

## 6 Conclusion

Resolving the concentrations of bacterial strains and the host *Chlamydomonas reinhardtii* is a challenging endeavour in the phycosphere modeling system employed in the research group. While the modeling technique is founded on proven theory, the complexity of the system demands that more attention is be paid to the concentration levels that can be resolved by the individual instruments employed in the system. Furthermore, the models developed herein remain to be validated and would require ample amounts of differently composed (with respect to bacterial taxa) calibration data to determine whether the observed *Chlamydomonas* effect—and its correction factors—is independent of said composition or a true phenomenon that can always be corrected. Application of the optimal model (Model S) derived from K-Space consequently requires the photobioreactor serving as the phycosphere modeling system be upgraded to measure the wavelengths required by the model.