



INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



Stipend offer nr 20/Team/10

Position: MSc student in for **Quantum-state engineering** in "Coherently Prepared Media – Novel Properties and Applications" project

Number of stipends: 1

Institution : Institute of Physics, Jagiellonian University

Maximum period of stipend agreement: 1 year

Position starts on : 01.09.2010

Stipend's amount: 1000 zł /month

Pension insurance: no

Key responsibilities include:

Quantum-state superpositions are often employed as qubits in quantum information. For their successful application in is essential to lengthen the coherence times, and have versatile methods of controlling the state of such superpositions by external electromagnetic fields. The propose of the project is to develop such methods. In particular, superpositions of specific atomic magnetic sublevels will be required with well determined quantum numbers and symmetric properties which will offer new ways of performing quantum operations on such states. Experimental methods of unambiguous detection of such states by optical methods will also be developed within the project.

Profile of candidates:

1. completion of at least 3rd year (BSc level) in physics, material science, advanced materials or related fields,
2. good scores in atomic, optical physics and in quantum mechanics,
3. strong motivation for research work,
4. teamwork ability,
5. good command of English.

Required documents:

1. covering letter,

2. curriculum vitae,
3. reference letter,

We offer:

- possibility of completing the MSc requirements,
- access to modern experimental apparatus,
- work in a dynamic team, participation in edge-cutting research and international exchange,
- prospects for future research with the team (PhD study)
- stipend (1 000 PLN per month) for about a year,

For more details about the position please visit: www.if.uj.edu.pl/team

Principal Investigator: Prof. Wojciech Gawlik

Candidates fulfilling the requirements send required documents to **Prof. Wojciech Gawlik** with "TEAM application form" in a Subject line.

Address for applications: gawlik@uj.edu.pl

Closing date: 25.06.2010

Please include in your offer :

"In accordance with the personal data protection act from 29 th August 1997, I hereby agree to process and to store my personal data by the Institution for recruitment purposes".

The granting institution may seek to contact the best candidates only