



**INNOVATIVE ECONOMY**  
NATIONAL COHESION STRATEGY



**EUROPEAN UNION**  
EUROPEAN REGIONAL  
DEVELOPMENT FUND



## **Stipend offer nr 23/Team/10**

**Position:** PhD student in for **Properties of Coherently Prepared Media (Ultra-cold media)** 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:**

The project aims at studies of new magneto-optical properties of cold atoms with the perspective of establishing new ways of controlling quantum states of atomic samples. Rubidium atoms will be trapped in magneto-optical and optical dipole traps and cooled to quantum degeneracy (BEC). One possible objective is application of the spin-squeezing for obtaining measurement accuracy beyond the standard uncertainty limit. Another is development of experimental methods of extending the coherence time of the quantum state superpositions. Possible application of these results are in quantum information and for sensitive, nondestructive diagnostics of cold-matter samples. The candidate should be experienced in laser spectroscopy and atomic cooling and trapping techniques.

### **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](http://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](mailto: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