European Commission
Research Directorate General
Human Resources and Mobility

MARIE CURIE

INTRA-EUROPEAN FELLOWSHIPS (EIF)

Handbook

THIS HANDBOOK APPLIES ONLY TO THE FP6-2005-MOBILITY 5 CALL MARIE CURIE INTRA-EUROPEAN FELLOWSHIPS WITH A DEADLINE OF 19TH JANUARY 2006

MARIE CURIE ACTIONS

July 2005

SEVENTH FRAMEWORK PROGRAMME

GUIDE FOR APPLICANTS

Marie Curie Actions
People

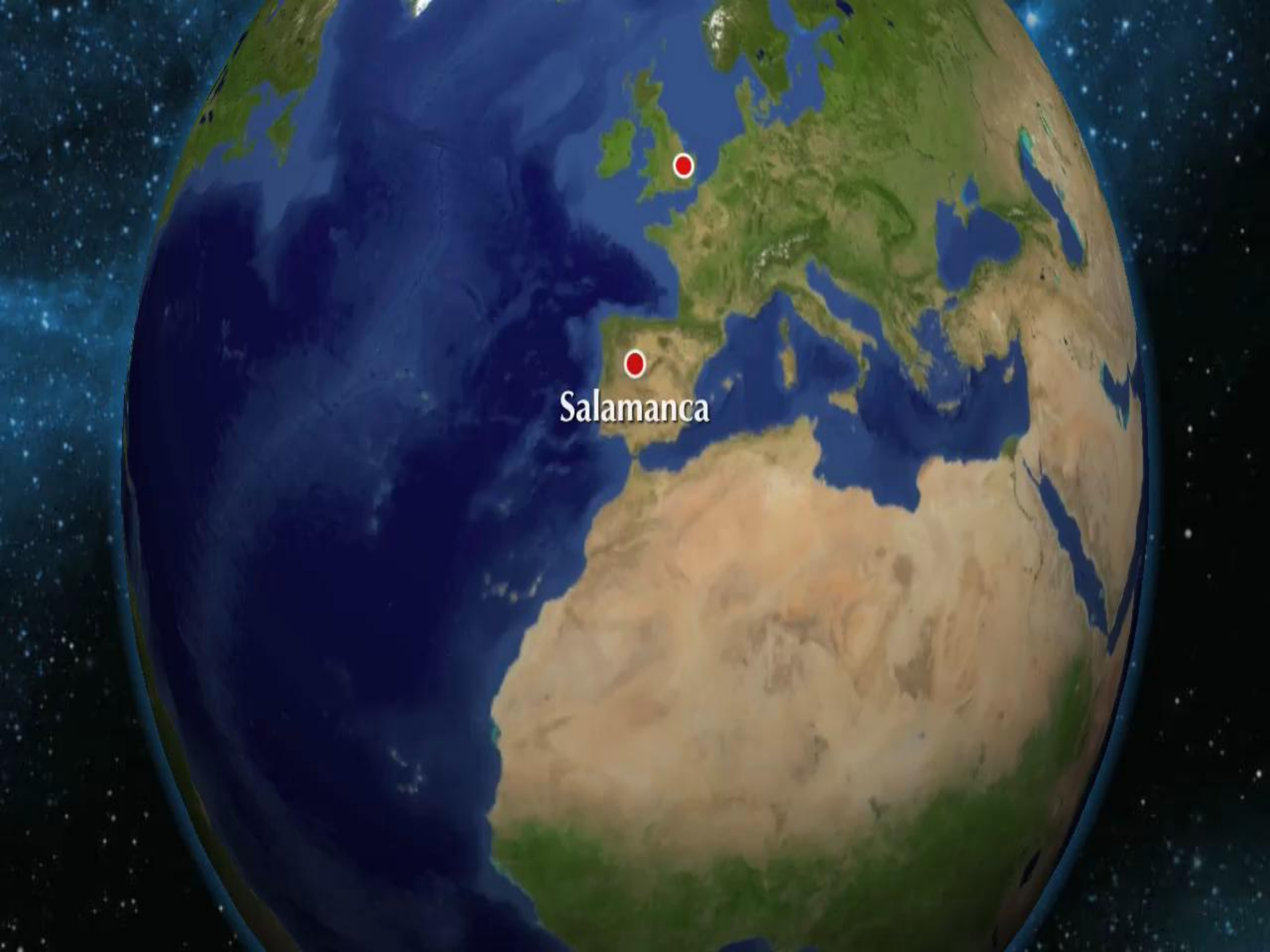
Marie Curie European Reintegration Grants

FP7-PEOPLE-ERG-2008

Closure Dates: 3 April 2008 and 8 October 2008 at 17:00:00 (Brussels local time)

Further copies of this Guide, together with all information related to this call for proposals, can be downloaded from the following web-site: http://cordis.europa.eu/

Edition 2: December 2007


Salamanca

European Commission
Research Directorate General
Human Resources and Mobility

MARIE CURIE

INTRA-EUROPEAN FELLOWSHIPS (EIF)

Handbook

THIS HANDBOOK APPLIES ONLY TO THE FP6-2005-MOBILITY 5 CALL MARIE CURIE INTRA-EUROPEAN FELLOWSHIPS WITH A DEADLINE OF 19TH JANUARY 2006

MARIE CURIE ACTIONS

July 2005

Proposal Submission Form

EUROPEAN COMMISSION
6th Framework Programme on
Research, Technological
Development and Demonstration

Marie Curie Mobility Actions
Marie Curie
Intra-European Fellowships

A1

Proposal Number: 000000 | Proposal Acronym: ROOTINIT

General Information on the Proposal

Proposal Title: STEM CELL MAINTENANCE AND REACTIVATION IN LATERAL ROOT INITIATION

Action Code: EIF | Scientific Panel: LIF

Total duration in months: 24 | Call identifier: FP6-2005-Mobility-5

Keyword 1: Plant development

Keyword 2: Plant growth

Keyword 3: Molecular biology

Free Keywords: stem cells, plant development, lateral roots, pericycle, cell cycle, D-type cyclins, inhibitor proteins, auxin

Abstract (up to 2000 characters)

Lateral roots are essential to form a dense root network allowing plants to take up water and minerals effectively from the soil. Laterals are initiated from a specific organogenic cell layer within the differentiated root known as the pericycle. The establishment and maintenance of the pericycle and the subsequent process of lateral root formation is an interesting model to study how stem-cells can be maintained within an otherwise differentiated and endoreduplicated tissue, and how these cells are re-activated into division in response to mitogenic signals.
Recently the host laboratory has investigated in detail the expression patterns of D-type cyclin (CYCD) genes in roots. Whilst several CYCD genes are expressed during the establishment and proliferation of the new pericycle cells within the primary root meristem, only two are expressed in association with the mature pericycle or during early lateral root initiation. In particular, CYCD2;1 persists in the mature pericycle, but disappears on lateral root initiation, whereas CYCD1;1 is associated with proliferating primordial cells of lateral roots.
In this project, I will investigate the hypothesis that the D-type cyclins CYCD2;1 and CYCD1;1 and their interactions with inhibitor proteins KRPs are important for maintaining the organogenic capacity of the pericycle and in the subsequent induction of lateral root induction. The proposed model is that CYCD2;1 maintains pericycle cells in a "ready-to-go" state until lateral root induction is triggered by auxin. Understanding the activity and control of these proteins is therefore of central importance to integrating an understanding of cell-cycle control with plant development.
The host lab has the materials and the expertise in cell and developmental biology to carry out the proposal work and will provide both an excellent complement to the existing skills of the applicant in biochemical techniques and an international training environment.

Proposal Submission Form

EUROPEAN COMMISSION
6th Framework Programme on
Research, Technological
Development and Demonstration

Marie Curie Mobility Actions
Marie Curie
Intra-European Fellowships

A2

Proposal Nr: 000000 | Proposal Acronym: ROOTINIT | Participant Nr: 1

Information on the Host Organisation

Participant organisation org. legal name: THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE

org. short name: UCAM-BIOTECH

Legal addr. Po Box: | Postal Code: CB2 1TS | Cedex:

Street Name and Nr: THE OLD SCHOOLS, TRINITY LANE

Town: CAMBRIDGE | Country*: United Kingdom

Internet home page: http://www.cam.ac.uk

Activity Type: Higher Education | Legal Status: PNP | If "PRC",specify:

Are you an SME according to the new definition as described in the Recommend. 2003/361/EC: No

Name of Less-Favoured Region if applicable: not applicable

Scientist in charge — Title: PROF | Sex: Male

Name: MURRAY

First name(s): JAMES A.H.

Department/Faculty/Institute/Laboratory name: INSTITUTE OF BIOTECHNOLOGY. LAB 405

Address (if different) Po Box: | Postal Code: CB2 1QT | Cedex:

Street Name and Nr: TENNIS COURT ROAD

Town: CAMBRIDGE | Country: United Kingdom

Phone1: + 44 1223 334166 | Phone2: | Fax: + 44 1223 334167

e-mail: j.murray@biotech.cam.ac.uk

Internet home page: http://www.biot.cam.ac.uk

Previously submitted similar proposals or signed contracts? No

If yes,prg and year:

If yes, proposal or contract number(s):

* The host organisation should be located in a EU Member or Associated state.

Proposal Submission Form

EUROPEAN COMMISSION
6th Framework Programme on
Research, Technological
Development and Demonstration

Marie Curie Mobility Actions
Marie Curie
Intra-European Fellowships

A3

Proposal Number	000000	Proposal Acronym	ROOTINIT

Information on the Fellow

Family Name	SANZ				
Birth Family Name					
First Name(s)	LUIS				
Title	DR	Sex	Male		
1st nationality	Spain	2nd nationality			
Country of residence	United Kingdom	Date of birth	14/10/1975		
Country of birth	Spain				
Legal address	PO Box		Postal Code	CB1 9TN	Cedex
Street Name and Nr	29 MANDRILL CLOSE				
Town	CAMBRIDGE	Country	United Kingdom		
Phone 1	+44 (0)1223710163	Phone 2	+44 (0)7765795416	Fax	+44 (0)1223 33 41 67
e-mail	ls400@cam.ac.uk				

Have you previously submitted a proposal for any of the actions EIF, OIF, IIF, EXT, EXC? Yes

Name of Less-Favoured Region if applicable: not applicable

Qualifications

University Degree	Date of award (DD/MM/YYYY)	30/06/1998
Doctorate (in progress)	Expected date of award (DD/MM/YYYY)	
Doctorate	Date of award (DD/MM/YYYY)	25/02/2004
Full time postgraduate research experience	Number of months	22
Other Academic qualifications	Date of award (DD/MM/YYYY)	

Place of activity/place of residence (previous 6 years)

Period : From (DD/MM/YYYY)	Period : To (DD/MM/YYYY)	Country
01/01/2000	31/05/2005	Spain
01/06/2005	15/01/2006	United Kingdom

STARTPAGE

HUMAN RESOURCES AND MOBILITY (HRM)
ACTIVITY

MARIE CURIE ACTIONS
Marie Curie Intra-European Fellowships (EIF)

PART B Section 1

"ROOTINIT"

List of proposals submitted for the call Mobility-5 (Deadline of 19/01/2006)

This list does not prejudge your eligibility status, which will formally be transmitted to you in due course.

PROPOSAL NUMBER	ACRONYM
040618	`stand-by mode´
038958	1066 II
039119	3CoDaQPA
041489	3D EM using wavelets
041854	3DMOCASSIN
041413	3dSpace
041673	3ETB
042216	4Pi-SL_Microscopy
039222	5HT2B_STEM
041998	A life without HCF
040080	AACBPG
041932	ABC
041547	ABC Transporters
039513	ABIOTICHS
039602	ABM-UCAM-2006
041913	ABYSS
041239	ACBP-folding-motifs
040136	ACCESS CONTROL
041375	ACDAZ
040210	ACDIQdots
041685	ACspin
039055	Actin-based motility
041516	AD Transgenic MRI
041034	AD_CompoChip
039558	ADAPTIVE SPECIATION
041122	adelysys
041484	ADiNNAM
040953	Adipofat
041938	ADMTECH
042207	ADOT
041098	ADRES
039054	Adult Neurogenesis
041191	ADV
040553	AEROARC
041326	AESTH-PRO
041238	AGGTOX
039564	AGNPLUSO2
041744	AGN-Starburst
041517	Agregpeptide
039957	AGRMUSK
040260	AGROSUST
041577	AHIRESI
039242	Aid, War and Growth
039461	AINFINITY
041551	ALDH-NRs
041105	Algebraic loops
041600	Alignment-project
040779	ALKALINE LAMPROPHYRE
040609	ALKASYNTIC
039799	ALKENPHOS
042198	ALL Stem Cells
040780	allergy diagnosis
042220	ALLOSPHOS
039673	RevEncap
041825	Rex4Hex
040497	RGCPP
039141	RhinRestor
040268	RHOCONDUIT
041208	RHODOC
041422	RHOLICUK
041928	RIBERS
040344	RIBIM
041444	ribosome-SecYEG
041155	Riboswitch
041882	rice guinea
039190	RIFMA
041277	RIGINA
039977	RIP-140 in muscle
040426	Riproximin-Pathways
042162	Risk Management_DPro
040731	RJ-STONES
042052	rlfarslt
041726	RNA Decay Regulation
040653	RNA polymerase III
041533	RNA: Haifa-Freiburg
041419	RNAi movement
039288	RNAi screen in NC
041813	RNAREG
039682	RNCC
039723	Role of SMC5/6 in DS
041357	Role of Urmylation
039986	RomaEurope
039988	RomaMigrations
039663	RoOMI
041586	ROOTINIT
040256	Rosa Toba
040075	ROTCATLUM
039572	RotPop
041144	RP-66453
040181	rRNA surveillance
041042	RROHL
041635	RSMC
039584	RSRPL30
040464	RSSGWA
040679	RSSPRXRS
039576	RTBP
039817	RTD
042182	RTS-HP
040094	Ru-Crosslinking
041075	RURALPART
039665	Russian doll RG
041955	RWRSTG
041298	RYE-MAP
041196	S.A.B.T.I.
041486	S.A.M.
040184	SACAT
039120	sacchetti-kovarik
041453	SAGDODIA
042084	SALCOLSYSTEM
040307	SALFAT
041763	SALINBAS

Preliminary Results of Step 2 Evaluation for the call Mobility-5 Deadline (19/01/2006)

* The eligibility status of your proposal is still pending its final review and this preliminary notification does not prejudge your final eligibility status, which will formally be transmitted to you in due course.

Proposal Number	Proposal Acronym	Step 2 Evaluation Result
39119	3CoDaQPA	B
41489	3D EM using wavelets	B
41854	3DMOCASSIN	B
41413	3dSpace	C
41673	3ETB	C
42216	4Pi-SL_Microscopy	C
39222	5HT2B_STEM	B
40080	AACBPG	C
41547	ABC Transporters	A
41913	ABYSS	A
41375	ACDAZ	B
40210	ACDIQdots	B
41685	ACspin	C
41516	AD Transgenic MRI	A
41034	AD_CompoChip	B
40953	Adipofat	C
39054	Adult Neurogenesis	C
41191	ADV	B
40553	AEROARC	C
41326	AESTH-PRO	A
41744	AGN-Starburst	C
39461	AINFINITY	A
41105	Algebraic loops	A
41600	Alignment-project	A
40609	ALKASYNTIC	A
39799	ALKENPHOS	A
42198	ALL Stem Cells	C
42220	ALLOSPHOS	C
41101	ALPHA	C
41145	AM	B
40394	REQCD	B
39766	Resistance evolution	B
39890	RESISTANTPEA	C
39132	Resorcin-zyme	C
39370	RESTRICTHIV	A
39673	RevEncap	B
40268	RHOCONDUIT	B
40344	RIBIM	C
41444	ribosome-SecYEG	A
41155	Riboswitch	C
39977	RIP-140 in muscle	A
40426	Riproximin-Pathways	C
40731	RJ-STONES	C
41726	RNA Decay Regulation	C
40653	RNA polymerase III	A
41533	RNA: Haifa-Freiburg	C
41419	RNAi movement	A
41813	RNAREG	A
39723	Role of SMC5/6 in DS	B
41357	Role of Urmylation	A
39986	RomaEurope	C
41586	ROOTINIT	A
40256	Rosa Toba	C
40075	ROTCATLUM	C
39572	RotPop	B
40181	rRNA surveillance	A
41042	RROHL	B
41635	RSMC	A
39584	RSRPL30	C
40464	RSSGWA	A
39576	RTBP	A
39817	RTD	C
41486	S.A.M.	C
39120	sacchetti-kovarik	C
40307	SALFAT	C

EUROPEAN COMMISSION
RESEARCH DIRECTORATE-GENERAL

Directorate D - The human factor, mobility and Marie Curie activities
Individual fellowships

Brussels, June 2006
RTD-D5/AH D(2006) /524859

PROF JAMES A.H. MURRAY
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE
INSTITUTE OF BIOTECHNOLOGY.
LAB 405
THE OLD SCHOOLS, TRINITY LANE
CB2 1TS CAMBRIDGE GB -

Dear PROF MURRAY,

Programme: **"Structuring the European Research Area"**
- Call identifier: FP6-2005-Mobility-5

Proposal N° 041586- ROOTINIT

I am pleased to inform you that the proposal entitled: *"STEM CELL MAINTENANCE AND REACTIVATION IN LATERAL ROOT INITIATION"* has been favourably evaluated by the Commission services with the help of independent experts and a copy of the Evaluation Summary Report is enclosed.

EVALUATION SUMMARY REPORT

Proposal Nr :	041586	***Acronym :***	ROOTINIT	
Scientist in Charge Name :	MURRAY JAMES A.H.	***Applicant Name :***	SANZ LUIS	
Instrument :	FP6-2005-Mobility-5 (EIF)	***Scientific Panel:***	LIF	
Title :	STEM CELL MAINTENANCE AND REACTIVATION IN LATERAL ROOT INITIATION			
Duration :	24			

Overall score (Threshold : 70)	90,7
Has the proposal passed all numerical thresholds?	Y

1. Scientific quality of the project (Weight 15/ No Threshold) — ***Mark (out of 5)***

The overall objective of the proposal is to uncover the role of cell cycle regulators in root pericycle maintenance and lateral root initiation. A clear and relevant scientific hypothesis is presented. The project has a high originality: Integration of processes controlling cell cycle progression with development of plant root systems in interaction with environmental factors is at the fore-front of the research area. The techniques being used appear appropriate and to involve state-of-the-art tools and a novel collection of mutants in cell cycle genes. The project combines genetic, biochemical and physiological tools in a strong inter-disciplinary approach.	4,5

2. Quality of the researcher (Weight 15 / Threshold 4) — ***Mark (out of 5)***

The candidate has a good publication record in well-reputed peer-reviewed biochemical and microbiological journals (Ph.D. degree obtained in 2004; one year experience as post doc). A national award was obtained. The candidate has very good research accomplishments (new cell wall degrading enzymes) which have led to patents. The candidate's skills are complementary to those needed for the project, yet the candidate will be exposed to new plant genomics based techniques. Experiences in teaching and tutoring are described. Solid experience in research leadership and teaching are also described. The candidate has contributed with oral presentations at international meetings. In conclusion, the candidate appears to be of a very good quality with a proven capacity to acquire new knowledge. Given the research experience, the candidate is well suited for the proposed project.	4,4

3. Training activities (Weight 15 / Threshold 3) — ***Mark (out of 5)***

The candidate will receive training in cutting-edge techniques in cell biology and plant genetics. The methodological competences to be achieved in these areas are highly complementary to the expertise already possessed by the candidate (biochemistry, molecular biology). Possibilities for obtaining complementary skills via, e.g., participation in short advanced courses in new emerging fields in biological sciences, or activities focusing on development and organization of future research projects are described. Candidate is encouraged to take advantage of host's international contacts. These aspects are important in relation to career development. Assistance from the host institution with preparing a postdoctoral career development plan is offered.	4,5

4. Quality of the Hosts (Weight 15 / No Threshold) — ***Mark (out of 5)***

The host institution has an excellent track record with an impressive number of scientific papers in top-ranking journals. The host also has an excellent track record in training of postgraduate students and post docs. The host clearly possesses the experience and capacity to train experienced researchers. Excellent infrastructure/facilities are available. There are strong indications of a highly stimulating research environment, including numerous ongoing international collaborations.	4,6

5. Management and Feasibility (Weight 5 / No Threshold) — ***Mark (out of 5)***

The fellow will be mentored by outstanding expert-professor. The strength of this project lies on the existing availability of most of the required materials and expertise in all necessary techniques. Objectives and milestones for the project have been agreed. A comprehensive hypothesis-driven and credible work plan is presented with a realistic time schedule. Specific practical and administrative arrangements for implementation and management of the fellowship applied for are described. The group and campus is used to host foreign scientists, and practical and administrative arrangements to help in daily life are stated to be present.	4,5

6. Added Value and Relevance to the objectives (Weight 35 / No Threshold) — ***Mark (out of 5)***

The project represents an excellent synergy between the background of the fellow and the expertise of the host lab. The project has significant areas of benefit to the European Research Area,the host and the applicant.	4,6

MARIE CURIE INTRA-EUROPEAN FELLOWSHIPS

Annex I
"Description of Work"

PART A: CONTRACT DETAILS AND OBJECTIVES

1. **Full Title:** STEM CELL MAINTENANCE AND REACTIVATION IN LATERAL ROOT INITIATION

   Acronym: ROOTINIT

2. **Proposal Number:** 041586
3. **Contract Number:** 041586
4. **Duration of the project:** 24 months
5. **Contractors, Places of Project Implementation and researcher's details:**

5.1 Contractor: THE CHANCELLOR,MASTERS&SCHOLARS OF THE UNIV.OF CAMBR
THE OLD SCHOOLS. TRINITY LANE
UK - CB2 1TS CAMBRIDGE

Contractor's place of research training activities:
INSTITUTE OF BIOTECHNOLOGY, LAB 405
TENNIS COURT ROAD
UK - CB2 1QT CAMBRIDGE

ORIGINAL

Scientist in Charge: 'ROF JAMES A.H. MURRAY

5.2 Name of the Researcher: DR LUIS SANZ

Nationality: ES

Date of Phd award: 25/02/2004

PART C: CONTRACT DELIVERABLES

Proposal Number	041586	Acronym	ROOTINIT

OVERALL INDICATIVE PROJECT DELIVERABLES BY PARTICIPANT

Year	Researchers
	Full-Time Person Months
1	12
2	12
Total	24

Laboratory Based: Y
10 Years Experience: NO
Stipend: NO
Travel Allowance: 750.00

PART D: COMMUNITY CONTRIBUTION

Proposal Number	041586	Acronym	ROOTINIT

OVERALL MAXIMUM COMMUNITY CONTRIBUTION

Year	Eligible expenses for the activities carried out by the researcher					Eligible expenses related to the activities of the host organisations				Maximum EC Contribution
	- A - Monthly Living Allowance	Transnational Mobility - B - Travel Allowance	- C - Mobility Allowance	- D - Career Exploratory Allowance	- E - Participation Expenses of the Eligible Researcher	- F - Research/ Training	- G - Managment and Audit Certification	- H - Overheads	- I - Other types of eligible expenses	
	Costs (in euros)	Costs (in euros)	Costs (in euros)	Costs (in euros)	Costs (in euros)	Costs (in euros)	Costs (in euros)	Costs (in euros)	Costs (in euros)	(in euros)
1	52875	750	10800	2000	9000	0	2566	7542	0	85533
2	52875	750	10800	0	9000	0	2498	7342	0	83265
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
Total	105750	1500	21600	2000	18000	0	5064	14884	0	168798

ORIGINAL

Pre-financing (start of the project): 101732
Intermediate pre-financing (if duration > 18 months): 33306
Final Payment: 33760

	EUROPEAN COMMISSION RESEARCH DG HUMAN RESOURCES AND MOBILITY	EIF-OIF-IIF-IRG-ERG Final Activity and Management Report

Project No: 41586

Project Acronym: ROOTINIT

Project Full Name: STEM CELL MAINTENANCE AND REACTIVATION IN LATERAL ROOT INITIATION

Marie Curie Actions

EIF-OIF-IIF-IRG-ERG Final Activity and Management Report

Period covered: from 01/02/2007 **to** 31/01/2009

Date of preparation: 19/03/2009

Start date of project: 01/02/2007

Date of submission (SESAM): 19/03/2009 16:54:10 CET

Project coordinator name:

Duration: 24

Project coordinator organisation name: THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE

Version: 1

The Plant Cell, Vol. 23: 1–20, February 2011, www.plantcell.org © 2011 American Society of Plant Biologists

The *Arabidopsis* D-Type Cyclin CYCD2;1 and the Inhibitor ICK2/KRP2 Modulate Auxin-Induced Lateral Root Formation

Luis Sanz,[a,b,1] Walter Dewitte,[a,1] Celine Forzani,[a] Farah Patell,[a] Jeroen Nieuwland,[a] Bo Wen,[a] Pedro Quelhas,[c] Sarah De Jager,[d] Craig Titmus,[a] Aurélio Campilho,[c,e] Hong Ren,[f] Mark Estelle,[f] Hong Wang,[g] and James A.H. Murray[a,2]

[a] Cardiff School of Biosciences, Cardiff University, CF10 3AX Cardiff, United Kingdom
[b] Centro Hispano Luso de Investigaciones Agrarias, Universidad de Salamanca, 37185 Salamanca, Spain
[c] Instituto de Engenharia Biomédica, Divisão de Sinal e Imagem, 4200-465 Porto, Portugal
[d] Department of Physiology, Development, and Neuroscience, University of Cambridge, CB2 3DY Cambridge, United Kingdom
[e] Universidade do Porto, Faculdade de Engenharia, 4200-465 Porto, Portugal
[f] Division of Biological Sciences, University of California–San Diego, La Jolla, California 92093-0116
[g] Department of Biochemistry, University of Saskatchewan, Saskatoon, Saskatchewan S7N 5E5, Canada

PNAS

The D-type cyclin CYCD4;1 modulates lateral root density in *Arabidopsis* by affecting the basal meristem region

Jeroen Nieuwland[a,b,1], Spencer Maughan[b,1,2], Walter Dewitte[a,b], Simon Scofield[a,b], Luis Sanz[b,3], and James A. H. Murray[a,b,4]

[a]Cardiff School of Biosciences, Cardiff University, Museum Avenue, Cardiff CF10 3AX, United Kingdom; and [b]Institute of Biotechnology, University of Cambridge, Tennis Court Road, Cambridge CB2 1QT, United Kingdom

Edited by Brian A. Larkins, University of Arizona, Tucson, AZ, and approved November 3, 2009 (received for review June 9, 2009)

To Divide and to Rule; Regulating Cell Division in Roots During Post-embryonic Growth

Luis Sanz, James A.H. Murray, and Walter Dewitte

Contents

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3 Size Control of the Proximal Root Apical Meristem and the Mitotic Cell Cycle 63
4 Maintaining the Stem Cell Population in the Distal Meristem and the Procambium; CLE Loops 65
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4.2 Environmental Signaling in the Root Apex via Redox Homeostasis 68
5 Cell Proliferation Outside the Root Apex: Reactivation of the Pericycle 71
6 Conclusion and Perspective 72
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Cambridge

GUIDE FOR APPLICANTS

Marie Curie Actions
People

Marie Curie European Reintegration Grants

FP7-PEOPLE-ERG-2008

Closure Dates: 3 April 2008 and 8 October 2008 at 17:00:00 (Brussels local time)

Further copies of this Guide, together with all information related to this call for proposals, can be downloaded from the following web-site: http://cordis.europa.eu/

Edition 2: December 2007

Proposal Submission Form

EUROPEAN COMMISSION
7th Framework Programme on Research, Technological Development and Demonstration

Marie Curie Actions
European Re-integration Grants (ERG)

A1: Summary

Proposal Number	000000	Proposal Acronym	SIGNO

General Information on the Proposal

Proposal Title	Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis
Marie Curie action-code	European Re-integration Grants (ERG)
Scientific Panel	Life sciences
Duration in months	36
Call identifier	FP7-PEOPLE-ERG-2008
Keywords (up to 200 characters)	Plant development,Plant growth,Secondary metabolites (Plant physiology),In vitro culture of plant material

Abstract (up to 2000 characters)

Root system development is an important agronomic trait. The right architecture in a given environment allows plants to survive periods of water of nutrient deficit, and compete effectively for resources. The identification of new components involved in the regulation of this process will allow, in the near future, to understand and manipulate plant development. Extensive research has shown that nitric oxide (NO) is a signalling molecule involved in several physiological processes during plant growth and development and also an important modulator of disease resistance. The present proposal is based on the following reasons:
1. The use of genomic and proteomic tools has been a powerful approach to understand fundamental processes in plant development. We will apply the "-omics" technologies to the identification of new elements involved in the NO signalling network.
2. One of the biggest challenges about the role of NO in plant signal transduction networks is the finding of real targets of NO. The nature of NO targets in plant growth and developmental processes still remains unclear. The identification of the elements that participate in these responses is, thus, essential to understand the NO perception and signalling within the seed and the seedling, which is a prerequisite for its genetic improvement.
The hypothesis in this proposal is that nitric oxide (NO) acts in plant developmental processes through the interaction with other plant growth regulators, such as the phytohormone auxin, using similar molecular components.
The main objective of this proposal is to get insight into the nitric oxide (NO) signalling network during root growth through genetic, proteomic and genomic approaches that may let to the identification of new components involved in the NO signal transduction pathway.

Has a similar proposal been submitted to a Marie Curie Action under this or previous RTD Framework Programmes? **no**

IF YES

Programme name(s) and year	Proposal number(s)
-	-
-	-
-	-

Does this proposal include any of the sensitive ethical issues detailed in the Research Ethical Issues table of Part B? **no**

Proposal Submission Form

EUROPEAN COMMISSION
7th Framework Programme on Research, Technological Development and Demonstration

Marie Curie Actions
European Re-integration Grants (ERG)

A2: Participants

Proposal Number	000000	Proposal Acronym	SIGNO	Participant Number	1

INFORMATION ON ORGANISATIONS

If your organisation has already registered for FP7, enter your Participant Identification Code: **999846610**

Legal name	UNIVERSIDAD DE SALAMANCA
Organisation short name	USAL

Administrative Data

Legal address

Street name	Patio de Escuelas	Number	1
Town	SALAMANCA	Postal Code/Cedex	37008
Country	Spain		
Internet homepage	www.usal.es		

Status of your Organisation

Certain types of organisations benefit from special conditions under the FP7 participation rules.
The Commission also collects data for statistical purposes.

The guidance notes will help you complete this section.

Please 'tick' the relevant box(es) if your organisation falls into one or more of the following categories

Non-profit organisation	yes
Public body	yes
Research organisation	no
Higher or secondary education establishment	yes
International organisation	no
International organisation of European Interest	no
Joint Research Center of the European Commission	no
Entities composed of one or more legal entities [European Economic Interest Group (Unité mixte de recherche) / Enterprise groupings]	no
Commercial Enterprise	no

Main area of activity (NACE code)

not applicable

Proposal Submission Form

EUROPEAN COMMISSION
7th Framework Programme on Research, Technological Development and Demonstration

Marie Curie Actions
European Re-integration Grants (ERG)

A3: Participants

Proposal Number	000000	Proposal Acronym	SIGNO

INFORMATION ON THE RESEARCHER

Family Name	SANZ		
Birth Family Name	ANDREU		
First Name(s)	LUIS		
Title	Dr.	Sex	Male
1st nationality	Spain	2nd nationality	-
Location of origin (country)	Spain	Date of birth (DD/MM/YYYY)	14/10/1975
Location of origin (town)	ZARAGOZA		

Contact address

Street Name	AVENIDA PEÑA DE FRANCIA	Number	3
Town	ALDEATEJADA (SALAMANCA)	Postal Code/Cedex	37187
Country	Spain	Phone 1	34 923341032
Phone 2	-34 696765416	Fax	-
e-mail	ls400@cam.ac.uk		

Qualifications

University Degree	Date of award (DD/MM/YYYY)	22/07/1998
Doctorate (in progress)	Expected date of award (DD/MM/YYYY)	-
Doctorate	Date of award (DD/MM/YYYY)	25/02/2004
Full time postgraduate research experience	Number of months	56
Other Academic qualifications	Date of award (DD/MM/YYYY)	-

Place of activity/place of residence (previous 5 years)

Period: From (DD/MM/YYYY)	Period : To (DD/MM/YYYY)	Country
01/06/2005	08/10/2008	United Kingdom
01/10/2003	01/06/2005	Spain
-	-	-
-	-	-
-	-	-
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"SIGNO"

STARTPAGE

PEOPLE
MARIE CURIE ACTIONS

Marie Curie European Reintegration Grants (ERG)
Call: FP7-PEOPLE-ERG-2008

PART B

"SIGNO"

EUROPEAN COMMISSION
RESEARCH DIRECTORATE-GENERAL

Directorate T - Implementation of activities to outsource
The Director

Brussels, 17 December 2008
D(2008) D/176555

Prof. OSCAR LORENZO
CENTRO HISPANO LUSO DE INVESTIGACIONES AGRARIAS (CIALE)
-RIO DUERO. CAMPUS DE VILLAMAYOR. PARQUE CIENTIFICO. UNIVERSIDAD DE SALAMANCA -12
-37185 -VILLAMAYOR
ES

Sent via email only

Dear Prof. OSCAR LORENZO,

Subject: Initial information on the outcome of the evaluation of proposals
Ref.: Programme "PEOPLE" – Call ID "FP7-PEOPLE-ERG-2008" cut-off date 8 October 2008 – Proposal N° 239432 -- **acronym** ***SIGNO***

The Commission services with the help of independent experts have recently evaluated the proposals submitted in the context of the above-mentioned call. This includes the proposal entitled: "*Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis*" for which you acted as coordinator.

Your proposal was evaluated against the criteria published for the call. The attached evaluation summary report (ESR) records the views of the expert evaluators and the scores that your proposal achieved.

Based on this evaluation by independent experts, the Commission services will rank in priority order those proposals that passed all the evaluation thresholds, and will then take a decision on the list of proposals for which negotiations of the grant agreement can proceed. This letter does not prejudge the outcome of this process.

This letter does not constitute an offer of funding for your proposal. You will be informed in due course of the outcome of the Commission's decision on your project. The status of your proposal will also be published on
http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.PeopleDetailsCallPage&call_id=95
on 22 December at the latest.

Marie Curie European Reintegration Grants (ERG)

Call: FP7-PEOPLE-ERG-2008 – Cut-off date 8 October 2008

Evaluation preliminary results

IMPORTANT: Note that results published on the web should be taken as purely informative.

Key to Provisional status of proposals:

A: Proposal recommended for funding. It is positioned within the available budget. Proposals in this category are likely to be offered to enter into contract negotiation. Negotiation takes place between the Commission and the host institution.

B: Proposal on the reserve list. Funding available only after proposals from category A have been withdrawn or failed negotiation. Applicants will be contacted in due time. Proposers will be informed when the reserve list is closed.

C: Proposal of good quality. Having passed all thresholds but for which funding is not available due to budgetary constraints. These proposals will be rejected.

D: Proposal of insufficient quality. It is judged to be of overall insufficient quality or has failed the threshold in one or more criteria. These proposals will be rejected.

E: Proposal not evaluated. Proposals under this category have not been taken into account during evaluation for one of the following reasons:

- The proposal failed one or more administrative eligibility criteria.
- The proposal was a duplicate of another that was evaluated.
- The proposal was withdrawn by the applicant before the evaluation.

Additional Information:

- Publication date: 30 November 2007
- Cut-off date: 8 October 2008
- Total indicative budget: 7 million € (approximately ½ for each of the 2 cut-off dates of 3/04/2008 and 8/10/2008)
- Total number of proposals submitted: 97
- Success rate: It is estimated that 89 % of the evaluated proposals can be funded.

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Evaluation Summary Report

Call : FP7-PEOPLE-ERG-2008 (08/10/2008)

Funding scheme :

Proposal number : 239432

Proposal acronym : SIGNO

Proposal title : Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis

Duration (month) : 36

N.	Proposer name	Country	Type	Total cost (€)	%	Grant requested (€)	%
1	UNIVERSIDAD DE SALAMANCA	ES					
			Total :				

Abstract :

Root system development is an important agronomic trait. The right architecture in a given environment allows plants to survive periods of water of nutrient deficit, and compete effectively for resources. The identification of new components involved in the regulation of this process will allow, in the near future, to understand and manipulate plant development. Extensive research has shown that nitric oxide (NO) is a signalling molecule involved in several physiological processes during plant growth and development and also an important modulator of disease resistance. The present proposal is based on the following reasons:
1. The use of genomic and proteomic tools has been a powerful approach to understand fundamental processes in plant development. We will apply the "-omics" technologies to the identification of new elements involved in the NO signaling network.
2. One of the biggest challenges about the role of NO in plant signal transduction networks is the finding of real targets of NO. The nature of NO targets in plant growth and developmental processes still remains unclear. The identification of the elements that participate in these responses is, thus, essential to understand the NO perception and signalling within the seed and the seedling, which is a prerequisite for its genetic improvement.
The hypothesis in this proposal is that nitric oxide (NO) acts in plant developmental processes through the interaction with other plant growth regulators, such as the phytohormone auxin, using similar molecular components.
The main objective of this proposal is to get insight into the nitric oxide (NO) signalling network during root growth through genetic, proteomic and genomic approaches that may let to the identification of new components involved in the NO signal transduction pathway.

ESR - Evaluation Summary report
Marie Curie European Reintegration Grants (ERG)

0=Fails or missing/incomplete information; 1=Very Poor; 2=Poor; 3=Fair; 4= Good; 5=Excellent.
Marks for each criterion are given to one decimal point. Note that the maximum is 5.

Criterion 1. S&T QUALITY (Threshold 3.00/5.00)

Mark: 4.20

Weight: 0.30

Strengths of the proposal:
- Good scientific project that provides a description of the state-of-the-art in the research field
- The proposal is timely and relevant, and the specific research objectives are clearly indicated
- The methodology is well presented and appropriate, and is based essentially on genetic, genomic and proteomic approaches in a well defined model system

Weaknesses of the proposal:
- Only limited multidisciplinary approach
- Moderately innovative research
- The lack of full bibliographical references makes the originality of the project difficult to judge

Issues to be addressed when assigning an overall mark for this criterion:
- Scientific/technological quality, including any interdisciplinary and multidisciplinary aspects of the proposal
- Research methodology
- Originality and innovative nature of the project, and relationship to the 'state of the art' of research in the field
- Timeliness and relevance of the project

Criterion 2. RESEARCHER (Threshold 0.00/5.00)

Mark: 4.20

Evaluation Summary Report

Call : FP7-PEOPLE-ERG-2008 (08/10/2008)

Funding scheme :

Proposal number : 239432

Proposal acronym : SIGNO

Proposal title : Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis

Duration (month) : 36

Weight: 0.30

Strengths of the proposal:
- The candidate has demonstrated research experience in the field and in the methodologies proposed
- Good publication output
- The fellow has good interdisciplinary experience in biochemistry and plant molecular biology
- There is a good match between the candidate's profile and the proposed project
- The applicant has a demonstrated capacity for independent thinking

Weaknesses of the proposal:
- Limited leadership qualities evidenced
- Scientific and technological quality of the fellow's previous research during the Marie Curie Fellowship is difficult to evaluate, as this post-doctoral stay (in Cambridge, from 2005 to date) has not yet resulted in publications (2 submitted)

Issues to be addressed when assigning an overall mark for this criterion:
- Research experience
- Scientific and technological quality of previous research during the Marie Curie Fellowship
- Independent thinking and leadership qualities
- Match between the fellow's profile and project

Criterion 3. IMPLEMENTATION (Threshold 0.00/5.00)

Mark: 4.00

Weight: 0.20

Strengths of the proposal:
- Good quality of the host research group
- Adequate facilities and infrastructure to support the implementation of this project
- Good project management by experienced office can be expected
- The project is credible and a very general work plan is presented

Weaknesses of the proposal:
- It is not clear, who is going to supervise the progress of the applicant
- The proposal lacks a clear structure as well as a detailed timeline and milestones, making its feasibility difficult to judge
- Implementation of project in the host lab is not addressed in detail
- It is not documented by bibliographic references, if the host institution has preliminary experience in NO signalling

Issues to be addressed when assigning an overall mark for this criterion:
- Quality of host organisation, including adequacy of infrastructures/facilities
- Feasibility and credibility of the project, including work plan
- Practical arrangements for the implementation and management of the scientific project

Criterion 4. IMPACT (Threshold 0.00/5.00)

Mark: 4.10

Weight: 0.20

Strengths of the proposal:
- The applicant will have the possibility of an enhanced career development, as this fellowship could improve the chance to get a 3-year postdoctoral position in the host country
- Good potential of transferring knowledge to the host laboratory
- The researcher is likely to benefit from the reintegration period, as the fellow can use the acquired expertise in a good scientific environment and focus on new aspects of the research field

Weaknesses of the proposal:
- The capacity to develop a lasting cooperation with the previous country of the Marie Curie Fellowship is only superficially described
- Lasting professional integration and expected career development have not been specifically addressed

Evaluation Summary Report

Call :	FP7-PEOPLE-ERG-2008 (08/10/2008)
Funding scheme :	
Proposal number :	239432
Proposal acronym :	SIGNO
Proposal title :	Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis
Duration (month) :	36

Issues to be addressed when assigning an overall mark for this criterion:
- Benefit to the career of the researcher from the period of reintegration
- Capacity to developed lasting cooperation with the previous country of the Marie Curie Fellowship
- Potential of transferring knowledge to host
- Potential and quality of lasting professional integration (expected length of work contract, expected career development)

TOTAL	**(Threshold 70.00/100.00)**
Total:	82.80

Does this proposal raise ethical issues? Please refer to the list of issues in the Ethical Issues Report (EIR)
No

Should this proposal be referred to the Ethical Review Panel?
No

Grant Agreement Preparation Forms

Project number
239432

Project title
SIGNO—Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis

Call (part) identifier
FP7-PEOPLE-ERG-2008

Funding scheme
Marie Curie Actions—European Re-integration Grants (ERG)

C1:

Project Number 1	239432	Project acronym 2	SIGNO

One Form per project

Duration of the project	**Total EC contribution**
36 months	45000 euro

Research Executive Agency
Unit P3 - Marie Curie Reintegration Grants

Project No: 239432

Project Acronym: SIGNO

Project Full Name: Molecular signaling of Nitric Oxide (NO) during root growth in Arabidopsis

ERG Mid-term Report

Period covered: from 16/03/2009 to 01/12/2010

Start date of project: 16/03/2009

Date of preparation: 01/12/2010

Date of submission (SESAM): 01/12/2010 11:29:15 CET

Project coordinator name:
Prof. OSCAR LORENZO

Project coordinator organisation name:
UNIVERSIDAD DE SALAMANCA

SHORT COMMUNICATION

Plant Signaling & Behavior 7:2, 1–5; February 2012; © 2012 Landes Bioscience

Nitric oxide
An emerging regulator of cell elongation during primary root growth

María Fernández-Marcos,† Luis Sanz† and Oscar Lorenzo*

Dpto. de Fisiología Vegetal; Centro Hispano-Luso de Investigaciones Agrarias (CIALE); Facultad de Biología; Universidad de Salamanca; Salamanca, Spain

†Both authors contributed equally to this work.

PNAS

Nitric oxide causes root apical meristem defects and growth inhibition while reducing PIN-FORMED 1 (PIN1)-dependent acropetal auxin transport

María Fernández-Marcos[a,1], Luis Sanz[a,1], Daniel R. Lewis[b], Gloria K. Muday[b], and Oscar Lorenzo[a,2]

[a]Department of Fisiología Vegetal, Centro Hispano-Luso de Investigaciones Agrarias, Facultad de Biología, Universidad de Salamanca, 37185 Salamanca, Spain; and [b]Department of Biology, Wake Forest University, Winston-Salem, NC 27106

Edited* by Luis Herrera Estrella, Centro de Investigacion y de Estudios Avanzados, Irapuato, Mexico, and approved September 27, 2011 (received for review May 31, 2011)

The Nuclear Interactor PYL8/RCAR3 of *Fagus sylvatica* FsPP2C1 Is a Positive Regulator of Abscisic Acid Signaling in Seeds and Stress[1[C][W][OA]]

Xandra Saavedra[2], Abelardo Modrego[2], Dolores Rodríguez, Mary Paz González-García, Luis Sanz, Gregorio Nicolás, and Oscar Lorenzo*

Departamento de Fisiología Vegetal, Centro Hispano-Luso de Investigaciones Agrarias, Facultad de Biología, Universidad de Salamanca, 37185 Salamanca, Spain

MARIE CURIE INTRA-EUROPEAN FELLOWSHIP (EIF)

1. Desarrollo línea investigación en grupo puntero (formación, publicaciones)

1. Condiciones laborales muy buenas (salario, estancias, reuniones, congresos)

MARIE CURIE EUROPEAN REINTEGRATION GRANTS (ERG)

1. Ayuda a la reincorporación y establecimiento en grupo de investigación

1. Flexibilidad (prórrogas, contratos)

2. Dotación económica reducida

1. Consideración/situación en la Universidad (docencia, investigación)