

Samia Samad

Education

2014 - 2018 Ph.D. in Doctoral program in Plant Production Sciences (DPPS) at the University of Helsinki, Finland.

Thesis: *Regulation of vegetative and generative reproduction in the woodland strawberry*. The project was in collaboration with Fondazione Edmund Mach, IT. Supervisor: Dr. Timo Hytönen and Dr. Daniel James Sargent

- Genetic and environmental regulation of meristematic fate in the woodland strawberry.
- Characterization of FvCO in the woodland strawberry.
- QTL analysis of flowering and vegetative genes in the woodland strawberry.

2010 - 2011 MSc Molecular Biology with Biotechnology (with Distinction). Bangor University, Wales, UK.

Thesis: *Using a linkage map of naked x hulled barley for the investigation of inheritance of starch, beta-glucan, and other traits for UK cultivation*. Supervisor: Dr. Katherine Steele.

2005 - 2009 BSc in Biological Sciences (Hons.). University of Brunei Darussalam, Brunei Darussalam.

Thesis: *Bioconversion of bovine split skin into value-added products*. Supervisors: Prof. Dr. rer. nat. Abd-ElAzim Farouk Gad and Prof. Dato Hj. Mohamed Abdul Majid.

Research experience

2019 - Present Postdoctoral researcher at The Swedish University of Agricultural Sciences, Alnarp, Sweden.

Investigating the influence of temperature on meristem development through flower mapping in the ever-bearing Strawberry.

- Plant architecture and developing flower mapping scale as a tool to predict flowering potential.
- Molecular characterizing of the meristematic development of F1-hybrid garden strawberry propagated from seeds at high and low temperatures. – Collaboration with NIBIO, Norway.

2014 - 2018 Ph.D. researcher at the University of Helsinki, Finland.

Jointly initiated a GWAS on *Fragaria vesca* accessions from around Europe. Carried out both phenotyping and genotyping experiments. Prepared apex samples for electron microscopy. Analyzed results using statistical tools and prepared manuscripts. Planned, designed, and conducted molecular experiments to completion with the ability to troubleshoot independently. Molecular cloning and transformation of diploid strawberry (from gene search to introduction to the greenhouse).

2012 - 2016 Ph.D. Fellow at Fondazione Edmund Mach, TN, Italy.

Using QTL mapping to decipher the genetics of flowering and runnering in *Fragaria vesca* L. Was in charge of the Italian part of a common garden project, which was a collaboration between Finland, Norway, and Italy.

2012 - 2012 National Institute of Agricultural Botany (NIAB), Cambridge, UK.

As a research assistant for the Crop and pathogen genomics department, I worked with the resistance against a virulent leaf yellow rust, *Puccinia* spp., in elite MAGIC wheat populations. Was responsible for culturing the yellow rust strain, setting up and scoring the effects of the seedlings in growth chambers, and also largescale field trials for adult MAGIC populations.

2010 – 2011 **Bangor University, Wales, UK.**

Optimized Megazyme analytical kits to test barley seed powder for beta-glucan, amylose, and total starch. Conducted QTL mapping for agronomically important traits in barley for UK agriculture. Experimented with MALDI-TOF to investigate the component of beta-glucan in barley seeds.

Core competencies

- Biotechnology
- Microscopy and Plant architecture
- Quantitative biology
- Functional genetics
- Molecular cloning and transformation
- Controlled environment and field experiments

Analytical skills

Molecular mapping and visualizing software	Geneious, MapMaker 3.0, MapQtl 6.0, JoinMap 4.1, Mapcartographer, MapChart 2.0, GGT 2.0. GeneMapper, Genescan
Genomics and sequence aligner tools	Artemis, CLUSTAL, MUSCLE, BioEdit, MEGA, BLAST, Integrative Genomics Viewer, Tassel, Primer3, NetPrimer
Statistical Software	SPSS, R, LatentiX
Meta-analysis	OpenMEE, R
Image visualizing tools	Morphoanalyzer, Pix4D, ImageJ

Publications and conference presentations

Kurokura, T., **Samad, S.**, Koskela, E., Mouhu, K., and Timo Hytonen. (2017). *Fragaria vesca* CONSTANS controls photoperiodic flowering and vegetative development. *J Exp Bot.* 68 (17): 4839-4850. DOI: 10.1093/jxb/erx301.

Samad, S., Kurokura, T., Koskela, E., Toivainen, T., Patel, V., Mohuh, K., Sargent, D.J., Hytönen, T. (2017). Additive QTLs on three chromosomes control flowering time in woodland strawberry (*Fragaria vesca* L.). *Hort. Res.* 4, 17020: 1-11. DOI:10.1038/hortres.2017.20.

Samad, S., Kurokura, T., Koskela, E., Patel, V., Schneeberger, K. Hytonen, T., Sargent, D.J. QTL mapping of flowering time in *Fragaria*. Poster presentation delivered at The 8th International *Rosaceae* genomics conference, Anger, France. June 2016.

Steele, K., Dickin, E., Keerio, M. D., **Samad, S.**, Kambona, C., Brook, R., William, T., Frost, G. (2013). Breeding low-glycemic-index barley for functional food. *Field Crops Research*, 154: 31 -39. DOI:10.1016/j.fcr.2013.07.018.

Funding and Awards

2017 **Dissertation completion grant**, Doctoral School in Environmental, Food, and Biological Sciences (YEB). University of Helsinki, Finland.

- 2017** **The faculty of Agriculture and Forestry (MMTDK) grant** for research activities from the University of Helsinki, Finland to continue the research on the balance between reproductive and vegetative development in woodland strawberries.
- 2015- 2016** **Travel grants** from the Doctoral School in Environmental, Food and Biological Sciences (YEB) to present a poster at the 8th International *Rosaceae* genomics conference, Anger, France (2016) and to attend a NOVA course with the theme genomic selection in plant breeding in Copenhagen, Denmark (2015).
- 2012-2016** **GMPF Fellowship (genomics and molecular physiology of fruits)** at Fondazione Edmund Mach, San Michele All'Adige, TN, Italy. Thesis title "QTL of flowering time in the woodland strawberry."

Workshops and Courses

- 2020** **Accelerating climate-resilient plant breeding by applying –omics and artificial intelligence** at SLU Alnarp, Sweden 20-24 April 2020.
- 2018** **Meta-data analysis: Introduction to Meta-Analysis** by Professor Juliao Koricheva at the University of Helsinki, Finland. 15-19 October 2018
- 2016** **Tassel Workshop for GWAS analysis** at University of Helsinki, Finland
- 2016** **Next-generation genomics workshop at the NGG2016 Symposium: From Fastq to VCF** at the University of Helsinki, Finland.
- 2013** **Summer School: "Bioinformatic tools for genomics and network analysis" + EBI bioinformatics workshop** at San Michele All'Adige, TN, IT.
- 2013** **Winter School Symbiomes: Systems metagenomics of Host-microbe interactions** at SanMichele All'Adige, TN, IT.

Mentorship

- 2020** Supervisor for **Denis Butare**, MSc student in Horticulture Sciences at SLU, Alnarp, Sweden
- 2020** Co-Supervised **Hani Elaamer**, MSc student in Horticulture Sciences at SLU, Alnarp, Sweden

Volunteer experience

- 2014** **Volunteered as organizing committee** during the 6th International *Rosaceae* Genomics Conference, San Michele All'Adige, TN, Italy.
- 2011** **Postgraduate Ambassador** at Bangor University, Bangor, Wales, UK.
- 2010** **Research assistant and field demonstrator** for ASEM 2010 workshop in Temburong, Brunei Darussalam.
- 2006** **Presenter and translator** (From Bahasa Melayu to English) for Cambodian student delegate at ASEAN E-YOUTH Forum: – 6th ASEAN Telecommunications and IT Ministers Meeting, Brunei Darussalam