CNE : 27285919
CIN : QB20713

Technical Competence:
- Know and master the tools of Isolation and Inoculation and Identification of fungi.
- Master Weighing, sterilization and autoclaving tools.
- Acquire the technical principles of Biotechnology and *in vitro* culture.
- Know and master the principles of transfusions and blood grouping.

DOCTOR

Safaa QOSTAL

04 LOT EL OUAHDA Street MOHAMED AGUENSSOUS quotes of ORANGES KHOURIBGA
Biotechnology and Plant Pathology.
Animal Production, and Agro-industry,
Laboratory IBN Tofail University Faculty of
Kenitra. BP. 133, IBN Tofail, Kenitra, Morocco.

qostal.safaa@gmail.com

+212 20839388/+212 42142697.

Graduates:

- **Doctorate Biotechnology and Pathology Vegetale, Science of Life and the Environment at Faculty of Sciences Kenitra 2015-2021.**
  Laboratory Biotechnology and Plant Pahology. Animal Production, and Agro-inustry University Ibn Tofail Faculty of Sciences.
  Study of the fungal complex responsible for root rot in cereals and search for some alternative means of control.
- **Master in Microorganism and Plant Protection 2013-2015.**
  University Ibn Tofail Faculty of Sciences.
  Study of the tolerance potential of three strains of *Plasmopara Viticolà* to homologous fungicides in Morocco.
- **Fundamental Licence 2010-2013.**
  Faculty Polydisciplinary Khouribga.
  Androgenesis and somatic Embryogenesis of Soft Wheat.
- **Diploma in Fundamental University Studies, (DFUS).**
  Life and Earth Science Stream.
  Faculty Polydisciplinary Khouribga.
- **Scientific Baccalaureate FARRABI high School in Boujâad 2010.**
  Physics Science Serie Option.

Professional Experiences:

- **May 16 to July 16, 2022 Internship in the Biological Analysis and CCMM Department (UATRS Division) within the UATRS Functional Genomics platform.**
  National Center for Scientific and Technical Research (CNRST)
- **January 31 to March 03, 2022 Internship in the Biological Analysis and CCMM Department (UATRS Division) within the UATRS Functional Genomics platform.**
  National Center for Scientific and Technical Research (CNRST)
- **January 01, 2017 to June 01, 2021 Membre of the Phosphates Research Project 'APPHOS funded by OCP:**
  OCP Fondation, OCP R&D, Mohammed VI Polytechnic University, National Centre for Scientific and Technical Research CNRST, Ministry of Higher Education, Scientific Research and Management Training MESRSFC), entitled 'Selection use of *Trichoderma spp*. for improving the efficiency of phosphates and combating root rot in wheat inMorocco.» (Ref. BIOMOD- 01/2017).
- **2018-2020-2021 Preparation and Handling of Practical Mycology Work (25 Hours), Plant Course.**
  Laboratory Biotechnology and Plant Pahology. Animal Production, and Agro-inustry University Ibn Tofail Faculty of Sciences.

Computer skills :

- C, C++ programming languages
- Microsoft Office : Word, Excel, Power point, by Microsoft Office.
- SPSS : Analysis Statistics.

2018-2020-2021 Preparation and Handling of Practical Phtopathology (45 Heurs), Plant Course.

Laboratory Biotechnology and Plant Pahology. Animal Production, and Agro-industry University Ibn Tofail Faculty of Sciences.

March 01 to November 01, 2015 Internship In the National Institute of Agronomic Research (INRA).

Recherch Unit On Biotechnology Rabat.

February 01 to July 01, 2013 Internship In the National Institute of Agronomic Research (INRA).

Recherch Unit On Biotechnology Rabat.

July 23 to September 28, 2012 Internship In Laboratory and Transfusion Service at the Hospital Hassan II of Khouribga.

Internship at Hassan II, Khouribga in the Transfusion Department: Blood Transfusion.

Internship at L'Hôpital Hassan II, Khouribga in the laboratory Department: Biochemical Analyse of blood and Bactériology.

July 15 to September 15, 2011 Laboratory and Biological Blood Sampling

Internship on Manual and Automatic Laboratory Techniques and Biological Blood Sampling.

Technical competence of the laboratory

Molecular biology

Extraction of DNA/RNA genetic material from microorganisms, animal/plant tissues and soil.

Detection and quantification of nucleic acids, PCR, electrophoresis, sequencing and genotyping.

Plant biotechnology

Meristem culture, somatic embryogenesis and micropropagation. Weaning of seedlings from in vitro culture. Tissue regeneration and in vitro culture. Management of plants grown in greenhouses.

Microbiology

Classical microbiology (Preparation of media, Culture, Quantification, Characterization and molecular biochemical microscopic identification....)

Conservation of microorganisms (Bacteria, fungi) (Creoconservation, Lyophylisation...)

Handling and detection of phytopathogenic viruses (ELISA, immuno-RT-PCR)

Isolation and characterization of bacteriophage viruses from environmental samples.

Phytopathology

Isolation of fungi from different parts of plants and from the rhizosphere of roots according to the soil plate technique;

Microscopic identification of superior fungi and endomycorrhizal fungi;

Purification of fungi by monosporal cultures and conservation and multiplication techniques by polysporal cultures;

Techniques of inoculation of plants and soil by pathogenic fungi and treatment by antagonists and techniques of reisolation Koch's postulate and the blotter test.

Techniques of antagonism in direct and indirect confrontation, the study of the capacity of fungi to solubilize phosphate in vitro and in vivo, and their enzymatic activity.

Bioinformatics

Research, analysis and comparison of nucleic or protein sequences. Sequence alignment Phylogenetic trees.

Participation in Scientific Training and Events:

- 1- July 2, 2022 Participation in the first edition of the international of the international congress: Agro biodiversity and climate change.
  Bipolaris sorokiniana, a parasite of wheat and barley root rot in the North-West of Morocco
  Polydisciplinary Faculty of Larache - University ABDELMALEK ESSAADI
- - March 22, 2022 Participation by Oral Communication in the 7th National National Scientific Day Environment & Health
  Curvularia spicifera, a parasite of the fungal complex of wheat and gold of wheat and barley roots in MOROCCO
- Faculty of Sciences Ben M'Sick Casablanca.
- Translated with www.DeepL.com/Translator (free version)
- Jun 29 to July 03, 2019 Participated to the "Talent MoonShot Program", held in Mohammed VI Polytechnic University (UM6P), Ben Guerir, Morocco
- April 05 to July 10, 2019 American Language Center (ALC) Training Levels Beginnin Five.
  American Language Center Kenitra.
- January 16-17, 2019 Participated at the Caravan « LE CNRST ARRIVE A L'Université IbnTofail »
  University Ibn Tofail Faculty of Sciences.
- December 26, 2018 to April 03, 2019 American Language Center (ALC) Training Levels Beginnin Four.
  American Language Center Kenitra.
- December 25, 2018 Participated at the Seminar on Scientific Research Methodology at ENSA in Kenitra Morrocco.
  National School of Applied Science Kenitra.
- November 12-13, 2018 Phosphate Days International Conference for researche on Phosphates and deratives.
  University Mohamed VI Polytechnic-Benguerir -Maroc.
- September 17 to December 14, 2018 American Language Center Center (ALC) Training Levels Beginnin Three.
  American Language Center Kenitra.
- May O8-O9, 2018 Participation by displayed communication and communication Oral to the Agri-analytics days.
  Study of the fungal complex responsible for root rot of wheat and barley in the north-west of Morocco.
  University Mohamed VI Polytechnic-Benguerir -Maroc.
- April 02, to Jun 14, 2018 American Language Center (ALC) Training Levels Beginnin Two.
  American Language Center Kenitra.
- December 16, 2017 participation in the Training Day for Agricultural Technicians on Integrated Pest Management in Strawberry Cultivation in the Gharb-Loukkos Morocco.
  L'University Ibn Tofail Faculty of Sciences.
- December 14, 2017 to March 14, 2018 American Language Center (ALC) Training Levels Beginnin One.
  American Language Center Kenitra.

Personal Competence

- Communication.
- Dynamic.

- December 16, 2016 participation at the scientific on Screening of microorganisms from the rhizosphere of the olivier in Morocco.
  Towards the formation of a mycorhizae-bacteria complex stimulating growth and inducing the tolerance of the olive tree to verticilios.
  Seat of the Presidency of l'University Ibn Tofail, Kenitra.
- November 22-23, 2016 Participation in AMPP (Moroccan Association for the Protection of Plants) congresses under theme :
  Management of phytosanitary risks linked to emerging organisms.
  Veterinary Agronomic Institute (IAV) Rabat.
- December 23, 2015 Participation to the Third days of cryptogamy.
  Faculty of Sciences in Kenitra.
- Avrile 14, 2015 Participation to the Workshop : Genomics and Bioinformatics for Agricultural Research.
  National Centre for Sienctific and Technical Research Rabat.

Publications

- August 11, 2021 First report of Fusarium redolens causing root rot disease of wheat and barley in Morocco.
  S. QOSTAL , S. KRIBEL , M. CHLIYEH , N. MOUDEN , K. SELMAOUI , A. OUAZZANI TOUHAMI , S. SERGHAT , R. BENKIRANE and A. DOUIRA.
  In Current Research in Environmental & Applied Mycology (Journal of Fungal Biology) 11(1): 263–273.
- December 2020 Biostimulant Effect of *Trichoderma* on the Development of Wheat and Barley Plants and Its Survival Aptitudes on the Roots.
  S. QOSTAL , S. KRIBEL , M. CHLIYEH , N. MOUDEN , K. SELMAOUI , A. OUAZZANI TOUHAMI , S. SERGHAT , R. BENKIRANE and A. DOUIRA.
  In *Plant Archives*. 20 (2):7829-7834.
- September 2020 Effects of *Trichoderma* on growth and yield of wheat and barley and its survival ability on roots and amended rock phosphate growing substrates.
  Current Research in Environmental & Applied Mycology.
  S. KRIBEL, **S. QOSTAL**, A. OUAZZANI TOUHAMI, K. SELMAOUI, R. BENKIRANE, AND A. DOUIRA.
  In Journal of Fungal Biology. 10(1): 400–416.
- August 28, 2020 Management Of Wheat And Barley Root Rot Through Seed Treatment With Biopestcides And Fungicides.
  S. QOSTAL, S. KRIBEL, M. CHLIYEH, K. SELMAOUI, S. SERGHAT, R. BENKIRANE, A. OUAZZANI TOUHAMI, AND A. DOUIRA.
  In *Plant Cell Biotechnology and Molecular Biology 21(35&36):129-143.*
- December 2019 Quantitative and Qualitative Estimation of Moroccan *Trichoderma Isolates* Capacity to Solubilize Rock Phosphate.
  S. KRIBEL, **S. QOSTAL**, A. OUAZZANI TOUHAMI, K. SELMAOUI, M. CHLIYEH, R. BENKIRANE, E.H. ACHBANI AND A. DOUIRA.
  In Acta Phytopathologica. 54 (2).
- December 27, 2019 Fungi associated with saffron (Crocus sativus) in Morocco.
  I. E. AYMANI, **S. QOSTAL**, N. MOUDEN, K. SELMAOUI, A. OUAZZANI TOUHAMI, R. BENKIRANE, & A.DOUIRA.
  In *Plant Cell Biotechnology and Molecular Biology* 20(23-24), 1180-1188.
- December 2019 Study of the fungal complex responsible for root rot of wheat and barley in the northwest of Morocco.
  S. QOSTAL, S. KRIBEL, A. OUAZZANI TOUHAMI S. SERGHAT, R. BENKIRANE AND A. DOUIRA

Languages :
- French : Fluent.
- Arabic : Fluent.
- English : Fluent.

Interests

- Trip
- Swimming

In Plant Archives 19 (2): 2143-2157.

- October 16, 2019 *In vitro* selection of Moroccan phosphate sites'*Trichoderma* isolates according to their antagonism against the wheat and barley root rot pathogens
  S. KRIBEL, **S. QOSTAL**, A. OUAZZANI TOUHAMI, K. SELMAOUI, M. CHLIYEH, R. BENKIRANE, E.H. ACHBANI AND A. DOUIRA.
  In Plant Cell Biotechnology and Molecular Biology 20(15&16): 682–699.
- July 16, 2019 *Curvularia spicifera*,a parasite of the fungal complex of root rot of wheat and barley in Morocco
  S. QOSTAL, S. KRIBEL, M. CHLIYEH, K. SELMAOUI, A. OUAZZANI TOUHAMI, S. SERGHAT, R. BENKIRANE AND A. DOUIRA
  In Plant Cell Biotechnology and Molecular Biology 20(9&10): 354-365.
- Jun 18, 2019 Comparative pathogenesis of 7 fusarium spp.species and *bipolaris sorokiniana* obtained from necrotic lesions of wheat roots and barley plants (north-western Morocco)
  S. QOSTAL, S. KRIBEL, M. CHLIYEH, K. SELMAOUI, A. OUAZZANI TOUHAMI, S. SERGHAT, R. BENKIRANE AND A. DOUIRA
  In Plant Cell Biotechnology and Molecular Biology 20 (5&6): 261-274.
- Jun 18, 2019 Qualitative and quantitative estimation of the ability of *Trichoderma spp.* Moroccan isolates to solubilize tricalcium phosphate
  S. KRIBEL, **S. QOSTAL**, A. OUAZZANI TOUHAMI, K. SELMAOUI, M. CHLIYEH, R. BENKIRANE, E.H. ACHBANI AND A. DOUIRA
  In Plant Cell Biotechnology and Molecular Biology 20 (7& 8):275-284.