

1. Raziskovalna organizacija (*Research organisation*):

Univerza v Ljubljani, *Fakulteta za farmacijo / University of Ljubljana, Faculty of Pharmacy*

2. Ime in priimek mentorja (*Name and surname of a mentor*):

Prof. dr. Julijana Kristl

3. Področje znanosti iz šifranta ARRS (*Primary research field*):

1.09 Farmacija / 1.09 Pharmacy

4. Kontaktni e-naslov mentorja (*Contact of a mentor*):

Julijana.kristl@ffa.uni-lj.si

5. Kratak opis programa usposabljanja (*Short description of the program*):

RAZVOJ NANODOSTAVNIH SISTEMOV UČINKOVIN

Mladi raziskovalec bo v okviru svojega doktorskega dela proučeval nanodostavne sisteme za nizkomolekularne zdravilne učinkovine in biofarmacevtike, ki bodo temeljili na biokompatibilnih polimerih. Poseben poudarek bo na delu s polielektroliti in razvijanju polielektrolitnih kompleksov. Pri izdelavi, vrednotenju in preučevanju nastanka kompleksov nanodelcev in nanooblog bo osvojil in uporabljal tudi popolnoma nove tehnike in metode.

Cilj dela mladega raziskovalca, je razvoj novih nanodostavnih sistemov oz. izboljšanje funkcionalnosti že obstoječih za izbrane učinkovine, s čimer bo doseženo prirejeno sproščanje in povečanje njihove stabilnosti.

Tema raziskovalnega dela je interdisciplinarna in vsebinsko zahtevna. Raziskovalno delo bo potekalo na sodobni raziskovalni opremi v laboratorijih na UL Fakulteti za farmacijo, Kemijskem inštitutu, Inštitutu Jožef Stefan in drugje. V kolikor bo kandidat pri raziskovalnem delu uspešen mu bo omogočeno tudi izpopolnjevanje v raziskovalnem delu v tujini ter prav tako predstavitev dosežkov na mednarodnih konferencah in v objavah.

DEVELOPMENT OF NANODELIVERY SYSTEMS FOR THE DRUGS

Young researcher will within the framework of his doctoral dissertation develop nanodelivery systems based on biocompatible polymers for low molecular weight active ingredients and biopharmaceuticals. Particular emphasis will be on working with polyelectrolytes and development of polyelectrolyte complexes. When evaluating and studying the formation of nanoparticle complexes the candidate will acquire and use new relevant techniques and methods.

The aim of the work of a young researcher will be the development of new nanodelivery

systems or improving the functionality of existing ones, to reach the controlled release of selected ingredients and increase their stability.

The theme of the research work is interdisciplinary and challenging. Research work will be carried out on modern research equipment in the laboratories at the Faculty of Pharmacy UL, National Institute of Chemistry, Institute Jozef Stefan and elsewhere. If the candidate will be successful in research, we would enable him improvement in research work abroad and provide him the support for the presentation of his results at international conferences and in publications.