Rossetti, Giulia, Jun.-Prof. Dr. Dr.

Lab interest: **Voltage-gated sodium channels in physiology and disease, pain research**

Department of Hematology, Oncology, Hemostaseology, and Stem Cell Transplantation, RWTH Aachen University, Germany and Institute of Neuroscience and Medicine / Institute for Advanced Simulation – Computational Biomedicine (INM-9/IAS-5) and Jülich Supercomputing Centre (JSC), Forschungszentrum Jülich GmbH (FZJ), Jülich, Germany

E-Mail: g.rossetti@fz-juelich.de

PROFESSIONAL CAREER

since 2014	Junior Professor, Department of Hematology, Oncology, Hemostaseology, and Stem Cell Transplantation, Uniklinik RWTH Aachen, Aachen, Germany
since 2014	Group Leader Institute of Neuroscience and Medicine / Institute for Advanced Simulation – Computational Biomedicine (INM-9/IAS-5) and Jülich Supercomputing Centre (JSC), Forschungszentrum Jülich GmbH (FZJ), Jülich, Germany
2012	Postdoc Institute for Research in Biomedicine (IRB), Barcelona, Spain - Shared (70%:30%) with Jülich Supercomputing Centre (JSC), Forschungszentrum Jülich GmbH, Jülich, Germany
2011	Postdoc German Research School for Simulation Sciences GmbH (GRS), Jülich, Germany

UNIVERSITY EDUCATION AND ACADEMIC DEGREES

2011	2nd PhD: Doctor rerum naturalium (Excellent with distinction Borchers-Plakette, Department of Biology, Faculty 1, RWTH Aachen University, Aachen, Germany
2010	1st PhD: Doctor Philosophiae in Statistical and Biological Physics, Scuola Internazionale Superiore di Studi Avanzati (5% Nation Top)/ International School for Advanced Studies (SISSA, https://www.sissa.it), Functional and structural genomics, Trieste, Italy
2005	Master Degree in Chemistry 110/110 with distinction (cum laude), Faculty of Mathematics, Computer Science and Natural Sciences, Department of Chemistry, La Sapienza, Rome, Italy

AWARDS

2015	RWTH Start-Up, RWTH Excellence Initiative, Aachen, Germany
2012	Friedrich-Wilhelm-Award, RWTH, Aachen, Germany
2011	Borchers-Plakette, RWTH Aachen, Germany
2010	Award Cover for the Journal of Chemical Theory and Computation
2006	Post-Graduate Award Fellowship, SISSA, Trieste, Italy

SELECTED RESEARCH FUNDING (PAST 5 YEARS)

2019-2021	Helmholtz School for Data Science in Life, Earth and Energy (HDS-LEE), within the framework of the Helmholtz Information Data Science Academy (HIDA), PI (with other 20 PIs from other universities/research centers)
2019-2021	BMBF, Molecular simulation-based rational design of Painkillers Targeting the Opioid Receptor (PaTOR), PI (with Prof. Carloni, Jun-Prof. A.-Prieto)
2019-2020	OPSF496 - OPEN Seed Fund Call 2019, Translational Tumor Medicine: From chemical hits to new potential clinical candidates and their bioactivities, PI (with Prof. Bolm, Dr. Chatain, Prof. Koschmieder)

2018-2022 EU - Innovative Training Network (ITN), European Joint Doctorates (EJD), SimulaTIon in MUltiscaLe physicAl and biological sysTEms (STIMULATE), PI (with other 27 PIs across Europe)

2018-2021 JARA co-fund for Center for Simulation and Data Science (CSD), Efficient all-atom RNA and DNA simulations, PI (with Prof. Costa, Dr. Mohanty)

2016-2017 ERS Seed Fund, Inhibitors of the Chikungunya Virus Macrodomain: A Proof-of-Principle study, PI (with Prof. Bolm, Prof. Lüscher, Dr. Verheugd)

MOST IMPORTANT PUBLICATIONS

Legend:
**=shared first author*
#*=corresponding/senior author*
#* *shared corresponding/senior author*

1. Maggi L., Carloni P., **#Rossetti G.** Vibrational Energy in Proteins Correlates with Topology. Journal of Physical *Chemistry Letters,* **2018**;9(22):6393-98.
2. **Rossetti G.**, Kless A., Lai L., Outeiro T.F., Carloni P. *Biochemical Society transactions,* 2019;47(3):909-18.
3. Lv, W. L., Arnesano, F., Carloni, P., Natile, G., & **#*Rossetti, G.**, Effect of in vivo post-translational modifications of the HMGB1 protein upon binding to platinated DNA: a molecular simulation study. *Nucleic Acids Research* 2018, 46(22), 11687–11697.
4. Cao, R., Giorgetti, A., Bauer, A., Neumaier, B., **#*Rossetti, G**., & Carloni, P. Role of Extracellular Loops and Membrane Lipids for Ligand Recognition in the Neuronal Adenosine Receptor Type 2A: An Enhanced Sampling Simulation Study. *Molecules*, 2018, 23(10), 2616.
5. Campaner, E., Rustighi, A., Zannini, A., Cristiani, A., Piazza, S., Ciani, Y., Kalid, O., Golan, G., Baloglu, E., Shacham, S., Valsasina, B., Cucchi, U., Pippione, A. C., Lolli, M. L., Giabbai, B., Storici, P., Carloni, P., **Rossetti, G**., Benvenuti, F., Bello, E., D'Incalci, M., Cappuzzello, E., Rosato, A. & Giannino Del Sal, A covalent PIN1 inhibitor selectively targets cancer cells by a dual mechanism of action. *Nature Communications* 2017, 8, 15772.
6. Ponzoni, L.; **#*Rossetti, G**.; Maggi, L.; Giorgetti, A.; Carloni, P.; Micheletti, C., Unifying view of mechanical and functional hotspots across class A GPCRs. *PLOS Computational Biology* 2017, *13* (2), e1005381.
7. Li, J.; Vervoorts, J.; Carloni, P.; **#*Rossetti, G**.; Lüscher, B., Structural prediction of the interaction of the tumor suppressor p27 KIP1 with cyclin A/CDK2 identifies a novel catalytically relevant determinant. *BMC bioinformatics* 2017**,** *18* (1), 15.
8. Villar-Piqué, A.; da Fonseca, T. L.; Sant'Anna, R.; Szegö, É. M.; Fonseca-Ornelas, L.; Pinho, R.; Carija, A.; Gerhardt, E.; Masaracchia, C.; Gonzalez, E. A., **Rossetti, G.**; Carloni, P.; Fernández, C.O.; Foguel, D.; Milosevic, I.; Zweckstetter, M.; Ventura, S., and Outeiro, T.F.; Environmental and genetic factors support the dissociation between α-synuclein aggregation and toxicity. *Proceedings of the National Academy of Sciences* 2016, 201606791.
9. **Rossetti, G.**; Musiani, F.; Abad, E.; Dibenedetto, D.; Mouhib, H.; Fernandez, C.; Carloni, P., Conformational ensemble of human α-synuclein physiological form predicted by molecular simulations. *Physical Chemistry Chemical Physics* 2016**,** *18* (8), 5702-5706.
10. Miotto, M. C.; Valiente-Gabioud, A. A.; **Rossetti, G.**; Zweckstetter, M.; Carloni, P.; Selenko, P.; Griesinger, C.; Binolfi, A.; Fernández, C. O., Copper binding to the N-terminally acetylated, naturally occurring form of alpha-synuclein induces local helical folding. *Journal of the American Chemical Society, 2015, 137* (20), 6444-6447.