: de los microorganismos y las plantas a los alimentos y la salud (BIO2015-71703-REDT). Funded by Spanish Ministry of Economy and Competitiveness (2010-2015). Principal investigator: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	IberCarot - Iberoamerican Network for the Study of New Bioactive Carotenoids (112RT0445). Funded by CYTED (Programa Iberoamericano de Ciencia y Tecnologia para el Desarrollo). (2012-2015). Project Principal Investigator: Antonio J. Meléndez Martínez. CRAG Principal investigator: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	EuroCaroten - European network to advance carotenoid research and applications in agro-food and health (CA15136). Funded by European Comission (COST Actions, Call OC-2015-1). (2016-2020). Project Principal Investigator: Antonio J. Meléndez Martínez. CRAG Principal investigator: Manuel Rodríguez-Concepción
Jul 2012 – March 2017	Centro de Excelencia Severo Ochoa 2016-2019 (SEV-2015-0533). Funded by Spanish Ministry of Economy and Competitiveness(2016-2019). Principal investigator: Manuel Rodríguez-Concepción
Jun 2017-Dec 2018	1. Development of new plant breeding techniques in different tobacco species exploiting the grafting-mediated horizontal genome transfer phenomena to study metabolic evolution. 2. Establishment of a platform using the microalgae *Chlamydomonas reinhardtii* to study the molecular basis of the RNA editing process in plastids. Projects funded by MPIMP Ralph Bock (Max Planck Institute of Molecular Plant Physiology). Principal investigator: Ralph Bock
2019-2020	Newcotiana: Developing Multipurpose Nicotiana Crops for Molecular Farming using New Plan Breeding Techniques (Grant agreement ID: 760331). Funded by European Commission Horizon 2020. BIOTEC-07-2017. H2020-EU.2.1.4 (2018-2022) Consortium Coordinator: Diego Orzaez. MPIMP Responsible Researcher: Ralph Bock

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PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place
May, 2019.	***At the Forefront of Plant Research 2019.*** Poster: Recreation of allopolyploids by horizontal genome transfer to gain insights in speciation and genome evolution. **Lucio D´Andrea**, Stephanie Ruf, Sandra Stegemann, Ralph Bock	Barcelona, Spain.
September, 2017	**XIV Solanaceae and 3rd Curcubitaceae joint Conference. Solcuc2017.** Poster: Tomato PIF1a functions beyond ripening: Evidence for a role in senescence. Miguel Simón-Moya, **Lucio D´Andrea**, Daniele Rosado, Giovanna Gramegna, Magdalena Rossi and Manuel Rodríguez-Concepción	Valencia, Spain.
Junio, 2017	**XXII Annual Meeting of the Spanish Plant Physiology Society.** Poster: A specific role of tomato PIF1a in senescence? Miguel Simón-Moya, Daniele Rosado, **Lucio D´Andrea**, Giovanna Gramegna, Magdalena Rossi and Manuel Rodríguez-Concepción.	Barcelona, Spain
October, 2015	**The 12th Solanaceae Conference SOL2015.** Oral communication: A role for the Clp protease complex in chromoplast differentiation and carotenoid biosynthesis during tomato fruit ripening. **Lucio D'Andrea**, Briardo, Llorente and Manuel Rodriguez-Concepción.	Bordeaux, France
September, 2014	**XXX Meeting of argentine Society of Plant Physiology.** Oral communication: Characterization of Programmed Cell Death 5 protein in Arabidopsis thaliana plants. Romina Casadevall, Maria Lorena Falcone Ferreyra, **Lucio D'Andrea** and Paula Casati	Mar del Plata, Argentina
September, 2014	**16th International Congress of Photobiology.**	Córdoba, Argentina

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	Oral communication: Self-shading by endogenous pigments orchaestrates carotenoid gene expression during fruit ripening. Briardo Llorente, **Lucio D'Andrea**, Águila M. Ruíz-Sola, Esther Botterweg and Manuel Rodríguez-Concepción	
July, 2014	**Annual Meeting of the Reference Network in Biotechnology.** Poster: Engineering plastidial protein quality control machineries to manipulate nutritional content in tomato fruit. **Lucio D'Andrea** and Manuel Rodriguez-Concepción	Barcelona, Spain
June, 2014	**XII Meeting of Plant Molecular Biology.** Poster: Manipulating plastidial protein quality control components to improve carotenoid contents in tomato. **Lucio D'Andrea** and Manuel Rodriguez-Concepción	Cartagena, Spain
June, 2014	**XII Meeting of Plant Molecular Biology** Oral communication: Pigment changes during fruit development contribute to the light-mediated control of ripening. Briardo Llorente, **Lucio D'Andrea**, Águila M. Ruíz-Sola, Esther Botterweg and Manuel Rodríguez-Concepción.	Cartagena, Spain
June, 2014	**I Annual Congress for Young Researchers (ACYR-CRAG).** Poster: Manipulating plastidial protein quality control components to improve carotenoid contents in tomato. **Lucio D'Andrea** and Manuel Rodriguez-Concepción. **AWARD: BEST POSTER**	Barcelona, Spain
June, 2011	**I Meeting of Argentine Molecular Photobiology.** Poster: Role of chromatin remodeling proteins in response to UV-B light in Arabidopsis thaliana plants. Mabel Campi, **Lucio D'Andrea**, Julia Emiliani and Paula Casati	La Plata, Argentina
November, 2009	**XLV Annual Meeting – Argentine Society for Research in Biochemistry and Molecular Biology**	Tucumán, Argentina

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	Poster: Role of histone acetylation in DNA repair damaged by UV-B light in plants. Mabel Campi, **Lucio D'Andrea**, Julia Emiliani and Paula Casati	

PUBLICATIONS

Books
Lucio D'Andrea, Montse Amenòs and Manuel Rodríguez-Concepción. Confocal Laser Scanning Microscopy Detection of Chlorophylls and Carotenoids in Chloroplasts and Chromoplasts of Tomato Fruit. Methods Molecular Biology (Springer). 2014; 1153:227-32.

Articles in reviews
Briardo Llorente, Salvador Torres-Montilla, Luca Morelli, Igor Florez-Sarasa, José Tomás Matus, Miguel Ezquerro, **Lucio D'Andrea**, Fakhreddine Houhou, Eszter Majer, Belén Pico, Jaime Cebolla, Adrian Troncoso, Alisdair R. Fernie, José-Antonio Daros, Manuel Rodriguez-Concepcion. Synthetic conversion of leaf chloroplasts into carotenoid-rich plastids reveals mechanistic basis of natural chromoplast development. PNAS (PNAS). 2020 117: 21796-21803.
Deserah Strand, **Lucio D'Andrea**, Ralph Bock. The plastid NAD(P)H dehydrogenase-like complex: structure, function, and evolutionary dynamics. Biochem J (Portland Press), 2019 476; 2743–2756.
Manuel Rodriguez-Concepcion, **Lucio D'Andrea**, Pablo Pulido. Control of plastidial metabolism by the Clp protease complex. Journal of Experimental Botany (Oxford University Press), 2019:70. 2049–2058.
Lucio D'Andrea, Manuel Rodriguez-Concepción. Manipulation of plastidial protein quality control components as a new strategy to improve carotenoid contents in tomato fruit. Front. Plant Sci. (Frontiers) 2019 10:1071.
Emiliani J, **D'Andrea L**, Lorena Falcone Ferreyra M, Maulión E, José Rodríguez E, Rodriguez-Concepción M, Casati P. A role for β,β-xanthophylls in Arabidopsis UV-B photoprotection. Journal of Experimental Botany. (Oxford University Press), 2018:7; 1557-1568.
D'Andrea L, Simon-Moya M, Llorente B, Llamas E, Marro M, Loza-Alvarez P, Li L, and Rodriguez-Concepcion M. Interference with Clp protease impairs carotenoid accumulation during tomato fruit ripening. Journal of Experimental Botany. (Oxford University Press), 2018:7; 1557-1568.
Briardo Llorente, **Lucio D'Andrea** and Manuel Rodriguez-Concepión. Evolutionary Recycling of Light Signaling Components in Fleshy Fruits: New Insights on the Role of Pigments to Monitor Ripening. Frontiers Plant Sci. (Frontiers) 2016:7;7-263.
Maria Lorena Falcone-Ferreyra, Romina Casadevall, **Lucio D'Andrea** and Paula Casati. AtPDCD5 plays a role in Programmed Cell Death after UV-B exposure in Arabidopsis. Plant Physiology. (The American Society of Plant Biologists ASPB). 2016:170(4):2444-60.
Briardo Llorente, **Lucio D'Andrea**, M. Águila Ruiz-Sola, Esther Botterwerg, Pablo Pulido, Jordi Andilla, Pablo Loza-Alvarez and Manuel Rodríguez-Concepción. Tomato fruit carotenoid biosynthesis is adjusted to actual ripening progression by a light-dependent mechanism. Plant Journal. (Wiley)2016 85: 107-119.
Mabel Campi, **Lucio D'Andrea**, Julia Emiliani, and Paula Casati Participation of Chromatin-Remodeling Proteins in the Repair of Ultraviolet-B Damaged DNA. Plant Physiology. (The American Society of Plant Biologists ASPB). 2012 158: 981-995.

OTHER INFORMATION

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Professional skills

Molecular biology: Plants agro-mediated and biolistic transformation. Algae nuclear and plastid transformation. PCR, qRT-PCR, cloning. Western blot.
Metabolic Analysis: UPLC and HPLC. Data analysis.
Biostatistics principles and basic R programming for molecular biology analyses. Statistical methods: PCA, Pearson, etc. R packages: ggplot, ggplot2 and ggtree.
Basic phylogenetic analysis tools: ClustalW, MUSCLE, PhyML.
Greenhouse and *in-vitro* cultivation: plants (Solanaceae family: tomato, Nicotiana species; Arabidopsis), microalgae, and bacteria. Setting up cultivation conditions (phenotying).
Project management: Proposal writing; Experimental design; Implementation; Impact and relevance analysis.

Supervision and mentorship

January 2019-August 2019. Esther Kupper. Bachelor student. Max Planck Institute for Molecular Plant Physiology (MPIMP), Golm, Postdam, Germany. Bachelor thesis degree: 9/10
January 2019-June 2019. Kelvin Adema. Bachelor student. Max Planck Institute for Molecular Plant Physiology (MPIMP), Golm, Postdam, Germany. Bachelor thesis degree: 9/10
January 2016-March 2017. Miguel Simón-Moya. PhD student. Center for Research in Agricultural genomics (CRAG), Cerdanyola del Vallés, Barcelona, Spain.
September 2013 - July 2014. Esther Botterweg. Master student. Center for Research in Agricultural genomics (CRAG), Cerdanyola del Vallés, Barcelona, Spain.
September- December 2015. Inés Ramos. Undergraduate student. Center for Research in Agricultural genomics (CRAG), Cerdanyola del Vallés, Barcelona, Spain.
Ad-Honorem Teacher. Pre-university Biology lessons. Years: 2009 and 2010. Bachelor's degree in: Biotechnology and Biochemstry. Faculty of Biochemistry and Pharmacy. National University of Rosario. Rosario, Argentina.
Ad-Honorem Teacher. Subject: Biophysics. From 1st Agost 2009 to 31st July 2010 Bachelor's degree in Biotechnology. Faculty of Biochemistry and Pharmacy. National University of Rosario. Rosario, Argentina.
Ad-Honorem Teacher. Subject: Plant Genetics. Year: 2016 Master in Plant Biotechonology and Physiology. Faculty of Biosciences. Autonomous University of Barcelona. Bellatera, Spain
Ad-Honorem Teacher. Subject: System Biology. Metabolomics. Year: 2016 Master in Plant Biotechonology and Physiology. Faculty of Biosciences. Autonomous University of Barcelona. Bellatera, Spain

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Berlin, Germany, December 15th 2020

SIGNATURE

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