Roman Shaposhnikov

Location: Pieve Emanuele (MI), Italy
Date of birth: 23 Apr 1996
Citizenship: Italian “Permesso di Soggiorno familiare”(unlimited family residency permit), Russian

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Current position: PhD student in Bioengineering

Education

Herzen State Pedagogical University of Russia, Russia
First year of bachelor’s degree, Biology faculty
September 2013 – July 2014
Universitá degli studi di Pavia, Pavia, Italy
Bachelor’s degree, Scienze biologiche (biology), Molecular genetics
October 2015 – October 2018
Master’s degree, Molecular biology and genetics
October 2018 – October 2020
PhD in Bioengineering
October 2020 – Ongoing

Project experience

IGM, Drs. Peverali and Orioli laboratories (March 2018 – September 2018):

The main aim of the project was to identify CSA interacting proteins by TAP (Tandem affinity purification) followed by Mass-spectrometry upon genetic rescue of defective fibroblasts isolated from CS patients. A molecular characterization of the CSA-transgenic expression vector stably integrated by site-specific recombination into the host genome was carried out by PCR analysis and sequencing.

Universitá degli studi di Pavia, dipartimento di ingeneria industriale e dell’Informazione, Dr. Magni laboratory (November 2018 – October 2020):

The main aim of the project was the in-silico characterization of two synthetic circuits designed in BMS laboratory with a final goal of protein expression regulation. Design was done with application of new CRISPR interference technology obtained from *S. aureus* which was characterized in-vivo with support of mathematical modeling. For CRISPRi characterization wet lab data was analyzed in-silico with application of MATLAB program language.

Universitá degli studi di Pavia, dipartimento di ingeneria industriale e dell'Informazione, Dr. Magni laboratory (November 2020 – Ongoing):

Characterization and application of CRISPR activation technologies in bacterial cells. Development of microbiome gene expression control as preventive medicine tool.

Lab skills:

- Expression and purification of a recombinant protein in *E. coli* Rosetta strain
- Purification of a proofreading TAQ polymerase by thermal precipitation
- Purification of a proofreading TAQ polymerase by ATPS (aquaeous two phase system) with PEG-4000 precipitation.
- Purification of a proofreading TAQ polymerase by ion-exchange HPLC
- Analysis and quantification of the purified recombinant protein by Coomassie dot blot and SDS-PAGE
- Analysis of the purified polymerase activity by semi-quantitative PCR
- Generation of a DNA primer database by Excel and Python3
- Basic MATLAB skills
- Mathematical modeling of synthetic genetic circuits
- CRISPR interference circuits design and application
- Synthetic genetic circuits design, in vivo and in vitro analysis of obtained constructs
- Genetically modified bacterial cells production, monitoring and analysis
- Ribosome binding site analysis and data interpretation
- Mathematical modeling and analysis of biological systems

Certifications

ICH GCP

- NIDA Clinical Trials Network GCP (24 August 2018 — 24 August 2021)

Language:

- AIL Italian 5 December 2014 (B2)

Languages

Russian (native)

English (upper-intermediate)

Italian (B2)