



RAMÓN Y CAJAL SUBPROGRAMME

Curriculum vitae Standardized form

Total number of pages: 30

Name: PEDRO (KEPA) RUIZ MIRAZO

Date: 28th August 2010

- During the evaluation process, the applicant could be required to expand and justify the information here contained.

PERSONAL DATA

Family name: **RUIZ MIRAZO**
ID/Passport no: **AC486138**
Nationality: **SPANISH**

Forename: **PEDRO (KEPA)**
Date of birth : **09/DEC/1970**
Gender: **MALE**

PRESENT PROFESSIONAL POSITION

Institution: **UNIVERSITY OF THE BASQUE COUNTRY (UPV/EHU)**
Faculty, School or Institute: **PHILOSOPHY AND EDUCATIONAL SCIENCES (FICE)**
Department: **LOGIC AND PHILOSOPHY OF SCIENCE**
Address: **AVDA. TOLOSA 70, DONOSTIA-SAN SEBASTIAN**
Post Code: **20018** Province: **GIPUZKOA**
Country: **SPAIN**

Telephone (indicate prefix, number and extension): **+34 943 015628**
Fax: **+34 943 015470**
E-mail: **kepa.ruiz-mirazo@ehu.es**

Field of study (UNESCO codes): **720501-720102**

Professional status: **'RAMÓN Y CAJAL' RESEARCH FELLOW**

Start date: **01/JAN/2007**

Administrative status

- Permanent Staff Hired on contracts Acting Fellowship holder
 Others specify: **RAMÓN Y CAJAL (5-YEAR, TENURE-TRACK) CONTRACT**

Full-time
Part-time

PRESENT RESEARCH AREA

Brief summary (key words).

Philosophy of Biology, Theoretical Biology, Origins of Life, Complex Systems, Synthetic Biology, Artificial Life, Biophysics, Bioenergetics, Minimal Cellular Systems, Astrobiology, Systems Biology.

ACADEMIC BACKGROUND

<i>Bachelor</i>	<i>Centre</i>	<i>Date</i>
PHYSICS (SOLID STATE PHYSICS, 5 years)	UNIVERSITY OF THE BASQUE COUNTRY (UPV/EHU)	JULY 1994
Masters: EUROPEAN STUDIES ON SOCIETY SCIENCE AND TECHNOLOGY	NOTRE DAME DE LA PAIX (NAMUR-BELGIUM) & UPV/EHU	SEPT. 1995

<i>Ph.D.</i>	<i>Centre</i>	<i>Thesis Supervisor</i>	<i>Date</i>
SCIENCES (PHYSICS, COMPLEX SYSTEMS)	UNIVERSITY OF THE BASQUE COUNTRY (UPV/EHU)	ALVARO MORENO	NOV. 2001

PAST SCIENTIFIC EXPERIENCE (*)

<i>Position</i>	<i>R&D Centre</i>	<i>Institution (**)</i>	<i>Start date</i>	<i>End date</i>
<i>INTA-POSTDOC FELLOWSHIP</i>	<i>CENTRE OF ASTROBIOLOGY (CAB)</i>	<i>INTA-CSIC</i>	<i>01/04/2002</i>	<i>16/09/2002</i>
<i>LECTURESHIP</i>	<i>DEPT. BASIC SCIENCES</i>	<i>MONDRAGON UNIVERSITY</i>	<i>17/09/2002</i>	<i>01/03/2003</i>
<i>FPI-POSTDOC FELLOWSHIP</i>	<i>INSTITUTE FOR POLYMERS</i>	<i>ETH-Zurich</i>	<i>01/03/2003</i>	<i>01/10/2003</i>
<i>LECTURESHIP</i>	<i>DEPT. BASIC SCIENCES</i>	<i>MONDRAGON UNIVERSITY</i>	<i>01/10/2003</i>	<i>01/01/2004</i>
<i>FPI-POSTDOC FELLOWSHIP</i>	<i>DEPT. BIOLOGY</i>	<i>UNIV. ROMA TRE</i>	<i>01/01/2004</i>	<i>01/03/2005</i>
<i>HPC-EUROPA FELLOWSHIP</i>	<i>DEPT. CHEMISTRY</i>	<i>UNIV. BARI (ITALY)</i>	<i>01/07/2005</i>	<i>01/10/2005</i>
<i>POST-DOC FELLOWSHIP GV (MOD. E)</i>	<i>DEPT. OF LOGIC & PHILOSOPHY OF SCIENCE</i>	<i>UPV/EHU</i>	<i>01/10/2005</i>	<i>31/12/2006</i>

(*) The information contained in this chart will be used to verify the placement requirements, according to the Call.

(**) If the Institution is a "joint centre", you should specify all the centres involved in running it.

LANGUAGES (N = NORMAL, G = GOOD, P = PERFECTLY)

<i>Language</i>	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
<i>ENGLISH</i>	<i>P</i>	<i>P</i>	<i>P</i>
<i>ITALIAN</i>	<i>G</i>	<i>G</i>	<i>N</i>
<i>FRENCH</i>	<i>N</i>	<i>G</i>	<i>N</i>
<i>BASQUE (EUSKERA)</i>	<i>P</i>	<i>P</i>	<i>P</i>

PARTICIPATION IN RESEARCH PROJECTS

NOTE: As PI in the last project, Researcher after 2001 and Student (Grant holder) in the previous ones.

PROJECT TITLE: La organización biológica: entre el mecanicismo y la autonomía

*FINANCIAL ENTITY: MICINN (FFI2008-06348-C02-01)
LENGHT FROM:01/01/2009 TO: 31/12/2011
PRINCIPAL INVESTIGATOR: PEDRO (KEPA) RUIZ MIRAZO*

PROJECT TITLE: Systems Chemistry

*FINANCIAL ENTITY: EUROPEAN COMISSION -- COST- Action CM0703
LENGHT FROM:2008 TO: End of 2011
PRINCIPAL INVESTIGATOR: GÜNTER VON KIEDROWSKI*

PROJECT TITLE: Aspectos filosóficos de la organización biológica y cognitiva desde la biología y la bioética de sistemas.

*FINANCIAL ENTITY: GOBIERNO VASCO ('CONSOLIDATED GROUPS') -- IT-250-07
LENGHT FROM:01/01/2007 TO: 31/12/2009
PRINCIPAL INVESTIGATOR: ALVARO MORENO*

PROJECT TITLE: Información, Autonomía y Sistemas. Elementos epistemológicos y éticos para una perspectiva organicista en biología.

*FINANCIAL ENTITY: MEC -- HUM2005-02449
LENGHT FROM:31/12/2005 TO: 31/12/2008
PRINCIPAL INVESTIGATOR: ALVARO MORENO*

PROJECT TITLE: Organismo, Evolución y Cognición. Aspectos filosóficos.

*FINANCIAL ENTITY: UPV/EHU (GENERAL SUPPPORT FOR GROUPS) 9/UPV 00003.230-15840/2004
LENGHT FROM:2005 TO: End of 2006
PRINCIPAL INVESTIGATOR: ARANTZA ETXEBERRIA*

PROJECT TITLE: Stochastic simulations of proto-cellular self-assembling systems

*FINANCIAL ENTITY: EUROPEAN COMISSION -- HPC-EUROPA (RII3-CT-2003-506079)
LENGHT FROM:2005 TO: 2006
PRINCIPAL INVESTIGATOR: FABIO MAVELLI*

PROJECT TITLE: Functionalized self-reproducing vesicles as precursors for early cells.

*FINANCIAL ENTITY: EUROPEAN COMISSION -- COST- Chemistry Action D27
LENGHT FROM:2003 TO: 2007
PRINCIPAL INVESTIGATOR: PIER LUIGI LUISI*

PROJECT TITLE: Interactions between proteins and liposomes

FINANCIAL ENTITY: *SWISS FEDERAL GOVERNMENT*
LENGHT FROM: 2003 TO: 2004
PRINCIPAL INVESTIGATOR: *PIER LUIGI LUISI*

PROJECT TITLE: *Identidad e individuación en biología y vida artificial*

FINANCIAL ENTITY: *UPV/EHU -- 003.230-HA079/99*
LENGHT FROM: 1999 TO: 2000
PRINCIPAL INVESTIGATOR: *ARANTZA ETXEBERRIA*

PROJECT TITLE: *Ciencias de la complejidad y simulaciones artificiales: La repercusión de la VA en algunos aspectos de la teoría de la evolución contemporánea*

FINANCIAL ENTITY: *DIGCYT (MEC) PB95-0502*
LENGHT FROM: 1996 TO: 1999
PRINCIPAL INVESTIGATOR: *ALVARO MORENO*

PROJECT TITLE: *EMSTES Research Project in Science Teaching*

FINANCIAL ENTITY: *BELGIAN MINISTRY OF EDUCATION*
LENGHT FROM: 1995 TO: 1996
PRINCIPAL INVESTIGATOR: *GÉRARD FOUREZ*

PUBLICATIONS

Indicate volume, first and last page (year) and Key.

Key: B= full book, BC.= book chapter, A= article, ABS: abstract, R= review, E= editor

(*) Those publications in process and not yet published, just specify publication status. (**) Optionally specify the most important aspects of each publication to assess quality (e.g. journal impact index, journal position on lists of the corresponding fields, cites received or other repercussion indicators)

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.
TITLE: Autonomy as a bridge between the living and cognitive domains.

JOURNAL/BOOK TITLE: Synthese *KEY: A*
DATE OF PUBLICATION (): Accepted for publication*
*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 0,782*

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.
TITLE: New century biology could do with a universal definition of life.

JOURNAL/BOOK TITLE: In G. Terzis & R. Arp (eds.): Information and Living Systems: Essays in Philosophy of Biology, MIT Press. *KEY: BC*
DATE OF PUBLICATION (): Accepted for publication*
*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Moreno, A. & Ruiz-Mirazo, K.
TITLE: The informational nature of biological causality.

JOURNAL/BOOK TITLE: In G. Terzis & R. Arp (eds.): Information and Living Systems: Essays in Philosophy of Biology, MIT Press. *KEY: BC*
DATE OF PUBLICATION (): Accepted for publication*
*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Luisi, P. L. & Ruiz-Mirazo K.
TITLE: Open questions on the origins of life: Introduction to the special issue.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 40(4-5), 351-354 *KEY: A*
DATE OF PUBLICATION (): Forthcoming (October 2010)*
*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 2,028*

AUTHORS (in order of authorship): Ruiz-Mirazo K. & Luisi, P. L.
TITLE: Open questions on the origins of life: Book of Abstracts.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 40(4-5). *KEY: E*
DATE OF PUBLICATION (): Forthcoming (October 2010)*
*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 2,028*

AUTHORS (in order of authorship): Piedrafita, G., Olasagasti, F., Ruiz-Mirazo, K., Peretó, J., Moreno, A., Montero, F. & Morán, F.
TITLE: Conceptual bases for the emergence of early protocells.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 40(4-5), 447-451. *KEY: ABS*
DATE OF PUBLICATION (): Forthcoming (October 2010)*
*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 2,028*

AUTHORS (in order of authorship): Ruiz-Mirazo K.

TITLE: A systems view to define the boundaries of the problem of the origins of life.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 40(4-5), 497. KEY: ABS

DATE OF PUBLICATION (): Forthcoming (October 2010)*

*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 2,028*

AUTHORS (in order of authorship): Ruiz-Mirazo, K.; Piedrafita, G.; Ciriaco, F. & Mavelli, F.

TITLE: Stochastic simulations of mixed-lipid compartments: from self-assembling vesicles to self-producing protocells.

JOURNAL/BOOK TITLE: In Arabnia H. R. (Ed.) "Software Tools and Algorithms for Biological Systems" (Book series: Advances in Experimental Medicine & Biology, AEMB). Springer. KEY: BC

DATE OF PUBLICATION (): Forthcoming (2010).*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Moreno, A., Ruiz-Mirazo, K. & Barandiaran, X.

TITLE: The impact of the paradigm of complexity on the foundational frameworks of biology and cognitive science.

JOURNAL/BOOK TITLE: In C. Hooker (ed): "Complex Systems." Vol X of the D. Gavia, P. Thagard & J. Woods (eds) Handbook of Philosophy of Science. Elsevier www.johnwoods.ca/HPS KEY: BC

DATE OF PUBLICATION (): Forthcoming (2010).*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Saborido, C., Mossio, M. & Ruiz-Mirazo, K.

TITLE: Bridging worlds and concepts: a review of 'Functions in Biological and Artificial Worlds' (Edited by Ulrich Krohs and Peter Kroes).

JOURNAL/BOOK TITLE: Artificial Life KEY: R

DATE OF PUBLICATION (): Forthcoming: Nov. 2010*

*MOST OUTSTANDING ASPECTS (**): ISI WoK -- JCR 5yearIF: 2,556*

AUTHORS (in order of authorship): Piedrafita, G., Mavelli, F., Morán, F. & Ruiz-Mirazo, K.

TITLE: On the transition from prebiotic to proto-biological membranes: from 'self-assembly' to 'self-production'.

JOURNAL/BOOK TITLE: In G. Kampis et al. (Eds): ECAL 2009 Proceedings. Springer LNCS (Lecture Notes in Computer Science Series) KEY: BC

DATE OF PUBLICATION (): Forthcoming (2010).*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Mavelli, F. & Ruiz-Mirazo, K.

TITLE: ENVIRONMENT: a computational platform to stochastically simulate reacting and self-reproducing lipid compartments

JOURNAL/BOOK TITLE: Physical Biology 7(3) 036002 doi: [10.1088/1478-3975/7/3/036002](https://doi.org/10.1088/1478-3975/7/3/036002)

KEY: A

DATE OF PUBLICATION (): August 2010*

*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 3,480*

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Peretó, J. & Moreno, A.
TITLE: Defining life or bringing biology to life.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 40: 203-213 KEY: A
DATE OF PUBLICATION ()*: 2010
*MOST OUTSTANDING ASPECTS (**)*: ISI WoK – JCR 5yearIF: **2,028**

AUTHORS (in order of authorship): Moreno, A. & Ruiz-Mirazo, K.
TITLE: The problem of the emergence of functional diversity in prebiotic evolution.

JOURNAL/BOOK TITLE: Biology and Philosophy 24: 585-605. KEY: A
DATE OF PUBLICATION ()*: 2009
*MOST OUTSTANDING ASPECTS (**)*: ISI WoK -- JCR 5yearIF: **1,445**

AUTHORS (in order of authorship): Etxeberria, A. & Ruiz-Mirazo, K.
TITLE: The challenging biology of transients.

JOURNAL/BOOK TITLE: EMBO Reports 10, S33-S36. KEY: A
DATE OF PUBLICATION ()*: 2009
*MOST OUTSTANDING ASPECTS (**)*: ISI WoK – JCR 5yearIF: **7,519**

AUTHORS (in order of authorship): Ruiz-Mirazo, K.
TITLE: Un nuovo inizio.

JOURNAL/BOOK TITLE: Sapere (Ottobre 2009): anno 75 (5): 28-33.
http://www.galileonet.it/sapere/editoriale/32/riconquistare-la-scuola KEY: A
DATE OF PUBLICATION ()*: 2009
*MOST OUTSTANDING ASPECTS (**)*: Italian Journal for Popularization of Science

AUTHORS (in order of authorship): Ruiz-Mirazo K., Lerario, M. & Mavelli, F.
TITLE: Prebiotically plausible functional compartments: a simulation model to study lipid-peptide protocell dynamics.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 39: 326-327, (Abstract Proceedings of ISSOL '08). KEY: ABS
DATE OF PUBLICATION ()*: 2009
*MOST OUTSTANDING ASPECTS (**)*: ISI WoK – JCR 5yearIF: **2,028**

AUTHORS (in order of authorship): Barandiaran, X. & Ruiz-Mirazo, K.
TITLE: Modelling autonomy: simulating the essence of life and cognition. (Editorial Introduction to the Special Issue).

JOURNAL/BOOK TITLE: BioSystems 91(2): 295-304. KEY: A
DATE OF PUBLICATION ()*: 2008
*MOST OUTSTANDING ASPECTS (**)*: ISI WoK -- JCR 5yearIF: **1,653**

AUTHORS (in order of authorship): Barandiaran, X. & Ruiz-Mirazo, K.
TITLE: Modelling autonomy.

JOURNAL/BOOK TITLE: BioSystems 91(2) KEY: E
DATE OF PUBLICATION ()*: 2008
*MOST OUTSTANDING ASPECTS (**)*: ISI WoK -- JCR 5yearIF: **1,653**

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Mavelli, F.

TITLE: On the way towards 'basic autonomous agents': stochastic simulations of minimal lipid-peptide cells.

JOURNAL/BOOK TITLE: BioSystems 91(2): 374-387.

KEY: A

DATE OF PUBLICATION (): 2008*

*MOST OUTSTANDING ASPECTS (**): ISI WoK -- JCR 5yearIF: 1,653*

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Umerez, J. & Moreno, A.

TITLE: Enabling conditions for 'open-ended evolution'.

JOURNAL/BOOK TITLE: Biology and Philosophy 23(1): 67-85.

KEY: A

DATE OF PUBLICATION (): 2008*

*MOST OUTSTANDING ASPECTS (**): ISI WoK -- JCR 5yearIF: 1,445*

AUTHORS (in order of authorship): Mavelli, F., Lerario, M. & Ruiz-Mirazo, K.

TITLE: 'ENVIRONMENT': A Stochastic Simulation Platform to Study Protocell Dynamics.

JOURNAL/BOOK TITLE: In H. R. Arabnia et al. (Eds.): Proceedings BIOCOMP 2008 (International Conference on Bioinformatics & Computational Biology) CSREA Press, pp. 934-941.

KEY: BC

DATE OF PUBLICATION (): 2008*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Umerez, J. & Moreno, A.

TITLE: Organizational requirements for open-ended evolution.

JOURNAL/BOOK TITLE: In S. Bullock, J. Noble, R. A. Watson, and M. A. Bedau (Eds.): Proceedings of Alife XI, Winchester, UK, MIT Press, Cambridge, MA (p. 58)

KEY: ABS

DATE OF PUBLICATION (): 2008*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Mavelli, F. & Ruiz-Mirazo, K.

TITLE: Stochastic simulations of minimal self-(re-)producing cellular systems.

JOURNAL/BOOK TITLE: Philosophical Transactions of the Royal Society of London B 362 (1486): 1789-1802.

KEY: A

DATE OF PUBLICATION (): 2007*

*MOST OUTSTANDING ASPECTS (**): ISI WoK -- JCR 5yearIF: 6,584*

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Mavelli, F.

TITLE: Simulation model for functionalized vesicles: lipid-peptide integration in minimal protocells.

JOURNAL/BOOK TITLE: In Almeida e Costa et al. (eds): Advances in Artificial Life (Proceedings of ECAL 2007), pp. 32-41. Springer, Berlin.

KEY: BC

DATE OF PUBLICATION (): 2007*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Mavelli, F. & Ruiz-Mirazo, K.

TITLE: Stochastic simulation of fatty-acid protocell models.

JOURNAL/BOOK TITLE: In Sergey M. Bezukrov (eds.): Noise and Fluctuations in Biological, Biophysical, and Biomedical Systems. (SPIE Proceedings vol. 6602, pp. 1B1-1B10).. ISBN:9780819467393.

Bellingham, Washington.

KEY: BC

DATE OF PUBLICATION (): 2007*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Mavelli, F.

TITLE: Modelling minimal lipid-peptide cells.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 37: 433–437. KEY: ABS

DATE OF PUBLICATION (): 2007*

*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 2,028*

AUTHORS (in order of authorship): Mavelli, F. & Ruiz-Mirazo, K.

TITLE: Bridging the gap between in silico and in vitro approaches to minimal cells.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 37: 455–458. KEY: ABS

DATE OF PUBLICATION (): 2007*

*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 2,028*

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.

TITLE: On the origins of information and its relevance for biological complexity.

JOURNAL/BOOK TITLE: Biological Theory 1(3): 227-229. KEY: A

DATE OF PUBLICATION (): 2006*

*MOST OUTSTANDING ASPECTS (**): not indexed yet*

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Stano, P. & Luisi, P.L.

TITLE: Lysozyme effect on oleic acid/oleate vesicles.

JOURNAL/BOOK TITLE: Journal of Liposome Research 16:143–154. KEY: A

DATE OF PUBLICATION (): 2006*

*MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 1,944*

AUTHORS (in order of authorship): Moreno, A. & Ruiz-Mirazo, K.

TITLE: The long-term maintenance and open-ended growth of complexity in nature: information as a decoupling mechanism in the origins of life.

JOURNAL/BOOK TITLE: In: Capra F, Sotolongo P, Juarrero A. & van Uden J. (Eds): Rethinking Complexity ISCE Publisher. (pp. 55-72). KEY: BC

DATE OF PUBLICATION (): 2006*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Mavelli, F.

TITLE: Stochastic Simulations of proto-cellular self-assembling systems.

JOURNAL/BOOK TITLE: In: Science and Supercomputing in Europe: Report 2006 (Bologna-Cineca), pp.170-179. ISBN: 978-88-86037-19-8. KEY: BC

DATE OF PUBLICATION (): 2006*

*MOST OUTSTANDING ASPECTS (**):*

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.

TITLE: ¿Puede la vida ser definida? (Can life be defined?)

JOURNAL/BOOK TITLE: In: Martínez Manrique, F. & Paris-Viñé, L. M. (eds) Actas del V Congreso de la Sociedad de Lógica, Metodología y Filosofía de la Ciencia en España. Sider, SC (Granada) pp. 311-313. KEY:

BC

DATE OF PUBLICATION (*):2006
MOST OUTSTANDING ASPECTS (**):

AUTHORS (in order of authorship): Ruiz-Mirazo, K.
TITLE: Working towards the 'minimal cell': a bottom-up proposal.

JOURNAL/BOOK TITLE: *Origins of Life and Evolution of the Biosphere* 36, pp. 216-218. KEY: ABS
DATE OF PUBLICATION (*): 2005
MOST OUTSTANDING ASPECTS (**):ISI WoK – JCR 5yearIF: 2,028

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.
TITLE: Basic autonomy as a fundamental step in the synthesis of life.

JOURNAL/BOOK TITLE: *Artificial Life*, 10(3): 235-259. KEY: A
DATE OF PUBLICATION (*): 2004
MOST OUTSTANDING ASPECTS (**):ISI WoK -- JCR 5yearIF: 2,556

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Peretó, J. & Moreno, A.
TITLE: A universal definition of life: autonomy and open-ended evolution.

JOURNAL/BOOK TITLE: *Origins of Life and Evolution of the Biosphere* 34: 323-346. KEY: A
DATE OF PUBLICATION (*): 2004
MOST OUTSTANDING ASPECTS (**):ISI WoK – JCR 5yearIF: 2,028*** This article was selected for the compilation book: *The Nature of Life*, M. Bedau & C. Cleland (eds.), Cambridge University Press, 2010.

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Peretó J. & Moreno, A.
TITLE: Proposal for a universal definition of life.

JOURNAL/BOOK TITLE: *Origins of Life and Evolution of the Biosphere (Abstracts of ISSOL'02)* 33 (3), pp. 282-283. KEY: ABS
DATE OF PUBLICATION (*): 2003
MOST OUTSTANDING ASPECTS (**):ISI WoK – JCR 5yearIF: 2,028

AUTHORS (in order of authorship): Ruiz-Mirazo, K.
TITLE: Biziren sorrera berriro sortzen? (Title translation, from Basque: Re-originating the origins of life?)

JOURNAL/BOOK TITLE: *Elhuyar*, 191, pp. 22-25. KEY: A
DATE OF PUBLICATION (*): 2003
MOST OUTSTANDING ASPECTS (**): Basque Journal for Popularization of Science

AUTHORS (in order of authorship): Moreno, A. & Ruiz-Mirazo, K.
TITLE: Key issues regarding the origin, nature and evolution of complexity in nature: information as a central concept to understand biological organization.

JOURNAL/BOOK TITLE: *Emergence* 4.1/4.2: 63-76. KEY: A
DATE OF PUBLICATION (*): 2002
MOST OUTSTANDING ASPECTS (**): not indexed

AUTHORS (in order of authorship): Ruiz-Mirazo, K.
TITLE: Condiciones físicas para la aparición de sistemas autónomos con capacidades evolutivas abiertas. (Physical conditions for the appearance of autonomous systems with open-ended evolutionary capacities).

JOURNAL/BOOK TITLE: Tesis Doctoral. Universidad del País Vasco UPV-EHU.
Ph.D

KEY:

DATE OF PUBLICATION (*): 2001

MOST OUTSTANDING ASPECTS (**): PhD Dissertation

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.

TITLE: Searching for the roots of autonomy: the natural and artificial paradigms revisited.

JOURNAL/BOOK TITLE: CC-AI (Communication and Cognition – Artificial Intelligence) 17 (3-4): 209-228.

KEY: A

DATE OF PUBLICATION (*): 2000

MOST OUTSTANDING ASPECTS (**): not indexed

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Etxeberria, K., Moreno, A. & Ibáñez, J.

TITLE: Organisms and their place in biology.

JOURNAL/BOOK TITLE: Theory in Biosciences, 119: 43-67.

KEY: A

DATE OF PUBLICATION (*): 2000

MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 1,481

AUTHORS (in order of authorship): Ruiz-Mirazo, K.

TITLE: Raíces del concepto de autonomía en biología: una crítica al concepto de autopoiesis.
(Conceptual roots of autonomy in biology: a criticism on the concept of autopoiesis)

JOURNAL/BOOK TITLE: In Mary Sol de Mora, et al. (eds.), Actas del III Congreso de la Sociedad de Lógica, Metodología y Filosofía de la Ciencia en España, Publicaciones del Departamento de Filosofía de la UPV-EHU, San Sebastián -- Donostia, pp. 609-617.

KEY: BC

DATE OF PUBLICATION (*): 2000

MOST OUTSTANDING ASPECTS (**):

AUTHORS (in order of authorship): Moreno, A. & Ruiz-Mirazo, K.

TITLE: Metabolism and the problem of its universalization.

JOURNAL/BOOK TITLE: BioSystems 49 (1): 45-61.

KEY: A

DATE OF PUBLICATION (*): 1999

MOST OUTSTANDING ASPECTS (**): ISI WoK – JCR 5yearIF: 1,653

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Moreno, A., Morán, F., Peretó, J. & Merelo, J.J.

TITLE: Designing a simulation model of a self-maintaining cellular system.

JOURNAL/BOOK TITLE: In: Floreano, D., Nicoud, J-D Nicoud & Mondada, F. (eds.), Advances in Artificial Life, Proceedings of the 5th European Conference ECAL '99, Berlin, Springer-Verlag, pp. 379-389.

KEY: BC

DATE OF PUBLICATION (*): 1999

MOST OUTSTANDING ASPECTS (**):

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.

TITLE: Autonomy and emergence: how systems become agents through the generation of functional constraints.

JOURNAL/BOOK TITLE: Acta Polytechnica Scandinavica Ma91: 273-282.

KEY: A

DATE OF PUBLICATION ()*: 1998
*MOST OUTSTANDING ASPECTS (**)*: not indexed

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Moreno, A. & Morán, F.
TITLE: Merging the energetic and the relational-constructive logic of life.

JOURNAL/BOOK TITLE: In: Adami, C., Belew, R., Kitano, H. & Taylor, C. (eds.), *Proceedings of The Sixth International Conference on Artificial Life (ALIFE VI)*, Cambridge, MA: MIT Bradford Books, pp. 448-451.

KEY:

BC

DATE OF PUBLICATION ()*: 1998
*MOST OUTSTANDING ASPECTS (**)*:

AUTHORS (in order of authorship): Ruiz-Mirazo, K.

TITLE: World-views while introducing quantum mechanics.

JOURNAL/BOOK TITLE: UPV/EHU and Notre Dame de la Paix (Namur – Belgium) Publication Services

KEY: MsD

DATE OF PUBLICATION ()*: 1995

*MOST OUTSTANDING ASPECTS (**)*: Masters Dissertation

MOST OUTSTANDING PUBLICATIONS

(Select the five publications that you consider to be the most outstanding ones. Include for each of them a brief summary with its most notable objectives and results)

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Mavelli, F.

TITLE: On the way towards 'basic autonomous agents': stochastic simulations of minimal lipid-peptide cells.

JOURNAL/BOOK TITLE: BioSystems 91(2): 374-387.

KEY: A

DATE OF PUBLICATION: 2008

MOST NOTABLE ASPECTS: ISI WoK -- JCR 5yearIF: 1,653 // NUMBER OF CITATIONS: 9

SUMMARY (max. 150 words): We here introduced the 'lipid-peptide' minimal cell idea, argued why and how it should be linked to the concept of basic autonomy and the origins of functionality, and performed a series of simulations to test and illustrate this scenario. The avenue of research envisioned in this article is now open and actively being explored.

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Umerez, J. & Moreno, A.

TITLE: Enabling conditions for 'open-ended evolution'.

JOURNAL/BOOK TITLE: Biology and Philosophy 23(1): 67-85.

KEY: A

DATE OF PUBLICATION: 2008

MOST NOTABLE ASPECTS: ISI WoK -- JCR 5yearIF: 1,445 // NUMBER OF CITATIONS: 6

SUMMARY (max. 150 words): In this article we give our most detailed account of the idea of 'open-ended evolution', also acknowledging and criticizing previous views, and we investigate under which general material and organizational conditions could it be implemented in its minimal sense.

AUTHORS (in order of authorship): Mavelli, F. & Ruiz-Mirazo, K.

TITLE: Stochastic simulations of minimal self-(re-)producing cellular systems.

JOURNAL/BOOK TITLE: Philosophical Transactions of the Royal Society of London B 362 (1486): 1789-1802.

KEY: A

DATE OF PUBLICATION: 2007

MOST NOTABLE ASPECTS: ISI WoK -- JCR 5yearIF: 6,584 // NUMBER OF CITATIONS: 16

SUMMARY (max. 150 words): This work is the first and most important step in my collaboration with Fabio Mavelli, where we set up the bases of the protocell simulation model we will later develop (in various directions).

AUTHORS (in order of authorship): Ruiz-Mirazo, K. & Moreno, A.

TITLE: Basic autonomy as a fundamental step in the synthesis of life.

JOURNAL/BOOK TITLE: Artificial Life, 10(3): 235-259.

KEY: A

DATE OF PUBLICATION (): 2004*

*MOST NOTABLE ASPECTS (**): ISI WoK -- JCR 5yearIF: 2,556 // NUMBER OF CITATIONS: 32*

SUMMARY (max. 150 words): The concept of 'basic autonomy' is here presented and supported as one of the main constructs necessary to understand the transition between complex self-organizing processes (in physics and chemistry) and proper biological systems. Later work (from us or from other members of our research group) clearly builds upon this.

AUTHORS (in order of authorship): Ruiz-Mirazo, K., Peretó, J. & Moreno, A.

TITLE: A universal definition of life: autonomy and open-ended evolution.

JOURNAL/BOOK TITLE: Origins of Life and Evolution of the Biosphere 34: 323-346. KEY: A

DATE OF PUBLICATION (): 2004*

*MOST NOTABLE ASPECTS (**): ISI WoK -- JCR 5yearIF: 2,028 // NUMBER OF CITATIONS: 34*

SUMMARY (max. 150 words): Focused on the problem of defining life (and its tight connection with the problem of origins), this is the best summary of most of my PhD work. Our more recent articles on the subject (like the ones we just published --or are publishing-- in 2010) consist in developments of what we proposed here. ((Selected for the compilation book: The Nature of Life, M. Bedau & C. Cleland (eds.), Cambridge University Press, 2010.))

PARTICIPATION IN RESEARCH CONTRACTS OF SPECIAL RELEVANCE WITH COMPANIES
AND/OR PRIVATE OR PUBLIC FUNDING BODIES

CONTRACT TITLE:

FINANCIAL ENTITIES:

LENGHT FROM:

TO:

PRINCIPAL INVESTIGATOR:

TECHNOLOGY TRANSFERENCE ACTIVITIES

Specify activity performed, time dedication and participation mode, territorial scope, validity and budget; and any other relevant contribution regarding: Results of technology transference activities, introduction of product improvements on the market or processes in progress. Participation in generation of spin-off companies based on technological innovations, development of competences / technological skills; start-up of new techniques or procedures, large installation or complex equipment maintenance, execution of technological services: homologation, calibration, analysis or others.

PATENTS AND UTILITY MODELS

INVENTORS (in order of authorship):

TITLE:

APPLICATION FORM No:

PRIORITY COUNTRY:

PRIORITY DATE:

HOLDER ENTITY:

OTHER COUNTRIES WHICH THE PATENT HAS BEEN EXTENDED TO:

COMPANIES THAT ARE LICENSING IT:

STAYS IN INTERNATIONALLY RECOGNIZED CENTRES

KEY: D=Ph.D student, P=postdoctoral. G= guest, S=staff, O=others (specify)

CENTRE: DEPARTMENT OF CHEMISTRY – UNIVERSITY OF BARI
PLACE: BARI COUNTRY: ITALY YEAR: 2005 LENGHT: 2 MONTHS
TOPIC: DEVELOPMENT OF A STOCHASTIC SIMULATION MODEL FOR MINIMAL CELLULAR SYSTEMS (COLLABORATION WITH FABIO MAVELLI – HPC EUROPA PROGRAM) KEY: P

CENTRE: DEPARTMENT OF BIOLOGY – UNIVERSITY ROMA TRE
PLACE: ROME COUNTRY: ITALY YEAR: 2004-2005 LENGHT: 14 MONTHS
TOPIC: THEORETICAL AND EXPERIMENTAL RESEARCH ON MINIMAL CELLULAR SYSTEM (COLLABORATION WITH PROF. LUISI AND HIS GROUP) KEY: P

CENTRE: INSTITUTE FOR POLYMERS – ETH-ZURICH
PLACE: ZURICH COUNTRY: SWITZERLAND YEAR: 2003 LENGHT: 7 MONTHS
TOPIC: THEORETICAL AND EXPERIMENTAL RESEARCH ON MINIMAL CELLULAR SYSTEM (COLLABORATION WITH PROF. P. L. LUISI AND HIS GROUP) KEY: P

CENTRE: CENTRE FOR ASTROBIOLOGY (CAB) -- CSIC/INTA
PLACE: MADRID COUNTRY: SPAIN YEAR: 2002 LENGHT: 6 MONTHS
TOPIC: RESEARCH ON ASTROBIOLOGY AND ITS LINK WITH THE PROBLEM OF THE DEFINITION AND ORIGINS OF LIFE. (ADDITIONALLY: DEVELOPMENT OF POPULARIZATION MATERIALS.)
KEY: P

CENTRE: DEPARTMENT OF PHILOSOPHY – UNIVERSITY OF NEWCASTLE (AUSTRALIA)
PLACE: NEWCASTLE COUNTRY: AUSTRALIA YEAR: 1999 LENGHT: 2 MONTHS
TOPIC: PHILOSOPHICAL INVESTIGATIONS ON COMPLEXITY AND DYNAMICS SYSTEMS (COLLABORATION WITH PROF. C.A. HOOKER AND HIS RESEARCH GROUP) KEY: D

CENTRE: SANTA FE INSTITUTE (COMPLEX SYSTEMS)
PLACE: SANTA FE COUNTRY: USA YEAR: 1998 LENGHT: 1 MONTH
TOPIC: SUMMER SCHOOL ON COMPLEX SYSTEMS KEY: D

CENTRE: DEPARTMENT OF SCIENCES, PHILOSOPHIES AND SOCIETIES (FACULTÉ DE SCIENCES – FUNDP)
PLACE: NAMUR COUNTRY: BELGIUM YEAR: 1995 LENGHT: 7 MONTHS
TOPIC: EUROPEAN MASTERS ON 'SOCIETY, SCIENCE AND TECHNOLOGY';
SPECIALIZATION: SCIENCE TEACHING KEY: O (ERASMUS POST-GRAD. STUDENT)

PRESENTATIONS IN CONFERENCES

KEY: P=Poster; OC = Oral Communication (20-30 min.); L=Lecture (45-60min.); IL=Invited Lecture (travel expenses covered by the organization); O=others (specify)

AUTHORS (main presenter): Ben Shirt-Ediss, F. Mavelli & K. Ruiz-Mirazo

TITLE: To Burst or Not To Burst: Osmotic Regulation in a Protocell Model Through Precursor Mechano-Sensitive Channels

TYPE OF PRESENTATION: OC

CONFERENCE: ALife XII

PUBLICATION: Yes (Abstract)

MEETING PLACE: Southern Denmark University, Odense, Denmark.

DATES: 19-23 August 2010

AUTHORS (main presenter): G. Piedrafita, Ben Shirt-Ediss, F. Mavelli & K. Ruiz-Mirazo

TITLE: 'In vitro' and 'in silico' complementary studies on the physical properties of prebiotic compartments.

TYPE OF PRESENTATION: P

CONFERENCE: ALife XII

PUBLICATION: Yes (Abstract)

MEETING PLACE: Southern Denmark University, Odense, Denmark.

DATES: 19-23 August 2010

AUTHORS (main presenter): K. Ruiz-Mirazo, G. Piedrafita, F. Ciriaco & F. Mavelli

TITLE: Stochastic simulations of mixed-lipid compartments: from self-assembling vesicles to self-producing protocells

TYPE OF PRESENTATION: OC

CONFERENCE: BIOCOMP'10

PUBLICATION: Yes (Paper)

MEETING PLACE: Las Vegas, Nevada, USA,

DATES: 12-15 July 2010.

AUTHORS (main presenter): G. Piedrafita, F. Mavelli, F. Morán & K. Ruiz-Mirazo

TITLE: On the transition from prebiotic to proto-biological membranes: from 'self-assembly' to 'self-production'.

TYPE OF PRESENTATION: OC

CONFERENCE: ECAL 2009: Darwin meets von Neumann

PUBLICATION: Yes (Paper)

MEETING PLACE: Budapest, Hungary.

DATES: 13-16 Sept. 2009.

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: From vesicles to protocells: early transitions in the origins of life.

TYPE OF PRESENTATION: IL

CONFERENCE: ILASOL 2008

PUBLICATION: No

MEETING PLACE: Weizmann Institute, Rehovot, Israel.

DATES: 28 de Dic. 2008.

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli

TITLE: Prebiotically plausible functional compartments: a simulation model to study lipid-peptide protocell dynamics.

TYPE OF PRESENTATION: P

CONFERENCE: ISSOL '08 (International Society for the Study of the Origin of Life)

PUBLICATION: Yes (Abstract)

MEETING PLACE: Florence, Italy.

DATES: 24-29 August 2008.

AUTHORS (main presenter): K. Ruiz-Mirazo, J. Peretó & A. Moreno

TITLE: Organizational requirements for open-ended evolution.

TYPE OF PRESENTATION: OC

CONFERENCE: ALifeXI

PUBLICATION: Yes (Abstract)

MEETING PLACE: Winchester, UK.

DATES: 5-8 August 2008.

AUTHORS (main presenter): A. Rendón, K. Ruiz-Mirazo & F.M. Goñi

TITLE: Experimental studies on the formation and stability of oleic acid vesicles

TYPE OF PRESENTATION: P

CONFERENCE: Portuguese-Spanish Biophysics Congress (SEPBS)

PUBLICATION: No

MEETING PLACE: Lisboa, Portugal.

DATES: 10-13 July, 2008.

AUTHORS (main presenter): K. Ruiz-Mirazo, A. Moreno, J. Peretó & F. Mavelli

TITLE: Searching for minimal metabolisms: on the origins of regulatory control in protocell chemistry

TYPE OF PRESENTATION: P

CONFERENCE: European Conference on Synthetic Biology

PUBLICATION: No

MEETING PLACE: Sant Feliu de Guixols, Spain

DATES: 24-29 Noviembre, 2007.

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli

TITLE: Simulation Model for Functionalized Vesicles: Lipid-Peptide Integration in Minimal Protocells

TYPE OF PRESENTATION: OC

CONFERENCE: European Conference on Artificial Life (ECAL) 2007

PUBLICATION: Yes (Paper)

MEETING PLACE: Lisboa, Portugal.

DATES: 10-14 Septiembre, 2007.

AUTHORS (main presenter): F. Mavelli & K. Ruiz-Mirazo

TITLE: Stochastic simulations of protocell models

TYPE OF PRESENTATION: OC

CONFERENCE: SPIE 2007 – Noise and Fluctuations in Biological, Biophysical and Biomedical Systems

PUBLICATION: Yes (Paper)

MEETING PLACE: Florence, Italy.

DATES: 20-24 May 2007.

AUTHORS (main presenter): K. Ruiz-Mirazo & A. Moreno

TITLE: ¿Puede la vida ser definida?

TYPE OF PRESENTATION: OC

CONFERENCE: V Congreso SLMFCE (Sociedad del Lógica, Metodología y Filosofía de la Ciencia en España)

PUBLICATION: Yes (Short Paper)

MEETING PLACE: Granada, Spain.

DATES: 30 Nov. – 3 Dec. 2006.

AUTHORS (main presenter): A. Rendón, K. Ruiz-Mirazo & F.M. Goñi

TITLE: Efecto de alcoholes y alcanos sobre el autoensamblamiento y estabilidad de vesículas de ácido oleico

TYPE OF PRESENTATION: P

CONFERENCE: XXVI Congreso de la Sociedad Mexicana de Bioquímica

PUBLICATION: No

MEETING PLACE: Guanajuato, Mexico.

DATES: 12-17 Nov. 2006.

AUTHORS (main presenter): A. Moreno & K. Ruiz-Mirazo

TITLE: On the relevance of the concept of autonomy for the origins of life research program.

TYPE OF PRESENTATION: L

CONFERENCE: VIth HOPOS (International Society for the History and Philosophy of Science)

PUBLICATION: No

MEETING PLACE: Paris, France.

DATES: 14-18 June 2006.

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli

TITLE: Working towards basic autonomy: a simulation model to study minimal self-producing cells.

TYPE OF PRESENTATION: L

CONFERENCE: AlifeX (Artificial Autonomy workshop)

PUBLICATION: No

MEETING PLACE: Bloomington, USA.

DATES: 3-7 June 2006.

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Working towards the 'minimal cell': a bottom-up proposal.

TYPE OF PRESENTATION: OC (Invited)

CONFERENCE: ISSOL '05 (International Society for the Study of the Origin of Life)

PUBLICATION: Yes (Short Paper)

MEETING PLACE: Beijing, China.

DATES: 19-24 June 2005.

AUTHORS (main presenter): K. Ruiz-Mirazo & A. Moreno

TITLE: (Basic) autonomy: a fundamental concept to understand the origins and nature of living systems.

TYPE OF PRESENTATION: L

CONFERENCE: ISHPSSB'03 (International Society for the History, Philosophy and Social Studies of Biology)

PUBLICATION: No

MEETING PLACE: Viena, Austria.

DATES: 16-20 July 2003.

AUTHORS (main presenter): K. Ruiz-Mirazo, J. Peretó & A. Moreno.

TITLE: Proposal for a universal definition of life.

TYPE OF PRESENTATION: OC

CONFERENCE: ISSOL'02 (International Society for the Study of the Origin of Life)

PUBLICATION: Yes (abstract)

MEETING PLACE: Oaxaca, México.

DATES: 30 June – 5 July 2002.

AUTHORS (main presenter): K. Ruiz-Mirazo.

TITLE: Las raíces del concepto de autonomía en biología: una crítica a la idea de autopoiesis

TYPE OF PRESENTATION: OC

CONFERENCE: III Congreso SLMFCE (Sociedad del Lógica, Metodología y Filosofía de la Ciencia en España)

PUBLICATION: Yes (Short Paper)

MEETING PLACE: San Sebastián-Donostia, Spain.

DATES: 26-29 April 2000.

AUTHORS (main presenter): K. Ruiz-Mirazo, A. Moreno, J. Peretó, F. Morán, & J.J. Merelo.

TITLE: Designing a simulation model of a self-maintaining cellular system

TYPE OF PRESENTATION: OC

CONFERENCE: ECAL '99 (5th International European Conference on Artificial Life)

PUBLICATION: Yes (Paper)

MEETING PLACE: Lausanne, Switzerland.

DATES: 13-17 Sept. 1999.

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: A conceptual approach to the idea of organism

TYPE OF PRESENTATION: OC

CONFERENCE: ISHPSSB'99 (International Society for the History, Philosophy and Social Studies of Biology)

PUBLICATION: Yes (Paper)

MEETING PLACE: Oaxaca, Mexico.

DATES: 7-11 July 1999.

AUTHORS (main presenter): K. Ruiz-Mirazo & A. Moreno

TITLE: Autonomy and emergence: how systems become agents through the generation of functional constraints.

TYPE OF PRESENTATION: OC

CONFERENCE: Third International Conference on 'Emergence, Complexity, Hierarchies and Organization' (ECHO III)

PUBLICATION: Yes (Paper)

MEETING PLACE: Helsinki, Finland.

DATES: 3-7 August 1998.

AUTHORS (main presenter): K. Ruiz-Mirazo, A. Moreno & F. Morán
TITLE: Merging the energetic and the relational-constructive logic of life
TYPE OF PRESENTATION: P
CONFERENCE: ALIFE VI (International Conference on Artificial Life)
PUBLICATION: Yes (Paper)

MEETING PLACE: Los Angeles, USA.

DATES: 26-29 June 1998.

PRESENTATIONS IN INTERNATIONAL WORKSHOPS/COURSES

KEY: P=Poster; OC = Oral Communication (aprox. 20 min.); L=Lecture (aprox. 1h.); IL=Invited Lecture (travel expenses covered by the organization); O=others (specify)

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Bottom-up strategies towards the synthesis of minimal (living?) cells.

TYPE OF PRESENTATION: L

WORKSHOP/COURSE: First Summer School on Life and Cognition (UPV/EHU – CREA, Paris)

PUBLICATION: No

MEETING PLACE: San Sebastián – Donostia, Spain.

DATES: 22 – 26 June, 2010

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Molecular and systemic perspectives on the origins of life.

TYPE OF PRESENTATION: L

WORKSHOP/COURSE: Workshop in Biotechnology and Biomedicine (Cantabria University)

PUBLICATION: No

MEETING PLACE: Santander, Spain.

DATES: 25 Jan – 5 Feb, 2010

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: On the lipid-peptide minimal cell scenario.

*TYPE OF PRESENTATION: **OC (Invited)***

WORKSHOP/COURSE: Systems Chemistry II: Evolution and Systems (ESF-COST Research Conferences)

PUBLICATION: No

MEETING PLACE: Lake Balaton, Hungary.

DATES: 18-23 Oct. 2009.

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: A systems view on defining the boundaries of the problem of origins of life.

*TYPE OF PRESENTATION: **OC***

WORKSHOP/COURSE: OQOL'09 (International Workshop 'Open Questions on the Origins of Life 2009')

PUBLICATION: No

MEETING PLACE: Palacio Miramar, Donostia – San Sebastián, Spain.

DATES: 20-23 May 2009.

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Minimal protocell models.

*TYPE OF PRESENTATION: **OC (Invited)***

WORKSHOP/COURSE: Workshop on Theoretical Biology (NAP Project)

PUBLICATION: No

MEETING PLACE: Collegium Budapest, Budapest, Hungary.

DATES: 13-31 Oct. 2008

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Modelling Prebiotic Cells: Lipid-Peptide Integration in Primitive Membranes
TYPE OF PRESENTATION: L
WORKSHOP/COURSE: Advanced Topics in Cell Model Systems (Summer School)
PUBLICATION: No

MEETING PLACE: Tor Vergata, Rome, Italy.
DATES: 8-13 June 2008

AUTHORS (main presenter): K. Ruiz-Mirazo
TITLE: Beyond self-organization: hypothetical mechanisms for self-construction.
TYPE OF PRESENTATION: L
WORKSHOP/COURSE: Int. Workshop 'Explanations in Biology'
PUBLICATION: No

MEETING PLACE: San Sebastián -- Donostia, Spain.
DATES: 7 April 2008

AUTHORS (main presenter): K. Ruiz-Mirazo, A. Moreno & J. Peretó
TITLE: Defining life: why, how and what for.
TYPE OF PRESENTATION: IL
WORKSHOP/COURSE: Colloque 'Définir la vie/Defining Life'
PUBLICATION: Yes (Paper)

MEETING PLACE: Muséum National d'Histoire Naturelle, Paris, France.
DATES: 4-5 Feb. 2008

AUTHORS (main presenter): K. Ruiz-Mirazo
TITLE: Stochastic modelling of minimal proto-metabolic cells.
TYPE OF PRESENTATION: IL
WORKSHOP/COURSE: Symposium on Systems Biology and Metabolic Networks (in the memory of Prof. Reinhardt Heinrich)
PUBLICATION: No

MEETING PLACE: Madrid, Spain.
DATES: 6-8 June 2007

AUTHORS (main presenter): K. Ruiz-Mirazo
TITLE: Functional protocells as the main challenge of present synthetic biology.
TYPE OF PRESENTATION: IL
WORKSHOP/COURSE: Workshop on Synthetic Biology
PUBLICATION: No

MEETING PLACE: Collège d'Espagne, Paris, France.
DATES: 1-2 June 2007

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli
TITLE: Simulation model for primitive functionalized vesicles: lipid-peptide integration in closed membranes
TYPE OF PRESENTATION: P
WORKSHOP/COURSE: Prebiotic Chemistry and Early Evolution (COST Action D27: Final evaluation meeting)
PUBLICATION: Yes (Abstract)

MEETING PLACE: Dubrovnik, Croatia.

DATES: 11-13 May 2007

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Critical remarks on 'The origins of molecular autonomous agent by natural selection' (by Chrsantha Fernando & Jon Rowe)

TYPE OF PRESENTATION: OC

WORKSHOP/COURSE: Modelling biological and cognitive autonomy.

PUBLICATION: Yes (Paper)

MEETING PLACE: San Sebastián – Donostia, Spain.

DATES: 22-23 March 2007

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli

TITLE: Stochastic simulations of protocell dynamics

TYPE OF PRESENTATION: P

WORKSHOP/COURSE: Chembiogenesis 2006 – Systems Chemistry (COST Chemistry -- Action D27)

PUBLICATION: No.

MEETING PLACE: Institute d'Estudis Catalans, Barcelona, Spain.

DATES: 15-17 Dec. 2006

AUTHORS (main presenter): F. Mavelli & K. Ruiz-Mirazo

TITLE: Bridging the gap between in silico and in vitro approaches to minimal (living?) cells.

TYPE OF PRESENTATION: L

WORKSHOP/COURSE: International School on Complexity: 'Basic questions about the origins of life'

PUBLICATION: Yes (Abstract).

MEETING PLACE: Erice, Sicilia, Italy.

DATES: 2-6 Oct. 2006.

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli

TITLE: Modelling minimal lipid-peptide cells.

TYPE OF PRESENTATION: IL

WORKSHOP/COURSE: International School on Complexity: 'Basic questions about the origins of life'

PUBLICATION: Yes (Abstract).

MEETING PLACE: Erice, Sicilia, Italy.

DATES: 2-6 Oct. 2006.

AUTHORS (main presenter): K. Ruiz-Mirazo

TITLE: Working towards basic autonomy: a simulation model to study minimal self-re-producing cells.

TYPE OF PRESENTATION: L

WORKSHOP/COURSE: Int. Workshop 'Organizational Principles in Biology'

PUBLICATION: No.

MEETING PLACE: San Sebastián – Donostia, Spain.

DATES: 27-28 April 2006.

AUTHORS (main presenter): K. Ruiz-Mirazo & F. Mavelli

TITLE: Simulation model of a minimal self-maintaining lipid-peptide cell.

TYPE OF PRESENTATION: P

WORKSHOP/COURSE: Chembiogenesis 2005 (COST Chemistry -- Action D27)
PUBLICATION: No.

MEETING PLACE: Venice International Univ., Venice, Italy.
DATES: 28 Sept. – 1 Oct. 2005.

AUTHORS (main presenter): K. Ruiz-Mirazo
TITLE: Informational constraints: the last step of the origin of life and the beginning of open-ended evolution.
TYPE OF PRESENTATION: IL
WORKSHOP/COURSE: Workshop on Evolution, Information and Computation: from living to non-living matter
PUBLICATION: No.

MEETING PLACE: European Center for Living Technology, Venice, Italy.
DATES: 22 – 27 May 2005.

AUTHORS (main presenter): K. Ruiz-Mirazo & P. L. Luisi
TITLE: Interaction of basic proteins and peptides with oleate vesicles.
TYPE OF PRESENTATION: P
WORKSHOP/COURSE: Third Workshop on Prebiotic Chemistry and Early Evolution (COST Chemistry -- Action D27)
PUBLICATION: No.

MEETING PLACE: Hersonissos, Crete, Greece.
DATES: 30 Sept. – 3 Oct. 2004.

THESIS SUPERVISED /UNDER SUPERVISION

TITLE: Desarrollo de un modelo semiempírico de sistema protocelular automantenido.

Ph. D. STUDENT: Gabriel Piedrafita (FPU Scholarship)

UNIVERSITY: Complutense de Madrid

FACULTY/SCHOOL: Faculty of Sciences

YEAR: IN PROGRESS -- REGISTERED

MARK:

TITLE: Investigations on the natural roots of autonomy, function and agency: modeling the origins and stability of self-productive and self-reproductive protocells.

Ph. D. STUDENT: Ben Shirt-Ediss (UPF Contract)

UNIVERSITY: Basque Country (UPV/EHU)

FACULTY/SCHOOL: Faculty of Philosophy

YEAR: IN PROGRESS -- REGISTERED

MARK:

REFeree RESEARCHERS

(Up to 3 researchers' names may be given by applicant to give references.
Compliance of this section is not compulsory for the applicant)

SURNAMES, NAME: MORENO BERGARECHE, ALVARO

PROFESSIONAL RELATIONSHIP WITH APPLICANT: PROFESSOR-TUTOR AND COLLABORATOR
(Professor-tutor, Research director, Employee-boss, Collaborator, Others)

LENGTH OF RELATIONSHIP (give dates): STARTING FROM 1996

BODY TO WHICH YOU BELONG TODAY: UNIVERSITY OF THE BASQUE COUNTRY, SPAIN
(Institution and country)

POST: FULL PROFESSOR

TELEPHONE: +34 943018249

E-MAIL: alvaro.moreno@ehu.es

SURNAMES, NAME: LUISI, PIER LUIGI

PROFESSIONAL RELATIONSHIP WITH APPLICANT: RESEARCH DIRECTOR DURING POSTDOC
(Professor-tutor, Research director, Employee-boss, Collaborator, Others)

LENGTH OF RELATIONSHIP (give dates): STARTING FROM 2003

BODY TO WHICH YOU BELONG TODAY: UNIVERSITY ROMA TRE, ITALY
(Institution and country)

POST: FULL PROFESSOR

TELEPHONE: +39 0655176329

E-MAIL: luisi@mat.ethz.ch

SURNAMES, NAME: GOÑI URCELAY, FELIX

PROFESSIONAL RELATIONSHIP WITH APPLICANT: PROFESSOR AND RESEARCH DIRECTOR
(Professor-tutor, Research director, Employee-boss, Collaborator, Others)

LENGTH OF RELATIONSHIP (give dates): STARTING FROM 2005

BODY TO WHICH YOU BELONG TODAY: UNIVERSITY OF THE BASQUE COUNTRY, SPAIN
(Institution and country)

POST: FULL PROFESSOR, HEAD OF THE BIOPHYSICS RESEARCH UNIT (CSIC -- UPV/EHU).

TELEPHONE: +34 946012625

E-MAIL: felix.goni@ehu.es

OTHER ACHIEVEMENTS
(in one DIN A4 page only)

• **Grants/Awards:**

Excellent PhD Dissertation Award, by the University of the Basque Country (UPV-EHU), 2004.

Post-doctoral (Mod. E) fellowship provided by the Basque Government to re-join Alvaro Moreno's research group on philosophy of biology. (Oct 2005 – Dec. 2006).

FPI Post-doctoral fellowship provided by the MECD (Spanish Government) to collaborate with Pier Luigi Luisi's group at ETH-Zürich (Switzerland: February – September 2003) and in Rome, Italy (Dept. of Biology, Roma Tre University: January 2004 – March 2005).

Post-doctoral fellowship provided by the National Institute of Aerospace Technology (INTA) of the Spanish Government to work at the Centre for Astrobiology (CAB) in Madrid (April 2002 - September 2002)

Invited researcher (all sustenance costs covered by the host) for a two-month stay (July-September, 1999) at the University of Newcastle (Australia), to work with the Complex Dynamic Systems Research Group, led by Professor Cliff A. Hooker.

Invited student (all sustenance costs covered by the host) to the "1998 Complex Systems Summer School", organized by the Santa Fe Institute (SFI), held at The College of Santa Fe, New Mexico, USA, during the four weeks of June 1998.

Pre-doctoral fellowship provided by the University of the Basque Country (UPV-EHU), during 4 consecutive years, to do research leading to the development of a Ph. D. dissertation on "Physical conditions for the appearance of autonomous systems with open-ended evolutionary capacities". (October 1996 - November 2000) -- *Excellent Dissertation Award (2004)*.

Erasmus grant (for 'post-graduates') to stay at the University of Notre Dame de la Paix of Namur (Belgium) and carry out the second half (6 months) of the Master in "European Studies on Society, Science and Technology" (March-Sept. 1995).

• **Organization of conferences/workshops/summer schools (incl. fund raising):**

Main organizer (together with Prof. P. L. Luisi) of the International Workshop 'Open Questions on the Origins of Life' held at Palacio Miramar, San Sebastian-Donostia, Spain (20-23 May 2009). Aprox. global budget: **40.000 €** (15.200 € from the Basque Government, 8.000€ from MICINN, 7.000€ from UPV/EHU, 1.000€ from CSIC, 2.500€ from a private enterprise (Kutxa), and the rest from registration fees. More info at: <http://oqol2009.wordpress.com/>)

Co-organizer (together with other members of the IAS Research Group, UPV/EHU, and CREA, from Paris) of the 'First Summer School on Life and Cognition' held at Palacio Miramar, in San Sebastian-Donostia, on the 22-26 of June 2010 (Further info at the webpage: <http://www.lifecognitionschool.eu/>).

Main organizer (together with Xabier Barandiaran, from the IAS Research Group) of the International Workshop 'Modelling biological and cognitive autonomy' held at the UPV/EHU in San Sebastian-Donostia (22-23 March 2007). Aprox. global budget: **6.000 €** (4.100€ from the 'EuCognition' Program and 1.632€ from a private enterprise -- Kutxa)

Co-organizer (together with other members of the IAS Research Group) of one- or two-day National and International Workshops held in San Sebastian-Donostia over the years ('Explanations in Biology', 'Seminario sobre Funciones', 'On the chemoton and other proto-metabolic models' 'Organizational Principles in Biology', 'Definition of life', etc. For further information, see our webpage: <http://www.ehu.es/ias-research>).

• **Invited Lecturer at different (national and international) Research Centres:**

Invited Lecturer (sustenance-travel costs, fully or partially covered by the host centre) at: **FLinT**, Southern Denmark University (June 2010), **CREA**, Paris (Feb. 2010), **IBI** (Institute for Biocomplexity and Informatics) Univ. of Calgary (Dec. 2009), **Collegium Budapest**, Hungary (Oct. 2008), **ECLT** (European Centre for Living Technology) Venice, Italy (May 2005), **CNB** (Dept. Microb. Biotech. - Spanish National Center Biotechnology) Madrid, Spain (March 2003).

• **Lecturing activity at the UPV/EHU (responsible for the following subjects, at present):**

Philosophy of Biology (1 semester, 4.5 ECTS, Faculty of Science and Technology); **Philosophy of Biology and Cognitive Sciences** (Partly: 1 ECTS, Masters on Philosophy, Science and Values); **Origins of membranes** (Partly: 0.2 ECTS, Masters on Molecular Biology & Biomedicine).