

Welcome to the first annual DFB Newsletter!

With this newsletter, we aim to celebrate DFB and its impact by highlighting our recent accomplishments and future plans, but more importantly, our student alumni and instructors, without whom DFB would not be what it is today.

Congratulations to the DFB Class of 2020!



Welcome to the family!

Since its inception in 2015, DFB has engaged over 140 students in immersive research and career development activities via its in-person course held initially in Puerto Rico and now in Ann Arbor.

Well into the throes of planning the #DFB2020 Course, the COVID-19 pandemic halted all research, travel, and teaching plans. Undeterred, DFB instructors quickly pivoted all course materials to a virtual format, detailed on the next two pages. In the first ever virtual DFB Course, students learned core developmental biology concepts while exploring careers in STEM and networking with fellow students, instructors, and faculty. Students conducted experiments with their at-home lab kits, testing regeneration with planaria and observing mutant flies under the microscope. Overall, despite the challenges, #DFB2020 was a success and we are excitedly looking towards DFB's future!

Our Reach



#DFB2020 saw a record number of 94 applications, up from 82 in 2019. The largest DFB cohort yet, 36 students, were selected for the virtual course. Half hail from Puerto Rico and the rest from 12 other colleges and universities across the mainland US.

DFB is committed to the advancement of our student alumni

We are very excited to **announce several new and continuing initiatives** to further engage DFB alumni in science and career development even after the Short Course has ended:

Conference Attendance Awards: Several monetary awards have and will be given to lower the financial barriers associated with attending scientific conferences.

Research Fellowships: A competitive stipend will be awarded to DFB alumni to conduct summer research either at U-M or a partnering industry lab. Our original plans for Summer 2020 were halted due to COVID-19, however we hope to revisit this initiative for Summer 2021.

Journal Club: A student-led initiative, DFB alumni critically read and discuss scientific literature. Workshops on pertinent topics, such as grad school admissions, will also be given here by DFB instructors.

Teaching Assistantships: A stipend will be awarded to one or more DFB alumni to take an active role in the planning and implementation of future Short Courses.

U-M Summer Research Opportunity Program (SROP): We are guaranteed two slots in [SROP](#) for DFB alumni to conduct summer research at U-M for a competitive stipend.



The #DFB2020 Course

Even virtually, #DFB2020 successfully captured the core pillars of every DFB course: developmental biology, research, and career development & networking. Highlighted below and on the next page are the hallmarks of this year's course, but there is *plenty* more not mentioned here that made #DFB2020 amazing.

The Tech

#DFB2020 incorporated several virtual platforms to connect and communicate with students.



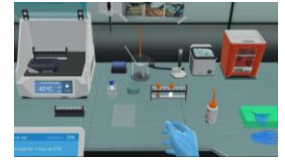
Slack, for general communication



Zoom, for video calls

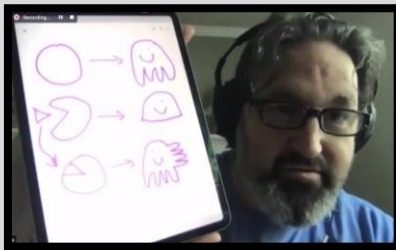


Miro, a virtual collaborative workspace

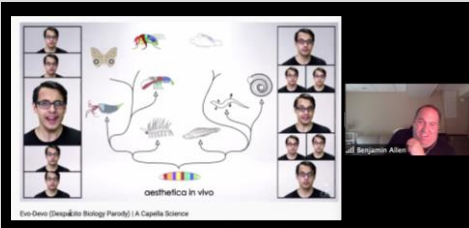


Labster, a virtual lab simulator

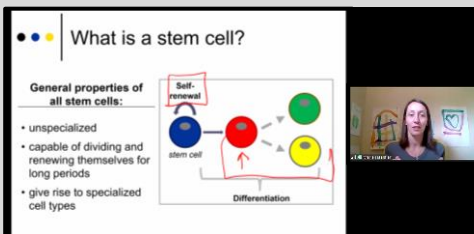
Lectures



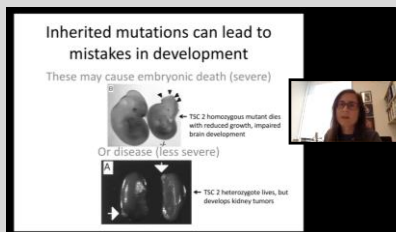
Dr. Scott Barolo titillated trainees with tales of the tetrapus.



Dr. Ben Allen thrilled with the "Evo Devo" rendition of "Despacito".



Dr. Jill Haenfler organized our observations on organogenesis.



Dr. Laura Buttitta directed discussion on development and disease.

Panels

Diverse panelists from across the U.S., many of whom were able to attend because of #DFB2020's virtual format, shared their wisdom on several relevant topics (and more!) with this year's students.



What to do After College?



What is Grad School Like?



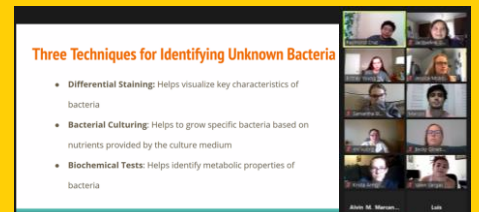
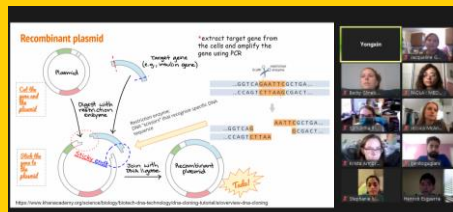
Careers in STEM



DFB Student Alumni

Student Presentations

In groups, students presented on methods commonly used in biological research, including molecular cloning, FACS, mass spectrometry, next gen sequencing, and ways to identify unknown bacteria.





The #DFB2020 Course



#DFB2020 students showed exceptional drive, enthusiasm, and resilience as they navigated course materials and their experiments largely without the one-on-one, in-person guidance standard of previous DFB courses. The DFB Team is very excited to see what our students accomplish in the future!

Career Development Workshops


Students explored career options while crafting their best CVs, research pitches, and personal statements.

How to structure your statement

- Opening paragraph (5-6 sentences)
 - The Hook
 - Why do you want to attend grad/med school?
 - What you hope to gain by attending?
- The body (3-4 Paragraphs)
 - Each paragraph describes an experience
- Concluding paragraph
 - Tailored specifically for each university





SO YOU'RE MAJORING IN BIOLOGICAL SCIENCE, WHAT ARE YOU GOING TO DO IN YOUR LIFE WITH THAT MAJOR?



CV Style Do's and Don'ts

| DO | DON'T |
|---|--|
| <ul style="list-style-type: none"> Clean Consistency (Font, margins, etc) Standard font (Arial, Calibri, Times New Roman) <ul style="list-style-type: none"> No less than 12 pt Use a slightly larger font for your name, headings, etc Bolding, <i>italicizing</i>, and <u>underlining</u> | <ul style="list-style-type: none"> Colored fonts Images/selfies Typos Grammatical errors Misspellings |



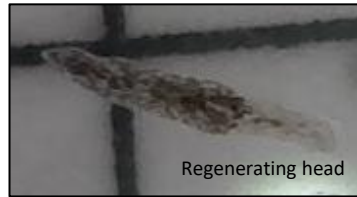
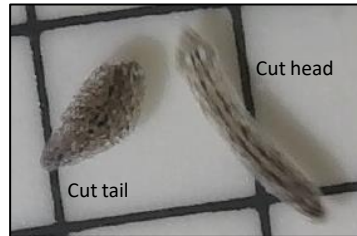
At-Home Labs

Lab kits with two microscopes, slides, dissection tools, and live planaria and flies were mailed to each student's home for various experiments. It is **truly impressive** what they accomplished with these supplies!



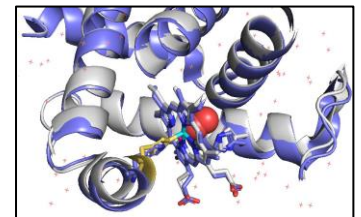
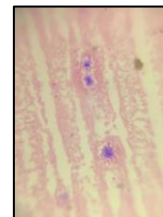
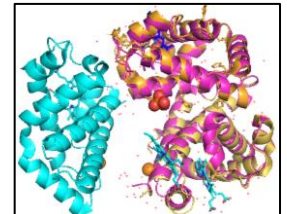
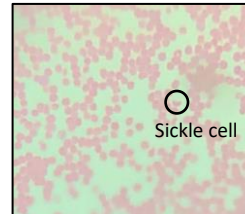
Regeneration:

Students tested planaria regeneration by monitoring head and tail growth after cutting



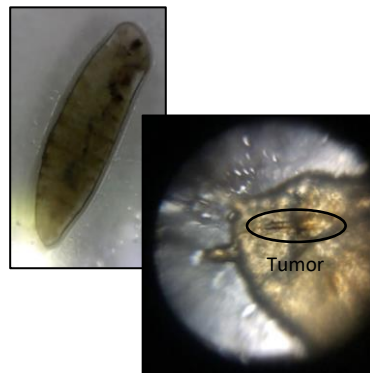
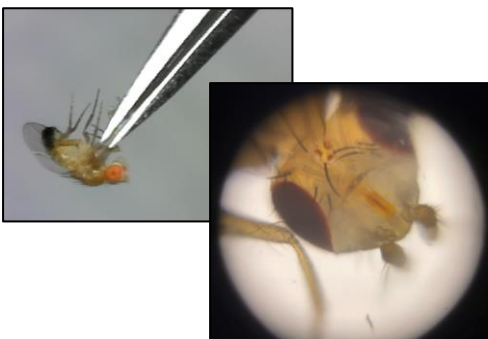
Gene Expression:

Students searched for sickle cells, then explored the structure of hemoglobin



Models of Disease:

Students sorted flies by eye phenotype, observed blood tumors, and practiced dissections



Wrapping Up

#DFB2020 ended with the annual Swag-athon trivia game and heartfelt goodbyes.



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Luis 5:50 PM
fileConn<-file("dfb.txt")
writeLines(c("Amazing","Experience"), fileConn)
close(fileConn)
```



The 2020-2021 Instructors

From both instructor and student recruitment, to assembling the at-home lab kits, to designing and delivering the course materials, our instructors worked tirelessly to ensure that every aspect of #DFB2020 was a success.



Senior Instructors (from left to right): Kaylee Steen, Ph.D.; Angela Guo; Samantha Kemp; Tyler Hoard; Anna Shirazyan



Junior Instructors: Jessica McNulty; Becky Glineburg, Ph.D.; Matt Schnizlein; Jackie Graniel; Krista Armbruster, Ph.D.; Mirella Hernandez-Lima

The Teaching Assistants



TAs **Nhi Vuong** and **Paola Medina-Cabrera** contributed their unique perspectives as alumni of #DFB2019 to enhance #DFB2020.

The Faculty Advisors



Drs. **Ben Allen**, **Scott Barolo**, and **Laura Buttitta** continue to provide their support and expertise before, during, and after the course to both students and instructors alike.

DFB gratefully acknowledges our generous sponsors: The American Society for Cell Biology; Michigan Medicine; the Cellular & Molecular Biology graduate program; Cell & Developmental Biology; Microbiology & Immunology; Molecular & Integrative Physiology; Neurology; the College of Literature, Science, & the Arts and its Department of Molecular, Cellular, & Developmental Biology; the Endowment for Basic Sciences; the Program in Biomedical Sciences; the Office of Graduate & Postdoctoral Studies; Rackham Graduate School; the Life Sciences Institute; the Rogel Cancer Center; the Postbaccalaureate Research Education Program; the Office for Health Equity & Inclusion; the Center for Plasticity & Organ Design; and individual donors through Giving Blue Day.

Where are they now?

Since their involvement in DFB, both student and instructor alumni have gone on to accomplish amazing things! Read below about two alumni who have embodied the mission of DFB.

Featured Instructor Alum

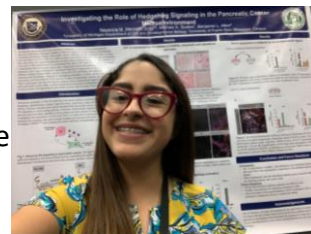
An instructor from 2016-2017, **Alana Chin, Ph.D.**, completed her doctorate in the lab of [Dr. Jason Spence](#) (CDB), where she studied Wnt-signaling and its effects on intestinal epithelial cell proliferation during villus formation. She is now a Product Scientist at [23andMe](#). There, she combines info from scientific literature and in-house databases to generate health reports and product features that provide insight into how a person's genetics may play a role in their life. When asked about her experience with DFB, Dr. Chin said:



"I just want to say thank you to the people who founded DFB and supported its vision through the years. For the immense hard work that the founders put in to get DFB up and running, to the PIs and sponsors who had faith in our program and lent us their guidance, talent, and resources, I am forever grateful. Through DFB, I realized my own passion for teaching and getting others excited about science. I am so proud of the students we were fortunate enough to reach and seeing their continued success inspires me and reminds me that small interactions can make big waves. Lastly, the communication and organization skills I had gained through DFB directly contributed to where I am today and I am so thankful. DFB was honestly one of the best things I ever did in grad school."

Featured Student Alum

A junior at UPR Mayagüez at the time, **Nayanna Mercado-Soto** was a student of the #DFB2018 Course. Having little previous research experience, she proved herself highly enthusiastic and eager to learn, and excelled at every opportunity. Afterwards, she served as DFB's first Teaching Assistant for #DFB2019, using her perspective as a student alum to improve the 2019 course. The following summer, she conducted research in [Dr. Ben Allen's lab](#) (CDB), which she later presented at [ABRCMS](#) in a poster titled "Investigating the Role of Hedgehog Signaling in the Pancreatic Cancer Microenvironment" (pictured). Nayanna is now a [PREP scholar](#) at U-M and is currently applying to grad school. When asked about her experiences with DFB, Nayanna said:



"DFB has been a huge part of my development as a scientist. This program not only taught me about developmental biology but gave me the opportunity to network and learn about the different paths in which science can take you. I made good friends from Puerto Rico and across the United States, met faculty members and students that have been helping me out in every step of the way since then. Everything I've done in the past two years I owe it to this program and the people who make it possible every year."

Stay connected by following us on social media!


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  www.developingfuturebiologists.com

Contribute to DFB

Do you want to serve on a panel for a future DFB Course? Have suggestions for the DFB Team? Want to be featured in next year's newsletter or on social media? For these, or any other reason, e-mail us at contactdfb@umich.edu.

For monetary contributions, visit the Donate tab on our [website](#).