**Curriculum Vitae**



**PERSONAL INFORMATION**

Family name, First name: Reguera Vidaechea, Juan Javier

Researcher unique identifier(s) Research ID: **A-7551-2017**

ORCID: 0000-0003-4977-7948

Date of birth: 27/09/1976

Nationality: Spanish

URL for the laboratory web site: http://www.afmb.univ-mrs.fr/macromolecular-viral-complex

* **EDUCATION**

2016 HDR (“*Habilitation à diriger les recherches*“) by the Alpes University, Grenoble, France.

2004 PhD “cum laude” in biochemistry and molecular biology by the Universidad Autonoma de Madrid (UAM). Madrid, Spain. Supervised by Dr. Mauricio Garcia Mateu.

2000 Graduate (BD+M) in biological sciences by the UAM. Madrid, Spain.

* **CURRENT POSITION**

2016 Research scientist (CR1) at the Architecture and Function of Biological Macromolecules laboratory (AFMB, UMR7257) by the National Institute for Health and Medical Research (INSERM), Marseille, France.

2016 Group Leader at the AFMB UMR7257 laboratory, National Center for Scientific Research (CNRS) and Aix-Marseille University (AMU), Marseille, France.

* **PREVIOUS POSITIONS**

2013 – 2016 Research Scientist.

At the Stephen Cusack’s laboratory, European Molecular Biology Laboratory and the International Unit for Virus Host-Cell Interactions (UVHCI) UMI3265, Grenoble, France.

2009 – 2013 Post-Doctoral position

At the Stephen Cusack’s laboratory, European Molecular Biology Laboratory and the International Unit for Virus Host-Cell Interactions (UVHCI) UMI3265, Grenoble, France.

2006 – 2009 Post-Doctoral position

Department of Macromolecular Structures, National Center for Biotechnology (CNB), Spanish Council for the Scientific Research (CSIC), Madrid, Spain.

2005 – 2006 Post-Doctoral position

Department of molecular and cellular biology, CNB-CSIC, Madrid, Spain.

2000 – 2004 PhD student at the Center for Molecular Biology “Severo Ochoa” (CBM-SO), CSIC/UAM, Madrid, Spain.

* **FELLOWSHIPS AND AWARDS**

2016 FBS ATIP – AVENIR award by the Bettencourt Shueller Foundation, France.

2015 ATIP – AVENIR starting grant by the National Center for Scientific Research (CNRS) and the National Institute for Health and Medical Research (INSERM), France.

2015 “Ramon y Cajal” fellowship by the Spanish Government, Spain. (awarded but declined)

2009 – 2011 Long Term EMBO Fellowship by the European Molecular Biology Organization

2006 – 2008 “Juan de la Cierva” Post-Doctoral fellowship by the Spanish Ministry of Education, Spain.

* **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2016 – I am currently supervising two postdoctoral fellows, two PhD students, two senior technicians, one young technician and two master students.

2009 – 2016 At the EMBL-Grenoble I co-supervised one master student, one postdoctoral fellow and a PhD student, all published in high profile journals, the latest two as first authors in a Cell journal article.

2005 – 2008 I co-supervised three PhD students and one master student in Luis Enjuanes and JM Casasnovas Laboratories at the departments of Molecular and Cellular Biology and Macromolecular Structures respectively, CNB, Madrid, Spain.

* **INSTITUTIONAL RESPONSIBILITIES**

2018- Responsible of coordination and development of the Mediterranean network for integrative structural biology (University Aix-Marseille, INSERM, CNRS, CSIC and University Autonoma de Madrid).

2016- Responsible of the Eukaryotic protein production facility, AFMB (CNRS-AMU), France

2016- Organiser of the Seminars program, AFMB (CNRS-AMU), Marseille, France

2016- Member of the Committee for integrative structural biology development in Aix-Marseille; (INSERM-CNRS-AMU), France.

* **COMMISSIONS OF TRUST (if applicable)**

- Invited referee for the following peer reviewed journals: Nature, Nature Communications, Cell reports, RNA, Nucleic Acids Research, Journal of Biological Chemistry, Virology, Journal of virology, BMC Structural Biology and Plos One.

- Grant evaluator for the following funding agencies: ANR, France; MRC, UK; ECHO, Netherlands; Leibniz, Germany; GRAL, France; FINOVI, France; Dim1health, France.

- Thesis jury member of the PhD defenses by:

2020 William Backache, Université de Montpellier, Montpellier, France

2019 Jesus Gomez, Université des Alpes, Grenoble, France

2019 Margaux Chahpazoff, Université de Lyon, Lyon, France

2016 Abdenour Amroun, Aix Marseille University, Marseille, France

2016 Axelle Collet Aix Marseille University, Marseille, France

* **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2020 Member, CENTURI Turing centre for living systems, Marseille

2016 Member, European Society for Virology

2016 Member, French Society for Virology

* **MAJOR COLLABORATIONS**

|  |  |
| --- | --- |
| **Collaborators**  Ali Amara, UMR 944, Université Paris Diderot, INSERM, France  Michael Homs, EMBL, Grenoble, France  Alphée Michelot, IBDM, CNRS, Marseille, France  Ignacio Casuso and Felix Rico, LAI, INSERM, Marseille, France | **Expertise**  Cell biology of viral infection  Cryo-EM  Cell cytoskeleton, actin  Atomic force microscopy |
| JM Valpuesta and JM Carazo, CNB, Madrid. Spain  Friedemann Weber, Phillips University, Germany  Bruno Canard, AFMB, CNRS-AMU, Marseille, France  Helene Malet and Guy Schoehn, IBS-CNRS, Grenoble, France  Maria Rosenthal and Stephan Gunther, BNI, Hamburg, Germany  Nicole Tischler, Fundacion ciencia y vida, Chili  Pascale Lesage, UMR 944, Université Paris Diderot, INSERM, France  Joel Acker, CEA, Paris, France  Carlos Fernandez-Tornero, CIB, CSIC, Madrid, Spain | Cryo-EM/ET, Software developers  Viral IFN response interference  Enzymology, Virology  Cryo-EM/ET  BSL4, Virology  Hantavirus cell and molecular biology  Yeast Retrotransposon  Biochemistry of RNA PolIII and Ty LTRs  Structure and function of RNA pols |

**On-going Grants**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Project Title* | *Funding source* | *Amount*  *(Euros)* | *Period* | *Role of the PI* |
| CoMemRep  ANR-20-COV3-0004 | AR-ANR / FRM | 149K | 01/06/2020  01/06/2021 | Coordinator  Project responsible |
| HiPathBunya  ANR-19-CE11-0024 | ANR, France | 230K | 01/01/2020  31/12/2023 | Coordinator  Project responsible |
| Chimie pour la Médecine, DCM20181039531 | FRM, France | 100K | 01/10/2018  01/10/2021 | Project responsible (Partner Biology) |
| Grant ANR-PRC “Instruc”. Partner for the structural biology part of the project (ANR-17-CE11-0025 -03) | ANR, France | 190K | 01/10/2017  01/10/2021 | Project responsible (Partner structural biology) |
| Structural and functional characterization of the Chikungunya replication complex  (AGDI-531281) | Fondation Bettencourt Shueller | 300K | 15/06/2016  14/06/2019 | Project responsible |
| Structural and functional characterization of the Chikungunya replication complex | ATIP-AVENIR | 120K | 15/06/2016  14/06/2019 | Project responsible |
| Structural and functional characterization of the Chikungunya replication complex | Fondation Aix-Marseille University | 20K | Jan to Dec 2017 | Project responsible |

**List of Research Articles**

*(Main author in bold, corresponding author (\*))*

1. Ty1 integrase is composed of an active N-terminal domain and a large disordered C-terminal module dispensable for its activity in vitro. Nguyen PQ, Conesa C, Rabut E, Bragagnolo G, Gouzerh C, Fernández-Tornero C, Lesage P, Reguera J, Acker JL. J Biol Chem. 2021 Aug 17:101093. PMID: 34416236.

2. Kovacikova K, González MG, Jones R, Reguera J, Gigante A, Pérez-Pérez MJ, Pürstinger G, Moesslacher J, Langer T, Jeong LS, Delang L, Neyts J, Snijder EJ, van Westen GJP, van Hemert MJ. Structural insights into the mechanisms of action of functionally distinct classes of Chikungunya virus nonstructural protein 1 inhibitors.

Antimicrob Agents Chemother. 2021 Apr 19:AAC.02566-20. PMID: 33875421.

3: Jones R, Bragagnolo G, Arranz R, **Reguera J**\*.

Capping pores of alphavirus nsP1 gate membranous viral replication factories.

Nature. 2021 Jan;589(7843):615-619. PMID: 33328629.

4: Arragain B, Effantin G, Gerlach P, Reguera J, Schoehn G, Cusack S, Malet H.

Pre-initiation and elongation structures of full-length La Crosse virus

polymerase reveal functionally important conformational changes. Nat Commun.

2020 Jul 17;11(1):3590. PMID: 32681014.

5: Jones R, Lessoued S, Meier K, Devignot S, Barata-Garcia S, Mate M, Bragagnolo

G, Weber F, Rosenthal M, **Reguera J**\*. Structure and function of the Toscana virus

cap-snatching endonuclease. Nucleic Acids Res. 2019 Nov 18;47(20):10914-10930.

PMID: 31584100.

6: Arragain B, Reguera J, Desfosses A, Gutsche I, Schoehn G, Malet H. High

resolution cryo-EM structure of the helical RNA-bound Hantaan virus nucleocapsid

reveals its assembly mechanisms. Elife. 2019 Jan 14;8:e43075 PMID: 30638449.

7: Rosenthal M, Gogrefe N, Vogel D, Reguera J, Rauschenberger B, Cusack S,

Gunther S, Reindl S. Structural insights into reptarenavirus cap-snatching

machinery. PLoS Pathog. 2017 May 15;13(5):e1006400.

PMID: 28505175.

8: Santiago C, Mudgal G, Reguera J, Recacha R, Albrecht S, Enjuanes L,

Casasnovas JM. Allosteric inhibition of aminopeptidase N functions related to

tumor growth and virus infection. Sci Rep. 2017 Apr 10;7:46045.

PMID: 28393915.

9: **Reguera J**\*, Gerlach P, Rosenthal M, Gaudon S, Coscia F, Gunther S, Cusack S.

Comparative Structural and Functional Analysis of Bunyavirus and Arenavirus Cap-

Snatching Endonucleases. PLoS Pathog. 2016 Jun 15;12(6):e1005636.

PMID: 27304209.

10: Fernandez-Garcia Y, Reguera J, Busch C, Witte G, Sanchez-Ramos O, Betzel C,

Cusack S, Gunther S, Reindl S. Atomic Structure and Biochemical Characterization

of an RNA Endonuclease in the N Terminus of Andes Virus L Protein. PLoS Pathog.

2016 Jun 14;12(6):e1005635. PMID: 27300328;

11: Gerlach P, Malet H, Cusack S, **Reguera J**\*. Structural Insights into Bunyavirus

Replication and Its Regulation by the vRNA Promoter. Cell. 2015 Jun

4;161(6):1267-79. PMID: 26004069.

12: Klemm C, Reguera J, Cusack S, Zielecki F, Kochs G, Weber F. Systems to

establish bunyavirus genome replication in the absence of transcription. J

Virol. 2013 Jul;87(14):8205-12. PMID: 23698297.

13: **Reguera J**, Malet H, Weber F, Cusack S. Structural basis for encapsidation of

genomic RNA by La Crosse Orthobunyavirus nucleoprotein. Proc Natl Acad Sci U S

A. 2013 Apr 30;110(18):7246-51. PMCID: PMC3645531.

14: **Reguera J**, Santiago C, Mudgal G, Ordo√±o D, Enjuanes L, Casasnovas JM.

Structural bases of coronavirus attachment to host aminopeptidase N and its

inhibition by neutralizing antibodies. PLoS Pathog. 2012;8(8):e1002859. PMID: 22876187.

15: **Reguera J**, Ordo√±o D, Santiago C, Enjuanes L, Casasnovas JM. Antigenic

modules in the N-terminal S1 region of the transmissible gastroenteritis virus

spike protein. J Gen Virol. 2011 May;92(Pt 5):1117-1126. PMID: 21228126.

16: **Reguera J**, Weber F, Cusack S. Bunyaviridae RNA polymerases (L-protein) have

an N-terminal, influenza-like endonuclease domain, essential for viral cap-

dependent transcription. PLoS Pathog. 2010 Sep 16;6(9):e1001101. PMID: 20862319.

17: Riolobos L, Reguera J, Mateu MG, Almendral JM. Nuclear transport of trimeric

assembly intermediates exerts a morphogenetic control on the icosahedral

parvovirus capsid. J Mol Biol. 2006 Mar 31;357(3):1026-38. PMID: 16469332.

18: **Reguera J**, Grueso E, Carreira A, Sanchez-Martinez C, Almendral JM, Mateu MG.

Functional relevance of amino acid residues involved in interactions with

ordered nucleic acid in a spherical virus. J Biol Chem. 2005 May 6;280(18):17969-77. PMID: 15728575.

18: **Reguera J**, Carreira A, Riolobos L, Almendral JM, Mateu MG. Role of

interfacial amino acid residues in assembly, stability, and conformation of a

spherical virus capsid. Proc Natl Acad Sci U S A. 2004 Mar 2;101(9):2724-9. PMID: 14981262.

21: Carreira A, Menendez M, Reguera J, Almendral JM, Mateu MG. In vitro

disassembly of a parvovirus capsid and effect on capsid stability of

heterologous peptide insertions in surface loops. J Biol Chem. 2004 Feb

20;279(8):6517-25. PMID: 14660623.

**List of Reviews**

1: Ferron F, Weber F, de la Torre JC, **Reguera J**\*. Transcription and replication

mechanisms of Bunyaviridae and Arenaviridae L proteins. Virus Res. 2017 Apr

15;234:118-134. Epub 2017 Jan 27. PMID: 28137457.

2: **Reguera J**, Gerlach P, Cusack S. Towards a structural understanding of RNA

synthesis by negative strand RNA viral polymerases. Curr Opin Struct Biol. 2016

Feb;36:75-84. doi: 10.1016/j.sbi.2016.01.002. Epub 2016 Jan 27. PMID: 26826467.

3: **Reguera J**, Mudgal G, Santiago C, Casasnovas JM. A structural view of

coronavirus-receptor interactions. Virus Res. 2014 Dec 19;194:3-15.

PMID: 25451063.

4: **Reguera J**, Cusack S, Kolakofsky D. Segmented negative strand RNA virus

nucleoprotein structure. Curr Opin Virol. 2014 Apr;5:7-15. PMID: 24486721.

5: Enjuanes L, Almazan F, Sola I, Zuniga S, Alvarez E, Reguera J, Capiscol C.

Biochemical aspects of coronavirus replication. Adv Exp Med Biol. 2006;581:13-24. PMID: 17037498.

**Book Chapters**

1. Negative Single Stranded RNA Viruses: A Structural View

J Reguera.

Encyclopedia of Virology 2021, Elsevier.