

Post-doc position advertisement posted on official web page National Science Center of Republic of Poland

<https://www2.ncn.gov.pl/baza-ofert/?akcja=wyswietl&id=190077>

Name of the position: post-doc

Requirements:

Profile of candidates:

- Ph.D. degree in Physical or Chemical Oceanography, Marine Science, Earth Sciences, or Geochemistry,
- documented scientific achievements including publications in recognized international scientific journals in the field of marine science/oceanography/biogeochemistry (candidates with documented publication record at journal with IF > 2 will be preferred)
- proven experience in participating in field work (candidates who participated in oceanographic cruises and expeditions will be preferred), practical knowledge of conducting physical and chemical oceanographic measurements with use of modern instrumentation, practical knowledge of methods for collecting water samples for determination of concentrations of optically significant sea water constituents and biogeochemical parameters, practical knowledge of methods for collection of sediments samples
- experience and analytical background in absorption and fluorescence spectroscopy methods, laboratory analytical skills
- experience in data analysis and visualization, knowledge of Matlab or R computing environment.
- experience in analysis of spectral data and knowledge of multivariate statistical methods including knowledge of Parallel Factor Analysis and PCA models
- passion for research, aptitude, and ability to learn new analytical techniques
- independent thinking in data analysis
- foreign experience: ability to work and live in diverse cultural environment, at least one short-term stay at a foreign university/research institute and presentations at international conferences
- fluency in spoken and written English
- ability for full involvement in the project, consisting in regular field and laboratory work, meetings with other members of the project and regular reporting on the progress of work to the PI, and presenting results on conferences and publications writing
- experience in gaining independent funding for research is a plus

Description of tasks:

A Post-doc position is available in the Remote Sensing Laboratory at Institute of Oceanology Polish Academy of Sciences in Sopot Poland. Candidate will work in the frame research project

funded by the National Science Center, Republic of Poland (project no. OPUS 2019/33/B/ST10/01232) and awarded to professor Piotr Kowalczyk. The research project in the framework of OPUS program is entitled “Estimation of diffusion coefficient of dissolved organic matter from sediments to overlying waters through relationships between its optical and chromatographic characteristics and dissolved iron in Baltic Sea deep”. This project will be conducted with collaboration with National Institute of Aquatic Resources, Technical University of Denmark, Kemitorvet, 2800 Kgs. Lyngby, Denmark.

PROJECT DESCRIPTION:

The main goal of the project is to determine diffusion coefficient of identified DOM fraction from sediments pore waters into near bottom water, and to relate its magnitude to oceanographic conditions: (salinity, dissolved oxygen concentration, DO, pH and sediment type). The working hypothesis of this project is that, the DOM optical properties are correlated with dissolved iron concentration in sediments pore waters and overlying waters. Project goal will be achieved through qualitative and quantitative characterization of the dissolved organic matter – DOM in the Baltic Sea deep’s bottom sediments pore waters and overlying near bottom water and water column in different oceanographic conditions with use of absorption and fluorescence spectroscopy and High Performance Size-Exclusion Chromatography and established correlation between optical characteristics of DOM and concentration of dissolved iron and dissolved organic carbon. Spectroscopic analysis will include measurements of light absorption by chromophoric dissolved organic matter - CDOM, and measurements of DOM fluorescence excitation emission matrix spectra – EEMs. Chromatographic analysis will enable separation of different molecular weight fractions of DOM, and after fractionation spectroscopic analysis will be applied to characterize material grouped into molecular weight classes. Data achieved from spectroscopic, chromatographic and environmental and laboratory measurements will be analyzed statistically, to identify which molecular weight and qualitative DOM fractions were most susceptible to migrate and in which direction across sediments/near bottom water interface. Comparison of DOM composition, based on optical and chromatographic signatures, in collected samples will enable understanding of DOM transformation processes during its early diagenesis. This project will be executed through the field and laboratory work campaigns undertaken by team of experienced researchers during research cruises on board of r/v Oceania to Bornholm Deep, Gdansk Deep and Gotland Deep in the Baltic Sea.

Research tasks at the post-doc position:

- limited participation in field work, collection and preservation of samples,
- laboratory analysis: and spectroscopic absorption and fluorescence measurements of dissolved organic matter,
- data analysis, statistical analysis and modeling – development of PARAFAC model for fluorescence data, PCA model for spectroscopic, chromatographic, chemical, and environmental data
- construction of water mass balance model to assess optical properties of DOM in Baltic Sea Deep
- participation in external consultations with foreign cooperating researchers and institutions, preparation of figures, tables, and writing manuscripts of scientific papers, presentation of results at conferences,

- participation in project promotion and dissemination

Position starts on: 1st June 2022

Gross Salary: ab. 7.650 PLN per month

Job offer proposal deadline due date: 15 April 2022, 15:00

Form of the job offer proposal: email

Terms of employment:

The contract of employment (full-time) for a period of up to 21,5 months.

Maximum period of employment agreement: from 1st June of 2022 to 16 March 2024,

Position starts on: 1st June of 2022

Gross Salary: ab. 7.650 PLN per month. Candidate will be employed under the fixed term, full time employment contract and will be eligible for special remuneration plan for field work on the sea. IOPAN employees on scientific position are eligible for 36 days of paid holiday and an allowance for holidays and recreational/cultural spending and Christmas bonus according to IOPAN employees social assistance plan.

Additional information:

Additional information about project and employment terms could be required from project PI Prof Piotr Kowalczyk e-mail: piotr@iopan.pl;

Required documents (applications in English; .pdf format):

- CV
- Motivation letter (maximum 1 page)
- 2 letters of reference
- Copy of PhD diploma
- Candidates may include additional information or copies of documents/certificates in support of the application, specifically: seafarer's medical certificate or ENG11 (STCW95) and Personal Survival Techniques (PST) certificate (STCW95) will give a preference for a candidate
- Consent clause*

Candidates will be evaluated upon their scientific achievements (number of publication, IF of the journal they have published and number of citations), field work experience, and motivation letter

Address for applications – all documents prepared by candidates shall be sent by e-mail to: office@iopan.pl with obligatory notification in subject "Offer for employment opportunity at

post-doc position for project no: OPUS 2019/33/B/ST10/01232” copy of an offer e-mail shall be also sent to Assist. Prof Piotr Kowalczyk e-mail: piotr@iopan.pl

*Please attach a signed document with the following consent clause:

I hereby consent to have my personal data processed by the Institute of Oceanology Polish Academy of Science pursuant to Article 6 paragraph 1 letter a of the General Data Protection Regulation (GDPR), for the purpose of carrying out a recruitment process for the Post-doc position I also declare that I have read the information on the processing of personal data provided by the Institute in accordance with Article 13 GDPR.

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(place and date) (signature of the declarant)

INFORMATION ON THE PROCESSING OF PERSONAL DATA:

https://old.iopan.pl/praca/INFORMATION_ON_THE_PROCESSING_OF_PERSONAL_DATA.pdf