



Mohammad Sayari

(PhD . Microbiology)

Contact Information

Name: Mohammad Sayari

Date of birth: April, 1, 1986

Place of birth: Shiraz, Iran

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EDUCATION

PhD student in Microbiology (Nov 2019)

Department of Microbiology and Plant Pathology, University of Pretoria, Pretoria, South Africa.

Dissertation title: “Secondary metabolite pathways in the family *Ceratocystidaceae*”

Supervisor: **Prof. Brenda Wingfield**

Co-supervisors: **Prof. Emma Steenkamp**

Dr. Magriet van der Nest

MSc in Molecular Plant Pathology (March, 2012) (GPA: 17.82 out of 20)

Sari Agricultural Sciences and Natural Resources University, Department of plant protection, Sari, Iran.

Molecular analysis of some rice lines cultivated in north of Iran in response “ :Thesis title to *Rhizoctonia solani* causing rice sheath blight,

Supervisor: **Prof. Valiollah Babaeizad**

Co-supervisors: **Prof. Heshmat Rahimian**

Prof. Mohammad Ali Tajick Ghanbari

BSc in Plant protection (July 2009) (GPA=15.86/20)

Sari Agricultural Sciences and Natural Resources University, Department of plant protection, Sari, Iran.

Professional Experiences

Experiences gained during PhD

,Fungal genetic transformation include Agrobacterium mediated genetic transformation protoplast-based transformation as well as CRISPR CAS9 technique

- * Experienced with making gene knock out constructs
- * Genomic Comparison
- * Gene analyzing
- * Genome sequencing, assembly and annotation
- * Southern blot analysis
- * Expertise in Bioinformatics (**CLC genomic workbench, Microsoft Excel, SMURF, AntiSmash, CLUSTAL, SMURF, MEGA etc**).
- * Pathogenicity trials
- * Fluorescent microscopy
- * Phylogenetic analysis
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Experiences gained during MSc:

- * Plant Microbe Interactions
- * Experience with **Q-RT-PCR**
- * Familiar with **High Performance Liquid Chromatography (HPLC) and Gas Chromatography (GC)**.
- * Being familiar with **PCR-RFLP**

- * Being familiar with microscopy and making microscopic slides from plants, fungi and bacteria
- * DNA and RNA extraction
- * Pathogenicity trials

- * Identification of plant pathogens using microscopy as well as molecular approaches
- * Isolation of fungal and bacterial pathogens from plants
- * Genetic diversity of fungi
- * Protein extraction
- * Mono and two-dimensional electrophoresis

ISI journal papers:

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1. **Sayari M et al** (2019) Distribution and Evolution of Nonribosomal Peptide Synthetase Gene Clusters in the *Ceratocystidaceae*. *Genes* 10(5):328-345.
 2. **Sayari M, et al.** (2019) Agrobacterium-Mediated Transformation of *Ceratocystis albifundus*. *Microbiological Research* 226: 55-64.
 3. **Sayari M, et al** (2018) Diversity and evolution of polyketide biosynthesis gene clusters in the *Ceratocystidaceae*. *Fungal Biology* 122: 856-866
 4. **M. Sayari, et al** (2018). Ergosterol biosynthetic pathway and other terpenoid biosynthesis gene clusters in *Ceratocystidaceae*. *Fungal Biology* (ready for submission).
 5. Rahimlou S, Babaeizad V and Sayari M. 2014. First report of fruit spot of pomegranate caused by *Colletotrichum Gloeosporioides* in Iran. *Journal of Plant Pathology* 96 (3): 603-611
 6. Rahimlou S, Babaeizad V, Bose T and **Sayari M.** (2016). Determination of lignin-modifying enzymes (LMEs) in *Hyphodermella* species using biochemical and molecular techniques. *Mycologia Iranica*. 3(1): 57 – 63.
 7. Sayari M., et al (2016) Resistance of Two Rice Cultivars to the Sheath Blight Agent *Rhizoctonia solani* AG1-1A. *Journal of Agricultural Biotechnology*.
 8. Rahimlou S, Bose T, Babaeizad V, **Sayari M, Tajick MA.** (2015) Molecular data confirm the mitosporic state of *Hyphodermella rosae* (Phanerochaetaceae) as the pathogen of rosaceous fruits in northern Iran. *Sydowia* 67(1):189-196.
 9. Wingfield BD, Barnes I, De Beer ZW, De Vos L, Doong TA, Kanzi AM, Naidoo K, Nguyen DHT, Santana QC, **Sayari M**, Seifert KA, Trollip C, Van der Merwe N, Van der Nest MA, Wilken PM and Wingfield MJ. (2015) Draft genome sequences of *Ceratocystis eucalypticola*, *Chrysosporthe cubensis*, *C. deuterocubensis*, *Davidsoniella virescens*, *Fusarium temperatum*, *Graphilbum fragrans*, *Penicillium nordicum*, and *Thielaviopsis musarum*. *IMA fungus* 6(2): 493-506.

10. Rahimlou S, Babaeizad V and **Sayari M.** (2014) First report of fruit spot of pomegranate caused by *Colletotrichum gloeosporioides* in Iran. *Journal of Plant Pathology* 96(3): 603-611.
11. **Sayari M., et al** 2014. Expression of the pathogenesis related proteins, NH-1, PAL, and lipoxygenase in the Iranian Tarom and Khazar rice cultivars, in reaction to *Rhizoctonia solani*– the causal agent of rice sheath blight. *Journal of Plant Protection Research*. Vol. 54, No. 1 (2014). DOI: 10.2478/jppr-2014-0006
12. **Sayari M., et al** (2013) first report of *pilidium concavum* as the causative agent of tan-brown rot on *Prunus domestica* fruits. *Journal of Plant Pathology*. 95 (2), 447-45
13. **Sayari, M., et al** (2012) First report on dry fruit rots disease of plum caused by *Hyphodermella rosae* in Iran. APS net. <http://dx.doi.org/10.1094/PDIS-10-11-0825>.
14. Babaeizad Valiollah, **Sayari M**, Rahimian Heshmat. (2012) Occurrences of a new fruit rot of peach caused by *Hyphodermella rosae* in northern Iran. *New Disease Reports* (2012) 26, 1. [<http://dx.doi.org/10.5197/j.2044-0588.2012.026.001>].

Selections of National and International Conference papers

1. **Sayari M, et al**, 2018. Agrobacterium-Mediated Genetic Transformation of different strains of *Ceratocystis albifundus*. International Congress of Plant Pathology (ICPP), Boston, USA (Poster presentation).
2. Rahimlou S, Babaeizad V and **Sayari M.** 2015. *Hyphodermella*, is a genus producing lignin modifying enzymes. 6th European Conference on Prokaryotic and Fungal Genomics, September 29 - October 2, 2015 in Goettingen, Germany (Poster presentation)
3. Borhani B, Rahimian H, Babaeizad V, Zohour E and **Sayari M.** 2012. A twig and branch canker disease of stone fruit trees incited by *Cryptococcus magnus*. The International Congress on Yeasts. Madison, Wisconsin, USA. (Poster presentation).
4. **Sayari, M, et al** 2012. Morphological and molecular characterization of *Hyphodermella rosae* the causal agent of dry fruit rot on plum and peach in Iran. 11th European Conference on Fungal Genetics, Marburg, Germany. (Poster presentation).
5. **Sayari, M, et al** 2012. Phenylalanine Ammonia Lyase and Pathogenesis related genes involved in sheath blight disease resistance in Tarom, Iranian rice cultivar. 11th European Conference on Fungal Genetics, Marburg, Germany. (Poster presentation).
6. **Sayari, M, et al** 2012. Identification of the *Rhizoctonia solani* AG-4 the causal agent of safflower stem canker based on morphological and genetic characteristics. 11th European Conference on Fungal Genetics, Marburg, Germany. (Poster presentation).
7. **Sayari, M, et al** 2012. Morphological and molecular characterization of *Rhizoctonia solani* AG2-1 the causal agent of canola stem canker in Iran. 11th European Conference on Fungal Genetics, Marburg, Germany. (Poster presentation).
8. Borhani B, Rahimian H, Babaeizad, V and **Sayari M.** 2012. *Cryptococcus adeliensis* the causative agent of stem canker of stone fruit trees. 11th European Conference on Fungal Genetics, Marburg, Germany. (Poster presentation).

9. Moosavi H, Barbarized V, **Sayari M** and Mehrabioon Mohammadi M. 2012. Occurrence of velvetleaf stems canker caused by *Phomopsis longicolla* in Iran. 20th Iranian Plant Protection Congress, Shiraz University (Lecture presentation)
10. Babaeizad V and **Sayari M**. 2012. The morphological and molecular characterization of the causal agent of althea stem's canker in Iran. 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
11. Bavand S, **Sayari M**, Babaeizad V and Tazick Z. 2012. Morphomolecular Identification of the causal agent of Bracken vascular wilt in Iran. 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
12. Babaeizad V, **Sayari M** and Hajian Y. 2012. First report of salvia stem canker caused by *Rhizoctonia solani* in Iran. 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
13. Khalili G, Babaeizad V, **Sayari M** and Hashemi S. 2012. First report of Dovaston yew dye back caused by *Phomopsis theicola*. 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
14. Nasiri Taleshi SJ, Alian SA, **Sayari M**, Safari Arabi Z and Mahdian SA. 2012. The first report of *Sclerotium rolfsii*, causative agent of strawberry stem rot in Iran. 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
15. Borhani B, **Sayari M**, Babaeizad V and Hashemi S. 2012. First report of plum's fruit lesion caused by *Alternaria alternate* in Iran. 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
16. **Sayari M**, *et al* 2012. The analysis of the role of Defensis and Thionin in intraction of some rice cultivars and *Rhizoctonia solani* . 20th Iranian Plant Protection Congress, Shiraz University (Poster presentation).
17. **Sayari M** and Babaeizad V. 2012. Molecular comparison of isolates of *Rhizoctonia solani* AG-2-1 the causal agent of canola stem canker using ITS-RFLP. The 12th Iranian Genetics Congress.
18. Babaeizad V and **Sayari M**.2012. Involvement of Lipoxigenase and several pathogeneses-Related genes in rice Tarom cultivar against sheath blight causal agent, *Rhizoctonia solani*. The 12th Iranian Genetics Congress.
19. Babaeizad V and **Sayari M**. 2012. Genetically comparison between the isolates of *Rhizoctonia solani* AG-4, the causal agent of safflower stem canker in Iran using ITS-RFLP. The 12th Iranian Genetics Congress.
20. **Sayari M.**, *et al* 2011. The role of PAL and Pathogenesis related protein-3 in resistance of Tarom and Khazar, Iranian rice cultivars in response to rice sheath blight. National conference on sustainable agriculture, Islamic Azad University, Varamin, Iran. (Poster presentation).
21. **Sayari M.**, *et al* The role of NH1 and Pathogenesis related protein-10 in resistance of Tarom and Khazar, Iranian rice cultivars in response to rice sheath blight. National

conference on sustainable agriculture, Islamic Azad University, Varamin, Iran. (Poster presentation).

Awards and Scholarships

- National Research Foundation (NRF) scholarship for PhD study at the university of Pretoria (From 2014 to 2016) (110000 South African Rand)
- National Research Foundation (NRF) extension scholarship award (2017) (110000 South African Rand)
- FABI PhD scholarship award (2018) (110000 South African Rand)
- National Research Foundation (NRF) travel grant (2016) (4000 USD)
- University of Pretoria travel award (2016) (4000 USD)
- Best MSc student award. Sari Agricultural university, Sari, Iran (2011) (2000 USD)

- Ranked in the top 2 % at National Annual University Entrance Exam for Masters Degree, which awarded a scholarship that covered Tuition and dormitory fees. Sari Agricultural University. 2010-2012.

- Ranked in the top 5 % at National Annual University Entrance Exam, which awarded a scholarship that covered Tuition and dormitory fees in the bachelor Program, University of Mazandaran. 2005-2009.

Teaching and Work Experiences

Postdoctoral Researcher, FABI, University of Pretoria, Pretoria, South Africa, Dec 2019-present

Lab tutor, Microbiology (MBY261), second year BSc students, University of Pretoria, South Africa, 2019.

Lab tutor, Microbiology (MBY261), second year BSc students, University of Pretoria, South Africa, 2018.

Lab tutor, Bacteriology (MBY262), second year BSc students, University of Pretoria, South Africa, 2017.

Lab tutor, Bacteriology (MBY262), second year BSc students, University of Pretoria, South Africa, 2016.

Lab tutor Microbiology (MBY261), second year BSc students, University of Pretoria, South Africa, 2015.

Lab tutor, Microbiology (MBY261), second year BSc students, University of Pretoria, South Africa, 2014.

Student supervision

1- Sicelo Masuku: PhD student at the department of Genetics, University of Pretoria. September 2019-Continued.

2- Thapelo Maboko: MSc student at the department of Genetics, University of Pretoria. January 2016-Continued.

3- Saleh Rahimlou: MSc student at the department of Plant Pathology, Sari Agricultural University. January 2013- December 2015.

4- Constant Hoogkamer: Honours student at the department of Genetics, University of Pretoria. January 2019-continued.

5- Jireh Janse van Rensburg: Mentee student in the Mentorship program of the CTHB division of the Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria. January 2019- Continued.

6- Christopher Liakos: Mentee student in the Mentorship program of the CTHB division of the Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria. January 2018- December 2018.

Social activities

Volunteer member of FABI social club (Jan 2017-April 2018).

Participating in Fame lab workshop (2018).

Judging at science expo South Africa for grade 11 students (2015).

References

1- **Prof. Brenda Wingfield**: Department of Biochemistry, Genetics and Microbiology, University of Pretoria. Email: brenda.wingfield@up.ac.za

2- **Prof. Emma Steenkamp**, Department of Biochemistry, Genetics and Microbiology, University of Pretoria. Email: emma.steenkamp@up.ac.za

3- **Dr. Magriet van der Nest**, Biotechnology Platform, Agricultural Research Centre (ARC), Pretoria, South Africa. Email: magriet.vandernest@fabi.up.ac.za