



JAGIELLONIAN UNIVERSITY  
IN KRAKÓW

## **INFORMATION ON THE COMPETITION**

Krakow, 2<sup>nd</sup> July, 2019

**DEAN  
OF THE FACULTY OF PHYSICS, ASTRONOMY  
AND APPLIED COMPUTER SCIENCE**

Address: 11, Łojasiewicza street  
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**RECTOR  
of the Jagiellonian University  
announces competition for the post of  
ADJUNCT RESEARCH PROFESSOR**

in the Institute of Physics  
at the Faculty of Physics, Astronomy  
and Applied Computer Science

**within the scope of National Science Centre Project OPUS no. 2017/27/B/ST2/01139,  
“New hadrons composed from light and heavy quarks”**

For the post of adjunct professor may apply persons who fulfil requirements stated in Article 113, 116 (2) (3) of the Act of 20<sup>th</sup> July 2018 Law on higher education and science.

The aim of this project is to estimate the masses and decay channels of heavy-light mesons and baryons, as well as exotica (tetraquarks, pentaquarks and even dibaryons) with the emphasis on the b – quark content. Methodology is based on simultaneous exploitation of the patterns of chiral symmetry breaking combined with heavy quark symmetry (Isgur-Wise symmetry) and heavy antiquark-diquark symmetry (Savage-Wise symmetry), confronted with novel, dual description based on holography, adapted suitably for heavy-light hadrons spectroscopy.

**Requirements:**

- 1) PhD in theoretical physics
- 2) Experience in the area of quantum field theory and hadronic particle physics.
- 3) Advanced English in writing and speaking.
- 4) Ability to work in a scientific group.
- 5) Knowledge of Sakai-Sugamoto formalism is welcomed.

**Research tasks:**

- Critical review of the state of the art of so-called chiral doublers theory.
- Application of holographic principle to double heavy hadrons.
- Construction of a road map for experimentalists, aiming at identification of the most promising regimes for the discovery of new particles.

Terms of employment: contract of employment, full-time

Duration: 24 months

Starting date: Fall 2019

Salary: according to NSC rates (10 000 PLN Pre-tax per month)

Applications (Curriculum vitae, list of publications, 2 letters of recommendation) should be sent to Prof. Maciej A. Nowak via e-mail: [maciej.a.nowak@uj.edu.pl](mailto:maciej.a.nowak@uj.edu.pl) with annotation "postdoc" until 30<sup>th</sup> of September, 2019.

**Competition commencement date: 2<sup>nd</sup> August, 2019**

**Applications can be filed till: 30<sup>th</sup> September, 2019**

Decision regarding competition settlement shall be made till: 15<sup>th</sup> October, 2019

Jagiellonian University does not provide housing.

**Statement forms can be downloaded on the website:**

<http://www.dso.uj.edu.pl/druki-do-pobrania/dokumenty-dla-kandydatow-pracownikow>

On the basis of authorization  
of the Rector of Jagiellonian University  
Dean of the Faculty of Physics, Astronomy  
And Applied Computer Science