

EPPO 75th Anniversary Webinar

Jens-Georg Unger Fellowship

Molecular Diagnostics for Regulated Bacterial Pathogens

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Background & my current role

- BSc – Ankara University, Türkiye
(Plant Protection)
- MSc – University of Bath, UK
(Molecular microbiology)
- PhD – Okdokuz Mayıs University,
Türkiye (Plant Bacteriology)
- **Researcher - Black Sea Agricultural
Research Institute, Türkiye
(Bacteriology) - 2018**



Black Sea Agricultural Research Institute



- established in 1944

Department of Field Crops
Department of Horticulture
Department of Plant Health
Department of Agricultural Energy
Department of Soil and Water Resources
Department of Agricultural Economics



TAGEM
R&D AND INNOVATION

Agricultural Importance of the Black Sea Region

- ~70% of global hazelnuts
- Tea production region of Türkiye
- Leading area for kiwifruit
- A highly diverse agricultural production zone



Plant Health Department - Bacteriology

- Diagnosis of emerging and increasing bacterial plant diseases.
- Surveys and analysis for regulated pathogens according to EPPO protocols
 - *Xylella fastidiosa*
 - *Pseudomonas syringae* pv. *actinidiae* (Psa)
 - *Candidatus Liberibacter* spp.
 - *Ralstonia solanacearum* and *Clavibacter sepedonicus*
- Investigation and management of Walnut Bacterial Blight caused by *Xanthomonas arboricola* pv. *juglandis* (Xaj)



What Drew Me to the Fellowship?

- **Advanced molecular diagnostics:** Supporting early detection and reliable identification of pathogens
- **Access to an experienced laboratory** in regulated plant pathogens
- **Microbiome integration:** understanding pathogen–microbiome interactions and their relevance to plant health.
- Contributing to **knowledge transfer** within my institution after the fellowship
- **International networking:** building long-term scientific and professional collaborations.

Key Motivations



Experience with positive samples



International networking & collaboration









Enhanced early detection capabilities

Fellowship Plan (July–September 2026)

- **Host: FITOLAB - Instituto Pedro Nunes, Portugal**
- 🧑‍🔬 Supervisor: Dr. Joana Costa
- 🏆 Officially accredited laboratory for quarantine pathogens
- 🔬 Strong expertise in *Xylella fastidiosa* and *P. syringae* pv. *actinidiae*.
- 🧬 Research on microbiome-based detection
 - Molecular assays on suspected/survey samples
 - Develop a concise protocol manual for home laboratory implementation
 - Contribute to shared datasets
 - Focus on early detection and rapid risk reduction



Impact on Türkiye: Strengthening the EPPO Network

-  Enhanced professional capacity in molecular diagnostics
-  Improved early detection systems
-  Strengthened surveillance programs
-  Collaborative research opportunities
-  Strategic cooperation with Türkiye
-  EPPO network strengthening

Thank You!

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