Angelo Rosa

Curriculum Vitae

- **PERSONAL INFORMATION**

Family name / First name: Rosa, Angelo

Researcher unique identifier(s): ResearcherID (http://www.researcherid.com/rid/C-2056-2015), ORCID (http://orcid.org/0000-0002-9627-2486)

Personal web-site: www.sissa.it/~anrosa

- **BIBLIOMETRIC INDEXES**

Web of Science: H-index (21), Total Times Cited (1,759)

Google Scholar: H-index (24), i10-index (41), Total Times Cited (2,591)

- **ABILITAZIONE SCIENTIFICA NAZIONALE**

Abilitazione a Prof. I Fascia (02/B2) – Fisica Teorica della Materia (Domanda nr. 21398)

Abilitazione a Prof. II Fascia (02/B2) – Fisica Teorica della Materia (Domanda nr. 20858)

Abilitazione a Prof. II Fascia (02/D1) – Fisica Applicata, Didattica e Storia della Fisica (Domanda nr. 36457)

- **EDUCATION**

2003
PhD in "Statistical and Biological Physics", Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste (Italy)

2000
Master (Laurea) in Physics, University of Pisa (Italy)

- **CURRENT POSITION (SINCE 2021)**

Associate Professor (*in Italian*, Professore Associato), "Molecular & Statistical Biophysics" Group, SISSA, Trieste (Italy)

- **PREVIOUS POSITIONS**

2012 – 2021
Researcher (permanent position), "Molecular & Statistical Biophysics" Group, SISSA, Trieste (Italy)

2010 – 2012
Researcher (non permanent position), "Molecular & Statistical Biophysics" Group, SISSA, Trieste (Italy)

2006 – 2009
"Juan de la Cierva" post-doctoral fellow, "Physics of Biological Systems" Group, Institute for Biocomputation and Physics of Complex Systems (BIFI), Zaragoza (Spain)

2005 – 2006
Post-doc, "Physics of Biological and Soft Matter" Group, Max-Planck Institute for the Physics of Complex Systems, Dresden (Germany)

2003 – 2005
Post-doc, "Computation and Visualization in Mathematics and Mechanics" Group, Ecole Polytechnique Fédérale de Lausanne (Switzerland)

- **FELLOWSHIPS, AWARDS & GRANTS**

Dec. 2007
HPC-Europa Grant for Visiting Scientists, University of Edinburgh (UK)

Dec. 2010
HPC-Europa Grant for Visiting Scientists, University of Edinburgh (UK)

2011 – 2012
"Young Researcher" SISSA Grant (12,000 Euros)

2012 – 2013
PRACE Grant for computational resources (200,000 CPU-hours)

2013 – 2016
Multi-node National Grant PRIN "Statistical Mechanics of Disordered and Complex Systems" (Grant nr. 2010HXAW77_004), Trieste node, associated member (National coordinator: Prof. Giorgio Parisi, University degli Studi di Roma "La Sapienza", Italy)

2017 – 2021
"Finanziamento attività per la ricerca di base", MIUR (Italy)

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS (2010-2020)**

Master students
Matteo Giani (Master in Physics – Milan Univ., Italy; now software engin. at VORtech BV, The Hague, NL)
Manon Valet (Master in Physics – Ecole Normale Supérieure de Lyon, France; now post-doctoral fellow at Rockefeller University in New York, USA)
Anna Elisabetta Riccardi (Master in Physics – Naples Univ., Italy; now employed at UniCredit-Milan, Italy)

PhD students (in SISSA)
Marco Di Stefano (co-supervision, PhD in 2014, now CNRS research staff in Montpellier, France)
Negar Nahali (PhD in 2017, now post-doc fellow at the University of Umeå, Sweden)
Andrea Papale (PhD in 2019, now post-doc fellow at the Ecole Normale Supérieure de Paris, France)
Giulia Amici (co-supervision, PhD in 2019)
Elena Tea Russo (co-supervision, PhD in 2019)
Mattia Alberto Ubertini (PhD in 2023, now post-doc fellow at FMI-Basel, Switzerland)
Chen Yi Alex Zhang (2021 – now)
Davide Marcato (2022 – now)
Pieter H. W. Van Der Hoek (2023 – now)

Post-doctoral fellows
Ana-Maria Florescu (now data scientist in bioinformatics at MOLECULAR PARTNERS AG-Zürich, CH)
Irene Adroher-Benítez (now post-doc fellow at the University of Granada, Spain)

- **TEACHING DUTIES**

Since 2011, ongoing, held yearly
Polymer Physics – Part of the PhD curriculum in "Physics and Chemistry of Biological Systems" (SISSA, Italy)

Since 2020, ongoing, held yearly
Introduction to Quantum Mechanics, Quantum Statistics & Field Theory – Part of the "Master of Science Programme in Physics of Complex Systems" (SISSA / ICTP / Politecnico di Torino / Universités: Sorbonne, Paris Diderot, Paris Sud)

Years 2003, 2004, 2005
Annual Course on Linear Algebra (Theory & Applications) for undergraduate students, EPFL, Lausanne (Switzerland)

Years 2017, 2018, 2019
Annual Course on Polymer Physics – Part of the Joint Master Programme SISSA (Italy) / University of Trento (Italy)

- **ORGANISATION OF WORKSHOPS, CONFERENCES & SCHOOLS (2013-2023)**

2013
1) Cecam Summer School on "Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics" (SISSA, Italy)
2) Mini-Workshop on "Chromosome Structure and Function: Experiments and Modeling" (SISSA, Italy)
3) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2014
4) Cecam Summer School on "Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics" (SISSA, Italy)
5) Advanced Workshop on "Interdisciplinary Views on Chromosome Structure and Function", International Center for Theoretical Physics (ICTP, Trieste, Italy)
6) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2015
7) Cecam Summer School on "Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics" (SISSA, Italy)
8) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2016
9) Cecam Summer School on "Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics" (SISSA, Italy)
10) Conference on "Genome Architecture in Space and Time", International Center for Theoretical Physics (ICTP, Trieste, Italy)
11) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2017
12) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2018
13) Cecam Workshop "Computational Biophysics on Your Desktop: Is That Possible?" (Trento Univ., Italy)
14) Cecam Summer School on "Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics" (SISSA, Italy)
15) Workshop "Reconstructing Sub-Cellular Geometry from Large Data", Centro di Ricerca Matematica "Ennio De Giorgi" (Pisa, Italy)
16) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2019
17) Cecam Summer School on "Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics" (SISSA, Italy)
18) Italian Celebration Day – 50 Years of CECAM (Chemistry Dpt. "G. Ciamician", Bologna Univ., Italy)
19) Workshop "4D Epigenome", Palazzo Cavalli-Franchetti (Venice, Italy)
20) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2020
21) Digital Event – CECAM/ICTP School on "Molecular Dynamics and its Applications to Biological Systems"
22) Mini-Workshop on "Statistical and Molecular Biophysics" (SISSA, Italy)

2021
23) ICTP-SISSA-CECAM Workshop on "Molecular Dynamics and its Applications to Biological Systems"

2022
24) Spring College in the Physics of Complex Systems (ICTP, Trieste, Italy)

2023
25) Workshop "4DGenomics" (IFOM-Milan, Italy)
26) Workshop "The Structural Genome: Merging Physics, Biology and Computation" (SISSA, Trieste, Italy)

- **INSTITUTIONAL DUTIES / OTHER DUTIES**

Since 2019
SISSA Coordinator, International Track of the "Master of Science Programme in Physics of Complex Systems" (SISSA / ICTP / Politecnico di Torino / Universités: Sorbonne, Paris Diderot, Paris Sud)
Web: http://www.pcs.polito.it/educational_tracks/international_track

2017-2023
Director of the CECAM-IT-SISSA-SNS node
Web: https://www.cecam.org/cecam-it-sissa-sns

2019-2023
International coordinator for Italy of the Working Group "Polymeric and Fibrous Topological Materials", COST-Action 17139 "EUTOPIA: European Topology Interdisciplinary Action"
Web: https://eutopia.unitn.eu/

2019-2023
International coordinator for Italy of the Working Group "Developing Big Data Analysis and Applying 3D Modelling Tools", COST-Action 18127 "INC: International Nucleome Consortium"
Web: https://inc-cost.eu/

Since 2012
Membro Collegio Docenti, PhD in "Physics and Chemistry of Biological Systems", SISSA, Trieste (Italy)
Web: https://www.sissa.it/sbp/

Since 2018
In charge of coordinating the Physics lectures for the Master in *Comunicazione della Scienza* "Franco Prattico" (https://mcs.sissa.it/, SISSA, Trieste, Italy)

2011-2022
Member of the Library Committee, SISSA, Trieste (Italy)

- **REVIEWER FOR THE FOLLOWING JOURNALS (IN *ALPHABETICAL* ORDER)**

BMC Bioinformatics
Europhysics Letters
The Journal of Chemical Physics
Nucleic Acids Research
Physical Review E
Physical Review Letters
Plos Computational Biology
Plos One
Proceedings of the National Academy of Sciences USA (PNAS)
Soft Matter
Scientific Reports

- **Acting as EXTERNAL EXAMINER**

(2013) PhD Defense
Candidate: Dr. Roberto Covino (Supervisor: Prof. Pietro Faccioli, University of Trento, Italy)

(2016) PhD Defense
Candidate: Dr. Noëlle Haddad (Supervisors: Dr. Daniel Jost and Dr. Cédric Vaillant, Ecole Normale Supérieure de Lyon, France)

(2018) Evaluation of 5 Master Theses, AtoSIM Master Project
The AtoSIM (http://www.cecam-fr.org/enseignement/atosim-2-0/atosim?set_language=en&cl=en) Master Project was a two-year Physics or Chemistry Master degree focused on computer modelling of physical, chemical and biomolecular systems. It was operated jointly by École Normale Supérieure de Lyon (FR), Universiteit van Amsterdam (NL), Vrije Universiteit Amsterdam (NL), Università degli Studi di Roma, "La Sapienza" (IT).

(2018) PhD Defense
Candidate: Dr. Maria Carolina Pereira (Supervisor: Prof. Davide Marenduzzo, University of Edinburgh, UK)

(2020) PhD Defense
Candidate: Dr. Iurii Chubak (Supervisor: Prof. Christos Likos, University of Vienna, Austria)

(2021) PhD Defense
Candidate: Dr. Luca Fiorillo (Supervisor: Prof. Mario Nicodemi, University of Naples, Italy)

(2021) PhD Defense
Candidate: Dr. Alessandra Merlotti (Supervisor: Prof. Daniel Remondini, University of Bologna, Italy)

(2021) PhD Defense
Candidate: Dr. Mattia Conte (Supervisor: Prof. Mario Nicodemi, University of Naples, Italy)

(2022) PhD Defense
Candidate: Dr. Pietro Corsi (Supervisor: Prof. Barbara Capone, University Rome 3, Italy)

(2022) PhD Defense
Candidate: Dr. Lorenzo Petrolli (Supervisor: Prof. Gianluca Lattanzi, University of Trento, Italy)

- **Acting as EXTERNAL REVIEWER for Research Grants funded by Public Agencies**

2013
1) APART (Austrian Programme for Advanced Research and Technology) projects (http://newindigo.archiv.zsi.at/object/programme/4702.html), Agency: Austrian Academy of Sciences (Austria)

2017
2) ANR projects (https://anr.fr/), Agency: Agence Nationale de la Recherche (France)

2018
3) ANR projects (https://anr.fr/), Agency: Agence Nationale de la Recherche (France)
4) FIRB projects (https://futuroinricerca.miur.it/), Agency: Ministero Istruzione, Università e Ricerca (Italy)

2019
5) ANR projects (https://anr.fr/), Agency: Agence Nationale de la Recherche (France)

2020
6) NSC projects (http://www.ncn.gov.pl/?language=en), Agency: National Science Centre (Poland)

2021
7) NOW (https://isaac.nwo.nl/), The Dutch Research Council (The Netherlands)

- **MOST RECENT / ONGOING COLLABORATIONS (IN *ALPHABETHICAL* ORDER)**

1) Dr. Diego di Bernardo (Telethon Institute, Naples, Italy)
2) Dr. Marco Di Stefano (CNAG-CRG, Barcellona, Spain)
3) Prof. Massimiliano Di Ventra (University of California, San Diego, USA)
4) Prof. Ralf Everaers (Ecole Normale Supérieure de Lyon, France)
5) Dr. Ana-Maria Florescu (SANOFI-Paris, France)
6) Prof. Alexander Yu. Grosberg (University of New York, USA)
7) Dr. Daniel Jost (TIMC-IMAG Lab, University of Grenoble, France)
8) Prof. Kurt Kremer (Max-Planck-Inst. For Polymer Research, Mainz, Germany)
9) Dr. Emanuele Locatelli (University of Vienna, Austria)
10) Dr. Davide Michieletto (University of Edinburgh, UK)
11) Prof. Mario Nicodemi (University of Naples, Italy)
12) Prof. Daniel Remondini (University of Bologna, Italy)
12) Prof. Michael Rubinstein (University of North Carolina, USA)
13) Dr. Jan Smrek (University of Vienna, Austria)
14) Dr. Cédric Vaillant (Ecole Normale Supérieure De Lyon, France)
15) Dr. Christophe Zimmer (Institut Pasteur, Paris, France)

- **INVITED TALKS / SEMINARS (PERIOD: 2012-2020)**

2012
1) Workshop “Modeling 3D-Structure of Chromosomes” (Barcelona, Spain)
2) Workshop “Topological Aspects of DNA Function and Protein Folding” (Cambridge, UK)
3) Joint Meeting “CMD-24 / CMMP-12 / ECOSS-29 / ECSCD-11” (Edinburgh, UK)
4) Workshop “Genome Mechanics at the Nuclear Scale”, Lorentz Center (Leiden, NL)

2013
5) Seminar, University of Torino (Italy)
6) Seminar, Ecole Normale Supèrieure de Lyon (France)
7) Seminar, Pasteur Institute (Paris, France)
8) Seminar, University of Trento (Italy)

2014
9) Annual Conference "Deutsche Physikalische Gesellschaft" (Dresden, Germany)
10) Seminar, University of Torino (Italy)
11) Conference "4D-Nucleome" (Hiroshima, Japan)

2015
13) Lecturer at the SIBPA School "Theoretical & Computational Approaches to Biophysics" (Venice, Italy)
14) Lecturer at the School "The Use of Computers to Understand Nature" (Campinas, Brasil)
15) Seminar, University of Torino (Italy)
16) Seminar, Pasteur Institute (Paris, France)
17) Workshop "Integrating Genomics with Hierarchical Physical Models of DNA and Chromosomes" (ENS-Lyon, France)
18) Special Session on "Algorithms and Tools for Studying Nuclear Architecture Data" (ISMB/ECCB Meeting, Dublin, Ireland)
19) British Society of Rheology Winter Meeting 2015 (Glasgow, UK)
20) 4th International Symposium of the Mathematics on Chromatin Live Dynamics (Hiroshima, Japan)

2016
21) March Meeting, American Physical Society (Baltimore, USA)
22) Seminar, University of Naples (Italy)
23) Lecturer at the "Pre-doctoral School in Quantitative Biology" (IFOM-Milan, Italy)
24) Conference "StatPhys26" (Lyon, France)
25) 11th Christmas Biophysics Workshop (St.-Nikolai-Im-Sausal, Austria)

2017
26) Workshop "Challenges in Large-Scale Biomolecular Simulations" (Vienna, Austria)
27) Workshop "Multiscale Modeling and Experimental Approaches to Genome Organization" (Les Houches, France)
28) Workshop "4D Nucleome: The Cell Nucleus in Space and Time" (Krakow, Poland)
29) Lecturer at the "Pre-doctoral School in Quantitative Biology" (IFOM-Milan, Italy)

2018
30) Workshop "Structure & Dynamics of Chromosomes" (Korea Institute for Advanced Studies, Pohang, South Korea)
31) Seminar, University of Ljubljana (Slovenia)
32) Workshop "Challenges in Large-Scale Biomolecular Simulations" (Telluride, USA)
33) Seminar, University of Edinburgh (UK)
34) Workshop "Reconstructing Sub-Cellular Geometry from Large Data", Centro di Ricerca Matematica "Ennio De Giorgi" (Pisa, Italy)
35) Seminar, University of Bologna (Italy)

2019
36) CECAM Workshop "Multiscale Modeling from Macromolecules to Cell" (EPF-Lausanne, Switzerland)
37) EUTOPIA COST-initiative first meeting (Villazzano, Trento, Italy)
38) Workshop "Physical Genomics and Transcriptional Engineering" (Telluride, USA)
39) Workshop "Multiscale Modeling of Chromatin: Bridging Experiment with Theory" (Les Houches, France)
40) Seminar, Poncelet Institute (Moscow) and University of Moscow (Russia)
41) CECAM Workshop "High-density DNA Arrays: Models, Theories and Multiscale Simulations" (Ljubljana, Slovenia)
42) Italian Conference on the Physics of Matter – FISMAT 2019 (Catania, Italy)
43) Workshop "The 4D Genome computational day" – Ecole Normale Supérieure de Lyon (France)

2020
44) Lecturer at the Winter School on "Physics of the Cell" (University of Trento, Italy)
45) Lecturer at the School "3D Genomics" (originally planned in Aussois (France), *rescheduled* in virtual modality due the covid-19 epidemics)
46) Workshop on "Chromatin Modeling: Integrating Mathematics, Physics and Computation for Advances in

Biology and Medicine" (originally planned in Vienna (Austria), *postponed* due to the covid-19 epidemics)
47) KITP Program in "Biological Physics of Chromosomes" (originally planned in Santa Barbara (USA), *rescheduled* in virtual modality due the covid-19 epidemics)
48) 122nd International Titisee Conference "Genome Folding: Physics & Function" (originally planned in Titisee (Germany), *rescheduled* in virtual modality due the covid-19 epidemics)

2022
49) GDR "Architecture & Dynamics of the Nucleus and Genomes" (ENS-Lyon, France)
50) COST Symposium "Nuclear Architecture & Function" (Toulouse, France)
51) 125th International Titisee Conference "Genome Folding: Physics & Function" (Titisee, Germany)

- **PUBLICATIONS, FULL LIST (IN *REVERSE* CHRONOLOGICAL ORDER)**

60) Topology in soft and biological matter.
L. Tubiana, et al. (COST Action 17139 "EUTOPIA") – Physics Reports 1075, 1 (2024)
Link: https://doi.org/10.1016/j.physrep.2024.04.002

59) Bottom-up data integration in polymer models of chromatin organization.
A. Chen Yi Zhang, **A. Rosa**, G. Sanguinetti – Biophysical Journal 123, 184 (2024)
Link: https://www.sciencedirect.com/science/article/pii/S0006349523041267

58) Phase behaviour of semiflexible lattice polymers in poor-solvent solution: Mean-field theory and Monte Carlo simulations.
D. Marcato, A. Giacometti, A. Maritan, **A. Rosa** – Journal of Chemical Physics 159, 154901 (2023)
Link: https://doi.org/10.1063/5.0171911

57) Spatial organization of slit-confined melts of ring polymers with non-conserved topology: A lattice Monte Carlo study.
M. A. Ubertini, **A. Rosa** – Macromolecules 56, 7860 (2023)
Link: https://pubs.acs.org/doi/10.1021/acs.macromol.3c01320

56) Viral RNA as a branched polymer.
D. Vaupotič, **A. Rosa**, R. Podgornik, L. Tubiana, A. Božič – Book *Physical Virology* (Springer, 2023).
Link: https://link.springer.com/chapter/10.1007/978-3-031-36815-8_1

55) Scaling properties of RNA as a randomly branching polymer.
D. Vaupotič, **A. Rosa**, L. Tubiana, A. Božič – Journal of Chemical Physics 158, 234901 (2023)
Link: https://doi.org/10.1063/5.0152604

54) *Topological analysis and recovery of entanglements in polymer melts.*
M. A. Ubertini, **A. Rosa** – Macromolecules 56, 3354 (2023)
Link: https://pubs.acs.org/doi/10.1021/acs.macromol.3c00278

53) Entanglement length scale separates threading from branching of unknotted and non-concatenated ring polymers in melts.
M. A. Ubertini, J. Smrek, **A. Rosa** – Macromolecules 55, 10723 (2022).
Link: https://pubs.acs.org/doi/10.1021/acs.macromol.2c01264

52) Computer simulations of melts of ring polymers with non-conserved topology: A dynamic Monte Carlo lattice model.
M. A. Ubertini, **A. Rosa** – Physical Review E 104, 054503 (2021)
Link: https://doi.org/10.1103/PhysRevE.104.054503

51) Nanorheology of active-passive polymer mixtures differentiates between linear and ring polymer topology.
A. Papale, J. Smrek, **A. Rosa** – Soft Matter 17, 7111 (2021)
Link: https://doi.org/10.1039/D1SM00665G

50) Single-molecule stretching experiments of flexible (wormlike) chain molecules in different ensembles: Theory and a potential application of finite chain length effects to nick-counting in DNA.
R. Everaers, N. B. Becker, **A. Rosa** – Journal of Chemical Physics 154, 024903 (2021)
Link: https://aip.scitation.org/doi/10.1063/5.0028777

49) The physical behavior of interphase chromosomes: Polymer theory and coarse-grain computer simulations.
A. Rosa – Book "Hi-C Data Analysis: Methods and Protocols" (Methods in Molecular Biology)
Link: https://www.springer.com/gp/book/9781071613894

48) Threading-induced dynamical transition in tadpole-shaped polymers.
A. Rosa, J. Smrek, M. S. Turner, D. Michieletto – ACS Macro Letters 9, 743 (2020)
Link: https://pubs.acs.org/doi/10.1021/acsmacrolett.0c00197

47) Randomly branching θ-polymers in two and three dimensions: Average properties and distribution functions.
I. Adroher-Benítez, **A. Rosa** – Journal of Chemical Physics 152, 114903 (2020)
Link: https://aip.scitation.org/doi/10.1063/1.5142838

46) Merging 1d and 3d genomic information: Challenges in modelling and validation.
A. Merlotti, **A. Rosa**, D. Remondini – BBA "Gene Regulatory Mechanisms" 1863, 194415 (2020).
Link: https://www.sciencedirect.com/science/article/pii/S1874939919300616

45) Topological constraints in eukaryotic genomes and how they can be exploited to improve spatial models of chromosomes.
A. Rosa, M. Di Stefano, C. Micheletti – Frontiers in Molecular Biosciences 6, 127 (2019)
Link: https://www.frontiersin.org/articles/10.3389/fmolb.2019.00127/full

44) Microrheology of interphase chromosomes with spatial constraints: A computational study.
A. Papale, **A. Rosa** – Physical Biology 16, 066002 (2019)
Link: https://iopscience.iop.org/article/10.1088/1478-3975/ab39c1

43) Local loop opening in untangled ring polymer melts: A detailed "Feynman test" of models for the large scale structure.
R. D. Schram, **A. Rosa**, R. Everaers – Soft Matter 15, 2418 (2019)
Link: https://pubs.rsc.org/en/content/articlelanding/2019/sm/c8sm02587h/unauth#!divAbstract

42) Conformational statistics of randomly branching double-folded ring polymers.
A. Rosa, R. Everaers – European Physical Journal E 42, 7 (2019)
Link: https://doi.org/10.1140/epje/i2019-11765-3

41) Threading of unconcatenated ring polymers at high concentrations: Double-folded vs. time-equilibrated structures.
J. Smrek, K. Kremer, **A. Rosa** – ACS Macro Letters 8, 155 (2019)
Link: https://pubs.acs.org/doi/10.1021/acsmacrolett.8b00828

40) The Ising model in swollen vs. compact polymers: Mean-field approach and computer simulations.
A. Papale, **A. Rosa** – European Physical Journal E 41, 144 (2018)
Link: https://doi.org/10.1140/epje/i2018-11752-2

39) Structure, dynamics and microrheology of genome organization: From experiments to physical modeling.
A. Papale, **A. Rosa** – Book "Modeling the 3D Conformation of Genomes" (CRC Press, January 2019).
Link: https://www.crcpress.com/Modeling-the-3D-Conformation-of-Genomes/Tiana-Giorgetti/p/book/9781138500792

38) Nanoprobe diffusion in entangled polymer solutions: Linear vs. unconcatenated ring chains.
N. Nahali, **A. Rosa** – Journal of Chemical Physics 148, 194902 (2018).
Link: https://aip.scitation.org/doi/10.1063/1.5022446

37) Glassiness and heterogeneous dynamics in dense solutions of ring polymers.
D. Michieletto, N. Nahali, **A. Rosa** – Physical Review Letters 119, 197801 (2017).
Link: https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.119.197801

36) A polymer physics view on universal and sequence-specific aspects of chromosome folding.
D. Jost, **A. Rosa**, C. Vaillant, R. Everaers – Book "Nuclear Architecture and Dynamics" (Elsevier, 2017).
Link: http://www.elsevier.com/books/nuclear-architecture-and-dynamics/lavelle/978-0-12-803480-4

35) Flory theory of randomly branched polymers.
R. Everaers, A. Yu. Grosberg, M. Rubinstein, **A. Rosa** – Soft Matter 13, 1223 (2017).
Link: http://pubs.rsc.org/en/content/articlelanding/2017/sm/c6sm02756c/unauth

34) Beyond Flory theory: Distribution functions for interacting lattice trees.
A. Rosa, R. Everaers – Physical Review E 95, 012117 (2017).
Link: http://journals.aps.org/pre/abstract/10.1103/PhysRevE.95.012117
-> Highlight: Editor's suggestion!

33) Computer simulations of melts of randomly branching polymers.
A. Rosa, R. Everaers – Journal of Chemical Physics 145, 164906 (2016).
Link: http://scitation.aip.org/content/aip/journal/jcp/145/16/10.1063/1.4965827

32) Computer simulations of randomly branching polymers: Annealed vs. quenched branching structures.
A. Rosa, R. Everaers – Journal of Physics A: Mathematical and Theoretical 49, 345001 (2016).
Link: http://iopscience.iop.org/article/10.1088/1751-8113/49/34/345001/meta

31) Large scale chromosome folding is stable against local changes in chromatin structure.
A.-M. Florescu, P. Therizols, **A. Rosa** – Plos Computational Biology 12, e1004987 (2016).
Link: http://journals.plos.org/ploscompbiol/article?id=10.1371%2Fjournal.pcbi.1004987

30) Density effects in entangled solutions of linear and ring polymers.
N. Nahali, **A. Rosa** – Journal of Physics: Condensed Matter 28, 065101 (2016).
Link: http://iopscience.iop.org/article/10.1088/0953-8984/28/6/065101

29) Pore translocation of knotted polymer chains: How friction depends on knot complexity.
A. Suma, **A. Rosa**, C. Micheletti – ACS Macro Letters 4, 1420 (2015).
Link: http://pubs.acs.org/doi/full/10.1021/acsmacrolett.5b00747

28) Viscoelasticity of model interphase chromosomes.
M. Valet, **A. Rosa** – Journal of Chemical Physics 141, 245101 (2014).
Link: http://scitation.aip.org/content/aip/journal/jcp/141/24/10.1063/1.4903996

27) Ring polymers in the melt state: The physics of crumpling.
A. Rosa, R. Everaers – Physical Review Letters 112, 118302 (2014).
Link: http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.112.118302

26) Computational models of large-scale genome architecture.
A. Rosa, C. Zimmer – International Review of Cell and Molecular Biology 307, 275 (2014).
Link: http://www.sciencedirect.com/science/article/pii/B9780128000465000096

25) Spontaneous knotting and unknotting of flexible linear polymers: Equilibrium and kinetic aspects.
L. Tubiana, **A. Rosa**, F. Fragiacomo, C. Micheletti – Macromolecules 46, 3669 (2013).
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