**JOB OFFER**

**PhD Student position in POLONEZ Bis 1 project financed by the National Science Centre – 1 position**

**Project title: 'Gravitation and Dark Matter'**

**Project leader: dr Thomas Zlosnik**

**Institution:** **Institute of Theoretical Physics and Astrophysics, University of Gdansk – Gdańsk**

**Application deadline: 10.07.2022, 00:00**

**Requirements:**

1. MSc degree in physics, computer science or mathematics.

2. Interest in gravitation and cosmology.

3. Basic knowledge of General Relativity appreciated.

4. High motivation to conduct scientific research.

**Required documents:**

All required documents should be prepared in English and sent to: [sekretariat.iftia@ug.edu.pl](mailto:sekretariat.iftia@ug.edu.pl) subject: POLONEZ

1. Cover letter (including details about research interests);

2. Curriculum vitae;

3. Contact details of a previous supervisor or another scientist who can provide a reference for the candidate;

4. Documents confirming scientific degrees (copy of diploma);

**Description of the tasks:**

There exist several extensions to Einstein's theory of General Relativity where new degrees of freedom in the gravitational sector can have an effect similar to that of dark matter on cosmic scales. The goal of the PhD project is to further explore these models using various approaches to find whether this similarity extends to more general systems. This will involve the following:

- Hamiltonian analysis of classical field theories.

- Analysis of partial differential equations (including numerical investigation).

- Cosmological perturbation theory.

- Quantum effects in gravitation.

The candidate will conduct scientific research, take part in writing publications, and present obtained results at conferences and seminars.

**Recruitment process:**

General rules of the recruitment process:

1. The recruitment procedure has three stages:

o Pre-selection candidates by the Selection Commission (SC), based on sent documents;

o Interview of pre-selected candidates by SC;

o Recruitment to the UG Doctoral School of Natural Sciences (a formal UG procedure) for the candidates who are not PhD students yet.

2. PhD student positions are offered to candidates who have received a MSc degree (or equivalent) or who are already PhD students at other Universities/Institutions.

3. The decision will be made by the SC within 3 months from the date of recruitment completion.

4. SC reserves the right to invite for the interview only pre-selected candidates.

5. SC’s decision is final and is not subject to appeal.

6. In the event of resignation from accepting the position of the selected candidate, the SC has the right to send the offer to the person placed on the reserve list, and in the absence of such a list, the SC has the right to reconsider the applications submitted to the competition and to indicate a new candidate.

8. SC reserves the right to close the competition without selecting the candidate.

**Job benefits**:

1. Monthly stipend 4850,00 PLN gross (2750 PLN from POLONEZ Bis project + 2100 PLN from Doctoral School funds);

- Starting date: 01.11.2022

- Maximum period of contract/stipend agreement: until 30.10.2024.

3. Scientific and organizational support;

4. Basic equipment and core facilities;

5. Friendly, inspiring, interdisciplinary environment of the Institute for Theoretical Physics and Astrophysics (IFTiA) at UG.