

Postdoctoral Fellowship für Dr. Elbay Babayev "Bioremediation of Organochlorine Pesticides in Soils of Azerbaijan -BioRem-"

Initiative: Zwischen Europa und Orient - Mittelasien/Kaukasus im Fokus der Wissenschaft

Ausschreibung: Postdocs „Umwelt, natürliche Ressourcen und erneuerbare Energien“

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Laufzeit: 3 Jahre

Organochlorine pesticides (OCPs) are recognized as a severe threat for the environment and human health due to their stability, bioaccumulative potential, and toxicity. OCPs were produced and used in huge amounts over a long period in the Former Soviet Union (FSU). Since agriculture was always an important economic sector in Azerbaijan, OCPs were imperative means of production in this country. Azerbaijan is endeavored to expand its agricultural productivity to be more involved and integrated in the global economy. As the EU is the biggest trading partner of Azerbaijan, it is of great importance to align EU regulations on quality and hygiene standards for agricultural products. A widespread contamination with obsolete pesticides might undermine these efforts. Based on a running BMBF-funded project where potential options for bioremediation strategies in the Southern Caucasus are elaborated, the scientific goal of the proposed work is to confirm that bioremediation is an effective and environmentally friendly method for cleaning contaminated soils from OCPs. Technical objectives of this study are: to identify aboriginal microorganisms and plants capable to degrade OCPs, to study degradation mechanism of OCPs, to create a technology for purification of OCPs with the help of microorganisms and plants. Synergistic methodology with microbiological techniques applied in Azerbaijan and chemical analysis carried out in Germany will facilitate scientific outcome of this fellowship. A two way knowledge transfer will be ensured by the involvement of a German post-doc researcher. The German partner as host during the visits of the applicant in Germany, has long-term experience in environmental chemistry and is coordinating international research and exchange projects.

Projektbeteiligte

Prof. Dr. Andreas Vasilache

Universität Bielefeld
Fakultät für Soziologie
Arbeitsbereich 4 - Politik und Gesellschaft
Bielefeld

Dr. Elbay Babayev

Azerbaijan National Academy of Sciences
Institute of Chemistry of Additives
Laboratory of Protective Additives
Baku
Aserbaidshan

Prof. Dr. Christoph Schuck

Technische Universität Dortmund
Fakultät 14 - Humanwissenschaften und Theologie
Institut für Philosophie und Politikwissenschaft
Dortmund

Prof. Dr. Rolf-Alexander Düring

Universität Gießen
Institut für Bodenkunde und Bodenerhaltung
Interdisziplinäres Forschungszentrum (IFZ)
Gießen

Dr. Leonard Böhm

Universität Gießen
Institut für Bodenkunde und Bodenerhaltung
Gießen