

# tidepool



**June 2022**

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Joanna Dicks



Joanna Dicks

## Welcome To *tidepool*

Thank you for reading the very first edition of *tidepool*! This quarterly newsletter will serve to update the Ocean Sciences community on all varieties of topics related to the department. Our goal is to increase transparency, communication and help to build a stronger sense of community at the Ocean Sciences Centre (OSC).

If there are any recommendations for future issues of *tidepool* or you would like to become involved on the editorial team, please email Eric at [ehignatz@mun.ca](mailto:ehignatz@mun.ca)!

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Joanna Dicks



## Faculty Spotlight: Dr. Uta Passow

In the AEON lab (Anthropogenic Effects on the Oceanography of Newfoundland), we investigate impacts of climate change, oil spills and microplastic pollution, targeting especially the interactions with marine snow, the dust bunnies of the ocean. Marine snow not only provides organisms living in the dark ocean with food, but also carries carbon downward, effectively removing it from the atmosphere. We explore how the ocean changes and if it will continue to take up additional carbon. Sinking marine snow also acts as a transport vehicle for non-sinking oil droplets or microplastic. Dispersed oil droplets may be trapped in marine snow, which affects biodegradation, and allows oil to reach the deep (> 1500 m) seafloor, affecting benthic organisms. Our lab studies the formation of marine oil snow, the consequences for organisms, and for biodegradation, as part of an effort to develop effective strategies for oil spill response. Additionally, we are investigating the distribution of microplastic in the ocean and on the seafloor in Placentia Bay, to explore the role marine snow plays in the transport of small plastic particles to depth, and the potential effects on phytoplankton. We also celebrate together, e.g. winter solstice.

-Dr. Uta Passow



## A Word from the Department Head

It is exciting to see the first issue of *tidepool*, our very own departmental newsletter, and I thank Eric Ignatz and Dr. Matt Rise for their initiative and considerable efforts to put this together. The hope is that this will further our sense of community in the department.

I would first like to thank Dr. Chris Parrish for the tremendous leadership he provided for the department as Head over the past 1.5 years. He set the department on an excellent course and made my transition into the position as smooth as it could be.

Lots has been happening since I began as Interim Head a couple of months ago and following are some of the more significant happenings. We have had an important visit by the University President, several VPs (Academic/Provost, Research and Advancement & External Relations) and the Dean of Science where we were able to highlight our many accomplishments as well as ongoing concerns. Our Academic Unit Program (AUP) Self-Study document was submitted and a review committee visit is scheduled for the fall semester. We have advertised for a new faculty position in Marine BioScience, with interviews likely to also occur in the fall semester. Work has been initiated to clean the deep-water intake line and Dr. Javier Santander is in the process of moving his lab operations from the Annex Building to the CDRF.

In this issue, you will read about some of the departmental updates, as well as accomplishments of our faculty, staff, and students that are well worth celebrating.

Here's to a wonderful, enjoyable and productive summer for all!

-Dr. Ian Fleming

## Field Services Unit Update

The Field Services Unit (FSU) has been preparing for a busy Spring and Summer, wrapped up winter maintenance, and completed several specimen collection dives. Kyle Warman returned to the position of Dive Technician I and after almost a decade of exemplary service with FSU, Andrew Perry will finish in his role as Dive Technician III and will be starting a new position with Grenfell Campus. We wish Andrew and his family all the best on their next adventure and thank him for his leadership, passion and dedication to the Department of Ocean Sciences. You will be truly missed.

In mid-May FSU participated in Memorial's flagship event, Whale of a Day, which took place at the Core Science Facility, that saw over 1300 attendees. The Ocean Sciences Centre exhibit was a crowd favorite!

May month also included a trip to the Bonne Bay Aquarium and Research Station for specimen collection, in order to get their tanks ready to open to the public.

-Kyle Warman



## Occupational Health and Safety Report

The safety upgrade of the main OS building central stairwell railing has been completed, to raise the railing height to the proper building code requirements. Some finishing work (e.g., painting) remains but compliance with the NL Occupational Health & Safety Order: 0672590- 01 has been met.

Effective June 6, 2022, the long awaited plumbed in Eyewash & Emergency Shower system throughout the Annex and OS buildings has been activated and put into service. As well, the portable, wall mounted eyewash systems will remain in place at present. If anyone has concerns or questions regarding the monthly testing requirement, please contact the committee or OSC Laboratory Services.

The OSC Workplace OHS Committee members include John Evely (employer representative co-chair), Dr. Iain McGaw, Greg Tremblett, Gord Nash (worker representative co-chair), Rebeccah Sandrelli, Christine Vickers & Trevor Newman. If you have any workplace safety concerns or are interested in participating on the committee, please contact one of the members.

-Gord Nash



## Summer at the CDRF

The Cold-Ocean Deep-Sea Research Facility (CDRF) enters the summer busy with a range of research and teaching activity. We would like to welcome Dr. Martin Van-Den-Berghe from Project Vesta Technologies Canada Inc. to our labs. Project Vesta conducts research in ocean alkalinity enhancement (OAE), a means to remove carbon dioxide from the ocean in the effort to mitigate climate change. The combination of a certified microbiology lab and source of ocean water makes the CDRF an ideal location for his research. He will join other NL based industry innovators, including Nucliq Biologics and SubC Imaging who make use of CDRF space and services. July also marks the beginning of the 2022 sampling season for our Environmental Effects Monitoring (EEM) work with Wood PLC. The fish health component of this work is an important part of environmental regulatory monitoring for the offshore oil and gas industry. This work keeps our histology and bioassay lab quite busy for the next several months.

Our containment zone operations continue with full tanks of lumpfish and Atlantic salmon used for research in vaccines and pathogenesis in CCFI funded projects led by Dr. Javier Santander. A newly awarded MUN seed funded project with Drs. Passow, Cisternas-Novoa and Lofthus will make use of our unique equipment for deep-sea oil contamination research.

Having entered our eighth year of operation, we are beginning work on funding for equipment renewal and are seeking input from faculty and students on equipment gaps or improvements they would like to see at the OSC. Students and staff interested in learning techniques in widefield, confocal or scanning electron microscopy and flow cytometry / cell sorting are encouraged to book an introductory training session. Please contact the CDRF manager ([sjhill@mun.ca](mailto:sjhill@mun.ca)) for details. We have newly introduced annual subscription plans for PIs interested in in a simple way to provide their lab with open access to this equipment at the CDRF. Please see our [website](#) for more details.

-Steve Hill

## OceanUS Announcements

OceanUS (Ocean Sciences Undergraduate Society) is a student-run group that provides Ocean Sciences students with social events, networking opportunities, community engagement/volunteer opportunities, advice and more!

With another school year ending, OceanUS would like to congratulate the undergraduate students who graduated this past month! In addition, we would like to announce the turnover of the OceanUS executive team and introduce our committee for the 2022-2023 school year.

### 2022-2023 Executive Team:

President: Jill Carter

Vice President: Alessia King

Secretary: Theresa Allingham

Treasurer: Jacob Mercer

Social Rep: Mary Londero

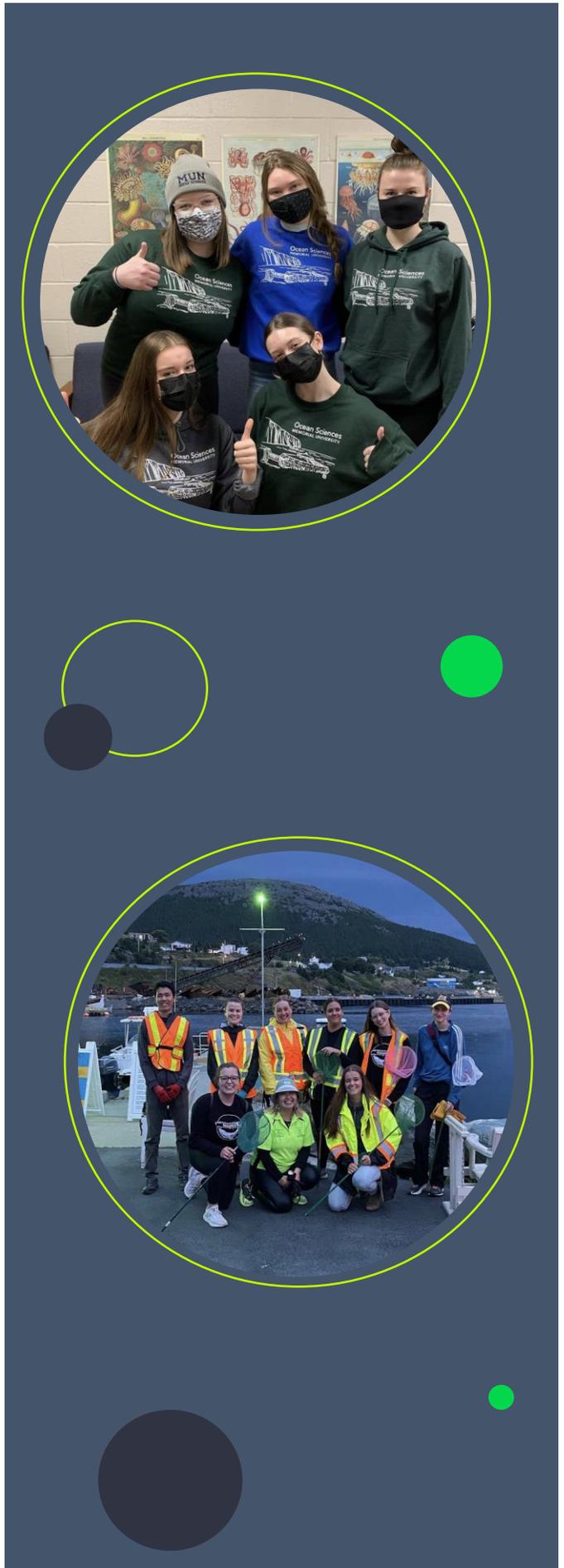
4th Year Rep: Isaiah Power Smith

3rd Year Rep: Jenna Keveryga

2nd Year Rep: Marcella Whelan

To keep up with OceanUS updates feel free to follow us on social media! OceanUS can be found on Facebook (<https://www.facebook.com/groups/OCEANUS/>), Instagram (@mun\_oceanus) and Email (oceanus@mun.ca). We are looking forward to a great year!

- OceanUS 2022-2023 Executive Team



## OSGSA News

The Ocean Sciences Graduate Student Association (OSGSA) is an organization that aims to improve graduate student life at the OSC by providing both academic and social support!

On May 4<sup>th</sup>, we held our annual general meeting and elected a new committee for the 2022/2023 year.

### 2022/2023 Executive Team:

Chairperson: Eric Ignatz

Treasurer: Verena Kalter

Seminar Series Coordinators: Natalie Perrin, Coral San Roman, Joanna Dicks

Graduate Development Coordinator: Eleanor Barry

Graduate Studies Representative: Colleen McBride

Sustainability Coordinator: Olivia Dillon

Graduate Student Food Coordinator: Sara Jobson

Graduate Student Union Representative: Mary Clinton

We would like to thank our outgoing executive team members – Ben King, Émile Vadboncoeur, Carly Salant, Molly Rivers, Rooba Gnanagobal, Rachel Morrison – for all their efforts making the previous year such a success!

The positions of **Communications Coordinator** and **Special Events Coordinator** are still vacant and so if anyone is interested in filling either of these roles, please email Eric (ehignatz@mun.ca) for more information.

We look forward to organizing more events, seminars and activities over the next few months, so be sure to follow us on social media to keep up to date!

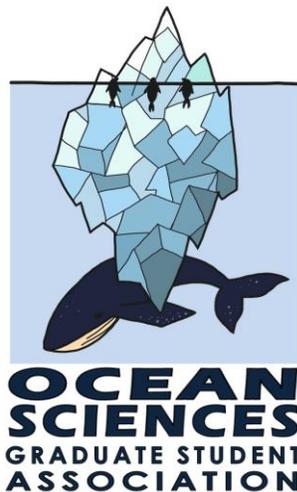
-OSGSA 2022/2023 Executive Team

 MUN Ocean Sciences Graduate Student Association

 @munosgsa

 @munosgsa

 osgsa@mun.ca



# Welcome to New Arrivals

\*Arrived Since January 2022\*



## Chantelle Clermont

My name is Chantelle and I am originally from Mississauga, Ontario. I completed my undergraduate degree at Dalhousie University in Halifax. I am now starting to work towards my Master's in Dr. Patrick Gagnon's lab on the covering behaviours of green sea urchins, *Strongylocentrotus droebachiensis*.



## Aiden Hicks

My name is Aidan and I'm from Fredericton, New Brunswick. There I went to the University of New Brunswick and transitioned from an interest in forest ecology to phycology and marine biology in my later years. Here at the MUN OSC, I'm currently in Dr. Patrick Gagnon's lab and plan to study the mechanical and ecophysiological aspects of rhodolith bed habitats in Newfoundland.



## Eleanor Barry

My name is Eleanor, I am a Marine Biology student, who has just started a PhD in Dr. Uta Passow's lab. I am originally from Northamptonshire in the UK, and completed both my undergraduate and Masters degree at Bangor Prifysgol University in North Wales. My current research interest is in the community structure of plankton under the ice, with the hopes of further understanding climate change in the Nunatsiavut region.



## Caroline Ofosu

My name is Caroline, and I am originally from Ghana, but I completed by Masters degree at the University of Regina. I am currently enrolled in the Environmental Sciences PhD program here at MUN under the co-supervision of Dr. Ian Fleming and Dr. Sue Ziegler (Earth Sciences). My research is focused on characterizing the marine migration patterns, diet and prevailing state of Nunatsiavut Arctic char in a changing climate.



## Dr. Ina Brenner

My name is Ina and I am a new postdoc in Dr. Uta Passow's lab. I did my PhD in Germany at the Alfred-Wegener-Institute Bremerhaven on the utilization of organic nutrients by phytoplankton. Afterwards, I already have done 3 postdocs in San Francisco (SFSU), Sackville in New Brunswick (Mount Allison University), and Los Angeles (UCLA) working with Edward Carpenter, Zoe Finkel and Robert Eagle, respectively, on marine phytoplankton. In general, I am interested on the effect of various changes in the ocean on phytoplankton. Here at the OSC, I will be continuing to work on phytoplankton, especially the effect of microplastics on the growth and aggregation of phytoplankton.

## Public Outreach

### NL Alliance of Science Centres (ASL-NL)

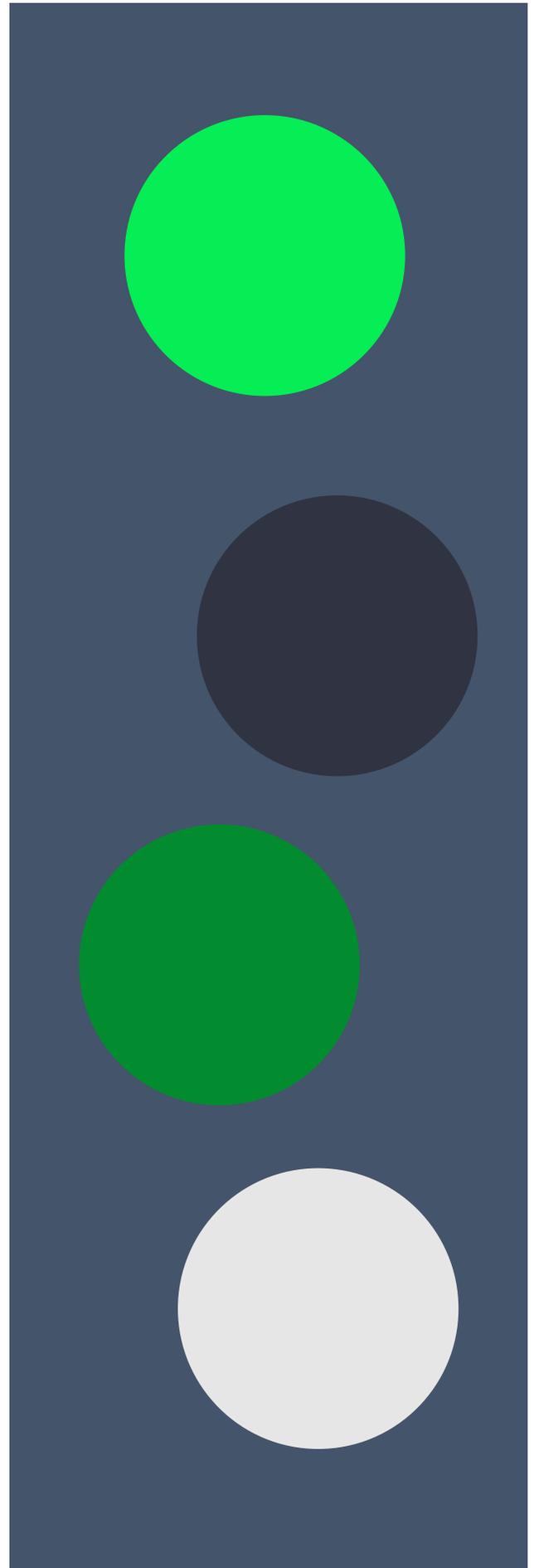
This project involves 6 partner sites: Bonne Bay Marine Station, Johnson Geo Centre, Manuels River Interpretation Centre, Champney's West Aquarium, Terra Nova Park (Parks Canada), and of course the OSC (Project Lead). This project involves the creation of virtual content in terms of 3D models and programs as well as the conversion of programs to the French language.

### J. Roger Pearson Graduate Fellowships in Ocean Education and Outreach

The Oceans Learning Partnership (OLP) is proud to establish graduate fellowships as a legacy of its vision and work and to honour and recognize Mr. J. Roger Pearson, founding director of the OLP. Under Mr. Pearson's leadership, OLP and Memorial University signed an MOU in 2013 and inaugurated a new experiential learning program for high school students at the Ocean Sciences Centre, the Marine Biodiversity Lab Program, among others, as part of the university's newly launched outreach and engagement strategy. These graduate fellowships are available yearly to full-time Memorial University graduate students in marine biology and/or ocean sciences. Awards will be granted based on a student's demonstrated interest and experience in school and community outreach, youth education, and hands-on, experiential learning. These fellowships will provide an opportunity for graduate students to work part time on developing their skills in science communication/teaching and curriculum development.

### Whale of a Day

On Saturday, May 14, MUN Alumni hosted an open house event that took place under and around the blue whale skeleton that hangs in Memorial's new Core Science Facility. OSC staff and student volunteers helped welcome 1400+ visitors and the touch tank and diver Kyle were the stars of the show.





## OSC Summer Touch Tanks

The OSC outdoor Summer Marine Education Program is **open June 1<sup>st</sup>, 2022 - September 5, 2022**. The program runs from 10am to 5pm daily, 7-days a week, rain or shine! There is no admission cost but we do have a donation box available.

The current public education program is a complimentary interactive and interpretive outdoors activity for tourists, school children and local visitors. Features of the program include an outdoor touch tank, where visitors can experience a never - ending variety of local marine life; an outdoor observation platform for viewing our captive population of harp seals; and marine interpreters (undergraduate MUN students) to answer questions and explain current research initiatives at the facility. This program welcomes upwards of 20,000 people during the summer months.

-Danielle Nichols

## Accomplishments Within the Department

### **Awards**

#### *Scientific Endeavors in Academia (SEA) Conference*

Best Ocean Sciences Presentation (poster or talk) (undergraduate): **Melanie Downer**, BSc Hons (Supervisor – Dr. Uta Passow)

Best Innovation and Aquaculture Poster: **Ze Xuan Ang**, MSc Marine Biology (Supervisor – Dr. Pat Gagnon)

Best Innovation and Aquaculture Talk: **Dr. Irene Machimbirike Vimbai**, Postdoctoral Fellow (Supervisor – Dr. Javier Santander)

School of Graduate Studies Best PhD Presentation (poster or talk): **Eric Ignatz**, PhD Marine Biology (Supervisors – Dr. Kurt Gamperl & Dr. Matt Rise)

School of Graduate Studies Best Masters Presentation (poster or talk): **Émile Vadboncoeur**, MSc Aquaculture (Supervisor – Dr. Kurt Gamperl)

*Dr. Joe Brown Graduate Research Award in Aquatic Ecology and Aquaculture*

**Cerren Richards**, PhD Marine Biology (Supervisors – Dr. Amanda Bates & Dr. Shawn Leroux)

*Best Oral Presentation at Science Atlantic – Aquaculture and Fisheries Conference*

**Toyin Onireti**, MSc Aquaculture (Supervisor – Dr. Javier Santander)

*Fellow of the School of Graduate Studies*

**Sara Jobson** (Supervisor – Dr. Annie Mercier)

**Dr. Tomer Katan** (Supervisors – Dr. Matt Rise & Dr. Chris Parrish)

**Dr. Marta Miatta** (Supervisor – Dr. Paul Snelgrove)

**Dr. Nicole Smith** (Supervisors – Dr. Matt Rise & Dr. Sherri Christian)

*NSERC Alexander Graham Bell Canada Graduate Scholarship*

**Nova Hanson** (Supervisors – Dr. Amanda Bates & Dr. Suzanne Dufour)

*Commander Peter G. Chance Scholarship*

**Cerren Richards** (Supervisors – Dr. Amanda Bates & Dr. Shawn Leroux)

*NSERC Postgraduate Scholarship – PGSD*

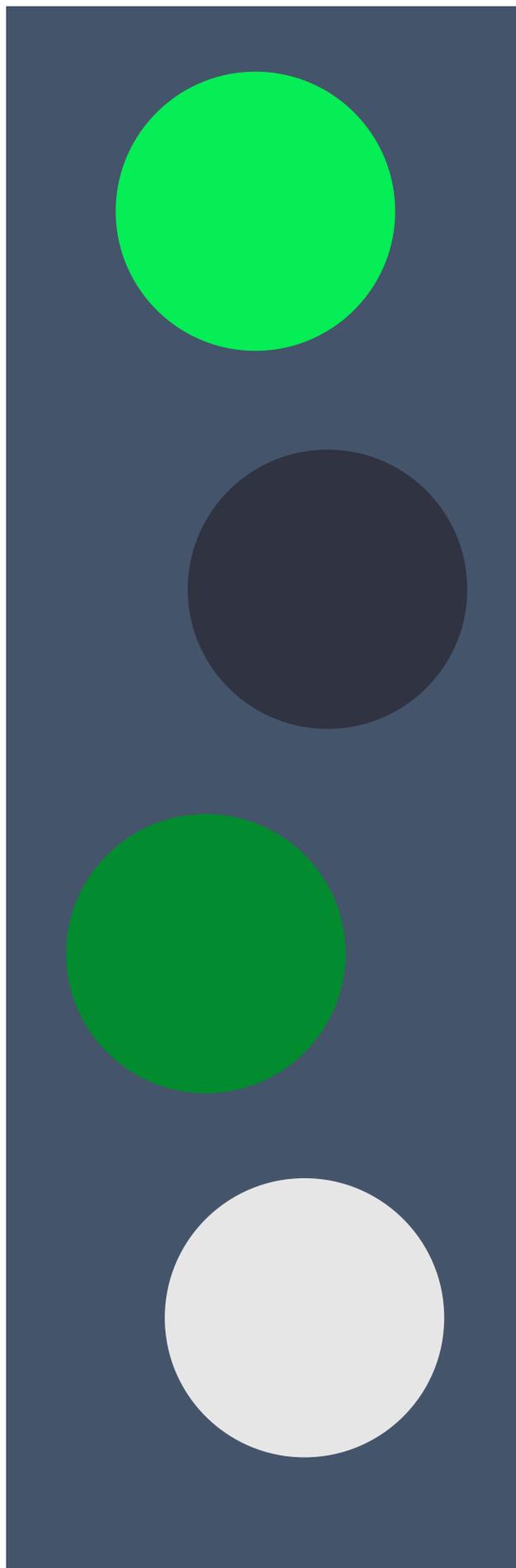
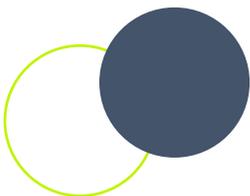
**Sara Jobson** (Supervisor – Dr. Annie Mercier)

*Bob Hooper Scholarship*

**Saxon Althorp** (BSc Marine Biology)

*Tenure – Department of Ocean Sciences*

**Dr. Javier Santander**



## ***Degreed Graduate Students***

**Sindy Dove**, MSc Marine Biology, “Innate antiviral-like responses differ among divergent European and North American farmed and wild Atlantic salmon (*Salmo salar*) and their hybrids”. (Supervisors – Dr. Ian Fleming & Dr. Matt Rise)

**Nigel Guerra**, MSc Marine Biology. “Effects of replacing dietary fish oil and fish meal with microbial oil and algal biomass on lipid class, total fatty acid and phospholipid fatty acid composition of Atlantic salmon liver and muscle tissues”. (Supervisor – Dr. Chris Parrish)

**Dr. Qiwu “John” Jiang**, PhD Marine Biology, “Effects of food deprivation states on behavioural and physiology responses to hypoxia in rock crabs (*Cancer irroratus*). (Supervisor – Dr. Iain McGaw)

**Dr. Robine Leeuwis**, PhD Marine Biology, “Climate-Related Stressors and their Effects on Sablefish (*Anoplopoma Fimbria*) Cardiorespiratory Physiology and Immunology”. (Supervisor – Dr. Kurt Gamperl)

**Dr. Marta Miatta**, PhD Marine Biology, “Biodiversity and ecosystem functioning in contrasting marine habitats: patterns, drivers, and implications for conservation planning”. (Supervisor – Dr. Paul Snelgrove)

**Sean Hacker Teper**, MSc Marine Biology, “Assessing trophodynamics of a Newfoundland rhodolith (*Lithothamnion glaciale*) bed using lipid, fatty acid, and stable isotope analyses”. (Supervisors – Dr. Chris Parrish & Dr. Patrick Gagnon)

**Dr. Xi Xue**, PhD Marine Biology, “Transcriptomic Studies of Atlantic Salmon Responses to Dietary Omega-3 Long-Chain Polyunsaturated Fatty Acids, *Piscirickettsia salmonis* infection, Immunogens, and Functional Feeds”. (Supervisor – Dr. Matt Rise)

## ***Degreed Undergraduate Honours Students***

**Ajatshartru Balaji**, BSc Honours Ocean Sciences, “Drivers of Ice-Nucleation Potential in North Atlantic Surface Waters”. (Supervisor – Dr. Rachel Sipler)

**Devon Bath**, BSc Honours Ocean Sciences, “Warm, predator-rich waters produce few but large age-0 Juvenile Cod”. (Supervisors – Dr. Paul Snelgrove & Dr. Bob Gregory)

**Melanie Downer**, BSc Honours Ocean Sciences, “A characterization of microplastics on the seafloor of Placentia Bay, Newfoundland”. (Supervisor – Dr. Uta Passow)

**Tristan Hennig**, BSc Honours Ocean Sciences, “Spatio-Temporal Movements of Blue Sharks, *Prionace glauca*, in the Western North Atlantic”. (Supervisors – Dr. Ian Fleming & Dr. Heather Bowlby)

**Emily Palmer**, BSc Honours Ocean Sciences, Comparing the lipid and fatty acid profiles of farm, wild and Hybrid 1+ Atlantic salmon (*Salmo salar*) parr foraging in the wild”. (Supervisors – Dr. Ian Fleming & Dr. Chris Parrish)

**Sydney Sullivan**, BSc Honours Marine Biology, “Burrowing and feeding behaviour of deposit-feeding sea cucumber *Chiridota laevis*”. (Supervisor – Dr. Annie Mercier)



\* If any updates / new arrivals / accomplishments were accidentally missed, please reach out to Eric ([ehignatz@mun.ca](mailto:ehignatz@mun.ca)) so that this information can be included in the next issue of *tidepool!* \*

