Dear Dr. Chang,

I am happy to write you a letter of support for the Biological Data Sciences (BDS) program that you are developing for undergraduate students at Oregon State University.

My area of expertise is in plant genomics and plant systems biology. I have been engaged with colleagues in the plant sciences in nation-wide conversations on transforming education and training to enable researchers in leveraging massively large datasets. Our recommendations were published in a commentary in *Plant Physiology* (Friesner et al., 2017).

There is no question that modern plant and life sciences are quantitative and researchers with the necessary skillset are in high demand in the workforce. Timely societal issues in human health, food security, and sustainability of our ecosystem can only be addressed by large transdisciplinary teams. The modern methods used include mathematical modeling, leveraging massive ‘-omic’ datasets, high-throughput phenotyping, and automated sampling, to name a few. These demand biologists who are comfortable working large data, who are familiar with data structures, who are aware of appropriate methods to analyze data, who can communicate effectively and work in large teams, and importantly, who are aware of the limits of the data.

I am in strong support of the proposed BDS program. It is smartly developed to address competencies that we and others have identified as essential for contemporary biology. I am also impressed to see the proposed curricula address the minimal skill sets that we had recommended for plant biology students. I am aware of the challenges in developing an academic program to address the training needs in computational biology. I was excited to see how the proposed BDS program engaged faculty across disciplines and how the program best uses pre-existing courses to address needs. Last, the newly proposed courses are excellent and will help students synthesize knowledge and actively apply knowledge to addressing real datasets.

In summary, the life sciences require more undergraduate programs like BDS. I am in strong support of your proposal.

Sincerely,

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