



Renáta Reissová (Rusková)

✉ Email address: renata.ruskova@uniroma1.it

WORK EXPERIENCE

Post-doc

Sapienza Università di Roma [01/02/2025 – Current]

City: Rome | **Country:** Italy | **Name of unit or department:** Physics department

Post-doc

Polymer Institute of Slovak Academy of Sciences [2023 – 01/2025]

City: Bratislava | **Country:** Slovakia | **Name of unit or department:** Department of Molecular Simulations of Polymers

COST STSM

University of Edinburgh [05/03/2023 – 17/03/2023]

City: Edinburgh | **Country:** United Kingdom

TERATOP: Towards experimental realization of active topological glass

University of Vienna [2022]

City: Vienna | **Country:** Austria

EDUCATION AND TRAINING

PhD study

Polymer Institute of Slovak Academy of Sciences [2019 – 2023]

City: Bratislava | **Country:** Slovakia | **Thesis:** DNA and Chromatin Modelling

Chemical Engineering study

Slovak University of Technology [2013 – 2018]

City: Bratislava | **Country:** Slovakia | **Thesis:** Modeling and Safety Analysis of Pyrolysis Reactor

LANGUAGE SKILLS

Mother tongue(s): Slovak

Other language(s): English

SKILLS

MatLab / LAMMPS / Tcl, C++ / Research and analytical skills / Problem-solving / Critical thinking / Creativity

HONOURS AND AWARDS

[2020] Polymer Institute SAS

Doktografant – Certificate of high quality proposal

[2021] CECAM

1st prize poster award

Chiral knots display symmetry breaking in helical confinement

[2023] BYPOS

3rd prize presentation award

DNA in chiral environment

PUBLICATIONS

[2025]

Controlling Knot Interactions through Confinement

Authors: Renáta Rusková, Luca Tubiana, Raffaello Potestio, Dušan Račko | **Journal Name:** Macromolecules

[2023]

Knot formation on DNA pushed inside chiral nanochannels

Authors: RUSKOVÁ, Renáta, RAČKO, Dušan | **Journal Name:** Polymers | **Volume, Issue and Pages:** vol. 15

[2021]

Knot factories with helical geometry enhance knotting and induce handedness to knots

Authors: RUSKOVÁ, Renáta, RAČKO, Dušan | **Journal Name:** Polymers | **Volume, Issue and Pages:** vol. 14

[2021]

Entropic competition between supercoiled and torsionally relaxed chromatin fibers drives loop extrusion through pseudo-topologically bound cohesin

Authors: RUSKOVÁ, Renáta, RAČKO, Dušan | **Journal Name:** Biology-Basel | **Volume, Issue and Pages:** vol. 10

[2021]

Channels with helical modulation display stereospecific sensitivity for chiral superstructures

Authors: RUSKOVÁ, Renáta, RAČKO, Dušan | **Journal Name:** Polymers | **Volume, Issue and Pages:** vol. 13

[2020]

Kinetic models of simple alcohols SCWG. In Chemical Papers

Authors: ŠTEFANKO, Dominik, RUSKOVÁ, Renáta, JELEMENSKÝ, Ľudovít | **Journal Name:** Chemical Papers | **Volume, Issue and Pages:** vol. 74