1. Raziskovalna organizacija:

Univerza v Ljubljani, *Filozofska fakulteta*

2. Ime in priimek mentorja:

Grega Repovš

3. Področje znanosti iz šifranta ARRS:

5.09 Psihologija

4. Kontaktni e-naslov mentorja:

Grega.Repovs@ff.uni-lj.si

5. Kratek opis programa usposabljanja:

Mladi raziskovalec se bo usposabljal za multidisciplinarno raziskovalno delo s poudarkom na raziskovalnih pristopih kognitivne nevroznanosti. V okviru usposabljanja bo spoznal in osvojil delo z različnimi raziskovalnimi orodji — -kognitivno vedenjske preizkušnje, sledenje očesnim gibom, večkanalni EEG, funkcijsko magnetnoresonančno slikanje, računsko modeliranje kognitivnih procesov -— ter statistično-analitičnimi postopki. Ključni poudarek bo na združevanju različnih kognitivno-nevroznanstvenih metod pri razvoju in preverjanju teoretičnih modelov kognitivnih procesov.

Z vsebinskega stališča bo mladi raziskovalec sodeloval v širšem raziskovalnem programu katerega namen je preučevanje kognitivnih procesov (delovni spomin, kognitivni nadzor) ter mehanizmov njihove oškodovanosti v različnih kliničnih skupinah (bolniki s shizofrenijo, parkinsonovo boleznijo, depresijo). Konkretno delo bo prilagojeno raziskovalnim interesom ter predhodnim znanjem kandidata.

Iščemo kandidata, ki bo s svojimi obstoječimi znanji in interesi lahko plodno prispeval k obstoječemu delu v laboratoriju ter razvoju in vpeljavi novih metodoloških postopkov in analitičnih orodij. Ker je delo v laboratoriju multidisciplinarno, vzpodbujamo prijave kandidatov raznolikih študijskih smeri, ki jih zanima delo na interdisciplinarnem področju kognitivne nevroznanosti. Predvsem so dobrodošli kandidati, ki bi jih zanimalo prispevati k:

— integraciji EEG in fMR podatkov,
— računskemu modeliranju kognitivnih procesov,
— razvoju programskih orodij za zbiranje in analizo podatkov.

Od kandidata pričakujemo da zna, ali bo tekom izobraževanja osvojil naslednja znanja in veščine:

— izvedba, preprocesiranje in analiza EEG meritev,
— izvedba, preprocesiranje in analiza fMR meritev,
— izvedba in analiza meritev z uporabo sledilca očesnih gibov,
— uporaba UNIX/POSIX orodij,
— programiranje in analiza v programskih jezikih python, R, Matlab,
— uporaba linearnega modeliranja in naprednih statističnih metod.

Raziskovalni program je zastavljen v sodelovanju z raziskovalci iz Washington univerze v Saint Louisu in Univerze Yale, kar bo mlademu raziskovalcu omogočalo izmenjavo informacij in znanj ter neposrednem pridobivanju izkušenj z raziskovalnim delom v vodilnih tujih laboratorijih na omenjenih področjih raziskovanja.

Mind & Brain Laboratory is announcing a call for a “young researcher” doctoral student position that will open this summer / fall under the supervision of assoc. prof. Grega Repovš, Ph.D. The student will train in cognitive neuroscience methods in the context of multidisciplinary scientific research. He or she will get familiar with and master the use of various research methods—behavioral paradigms, eye-tracking, multichannel EEG, fMRI, computational modelling of cognitive processes—and statistical analyses. The key focus will be on combining cognitive neuroscience methods in development and testing of theoretical models of cognitive processes.

The candidate will collaborate within a wider research programme in the study of basic cognitive processes (working memory, cognitive control) and the mechanisms of their impairment in various clinical groups (patients with schizophrenia, Parkinson's disease, depression). The specific research work will be adjusted to candidate's research interests and existing knowledge.

We are inviting submissions and iquries from candidates that will be able contribute to the existing work in the laboratory as well as development and introduction of novel methods and analytic tools. Due to the multidisciplinary nature of the work in the laboratory we are encouraging applications of candidates with various study backgrounds interested in the interdisciplinary research in cognitive neuroscience. We are especially encouraging applications from candidates interested in:

— integration of EEG and fMRI,
— computational modelling of cognitive processes,
— development of programming tools for data collection and analysis.

The candidate is expected to be knowledgable in, or to during the training master the following knowledge and skills:

— collection, preprocessing and analysis of EEG data,
— collection, preprocessing and analysis of fMRI data,
— collection and analysis of eye-tracking data,
— the use of UNIX/POSIX tools,
— programming and analysis using python, R, Matlab,
— the use of linear modelling and advanced (multivariate) statistical methods.

The research programme is conducted in collaboration with colleagues from Washington University in Saint Louis and Yale University, which will enable the candidate to exchange information and knowledge as well as provide possibility to gain experience with the research work in leading international laboratories in the relevant fields of research.