



**INNOVATIVE ECONOMY**  
NATIONAL COHESION STRATEGY



**EUROPEAN UNION**  
EUROPEAN REGIONAL  
DEVELOPMENT FUND



## **Stipend offer nr 21/Team/10**

**Position:** MSc student in for **New materials for Coherently Prepared 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:** 1 year

**Position starts on :** 01.09.2010

**Stipend's amount:** 1000 zł /month

**Pension insurance:** no

### **Key responsibilities include:**

New materials will be tested for their possible applications as coherently prepared media. One possible material are hollow fibers filled with atoms. In this way, on one hand, one may use known methods to create quantum state superpositions in atoms and use them for tailoring the medium's properties. On the other hand, the optical fiber properties should also have their impact on the optical properties of such a hybrid system. The second possible kind of new prospective material are synthetic diamond crystals with nitrogen-vacancy colour centers. Such centers are unique in that they possess nonzero spin which allows using magneto-optic effects for tailoring of their properties. They may have many applications in quantum information and metrology.

### **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](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