



UNIVERSITY
OF WARSAW

Faculty of Mathematics, Informatics and Mechanics
Institute of Applied Mathematics and Mechanics

Warsaw, June 12, 2021

1 postdoctoral position

in the scientific project "The tragedy of the commons in dynamic context – modelling, methodology and prevention"

financed by the Polish National Science Centre (grant number 2019/33/B/HS4/02953)

Principal Investigator: Agnieszka Wiszniewska-Matyszek

Terms of employment: full time, temporary (9 months) agreement, starting on November 1st, 2021, salary 10000 PLN before taxes/per month.

Description of the project:

The aim of the project is to study dynamic games modelling problems of "the tragedy of the commons" type, like e.g. extraction of common or interrelated renewable resources, transboundary pollution, climate change as a result of the greenhouse effect, or spread of resistant bacteria. The project encompasses the following aspects.

- Development of methodology to solve dynamic games and dynamic optimization problems with constraints or irregularities.
- Modelling extraction of common or interrelated resources taking into account spatial allocation.
- Modelling pollution problems.
- Social optimality and its enforcement in models.
- Nash and Stackelberg equilibrium—calculation and/or properties in models.
- Agreements and treaties—self-enforcing international environmental agreements.

Requirements:

- Candidates for the position should have a PhD degree achieved no earlier than 7 years before the starting date of the position. Either PhD should be in mathematical sciences, or in sciences related to another aspects of the project. In the latter case, proficiency in mathematical tools needed in the project has to be proven.
- Research experience related to the topic of the project (documented by publications or preprints) is required, which encompasses
 - game theory, including dynamic games;
 - optimal control theory;
 - game theoretic modelling.
- Familiarity with mathematical packages for symbolic calculations and numerical computation (e.g Mathematica, Matlab) or ability to write numerical programs.
- Fluency in English and LaTeX.

There are also additional requirements for persons applying for this post:

- during last two years before employment in the contract they have not been employed by University of Warsaw under an employment contract;
- during the employment period they should not obtain salary from funds assigned as direct costs in research projects financed by NCN;
- during the employment period they should not obtain salary under an employment contract from any other entity including also entities outside Poland.

Applications: In order to apply for the position candidates should send an e-mail to agnese@mimuw.edu.pl and submit the following documents as attached .pdf files.

1. a cover letter addressed to the Dean of the Faculty of Mathematics, Informatics and Mechanics, University of Warsaw together with the personal data clause (attached);
2. a copy of the PhD diploma or, if the candidate does not yet have a PhD, a copy of the thesis together with a statement concerning the expected date of obtaining the degree (a PhD degree is required at the time of signing the employment contract);

3. a scientific CV with a list of publications and links to published articles and preprints, which are available online;
4. at most three recent publications;
5. a research statement regarding past research and current research plans;
6. In addition, a recommendation letter by a senior researcher is required. It should be sent directly by the referee to the same e-mail address.

Application deadline: August 31st, 2021

Applications which do not satisfy the above requirements or are submitted after the deadline will not be considered for the position.

The applications will be evaluated by a selection committee appointed by the Dean of the Faculty of Mathematics, Informatics and Mechanics, University of Warsaw. The committee will recommend one candidate by September 30th, 2021. The competition is the first stage of the recruitment process as described in the Statute of the University of Warsaw, the recommendation by the selection committee being a basis for its subsequent stages.

A candidate joining the competition should submit a statement that he/she has read become and accept the rules of conducting a competition for the position of an academic teacher at the University of Warsaw in accordance with the ordinance No. 106 of the Rector of the University of Warsaw of September 27 2019, paragraph 1 sec. 4 point 12

<https://monitor.uw.edu.pl/Lists/Uchway/Attachments/5034/M.2019.282.Zarz.106.pdf>.

Prof. dr hab. Paweł Strzelecki
Dean

Agnieszka Wiszniewska-Matyszkiewicz
Principal Investigator