­Magdalena M. Julkowska

KAUST, 23955-6900 Thuwal, The Kingdom of Saudi Arabia | <https://mmjulkowska.github.io> | [Magdalena.Julkowska@kaust.edu.sa](mailto:Magdalena.Julkowska@kaust.edu.sa)

# Education

## PHd | 2015 | plant physiology | University of Amsterdam| The Netherlands

“Tuned to survive — Salt-Stress Induced Changes in Arabidopsis”*,* Advisor: Christa Testerink

## MSc | 2010 | integrative plant science | University of Amsterdam | *summa cum laude*

# Research Experience

## postdoctoral fellow |Mark Tester’s lab | KAUST | Saudi-Arabia | 2015 - present

Identification of genetic components underlying salt stress-induced reprogramming of plant architecture using quantitative genetics, descriptive growth modeling, RNA sequencing, Green-gateway cloning, CRISPR-Cas9 system for targeted gene silencing, development of interactive data applications.

## phd student | Christa testerink’s lab | university of Amsterdam | The netherlands | 2010 - 2015

Study of natural variation in *Arabidopsis* root system architecture and rosette size during exposure to salinity stress and subsequent genome wide association study to identify underlying genes. Also involved in identification of the lipid binding domain of SnRK2.4 / 2.10 using *in vitro* liposome binding assay.

## Student assistant | university of Amsterdam | 2009

Preparation of media and reagents for undergraduate student practicum in Plant Physiology

## Student assistant | university of Amsterdam | 2008

Performing bioassays with whitefly (*Bemisia tabaci*), assessing the survival of different tomato ecotypes

# Publications

* **Julkowska, M.M.**, Saade, S., Agarwal, G., Gao, G., Pailles, Y., Morton, M., Awlia, M., Tester, M.A., (2018) MVApp – multivariate analysis application for streamlined data analysis and curation. *In review* Pre-print available at Figshare doi: <https://doi.org/10.6084/m9.figshare.6291461.v1> ♣ Corresponding author
* Pailles, Y., Awlia, M., **Julkowska, M.M.**, Passone, L., Zemmouri, K., Negrao, S., Schmockel, S., Tester, M., (2018) Salinity responses in Galapagos tomatoes. *In review*
* **Julkowska, M.M.,** (2018) Stress management: OsIDS1 modulates histone deacetylation to repress salt tolerance genes. *Plant Physiol.:* *in press* ♦ Assistant Feature Editor
* **Julkowska, M.M.,** (2018) Releasing the cytokinin brakes on root growth. *Plant Physiol.:* **177** 865-866♦ Assistant Feature Editor
* **Julkowska, M.M.,** (2018) Adjusting boron transport by two-step tuning of levels of the efflux transporter BOR1. *Plant Physiol.:* **177**:439-440♦ Assistant Feature Editor
* **Julkowska, M.M.**, Mol, S., Klei, K., Hoefsloot, H., Feron, R., Tester, M., Keurentjes, J.B., Haring, M.A., de Boer, G., Testerink, C. (2017) Natural variation in Arabidopsis root plasticity reveals a role for HKT1-mediated ion transport in lateral root formation. *Plant Cell* doi: https://doi.org/10.1105/tpc.16.00680 ♥ Article accompanied by the web-application <https://mmjulkowska.shinyapps.io/Salt_NV_RootApp/>
* Awlia, M., Nigro, A., Schmoeckel, S., Negrao, S., Santielia, D., Trtilek, M., Tester, M., **Julkowska, M.M**., Panzarova, K. (2016) High-throughput non-destructive phenotyping of traits that contribute to salinity tolerance in *Arabidopsis thaliana.* *Front. Plant Sci.* ♣ Corresponding author
* Kawa, D., **Julkowska, M.M.**, Montero-Sommerfeld, H., ter Horst ,A., Haring, M.A., Testerink, C. (2016) Phosphate-dependent root system architecture responses to salt stress*.* *Plant Physiol.* 172: 690-706.
* Thoen, M. P. M., Davila Olivas, N. H., Kloth, K. J., Coolen, S., Huang, P.-P., Aarts, M. G. M., Bac-Molenaar, J. A., Bakker, J., Bouwmeester, H. J., Broekgaarden, C., Bucher, J., Busscher-Lange, J., Cheng, X., Fradin, E. F., Jongsma, M. A., **Julkowska, M. M.**, Keurentjes, J. J. B., Ligterink, W., Pieterse, C. M. J., Ruyter-Spira, C., Smant, G., Testerink, C., Usadel, B., van Loon, J. J. A., van Pelt, J. A., van Schaik, C. C., van Wees, S. C. M., Visser, R. G. F., Voorrips, R., Vosman, B., Vreugdenhil, D., Warmerdam, S., Wiegers, G. L., van Heerwaarden, J., Kruijer, W., van Eeuwijk, F. A. and Dicke, M. (2016) Genetic architecture of plant stress resistance: multi-trait genome-wide association mapping. *New Phytol.* 213: 1346-1362.
* **Julkowska, M.M.,** Klei, K., Fokkens, L., Haring, M.A., Schranz, M.E., Testerink, C. (2016) Natural variation in rosette size under salt stress conditions corresponds to developmental differences between Arabidopsis accessions and allelic variation in the *LRR-KISS* gene*.* *J. Exp. Bot.* 67(8): 2127-38.
* **Julkowska, M.M.**, Testerink, C. (2015) Tuning plant signalling and growth to survive salt. *Trends Plant Sci.* 20: 586-594. ♥ Featured on Sept cover, accompanied by a video abstract: <https://www.youtube.com/watch?v=iNW_Tpfkoog&feature=youtu.be>
* **Julkowska, M.M.**, Hoefsloot, H.C.J., Mol, S., Feron, R., de Boer, G-J, Haring, M.A., Testerink, C. (2014) Capturing Arabidopsis root architecture dynamics with ROOT-FIT reveals diversity in responses to salinity. *Plant Physiol.* 166: 1387-1402.
* **Julkowska, M.M.**, McLoughlin, F., Galvan-Ampudia, C.S., Rankenberg, J.M., Kawa, D., Klimecka, M., Haring, M.A., Munnik, T., Kooijman, E.E., Testerink, C., (2014).Identification and functional characterization of the Arabidopsis Snf1-related protein kinase SnRK2.4 phosphatidic acid-binding domain. *Plant Cell & Environ*. 38(3): 614-24
* Wei, Z., **Julkowska, M.M.**, Laloe, J-O, Hartman, Y., de Boer, G-J., Michelmore, R.W., van Tienderen, P.H., Testerink, C., Schranz, M.E. (2014) *A mixed-model QTL analysis for salt tolerance in seedlings of crop-wild hybrids of lettuce.* Mol. Breeding 34(3): 1389-1400
* **Julkowska, M.M.**, Rankenberg, J.M., Testerink, C. (2013). *Liposome-binding assays to assess specificity and affinity of phospholipid-protein interactions*. Methods Mol. Biol. 1009: 261-271.
* Galvan-Ampudia, C. S., **Julkowska, M. M.**, Darwish, E., Gandullo, J., Korver, R. A., Brunoud, G., Haring, M.A., Muunik, T., Vernoux, T., Testerink, C., (2013). Halotropism is a response of plant roots to avoid a saline environment. *Current Biol. 23: 2044–2050.*
* Jacobsen, J. V., Barrero, J. M., Hughes, T., **Julkowska, M.**, Taylor, J. M., Xu, Q., & Gubler, F. (2013). *Roles for blue light, jasmonate and nitric oxide in the regulation of dormancy and germination in wheat grain (Triticum aestivum L.).* Planta, *238: 121–138*.
* McLoughlin, F., Galvan-Ampudia, C. S., **Julkowska, M. M**., Caarls, L., van der Does, D., Lauriere, C., Munnik, T., Haring, M.A., Testerink, C., (2012). The Snf1-related protein kinases SnRK2.4 and SnRK2.10 are involved in maintenance of root system architecture during salt stress. *Plant J*. 72: 436–449.
* Pribat, A., Sormani, R., Rousseau‑Gueutin, M., **Julkowska, M. M.**, Testerink, C., Joubès, J., Castroviejo, M., Laguerre, M., Meyer, C., Germain, V., Rothan, C., (2012). A novel class of PTEN protein in displays unusual phosphoinositide phosphatase activity and efficiently binds phosphatidic acid. *Biochem. J.* 441: 161–171.

# Interactive web-tools

* **MVApp** - <https://mvapp.kaust.edu.sa> - Multivariate analysis application for streamlined data analysis and curation. DOI: 10.5281/zenodo.1067974.
* **SNPer** - <https://mmjulkowska.shinyapps.io/SNPer/> - Quick visualization tool of multiple Genome Wide Association Studies in one graph. DOI: 10.5281/zenodo.1227775.
* **La Isla de tomato** - <https://mmjulkowska.shinyapps.io/La_isla_de_tomato/> - An interactive data application for exploring natural variation in salt stress tolerance of tomatoes collected from Galapagos Islands.
* **Salt Natural Variation Root App** - <https://mmjulkowska.shinyapps.io/Salt_NV_RootApp/> – An interactive application for exploring natural variation in Root System Architecture in Arabidopsis accessions and their response to salt stress exposure. Instructions available at <https://mmjulkowska.github.io/Salt_NV_RootApp/>

# Teaching Experience

* Sept 2018: Invited lecture at Science Crossroads Initiative “The beauty and purpose of Plant Geometry”, KAUST
* Feb-May 2018: Lecturer in Plant Physiology and Adaptation, PS202 Graduate Student course, KAUST
* July 2017: Lecturer at Zhengzhou University International Summer School, China
* Feb 2015 – present: Daily supervision and mentoring of two PhD students, KAUST
* 2015 – present: Organized and lead tutorials for graduate students on basic statistics and programming in R, KAUST
* 2015: Teaching Assistant for the graduate course “Plant Breeding”, University of Amsterdam: Developed the computer training “Gene structure analysis” on mining the available databases to examine the allelic variation and consequence thereof for protein functionality
* 2015: Prepared and presented an exposition “*Do plants like skittles? Chemical genomics for discovering new plant responses*” for Open Day at University of Amsterdam
* 2010 – 2015: Daily supervisor of 2 MSc and 4 BSc students during their internships, University of Amsterdam
* 2010 – 2014: Teaching Assistant in the 3rd year BSc course “Ecogenomics”, University of Amsterdam: (1) Designed the experiments used in the course, (2) Led and supervised laboratory work by the students, (3) Prepared the practical computer portion of Genome Wide Association Studies in *Arabidopsis thaliana*

# Honors and Awards

* Winner of ASPB Sharon Gray Women Young Investigator Travel Award to attend Plant Biology 2018 meeting
* 1st Poster Prize 2014, SILS day, Amsterdam, The Netherlands
* Irene Manton Poster Prize, 2014 SEB Conference, Manchester, UK
* Awarded Unilever Researchprijs for MSc thesis, 2010, De Lier, The Netherlands

# Conference presentations

## Oral Presentations

* Plant Biology meeting, American Society of Plant Biologist, Montreal, Canada, 2018 ♥ Invited speaker
* Gordon Research Conference on Salt and Water Stress in Plants, Waterville Valley, USA, 2018
* Gordon Research Seminar on Salt and Water Stress in Plants, Waterville Valley, USA, 2018 ♥ Invited speaker
* Society of Experimental Biology Meeting, Gothenburg, Sweden, 2017 – two presentations
* Gordon Research Conference on Salt and Water Stress in Plants, Les Diablerets, Switzerland, 2016
* ALW meeting ‘Experimental Plant Sciences,’ Lunteren, The Netherlands, 2014
* Ecogenomics meeting, Utrecht, The Netherlands, 2014
* Gordon Conference on Salt and Water Stress in Plants, Hong Kong, 2012

## Poster Presentations

* Plant Biology meeting, American Society of Plant Biologist, Montreal, Canada, 2018 ♥ YouTube teaser: <https://youtu.be/JN3k7tPMpgk>
* Gordon Research Conference on Salt and Water Stress in Plants, Waterville Valley, USA, 2018
* International Seminar for Root Research, Canberra, Australia, 2015
* Society of Experimental Biology Conference, Manchester, UK, 2014
* Gordon Conference on Salt and Water Stress in Plants, Newry, U.S.A, 2014
* ALW meeting ‘Experimental Plant Sciences,’ Lunteren, The Netherlands, 2013
* Environmental Signalling Summer School, Utrecht, The Netherlands, 2013
* ALW meeting 'Experimental Plant Sciences,' Lunteren, The Netherlands, 2012
* Environmental Signalling Summer School, Utrecht, The Netherlands, 2011
* PhenoDays Conference, Wageningen, The Netherlands, 2011
* INPAS Conference, Limassol, Cyprus, 2011
* ALW meeting 'Experimental Plant Sciences,' Lunteren, The Netherlands, 2011

# Administrative experience

## KAUST postdoc cooperative | KAUST | SAUDI ARABIA | 2018 - present

Member of the organizing committee

## Conference Chair | Gordon Research Seminar | 2016

Gordon Research Seminar on Salt and Water Stress in Plants, Les Diablerets, Switzerland

# Contributions to scientific community

## Assistant Feature editor | plant Physiology | 2018 - present

## Reviewing editor | Frontiers in plant science | abiotic stress tolerance | 2016 - present

## Invited reviewer

* BMC Genomics
* New Phytologist
* Scientific Reports
* The Plant Cell
* Plant, Cell and Environment
* Plant Physiology
* Plant Systematics and Evolution
* PLoS Genetics
* Plant Methods
* Plant Science
* F1000 Research

## professional memberships

* Society of Experimental Biology
* American Society of Plant Biology