

UNDERWATER COLORIMETRY

COURSE OPENING & LOGISTICS

Dr. Derya Akkaynak | dakkaynak@univ.haifa.ac.il

INSTRUCTOR



Dr. Derya Akkaynak
dakkaynak@univ.haifa.ac.il

Assistant Professor

Hatter Department of Marine Technologies | University of Haifa
&
Interuniversity Institute for Marine Sciences in Eilat

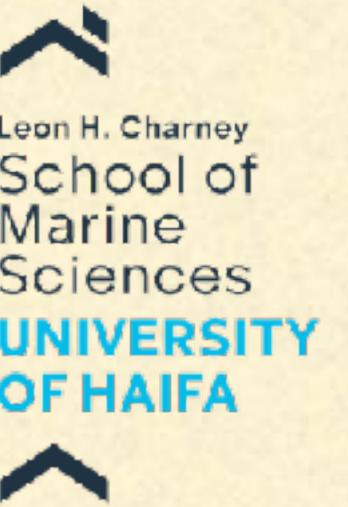


BRIEF BIO



Dr. Derya Akkaynak

dakkaynak@univ.haifa.ac.il



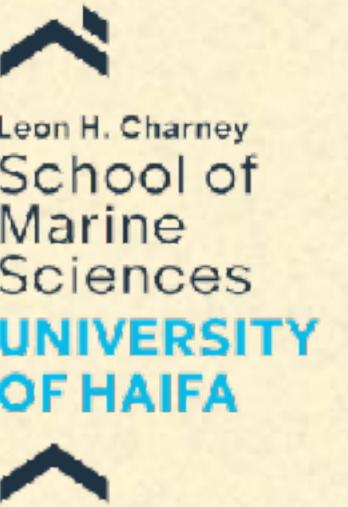
BRIEF BIO



Dr. Derya Akkaynak
dakkaynak@univ.haifa.ac.il

BSc
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2003 |  ODTÜ
METU

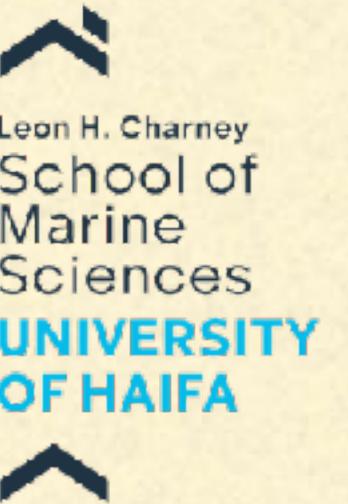
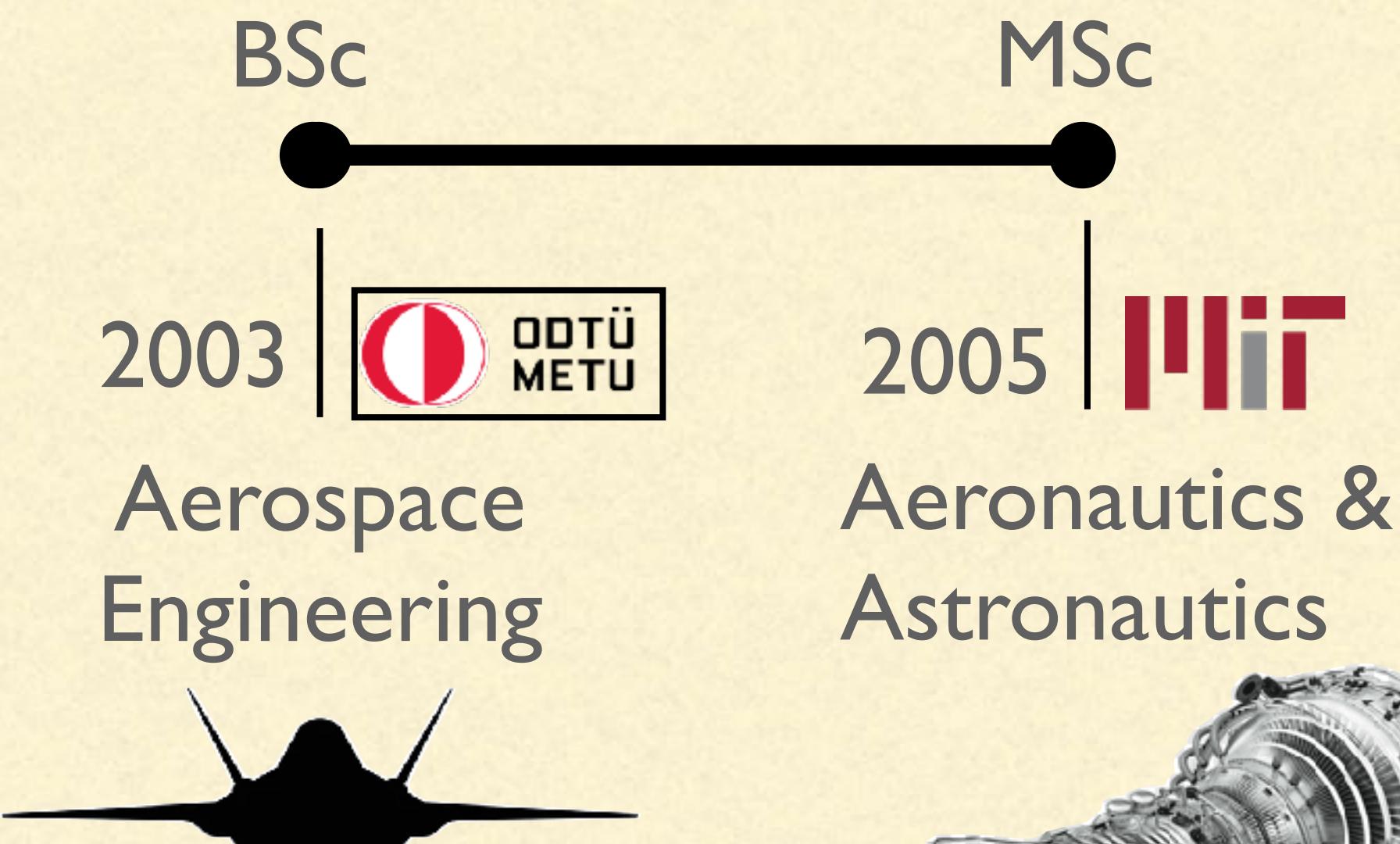
Aerospace
Engineering



BRIEF BIO



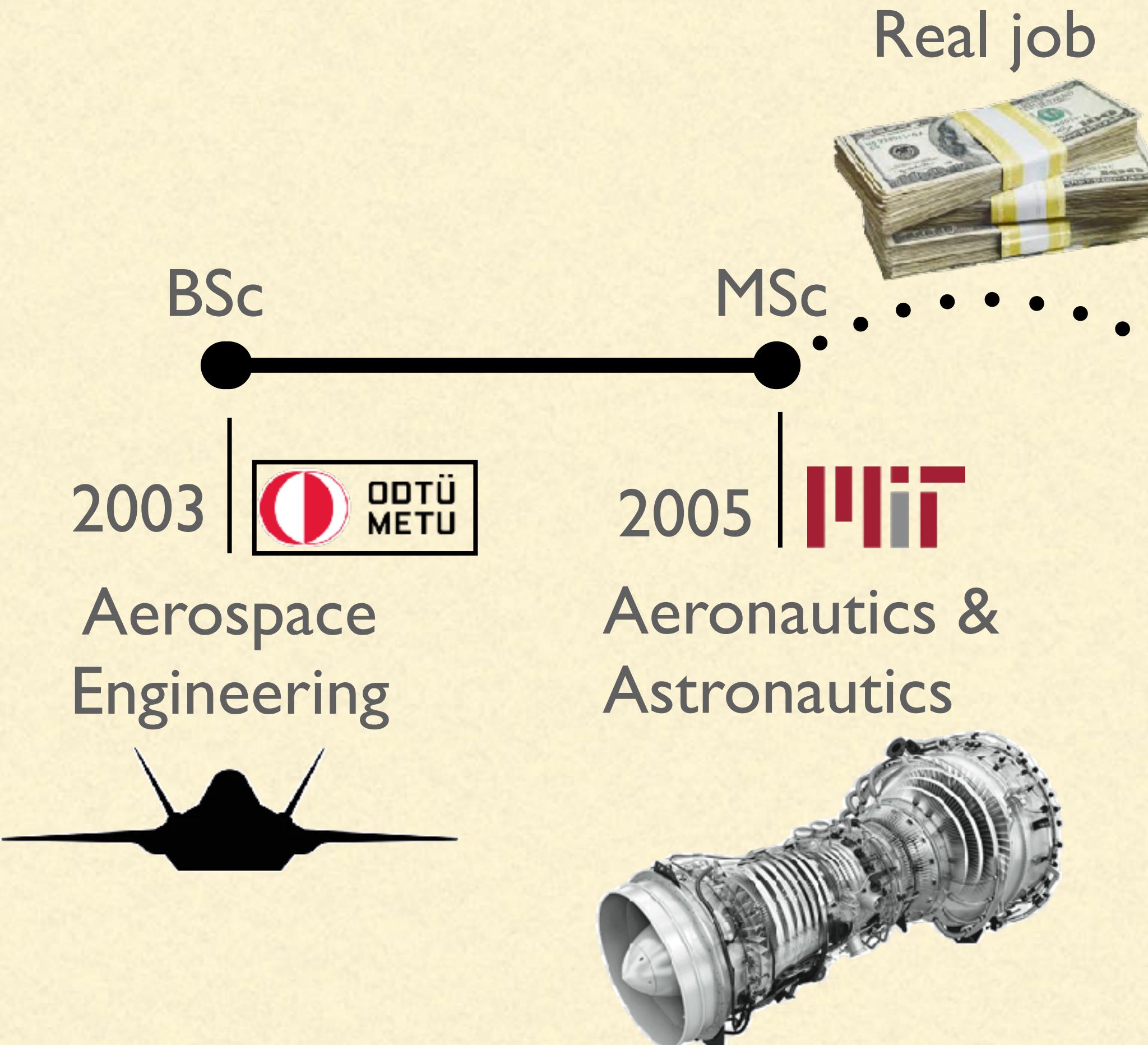
Dr. Derya Akkaynak
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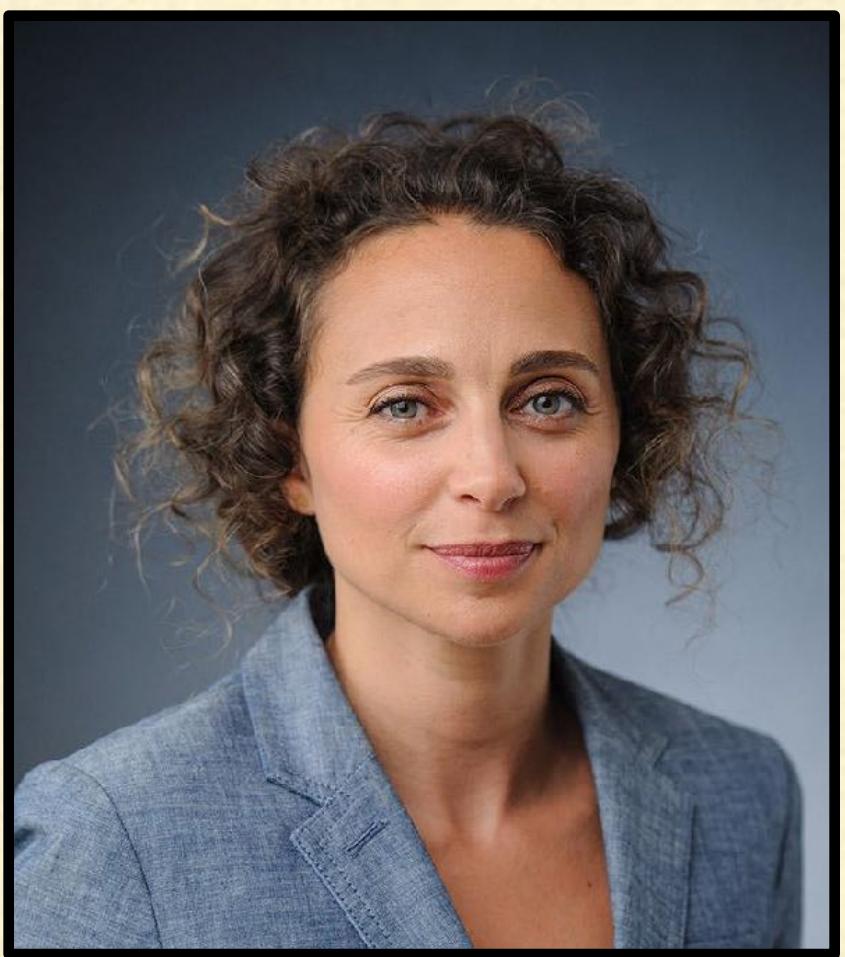
BRIEF BIO



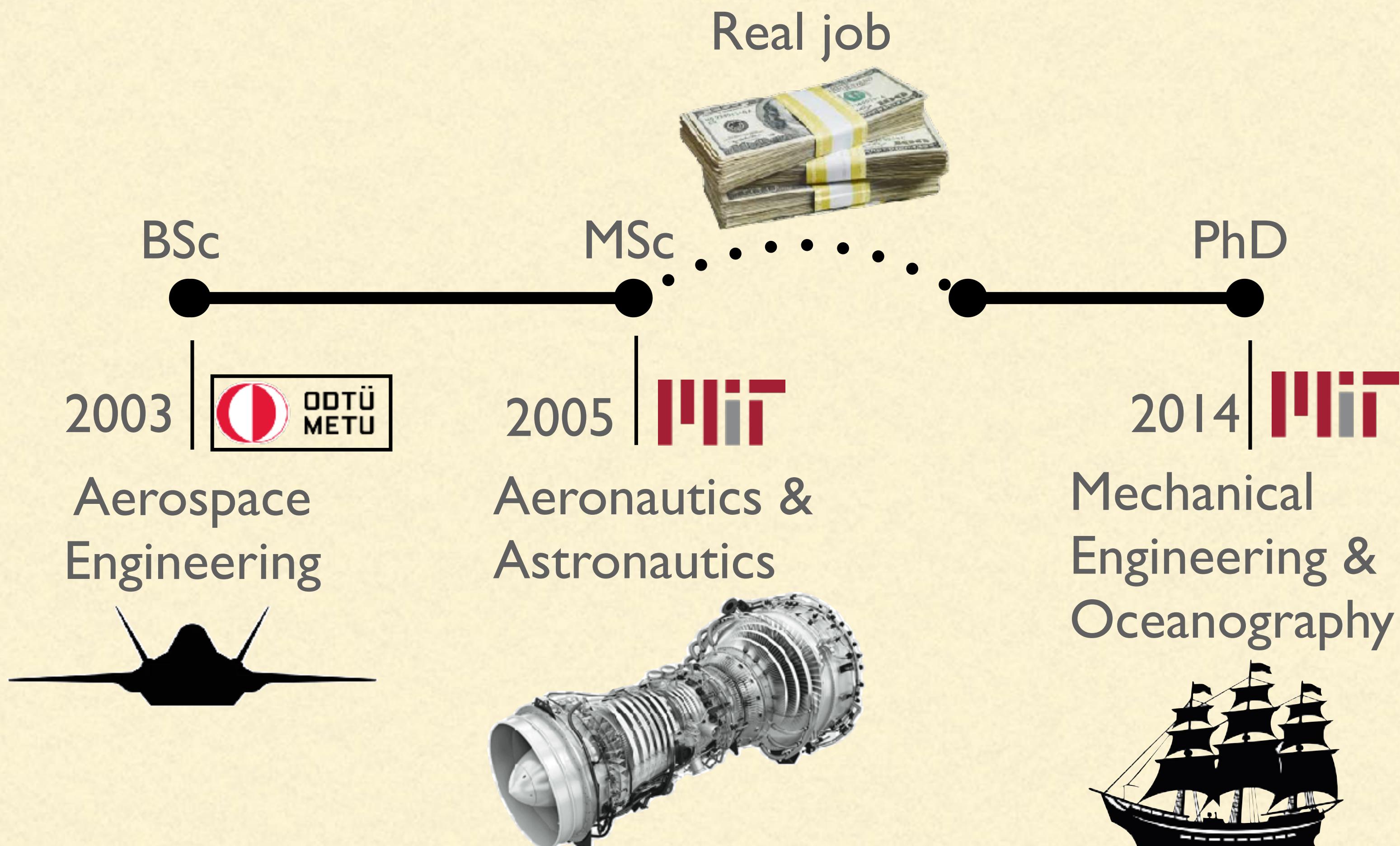
Dr. Derya Akkaynak
dakkaynak@univ.haifa.ac.il



BRIEF BIO



Dr. Derya Akkaynak
dakkaynak@univ.haifa.ac.il



HOME



TEACHING ASSISTANTS

DROR



GIOVANNI



JULIA



AMIR



TEACHING ASSISTANTS



Dror Malúl
malolds@technion.ac.il

PhD Candidate | Agricultural Engineering

Civil and Environmental Engineering, Technion IIT & Interuniversity Institute for Marine Sciences in Eilat

BSc **2016**

Environmental Engineering (Technion)

MSc **2019**

Agricultural Engineering (Technion)

Scientific interests

- Biophysics of coral
- Collective behavior in jellyfish



TEACHING ASSISTANTS



Giovanni Giallongo
giovanni.giallongo1994@gmail.com

PhD Candidate | Life Sciences

Ben Gurion University of the Negev &
Interuniversity Institute for Marine Sciences in Eilat

BSc **2017**
MSc **2020**

Biological Sciences (Pisa, Italy)
Coastal and Marine Biology & Ecology (Lecce, Italy)

Scientific interests

- Blue carbon
- Coral reef ecology
- Marine animal forests



TEACHING ASSISTANTS



Julia M. B. Cerutti
juliamb.cerutti@gmail.com

PhD Candidate | Life Sciences

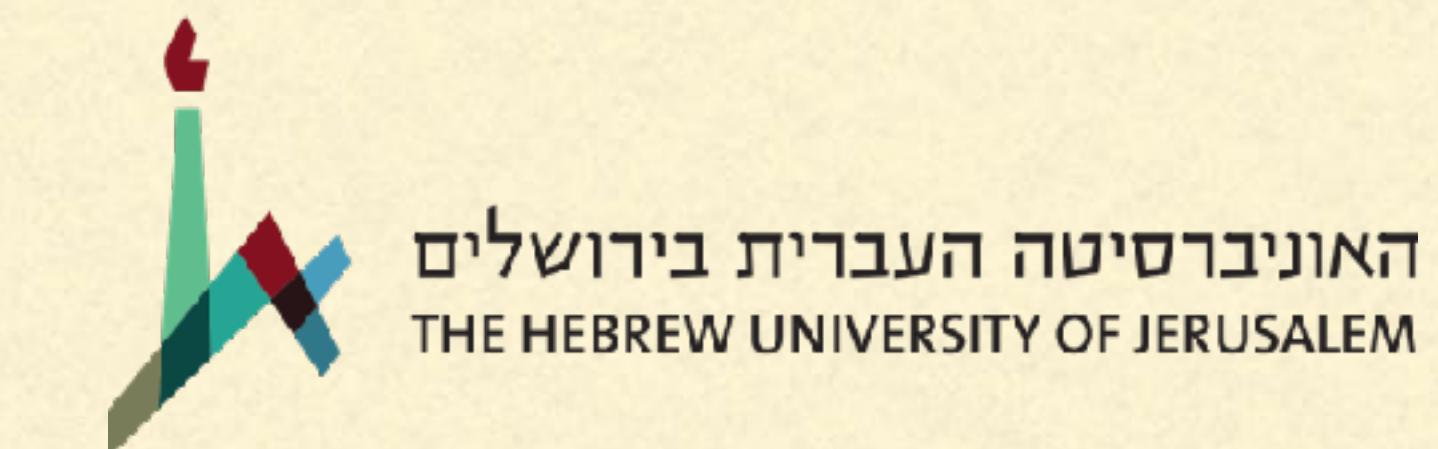
Hebrew University of Jerusalem &
Interuniversity Institute for Marine Sciences in Eilat

BSc **2015** Geosciences & Environment (Lausanne, Switzerland,
incl. one year at the University of Queensland - Brisbane, Australia)

MSc **2018** Environmental Sciences (Zurich, Switzerland)

Scientific interests

- Spatial ecology
- Reef ecology



TEACHING ASSISTANTS



Amir Hadad
amir.hadadad@gmail.com

MSc Candidate | Marine Technologies

University of Haifa &
Interuniversity Institute for Marine Sciences in Eilat

BSc 2023
MSc **2025 (expected)**

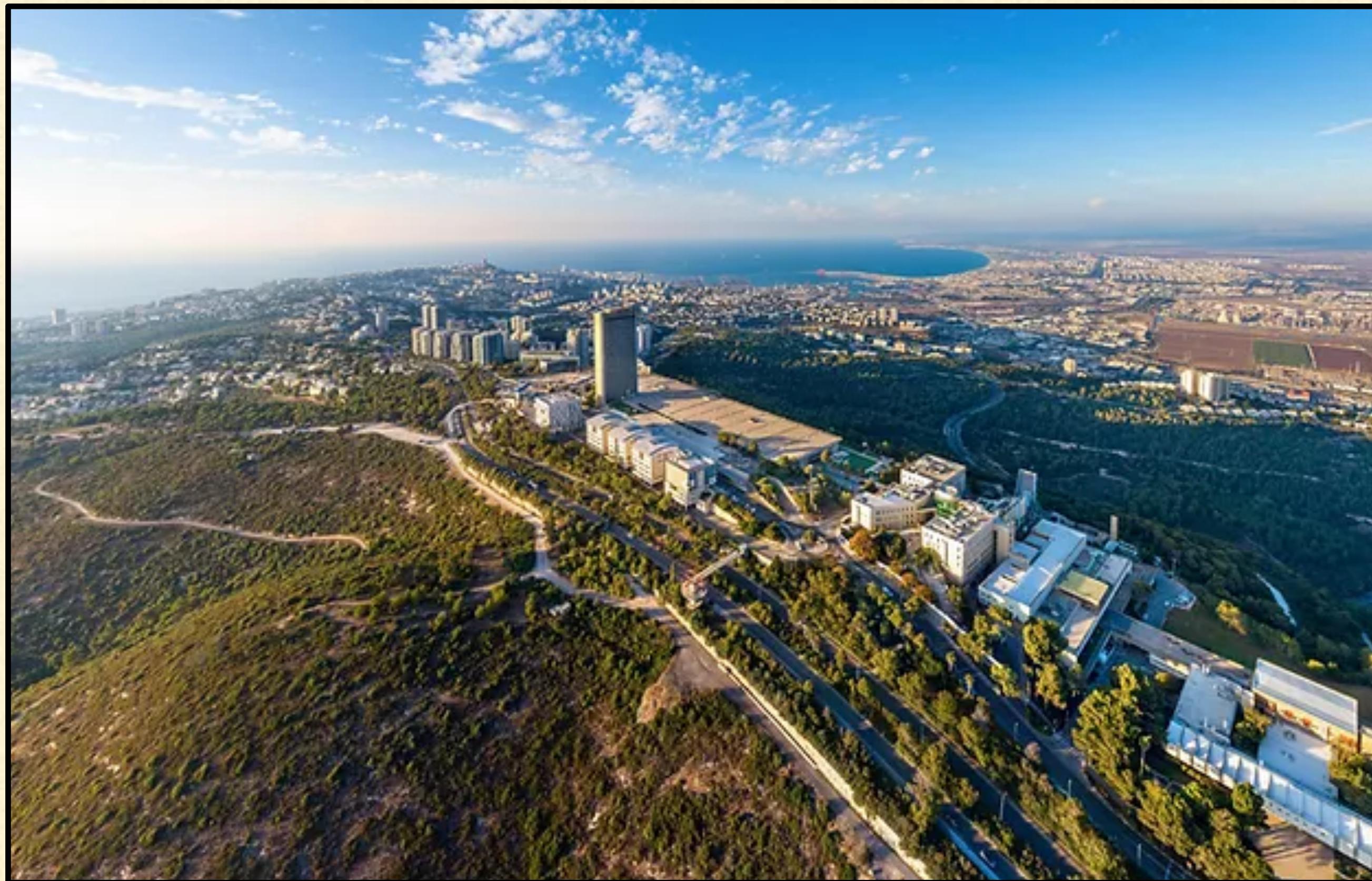
[Electronics Engineering](#) (Kinneret College)
[Marine Technologies](#) (University of Haifa)

Scientific interests

- Underwater computer vision
- Visibility
- Ocean optics



UNIVERSITY OF HAIFA



Mt. Carmel Campus

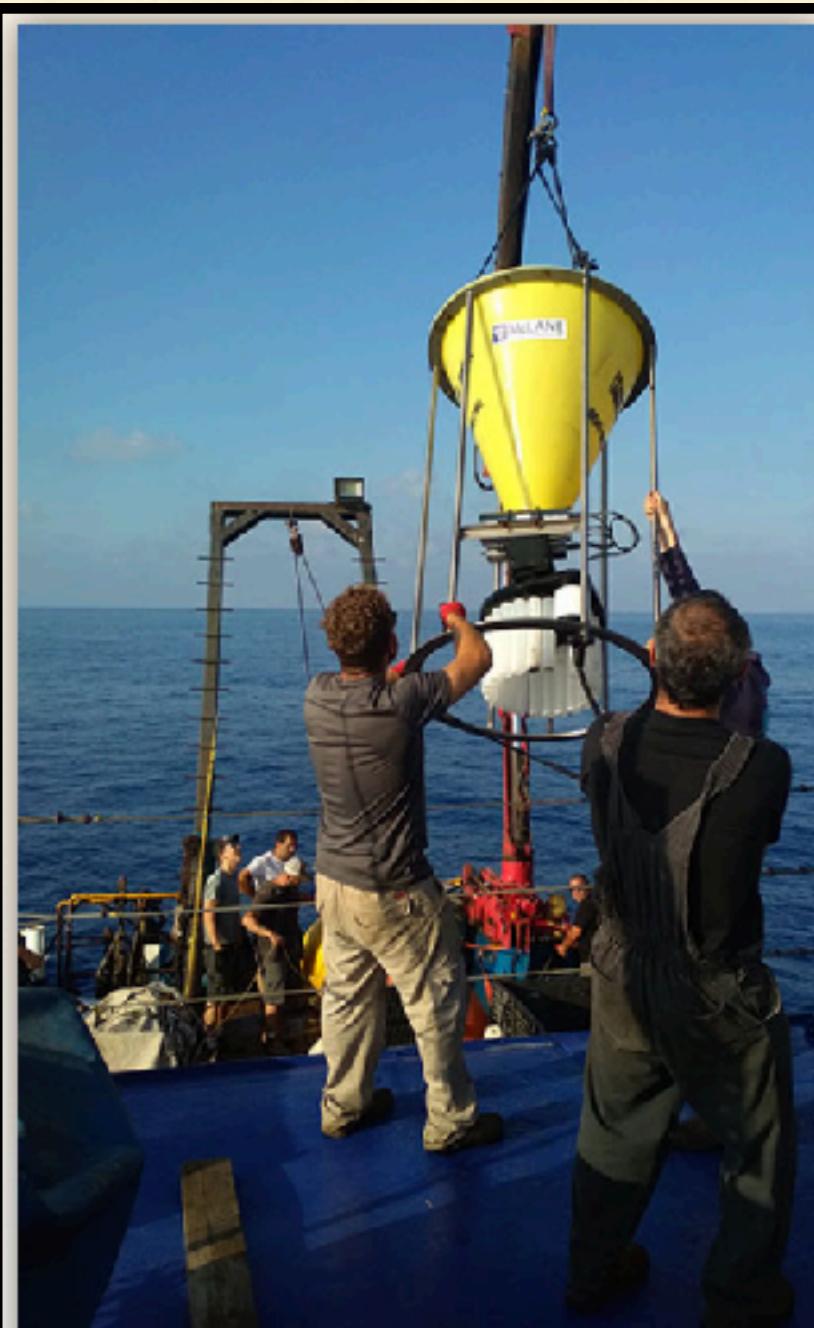


Marine Technologies Dept.



UNIVERSITY OF HAIFA

SCHOOL OF MARINE SCIENCES



Marine
Geosciences



Marine
Biology



Marine
Technologies



Maritime
Strategy



Blue biotechnologies
and Sustainable
mariculture





IUI - FINANCES



MSc students

PhD students



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month ([Marine Technologies](#))

PhD students



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)

PhD students



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)

PhD students



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)
- ~3k NIS/month (IUI scholarship for residency)

PhD students



IUI - FINANCES



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- One time travel award of 2k NIS (Marine Technologies)
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- ~3k NIS/month for one semester (IUI TA salary)

PhD students



IUI - FINANCES



MSc students

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- ~3k NIS/month for one semester (IUI TA salary)
- One time ~2k NIS payment (participation in IUI outreach)

PhD students



IUI - FINANCES



MSc students

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- ~2k NIS/month bonus (if student of a resident IUI researcher)

PhD students



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)
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- ~3k NIS/month for one semester (IUI TA salary)
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- ~2k NIS/month bonus (if student of a resident IUI researcher)

PhD students

- PhD scholarship ~ 7k NIS/month (Marine Technologies)



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)
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- ~2k NIS/month bonus (if student of a resident IUI researcher)

PhD students

- PhD scholarship ~ 7k NIS/month (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)



IUI - FINANCES



MSc students

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- ~3k NIS/month for one semester (IUI TA salary)
- One time ~2k NIS payment (participation in IUI outreach)
- ~2k NIS/month bonus (if student of a resident IUI researcher)

PhD students

- PhD scholarship ~ 7k NIS/month (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)
- ~3.5k NIS/month for every semester (IUI TA salary)



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)
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- ~3k NIS/month (IUI scholarship for residency)
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- One time ~2k NIS payment (participation in IUI outreach)



IUI - FINANCES



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- ~2k NIS/month bonus (if student of a resident IUI researcher)

PhD students

- PhD scholarship ~ 7k NIS/month (Marine Technologies)
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- ~3.5k NIS/month for every semester (IUI TA salary)
- One time ~2k NIS payment (participation in IUI outreach)
- ~2k NIS/month bonus (if student of a resident IUI researcher)



IUI - FINANCES



MSc students

- MSc scholarship ~ 5k NIS/month (Marine Technologies)
- One time award of ~5k NIS if grades >=90 (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)
- ~3k NIS/month (IUI scholarship for residency)
- ~3k NIS/month for one semester (IUI TA salary)
- One time ~2k NIS payment (participation in IUI outreach)
- ~2k NIS/month bonus (if student of a resident IUI researcher)

PhD students

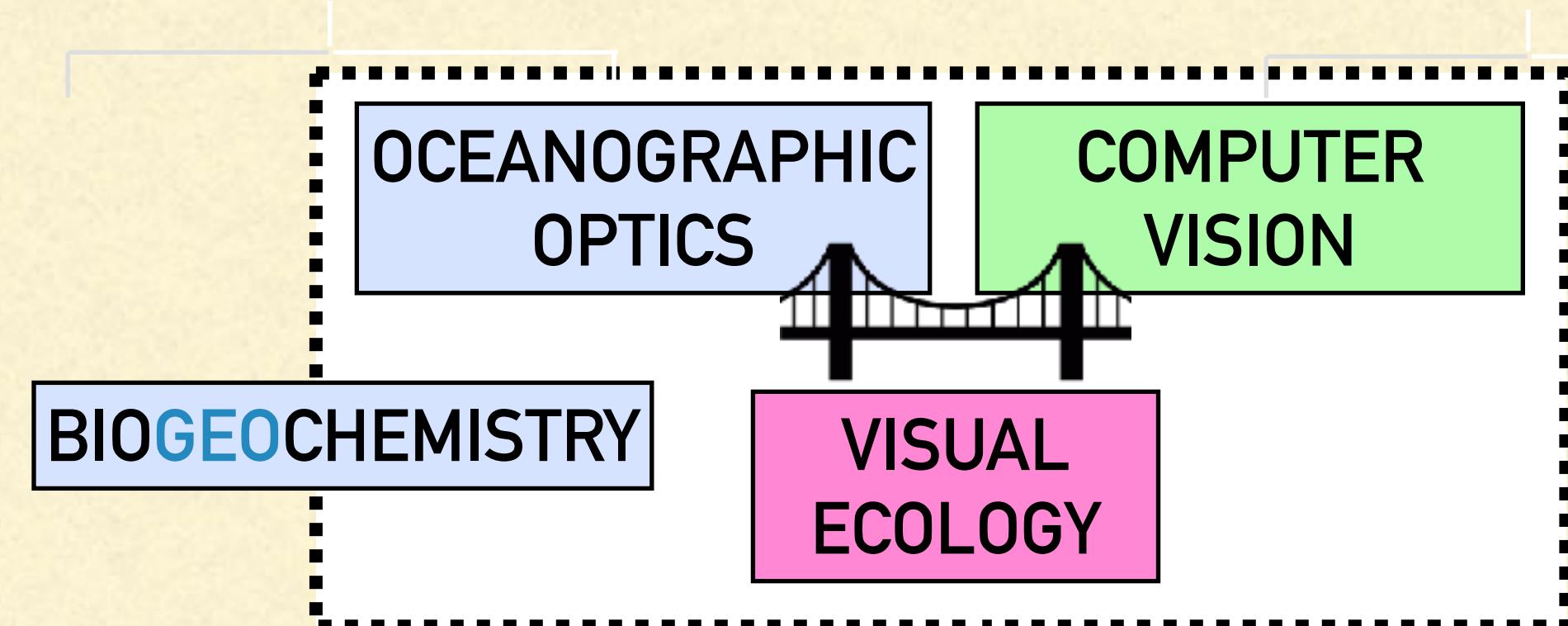
- PhD scholarship ~ 7k NIS/month (Marine Technologies)
- One time travel award of 2k NIS (Marine Technologies)
- ~3.5k NIS/month for every semester (IUI TA salary)
- One time ~2k NIS payment (participation in IUI outreach)
- ~2k NIS/month bonus (if student of a resident IUI researcher)
- One time 7.5k NIS for work at IUI (for non-resident students)



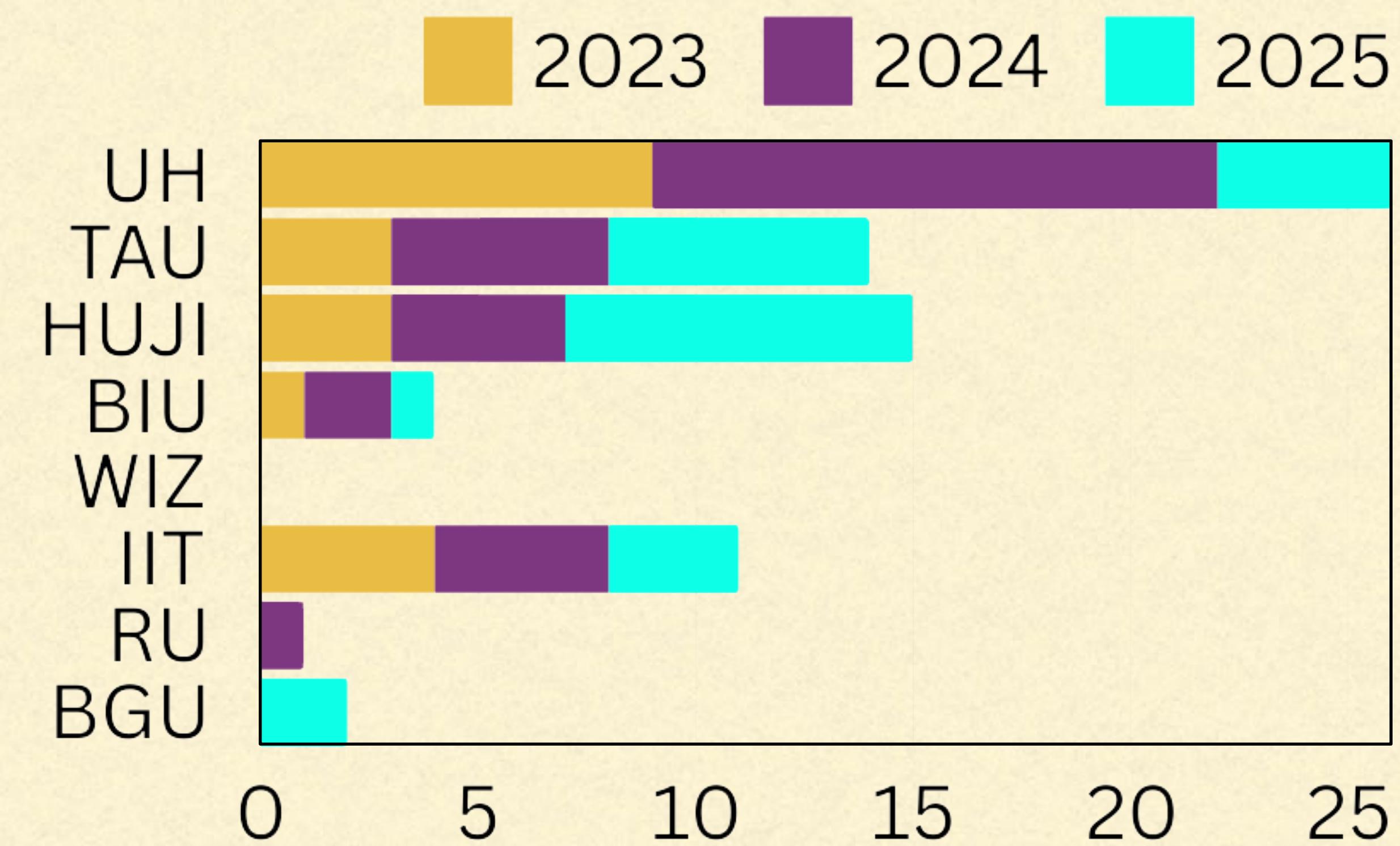
COLOR LAB



Lab. for **C**omputational
Optics &
Light in the
Ocean
Realm



NOW WE WANT TO KNOW ABOUT YOU!



IMPORTANT NOTES



Photo credit: vblinov/Shutterstock



IMPORTANT NOTES

- You are in beautiful Eilat! Make the most of it.



Photo credit: vblinov/Shutterstock



IMPORTANT NOTES

- You are in beautiful Eilat! Make the most of it.
- Don't be shy to ask questions.



Photo credit: vblinov/Shutterstock



IMPORTANT NOTES

- You are in beautiful Eilat! Make the most of it.
- Don't be shy to ask questions.
- Cell phones **silent** and **NOT** on your desk!



Photo credit: vblinov/Shutterstock



A FEW WORDS ON
EFFICIENCY,
PRODUCTIVITY &
MULTITASKING



Do Nothing

*How to Break Away from Overworking,
Overdoing, and Underliving*



Celeste Headlee

National Bestselling Author of *We Need to Talk*



The Breakout Podcast—**How to do nothing;**
our toxic relationship with work and what to do about it
Excerpt from an interview with author Celeste Headlee



Do Nothing

*How to Break Away from Overworking,
Overdoing, and Underliving*



Celeste Headlee

National Bestselling Author of *We Need to Talk*



The Breakout Podcast—**How to do nothing;**
our toxic relationship with work and what to do about it
Excerpt from an interview with author Celeste Headlee



THERE IS
NO SUCH THING
AS
MULTITASKING



THERE IS NO SUCH THING AS MULTITASKING



THERE IS NO SUCH THING AS MULTITASKING

- Our brains cannot multi-task so we **switch attention** between tasks.



THERE IS NO SUCH THING AS MULTITASKING

- Our brains cannot multi-task so we **switch attention** between tasks.
- Every switch has a cost.



THERE IS NO SUCH THING AS MULTITASKING

- Our brains cannot multi-task so we **switch attention** between tasks.
- Every switch has a cost.
- It takes up to 20 minutes to focus again once distracted.



THERE IS NO SUCH THING AS MULTITASKING

- Our brains cannot multi-task so we **switch attention** between tasks.
- Every switch has a cost.
- It takes up to 20 minutes to focus again once distracted.
- Loss of focus affects your life quality and life goals.

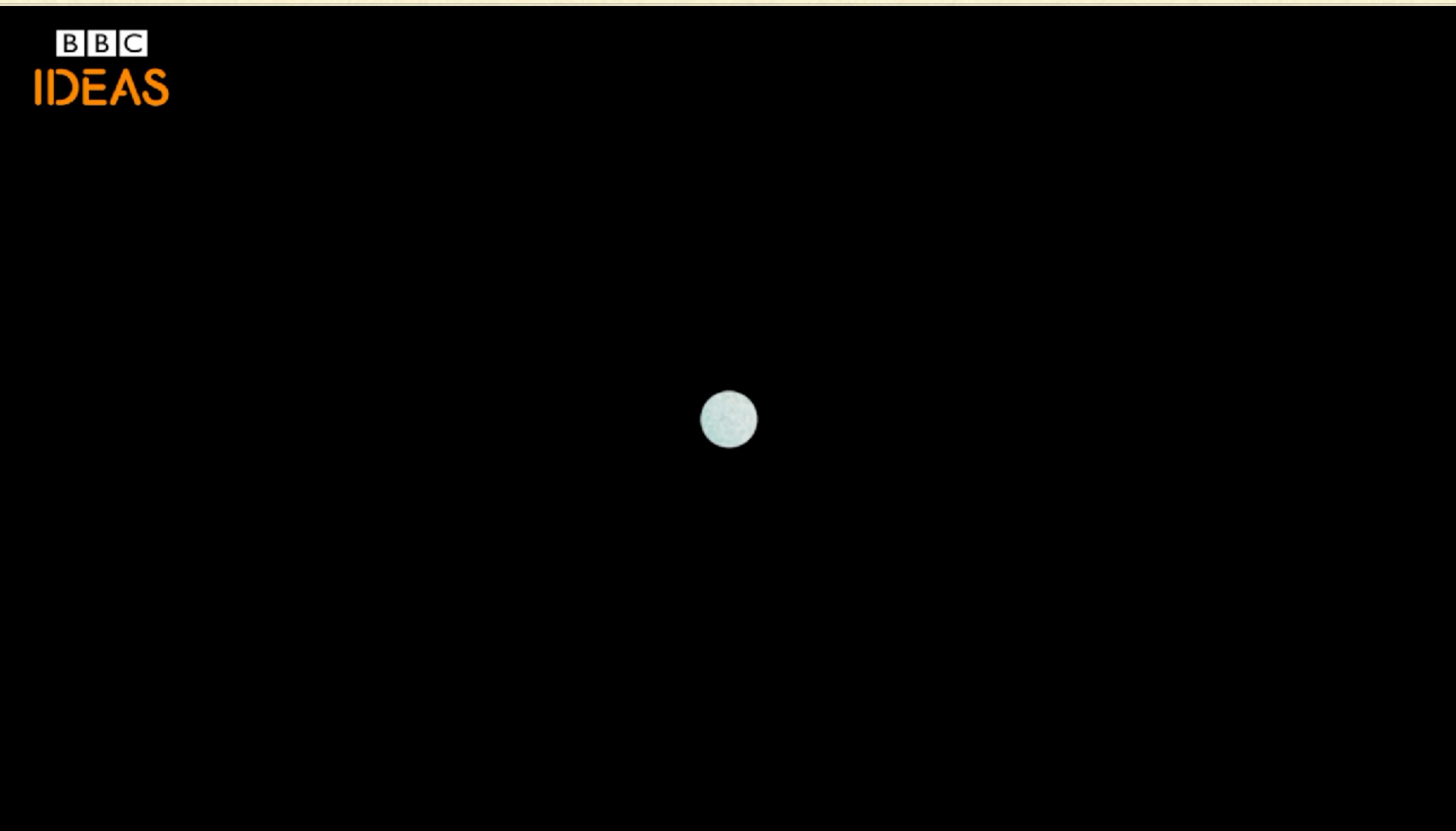


THERE IS NO SUCH THING AS MULTITASKING

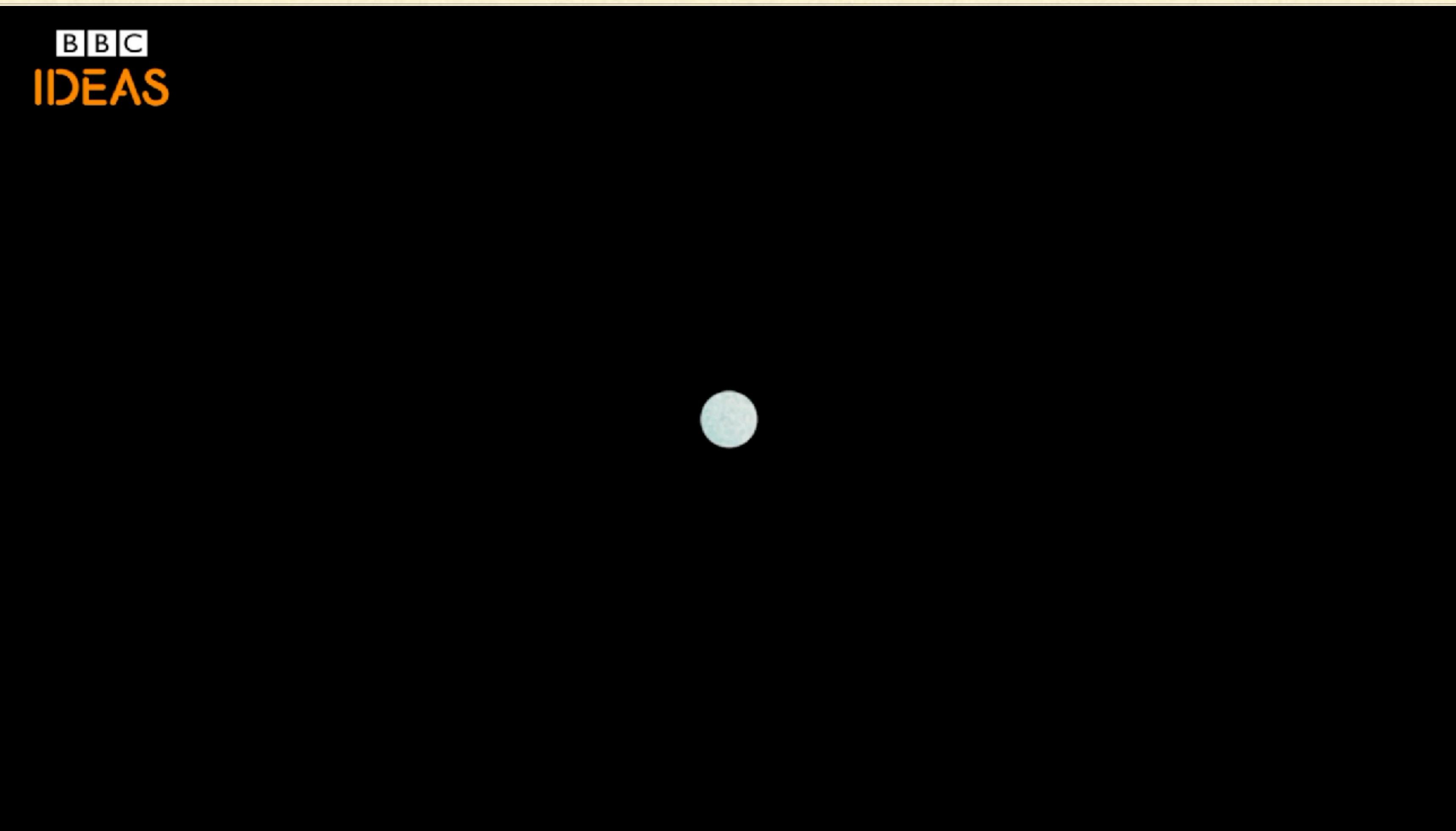
- Our brains cannot multi-task so we **switch attention** between tasks.
- Every switch has a cost.
- It takes up to 20 minutes to focus again once distracted.
- Loss of focus affects your life quality and life goals.
- Also, it's rude to look at your phone when someone is talking – **phubbing** or **phone snubbing**.



MULTITASKING & YOUR BRAIN



MULTITASKING & YOUR BRAIN



MORE RESOURCES

Prof. Earl Miller's Research

<https://ekmillerlab.mit.edu/in-the-news/>

How big tech is ruining your attention

<https://youtu.be/iBHmKMXh2VQ>

The power of doing only one thing

<https://youtu.be/mMIK5u4xdh8>

Humans and multitasking - How much can we do simultaneously?

https://youtu.be/aK3IhinHd_8

The original gorilla experiment

<https://youtu.be/vJG698U2Mvo>

Also see <https://youtu.be/UtKt8YF7dgQ>

How to do nothing - Our toxic relationship with work and what to do about it

<https://www.youtube.com/watch?v=AUwhtLhc-9k>



SCHEDULE AT-A-GLANCE

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT	SUNDAY
Lectures	Lectures	Lectures	Lectures	Cruise	Mt. Sfahot hike (optional)		Project/ Presentation preparations
Lunch	Lunch	Snorkel/scuba	Snorkel/scuba		Lectures		Project presentations
Snorkel/scuba	Lab	Lunch	Lunch	Observatory tour			Evaluations
Lab	Night snorkeling (optional)	Lectures	Lectures	Lab			



LABS AT-A-GLANCE

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT	SUNDAY
LAB 1	LAB 2	LAB 3	LAB 4	LAB 5	PROJECT		
RAW image manipulation & basic image formation	Basic Colorimetry	Underwater Photogrammetry & Range Estimation	Underwater Image Formation	Spectral Light Attenuation	Underwater Colorimetry		Lab reports, project report
We give you ALL the code!	We give you some of the code.	No code required.	We give you some of the code.	We don't give you any code!	We don't give you any code!		presentation due.



GRADING

Attendance & Participation - LECTURES	15%
Attendance & Participation - LABS	15%
Lab reports	30%
Project report	30%
Final presentation	10%



Break

- Thank you for not using your cell phones during the lectures.
- Constant phone and social media use takes a toll on personal relationships.

