

Samia Samad

samad.samia@gmail.com

M.: + 923114455073

Education

2014 - 2018 PhD in Doctoral Program in Plant Sciences (DPPS) at University of Helsinki, Finland.
Project: *Regulation of vegetative and generative reproduction in the woodland strawberry. The project was in collaboration with Fondazione Edmund Mach, IT.*

Supervisor: Assistant Prof. Timo Hytönen and Dr. Daniel James Sargent

Topics of research:

- Genetic and environmental regulation of meristematic fate in 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 Science (Hons.). University of Brunei Darussalam, Brunei Darussalam.
Thesis: Bioconversion of bovine split skin into value added product.

Supervisors: Prof. Dr. rer. nat. Abd-ElAzim Farouk Gad and Prof. Dato Hj. Mohamed Abdul Majid.

Research experience

2014 - 2018 PhD researcher at 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 PhD 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 (from July - December 2015).

2012 - 2012 National Institute of Agricultural Botany (NIAB), Cambridge, UK. Research assistant for Crop and pathogen genomics department to study resistance against a virulent leaf yellow rust, *Puccinia spp.*, in elite wheat populations. Was responsible for culturing the yellow rust strain, setting up and scoring the effects of the f of the seedlings in growth chambers and also large-scale field trials for adult MAGIC populations.

2010–2011 Bangor University, Wales, UK. Optimized Megazyme analytical kits to test barley seeds for beta-glucan, amylose and total starch and also experimented using MALDI-TOF to investigate the component of beta-glucan in barley seeds.

Core competencies

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

Laboratory Skills

- Electron microscopy
- Designing, optimizing and multiplexing markers, PCR, qPCR,
- High-throughput Phenotyping
- Gel electrophoresis
- Molecular cloning and transformation
- Yeast 1 hybrid assay

Analytical skills

Molecular mapping and visualizing software Geneious, MapMaker 3.0, MapQtl 6.0, JoinMap 4.1, Map cartographer, MapChart 2.0, GGT 2.0.

Genomics and sequence aligner tools GeneMapper, Genescan, Artemis, CLUSTAL, MUSCLE, BioEdit, MEGA, BLAST, Integrative Genomics Viewer, Tassel, Primer3, NetPrimer.

Statistical Software SPSS, R, LatentiX.

Meta-analysis OpenMEE, R.

Image visualizaing tools Morphoanalyzer, Pix4D.

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* genomic 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 Doctoral school in Environmental, Food and Biological sciences (YEB), University of Helsinki, Finland** to present a poster at the 8th International *Rosaceae* genomic conference, Anger, France (2016).
to attend a NOVA course with the theme genomic selection in plant breeding in Copenhagen, Denmark (2015).
- 2012-2016** **GMPPF fellowship (genomics and molecular physiology of fruits)** at Fondazione Edmund Mach, San Michele All'Adige, TN, Italy. *Thesis* title "QTL of flowering time in strawberry".

Workshops

- 2018** **Meta-data analysis:** Introduction to Meta-Analysis by Professor Julia Koricheva at University of Helsinki, Finland 15-19 October 2018
- 2016** **Tassel Workshop for GWAS analysis** at University of Helsinki, Finland
- 2016** **Next generation genomics workshop 1at the NGG2016 Symposium:** From Fastq to VCF at University of Helsinki, Finland.
- 2013** **Summer School:** "Bioinformatic tools for genomics and network analysis" + EBI bioinformatic workshop at San Michele All'Adige, TN, IT.
- 2013** **Winter School Symbiomes:** Systems metagenomics of Host microbe interactions at San Michele All'Adige, TN, IT.

Volunteer experience

- 2014** **Volunteered as organizing committee** during 6th International *Rosaceae* Genomics Conference, San Michele All'Adige, TN, Italy.
- 2011** **Postgraduate Ambassador** at University of Wales, 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.

References

Paula Elomaa, Professor in Horticulture B117 Dept. of Agricultural Sciences, P.O. Box 27 (Latokartanonkaari 7), 00014 University of Helsinki Finland paula.elomaa@helsinki.fi +358504480427	Timo Hytönen, Assistant Professor, PI B110 Dept. of Agricultural Sciences, P.O. Box 27 (Latokartanonkaari 7), 00014 University of Helsinki Finland timo.hytonen@helsinki.fi +358294158699	Anil Shirsat, Senior lecturer in Biology (Biotechnology) School of Biological sciences, Bangor University, Bangor, Gwynedd, LL57 2DG, United Kingdom a.h.shirsat@bangor.ac.uk +441248 382323
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