



INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



Stipend offer nr 24/Team/10

Position: PhD 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: 3 years

Position starts on : 01.10.2010

Stipend's amount: 3500 zł /month

Pension insurance: yes

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 with atomic vapours at room-temperature. 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. MSc, Engineer, or equivalent Diploma in physics, material science, or related fields,
2. good record in atomic, optical physics and in quantum mechanics,
3. experience in experimental physics, particularly in laser physics, atomic/molecular spectroscopy, optics and/or photonics,
4. strong motivation and creativity in research work,
5. teamwork ability,
6. good command of English.

Required documents:

1. covering letter,

2. curriculum vitae,
3. reference letter,
4. copy of MSc certificate,
5. description of previous scientific work (MSc project),
6. list of publications (if any)

We offer:

- possibility of completing PhD thesis in physics,
- access to modern experimental apparatus,
- work in a dynamic team, active involvement in edge-cutting research,
- development of leadership experience,
- involvement in international collaboration,
- stipend (3 500 PLN per month) for 2-4 years.

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