Dear members of the Hiring Committee;

I write to apply for the Assistant Professor at Boyce Thompson Institute as advertised on Plantae website. I am currently a postdoctoral scientist at King Abdullah University of Science and Technology (KAUST, Saudi Arabia) in Professor Mark Tester’s group. The focus of my research is to study how plant architecture is changing in response to salt stress in Arabidopsis. In my future research, I intend to employ my expertise in forward genetic, plant phenotyping and stress physiology to understand how plant architecture of cultivated and wild species affects their abiotic stress tolerance. By focusing on plant architecture, I will integrate different aspects of plant physiology including phenotyping, transcriptome profiling of the meristems, mathematical modeling and forward genetics, resulting in unique research line for my research group, and valuable collaborations, contributing to exciting and high impact research done at BTI.

As a scientist, I aim to address fundamental questions, such as “which signals guide distribution of biomass among plant organs during stress?” but also “can we use plant architecture in breeding for enhanced stress tolerance?”. I see myself as an inventor who applies new technologies into the biological context and who strives to share these new tools with the scientific community. I consider that science nowadays is a multidisciplinary field, therefore I built an extensive scientific expertise in plant phenotyping, forward genetics and stress physiology, which allows me to study phenotype-genotype and phenotype-phenotype networks using multi-scale biological systems. Working with large populations of plants taught me patience, persistence and organizational skills. I recognized the need for data curation and created an analytic pipeline for the large-scale projects MVApp (<https://MVApp.kaust.edu.sa>) by leading a team of five Ph.D. students. The potential of the MVApp for transparent data curation and streamlined data analysis contributed to my successful application for very competitive Women’s Young Investigator Travel Award (WYITA), awarded by ASPB to attend 2018 Plant Biology meeting in Montreal. Recently I was also invited as a speaker to the Phenome’19 conference to share my experience in designing MVApp. My skills in data analysis and project management allow me to have a significant contribution to Ph.D. projects of two students under my supervision and have already resulted in one publication where I am a senior and corresponding author (Awlia et al., 2016). During my stay at KAUST, I developed collaborations with my colleagues working on strigolactones (Prof. Babili, Dr. Jia), continued to collaborate with my previous group (Prof. Testerink), and developed new collaboration with geneticists (Arthur Korte, Wurzburg University), electrophysiologists (Caitlin Byrd, ANU), phenotyping engineers (PSI, Czech Republic) and data modeling experts (Guillaume Lobet, Jülich/Louvain University). I am excited to build further meaningful collaborations within and outside of the BTI that will increase the impact of my own research and that of my colleagues.

In the era of global communication, scientific outreach is crucial. Therefore, I take every opportunity that comes my way to be involved in promoting science to the broader audience. I am a part of Plantae Fellow program, an active reviewer for a number of high-quality journals in plant science and an Assistant Features Editor at Plant Physiology. By interacting with students and colleagues from various backgrounds and facing different challenges I learned how to appreciate cultural and academic differences, effectively communicate and develop meaningful collaborations. I am very enthusiastic about the opportunity to join the ­international society at BTI which can provide excellent infrastructure and collaborative network for translating fundamental science into biotechnological solutions around the globe. Hence, I feel confident that the combination of my research experience, interest in the contribution of plant architecture to abiotic stress tolerance and outreach proficiency will be of particular interest to the BTI.

Thank you for your consideration and I look forward to hearing from you,

Magdalena Julkowska