



Student's academic parkour

dodging obstacles, taking leaps, and learning along the way

Who am I now

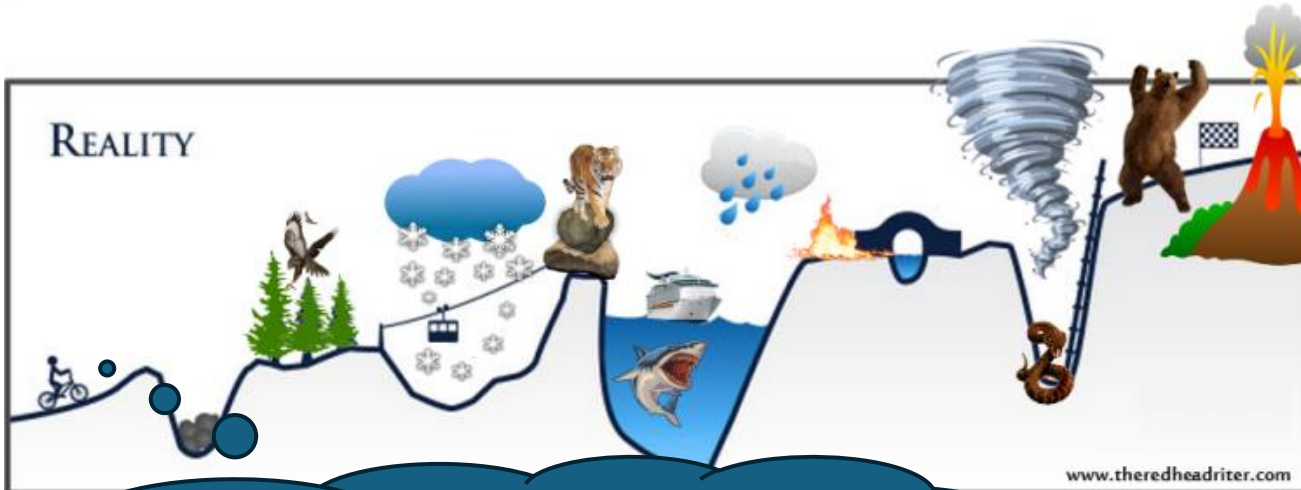
- **Advanced R&D Scientist at Honeywell** (full time)
 - Human Factors expert, developing a Digital Co-Pilot for general aviation
 - Project funded by SESAR 3 JU and Horizon Europe
- **Assistant Professor at Masaryk University** (part time)
 - Teaching *Applied and Translational Neurosciences in Extreme Environment and Space* course
 - Research on effects of extreme environment (isolation, radiation) on neurophysiology, behavior, and performance

Honeywell

**MUNI
MED**



Since I have been invited to
study people in space and all
my steps have led me there



I have absolutely no clue but
picking on interesting
opportunities and doing my best

How did I get
there?

Meant to become musician



Last minute decision to try some biology

A stack of four biology textbooks is shown, resting on a blue and white striped surface. The top book has a red cover with the title 'Biology' visible. The books are bound with colorful sticky tabs (yellow, green, orange) protruding from the edges. A blue thought bubble is positioned to the right of the books.

Lets see if I got what it
takes to get into UNI

Enrolled Anthropology (BSc) and Experimental biology (Bsc)

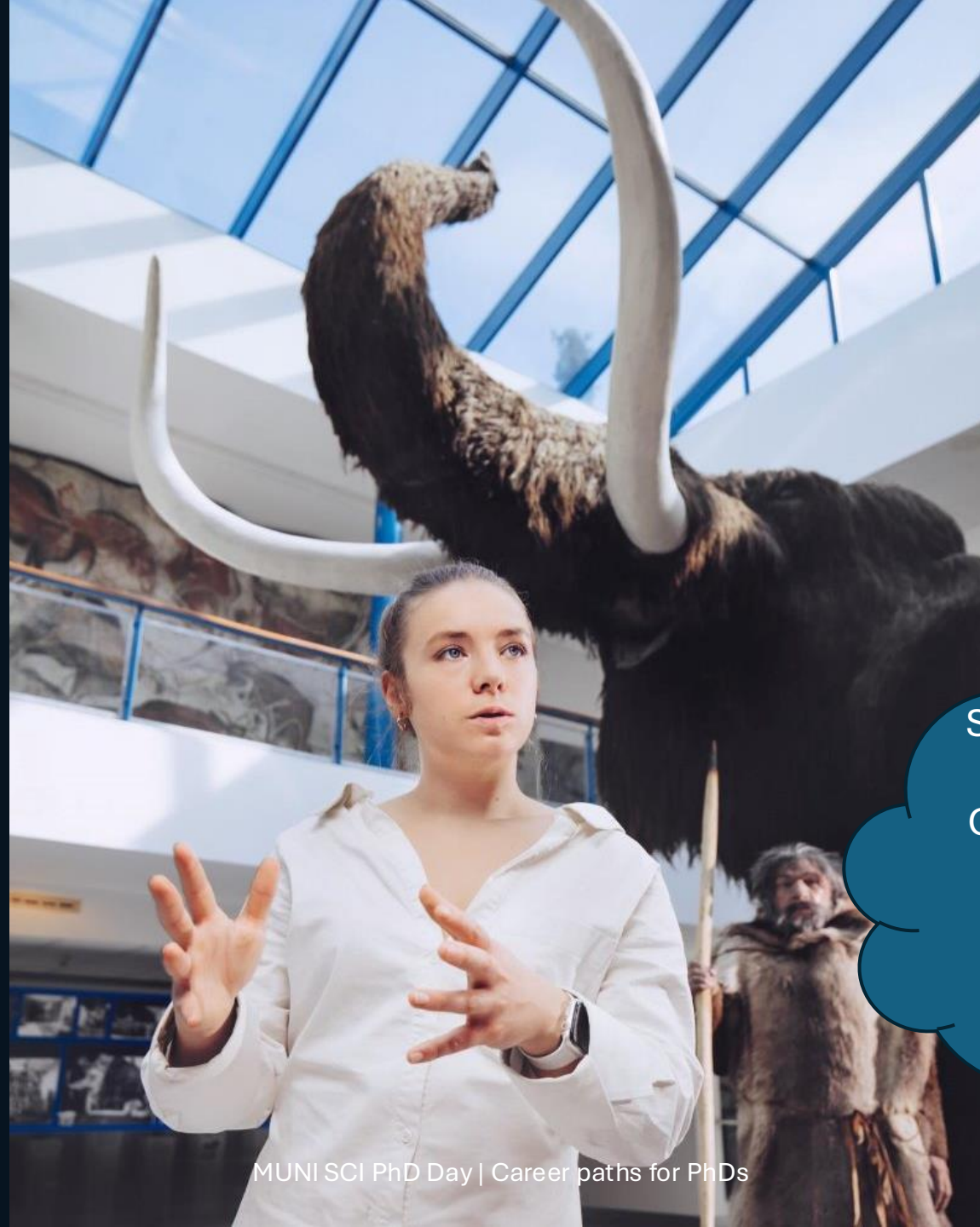
Lets see where they kick
me out first



Loved Anthropology to the bones (MSc)



PI: Archaia



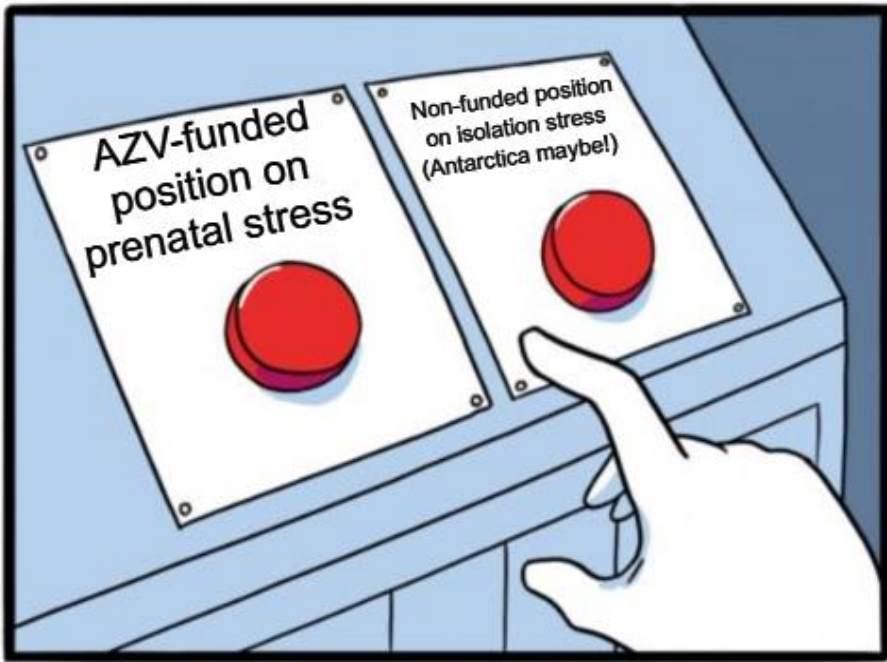
MUNI SCI PhD Day | Career paths for PhDs

PI: Dr. Klára Marečková,
Prof. Julie Vašků



Stress and adaptation!
Or neurosciences!
Or paleoanthropology!
Or primatology!

Everything about
humans is amazing.



Two PhD topic options



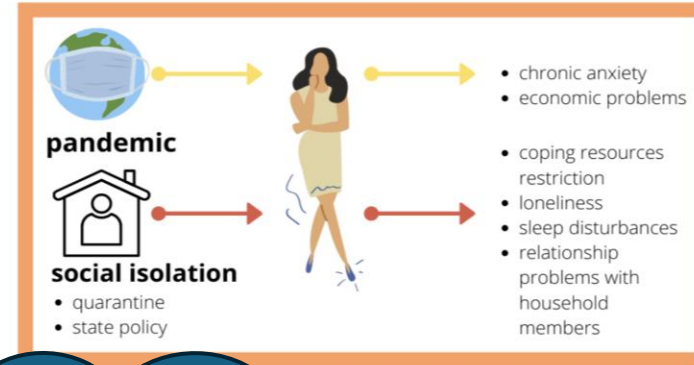


Start working according to the plan (Stress in isolated areas and spaceflight)



Adapt plan to whole-world isolation experiment during COVID-19 pandemics

RESTRESS: STRESS IN THE ERA OF COVID-19



OD NÁPADU
PODNIKATELSKÉMU
K PLÁNU

Managing study and data collection, looking up space opportunities

Learning various scientific and soft skills

Helping in hospital lab







Finally some
accessible human
spaceflight research
opportunities



From psychology to
human machine
interaction and biology

Getting into space analog

- Researcher and mission control center support
 - CHILL ICE II, ICEE.Space, 2022
- Analog astronaut
 - Venus, Astroland, 2022
 - SOLIS8, European Space Agency/DLR, 2025
- Researcher
 - Asclepios III, Asclepios, 2022
 - Nike 1 LunAres, 2023
 - APICES, ICEE.Space, 2023
 - Asclepios IV, Asclepios, 2023
 - SOLIS 100 European Space Agency/DLR, 2026
- Overall research lead
 - APICES, ICEE.Space, 2023

International experience

- **University of Cadiz:** Internship with prof. Gabriel De la Torre, space psychologist and ESA Topical Team lead
- **Human design Group:** Internship in a company on a project with French institute for space biology
- **International Space University:** Space Studies Program



Mgr. Bc. Lucie Ráčková, Ph.D.

Brno, CZ; Rackova.lucie@gmail.com; +420725084083

Employment

Advanced R&D Scientist

2025 - Present Honeywell International
Project: DARWIN (Digital Assistants for Reducing Workload and Increasing collaborationN), funded by SESAR 3 Joint Undertaking, focusing on Human Automation Teaming and Human Factors aspects.

Researcher

2024 - Present First Department of Neurology – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine, Masaryk University

Education

PhD, Environmental Health Sciences

2020 - 2024 Masaryk University
Dissertation: “Trajectory of Acute and Chronic Stress in Hu-mans Subjected to Isolation Experiments (Space Research and Isolated Geographical Locations)”

MSc Anthropology

2018 - 2020 Masaryk University
Thesis: “Relationships between Perinatal and Early Postnatal Stress and Psychological Features in Adulthood Based on Stress Markers in Hard Dental Tissues”
Supervisor: assoc. prof. RNDr. Miroslav Králík, PhD
Co-supervisor: Klára Marečková, PhD

BSc Experimental Biology

2015 - 2019 Masaryk University
Thesis: “Prenatal Programming of Sex Differences in Psychopathology”
Supervisor: Klára Marečková, PhD

BSc Anthropology

2015 - 2018 Masaryk University
Thesis: “Body and Mind Femininity in Females: Factors and Relationships”
Supervisor: assoc. prof. RNDr. Miroslav Králík, PhD

Honors and awards

The Explorer’s Club, Fellow International March 2025

Application supported by Richard Garriott and assoc. prof. Pedro Marques-Quinteiro, Ph.D.

MSCA Seal of Excellence, March 2025

The European Commission awards Marie Skłodowska Curie Actions (MSCA) Seal of Excellence to applicants

who submitted excellent proposals but did not receive funding for budgetary reasons.

Forbes 30 under 30, Feb 2025

Selected for the Forbes Czech Republic 30 under 30 in 2025 list, in the science category.

European Doctorate, Sept 2024

Award recognizing superior effort during PhD studies through additional trainings and significant collaboration with European institutions

Visegrad Fund, May 2024

Grant for V4 Space Odyssey: United Educational Outreach on Polish Manned Spaceflight
Visegrad Grant No. 22410104

Best Department Project, Aug 2023

International Space University Space Studies Program
Recognition for outstanding work at the Space Studies Pro-gram organized by International Space University.

Internal Grant Agency of Masaryk University, Jan 2021

Grant for Virtual and augmented reality in stress research.
MUNI/IGA/1233/2021

Research experience

Human design Group & MEDES CNES, France, Feb – Dec 2023

Engineering Consultant

- Validated reactive stress countermeasure technology in laboratory and space analog mission Asclepios III and for use in aerospace
- Created study protocol and ethic committee approval; supervision over experiment; Training of space analogue crew to conduct experiment; Data analysis and interpretation; Final manuscript writing

ICEE.Space & Astroland Interplanetary Agency, Spain, Jan – Sep 2023

Research Coordinator

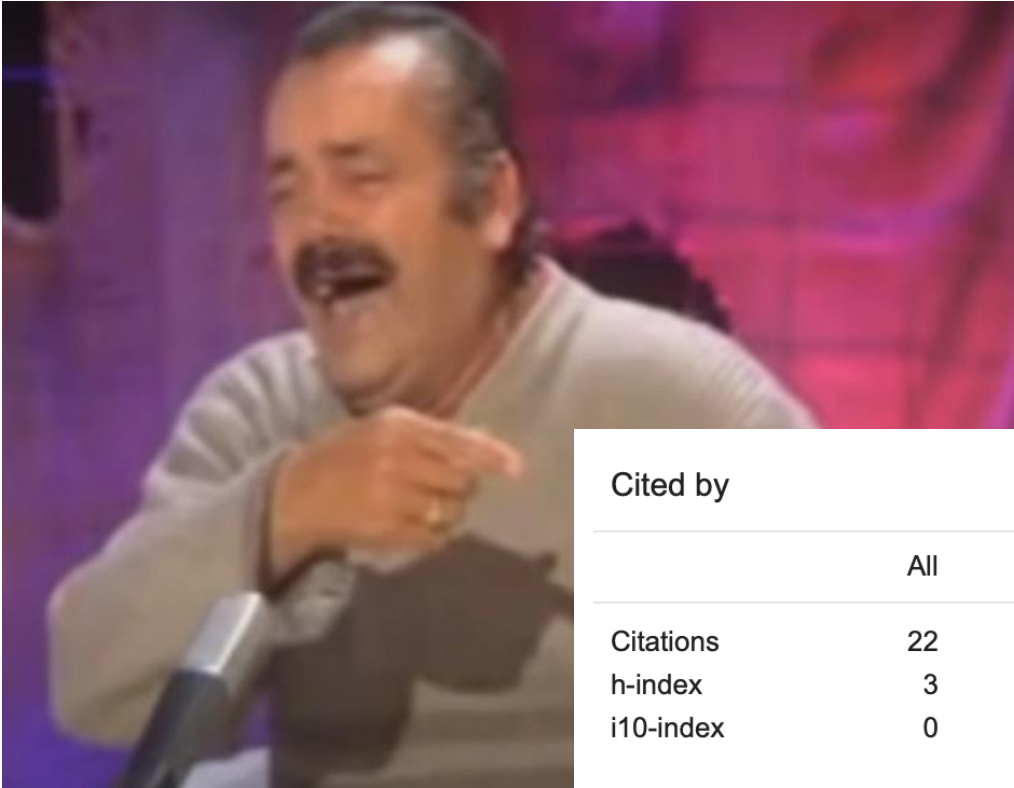
- Coordinated research projects proposed by 13 institutions from 11 countries, implemented in the space analogue mission

LunAres, Poland, Jan – Jun 2023

Researcher

- Tested changes in environment perception, crew x mission control interaction, sociosexuality, individual mission stories

University of Cadiz, Spain, Oct – Dec 2022



Cited by

[VIEW ALL](#)

	All	Since 2020
Citations	22	21
h-index	3	3
i10-index	0	0

What is a successful PhD?

Traditional bibliometric success

of high impact publications
of citations
Skyrocketing H-index

Intellectual Success

Developed ideas which moved field forward
Worked independently, rigorously, ethically
Got invited for collaboration/speak/publish

Completed PhD

Satisfactory career after PhD

Used PhD heritage to get employed

- Academia (researcher, postdoc, ...)
- Industry (research consultant in R&D, ...)
- Consulting (not-for-profit, government, ...)
- Startup entrepreneurship

Gained critical soft skills and network

Critical thinking
Resilience, persistence, self-awareness
Writing, project management
Collaboration and social intelligence skills

It's your responsibility, but not all is in your control

Project related factors

- Freedom and workload
- Chance influencing research outputs (data collection, errors/damages, publishing process)

External factors

- Financial and workforce resources
- Institutional and departmental culture
- Characteristics of the specific scientific field

Supervision and collaboration related factors

- Quality of supervision and support
- Supervisor's/collaborator's motivation
- Personal relationships with supervisor/collaborators

Individual characteristics

- Gender
- Psychobehavioral characteristics (resilience, motivation, satisfaction, work habits)
- Life circumstances (family, health, economic factors)

Lessons learned

What helped, what hurt

Early stage of PhD



– Leverage fresh drive

- Learn as much as possible about your topic
- Study selected theoretical courses
- Teach as required
- Get to know your lab and MUNI

– Say yes to “side quests”

Participate in other research projects

Pursue hackathons etc.

– Explore learning options outside MUNI

On-line courses

Summer schools

Best time to dive
deep into the
topic and to
learn as much as
possible

Mid-stage of PhD



- Relentless focus on your topic

- Conduct experiments/analyses
- Write the short thesis
- Write first papers

Publishing can take months or even years!

- Explore opportunities for internships

LinkedIn, ResearchGate, your supervisor's or colleagues' network

Critical for expanding your network and skillset

- Seek additional experiences

Explore additional hypotheses stemming from your knowledge so far

Learn how to apply research/create startup

- Visit conferences and local events

Key to network and learn what's the buzz

Best time to maximize
your research outputs
– there is still room for
mistakes and
exploration of what
you like!

Later-stage of PhD



— Finish your work and prepare for the next step

— Publish required papers

Follow-up early on reviews, have mitigation strategies when things don't go as expected

— Write your dissertation

— Present on conference

— Popularize your science

Get seen and heard

— Explore potential future collaborators

Get yourself written on someone's project

Prepare ground for your PostDoc project

See current non-academia opportunities

Have multiple eggs in your basket

The sooner you start working on your next step, the better is your chance you will find satisfactory career shortly after PhD

Internships and side projects

YES,

- Makes you exceptional
 - Broadens your knowledge/skills/experience
 - Especially relevant for industry
- Increase your success
 - More data, more papers
 - Points of contact for future projects
 - Applications outside academia
 - Might be your future employer
 - Or key element for your dream job

BUT

- Sometimes without benefit
- Avoid getting exploited
 - Set up expectations early in the collaboration and write them down
 - Unpaid/unrewarded workforce
 - Experience is nice, papers are better
 - Research ideas
 - Being a grant leverage
 - “International collaboration” without actual inclusion in project
 - Being used for unique know-how/network



Papers? Conferences? Grants?

- Papers are the currency of science
 - In academia, you will be evaluated by quantity and quality of publications
 - Wise to put emphasis on publishing if you aim to stay in academia
- Conferences are better for networking
 - Showcase your work and early findings
 - Use as opportunity to meet other people
 - Provide additional lines in your CV
- PhD phase has limited opportunities for grants
 - Internal grants at MU
 - Smaller grants for side projects
 - PostDoc grants take several months to be evaluated

Networking

YES,

- PhD is the best time for intensive networking
- Actively look for opportunities
 - Conferences, Internships, Summer Schools, Guest Lectures, Science popularization events, ...
 - Get seen and recognized
 - Build relationships – discuss with others!
 - Colleagues might be future collaborators
 - Might find future employer/supervisor

BUT

- Watch out for reputation
 - Beware controversial figures
 - Build your reputation well
- Power imbalances
 - High competitiveness
 - Especially in niche fields
 - Politics is a big part of academic life
 - Early career scientists may have some disadvantage to established scientists
- Boundaries
 - Balance professional and personal lines

Science popularization

YES,

- Increases value of science
 - Not just for science – but for people
 - Promotes trust in science
- Increases visibility and impact
 - Credibility and trust
 - Increases chances to be cited, recognized by policymakers, ...
 - Networking
- Part of the job
 - Interviews/social media posts/articles
 - Way to improve communication
- It is fun!

BUT

- Jealousy
 - Envy from competitors and colleagues
 - Rumors
- Overconfident statements
 - Be humble and stick to what you know
 - Don't be afraid to say “I don't know”
 - Always ask for authorization
- Takes a lot of time
 - Make sure science is still priority
- Oversimplification



Dealing with failure

Every laureate faces failures and set-backs on their path to the Nobel Prize. It is a topic they are frequently asked about at [Nobel Prize Inspiration Initiative](#) events, and, given that we all fail from time to time, their insights are relevant for us all, whether failure is something already experienced, or whether it is yet to come!

[With failure comes opportunity - NobelPrize.org](#)

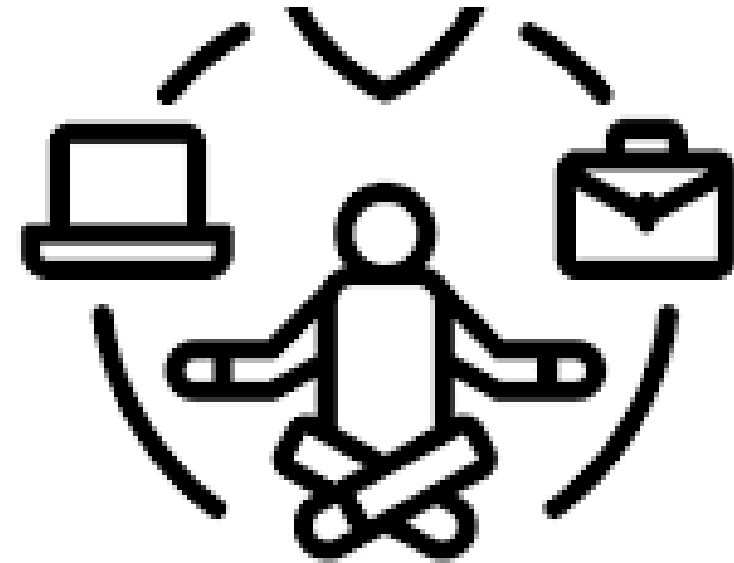
- Failure is extremely common
 - Failing $\neq$ you are a failure!!!
 - Everyone fails, it is normal
- Reframe failure into opportunity to improve
- Build resilient mind
- Seek advice and help
 - Professionally (mentor, colleague, supervisor)
 - Emotionally (friend, family member, counselor)
- Provide yourself space to experience and process emotions

Rejection is
redirection



Cultivate your life outside of PhD too!

- PhD is not your only identity
 - Maintain friendships and family relationship
 - Hobbies
 - Physical activity
 - Vacation and rest



Work Life Balance

Closing remarks

Lucie.rackova@med.muni.cz



- Make sure you are safe
 - Fulfilling your academic requirements
 - Pro-actively dealing with failures, challenges, obstacles
 - Take care of yourself (your health and well-being is priority!)
- Be brave to explore
 - PhD phase presents unprecedented opportunities
 - But some opportunities will be up to you to find
 - You have time
 - To learn new things and be fully immersed in science
 - To figure out WHAT YOU DO and DON'T WANT
 - You may have unprecedented freedom in what and how you do things
- Be ambitious beyond what you think is possible
 - *Shoot for the Moon. Even if you miss, you'll land among the stars*