

Devin S. Fitzgerald

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(774)-364-4896

Employment:

Research Assistant III: (June 2016 - 2019)

Dartmouth College - Environmental Studies Department. Hanover, NH.

- Designed daily operation protocols for tilapia care and maintenance schedule tailored to our lab-scale recirculating systems
- Cultured in between 200-800 live tilapia (95g-400g) leading up to and during experiments in the recirculating aquaculture laboratory. Tasks included feeding, weight sampling, data recording, and daily and weekly water chemistry.
- Maintained and managed two fully functioning lab spaces at Dartmouth College sites with tasks including training and ensuring training compliance for technicians, inventory, and the general upkeep of equipment.
- Assisted P.I.s with literature reviews investigating the digestibility of several microalgae species and their possible incorporation in commercial fish feed, in-vitro digestion methods, and microalgae culturing techniques.
- Conducted digestibility experiments and feed trials using *Nannochloropsis oculata*, and *Schizochytrium sp.* in novel formulations to assess growth and apparent digestibility.
- Established a two step in-vitro digestion method to test the apparent digestibility of protein in microalgae diets mixed with commercial nutritional enzymes and methods to detect added enzyme activity.
- Developed an agglutination assay to detect anti-nutritional proteins (lectins) present in microalgae, and terrestrial plant ingredients used in diets.
- Aided in culturing *Nannochloropsis granulata/oceania/oculata* using wastewater from regional breweries and assessed growth using ash free dry weights and fluorescence.

- Prepared samples for phosphorus, nitrogen, carbon, enzyme content, and DNA analysis by numerous methods including, tissue homogenization, acid digestion, lyophilizing, and vacuum filtration.
- Mentored three Women in Science Program interns and several other students from various backgrounds working on independent projects.

Lead Field Technician: (2015-2016(early) Field seasons)

Trout Unlimited, Brattleboro, VT.

Recirculating Aquaculture System Supervisor: 2011- 2014

Australis Aquaculture LLC, Turners Falls, MA

Research Publications

Sarker P.K., Kapuscinski A.R., Ashley B., Donaldson E., Sitek A., **Fitzgerald D.S.**, Edelson, O.F. (2018). Towards sustainable aquafeeds: Evaluating substitution of fishmeal with lipid-extracted microalgal co-product (*Nannochloropsis oculata*) in diets of juvenile Nile tilapia (*Oreochromis niloticus*). PLOS One 13(7): e0201315. Available at: <https://doi.org/10.1371/journal.pone.0201315>.

(Role: Methodology, investigation, validation, data curation, and editing.)

Conference Presentations and Abstracts

Gao A., Grimes C., Sarker P.K., Kapuscinski A.R., **Fitzgerald D.S.** 2018. Towards Sustainable aquaculture feeds: Anti-nutrients in competing microalgae and terrestrial crop protein sources. Wetterhahan Science Symposium. Dartmouth.

Schelling B., Souza, A., Sarker P.K., **Fitzgerald D.S.**, Takayuki T., Kapuscinski A. 2018. Towards Sustainable Aquafeeds: Can enzyme additions improve digestibility? Wetterhahan Science Symposium. Dartmouth.

Inguez V., Scalfani A., **Fitzgerald D.S.**, Kapuscinski A.R. 2018. Carbon Competition: Can brewery waste water be used to culture *Nannochloropsis sp.* Wetterhahan Science Symposium. Dartmouth.

Edelson*, O.F., Bang*, S., Gao*, A., Sarker, P.K., Kapuscinski, A.R., **D.S., Fitzgerald.** 2017. Making aquaculture feeds less fishy: marine microalgae replacing fishmeal. Wetterhahan Science Symposium. Dartmouth.

Education:

University of Massachusetts Amherst (2012)
B.S. Wildlife and Fisheries Conservation

Awards/Certifications:

Eagle Scout - Jan 2006
CPR/First Aid certified - reoccurring

