

## *Curriculum Vitae*

### **FERNANDO MORENO-HERRERO (1/9/2011)**

#### **Personal information**

Name: Fernando Moreno Herrero  
Date and place of birth: March 5, 1976 in Oviedo (Spain)  
Nationality: Spanish  
Current address: Centro de Nacional de Biotecnología (CNB-CSIC)  
Darwin 3, 28049, Cantoblanco, Madrid, Spain  
Tel: 0034 91 585 5305  
Email: [fernando.moreno@cnb.csic.es](mailto:fernando.moreno@cnb.csic.es)  
Website: [www.fernandomorenoherrero.com](http://www.fernandomorenoherrero.com)

#### **Education**

Sept 1998 – March 2003: Ph.D in Physics (Cum Laude), Univ. Autónoma de Madrid, Spain  
Ph.D. extraordinary prize by Univ. Autónoma de Madrid.  
*Thesis supervisor:* Prof. Dr. Arturo M. Baró Vidal  
*Topic:* Applications of the Atomic Force Microscopy to investigation of biological systems  
Sept 1994 – July 1998: Physics degree by Univ. Oviedo, Spain (#2 of promotion)

#### **Employment**

Sept 09 - Present Científico Titular CSIC (Spanish National Research Council)  
National Center of Biotechnology  
Dec 06 – Sept 09: Ramon y Cajal program contracted.  
Institut Catalá de Nanotecnologia, Spain  
Sept 05 – Sept 06: Post-doctoral contracted by FOM (Fundamenteel Onderzoek Materie).  
Delft Univ. of Technology, The Netherlands  
Sept 03 – Sept 05: Post-doctoral Ramón Areces Foundation Fellow.  
Delft Univ. of Technology, The Netherlands  
Sept 1999 – Sept 2003: Ph.D Comunidad de Madrid fellow.  
Univ. Autónoma de Madrid, Spain  
Nov 1997 – June 1998: Collaboration fellow, Spanish Ministry of Science.  
Univ. Oviedo, Spain

#### **Research**

- High-resolution AFM imaging of DNA-protein interactions in air and in buffer
- Single-molecule biophysics on molecular motors using AFM, Magnetic Tweezers, and biochemical techniques
- Mechanical properties of nucleic acids.

#### **5 Selected Publications**

J.T. Yeeles, K. van Aelst, M.S. Dillingham and F. Moreno-Herrero "Recombination hotspots and single-stranded DNA binding proteins couple DNA translocation to DNA unwinding by the AddAB helicase-nuclease"

*Molecular Cell* 42, 806-816 (2011)

P.A. Wiggins, T. van der Heijden, F. Moreno-Herrero, A. Spakowitz, R. Phillips, J. Widom, Cees Dekker and P.C. Nelson "High flexibility of DNA on short length scales probed by atomic force microscopy"

*NATURE Nanotechnology* 1, November, 137-141 (2006)

F. Moreno-Herrero, M. de Jager, N.H. Dekker, R. Kanaar, C. Wyman and C. Dekker "Mesoscale conformational changes in the DNA-repair complex Rad50/Mre11/Nbs1 upon DNA binding"

*NATURE* 437 (7057), 440-443 (2005)

C. Gómez-Navarro, F. Moreno-Herrero, P.J. de Pablo, J. Colchero, J. Gómez-Herrero and A.M. Baró "Contactless experiments on individual DNA molecules show no evidence for molecular wire behavior"

*Proceedings of the National Academy of Sciences USA*, 99 (13), 8484-8487 (2002)

P.J.de Pablo, F.Moreno-Herrero, J.Colchero, J.Gomez-Herrero, P.Herrero, A.M.Baró, P.Ordejón, J.M.Soler and E. Artacho  
"Absence of *dc*-Conductivity in  $\lambda$ -DNA"  
*Physical Review Letters* 85 (23), 4992-4995 (2000)

## **Awards and Honors**

- ERC Starting Grant 2007
- Ramón y Cajal awardee. Number 1 position. Spanish Ministry of Science
- Ph.D Extraordinary Prize, Univ. Autónoma de Madrid
- Ramón Areces Postdoc fellowship, Ramón Areces Foundation
- Ph.D. Cum Laude, Univ. Autónoma de Madrid
- CAM Ph.D. Fellowship, Comunidad de Madrid Government
- Collaboration Fellowship, Spanish Ministry of Science

## **Other activities and membership**

- Journal Referee: *Nucleic Acids Research*, *European Biophysical Journal*, *FEBS letters*, *Biophysical Journal*, *Journal of Microscopy* and *European Polymer Journal*.
- Member of Royal Spanish Physical Society.
- Member of Spanish Biochemistry and Molecular Biology Society.
- Member of the American Biophysical Society.

## **Last Invited seminars and talks**

*High flexibility of DNA at short length scales probed with the atomic force microscopy*  
Keynote talk at Trends in Nanotechnology 2007, San Sebastian, 3-7 Septiembre 2007.

*Single-molecule Biophysics: Atomic Force Microscopy and Magnetic Tweezers as nanotools to study DNA repair*  
Workshop "1st Spain-Taiwan Nano-Electronics Workshop", Bellaterra, 6,7 Octubre 2007.

*Técnicas de molécula individual para estudiar nanomáquinas reparadoras de ADN "*  
*XXXI Congreso de la Sociedad Española de Bioquímica y Biología molecular, Bilbao, 10-13 Sept. 2008.*

*Using the Atomic Force Microscope to study DNA break repair*  
*1st Winter workshop on functional SPM in Bio and Chemical Physics, Modena, Italy, 10-12 Dec. 2009.*

*Single molecule studies of AddAB: a molecular motor for repairing broken DNA*  
Prof. Vicente Rubio Lab. Instituto de Biomedicina de Valencia, 20 January, 2010

*Molecular Biophysics of DNA repair Nanomachines*  
Prof. Ricardo García Lab. Instituto de Microelectrónica de Madrid, 27 January, , 2010

*Recombination hotspots tightly couple helicase and translocation activity of AddAB helicase-nuclease*  
Prof. Oscar Llorca Lab. Centro de Investigaciones Biológicas, 19 May, 2010

*Recombination hotspots tightly couple helicase and translocation activity of AddAB helicase-nuclease*  
Prof. Ulrich Keyser Lab. University of Cambridge, 14 December, 2010

*Single-molecule approaches to study the AddAB helicase-nuclease*  
XI Congress of the Spanish Biophysical Society, 1-4 March 2011, Murcia, Spain.

*The role of Chi sequences and SSB proteins in DNA end-processing by the AddAB helicase-nuclease*  
Prof. Ralf Seidel Lab. University of Technology Dresden, 28 August 2011 Dresden, Germany

*The role of Chi sequences and SSB proteins in DNA end-processing by the AddAB helicase-nuclease*  
Prof. Felix Ritort Lab. Universidad de Barcelona, 4 October 2011, Barcelona, Spain

*The role of Chi sequences and SSB proteins in DNA end-processing by the AddAB helicase-nuclease*  
Prof. Cees Dekker and Nynke Dekker Labs, 13 and 14 October, 2011, TUDelft, The Netherlands

## **Contributed talks, Publications and Funded Projects**

- 28 Contributed talks in national and international conferences + 5 invited + 1 Keynote.
- 31 ISI Web of Science ranked publications and 5 conference proceedings
- First/Corresponding author in 17, and second author in 9
- >930 times cited, H=16. Average JCR impact of publications 5.997.
- Participated in 11 funded Research Projects. 4 as Principal Investigator.