



Summer School 2022

# Demonstrator: Be an ASTRONAUT

## LaSciL

Large Scientific Infrastructures enriching Online and  
Digital Learning

July 2022

ÖSTERREICHISCHES WELTRAUM FORUM  
AUSTRIAN SPACE FORUM

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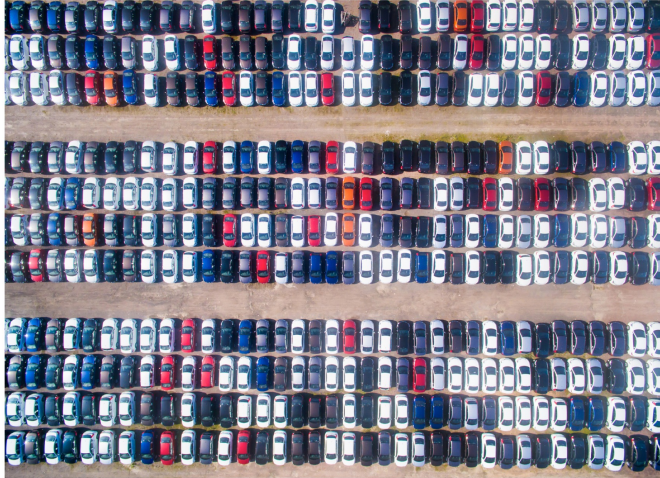


[oewf.org](http://oewf.org)

Co-funded by the  
Erasmus+ Programme  
of the European Union



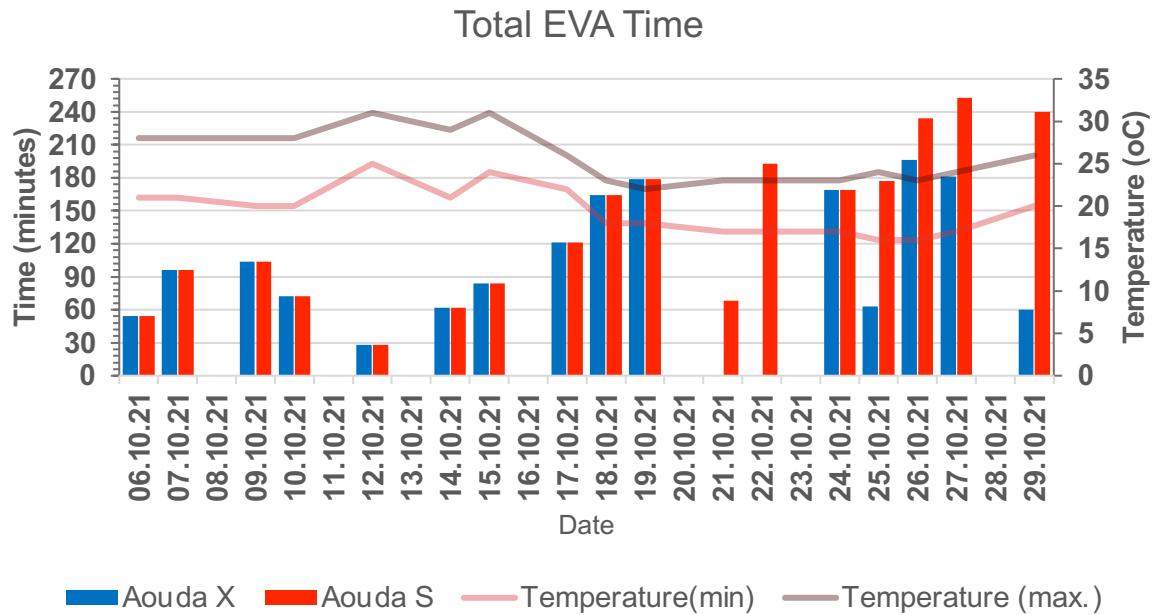
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Source: Image by Shutterstock.com/Aleksei Kazachok.



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<https://mooncampchallenge.org>

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# MISSION X

Mission X: Train Like an Astronaut

# Walk to the Moon Challenge

Join challenge

Extended to 31 July



ABOUT

WELCOME GUIDE

WALK TO THE MOON

TIMELINE

ACTIVITIES

GOODIES

SIGN-UP



EN

AIRBUS FOUNDATION  
In partnership with AUTODESK  
Login Register

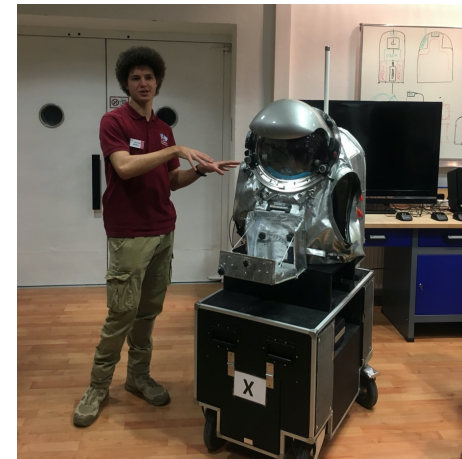
<https://trainlikeanastronaut.org>

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# Analog Astronaut Training

## SELECTION PROCESS

- 3 stages of selection
- 637 parameters evaluated
- Physical, psychological, social, mental tests.



# Be an Astronaut!

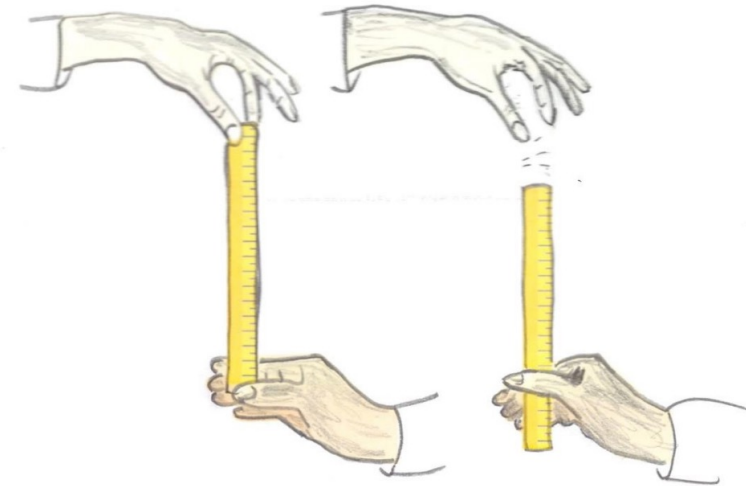
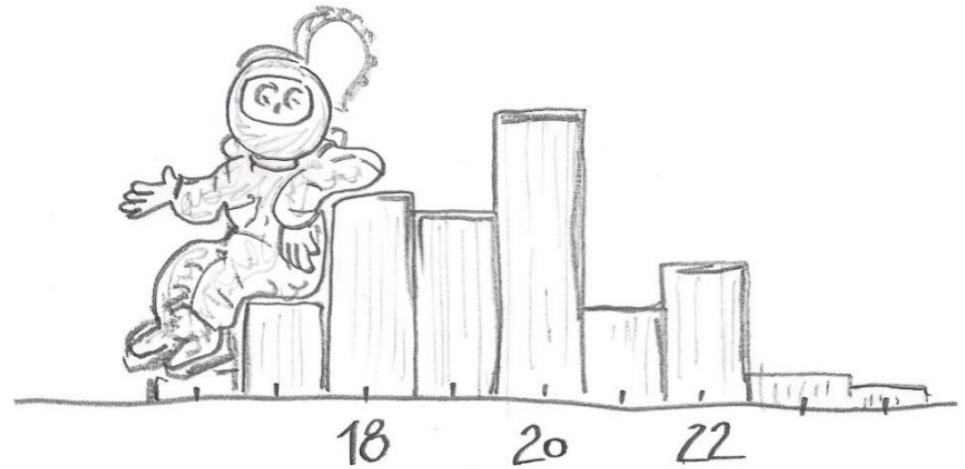
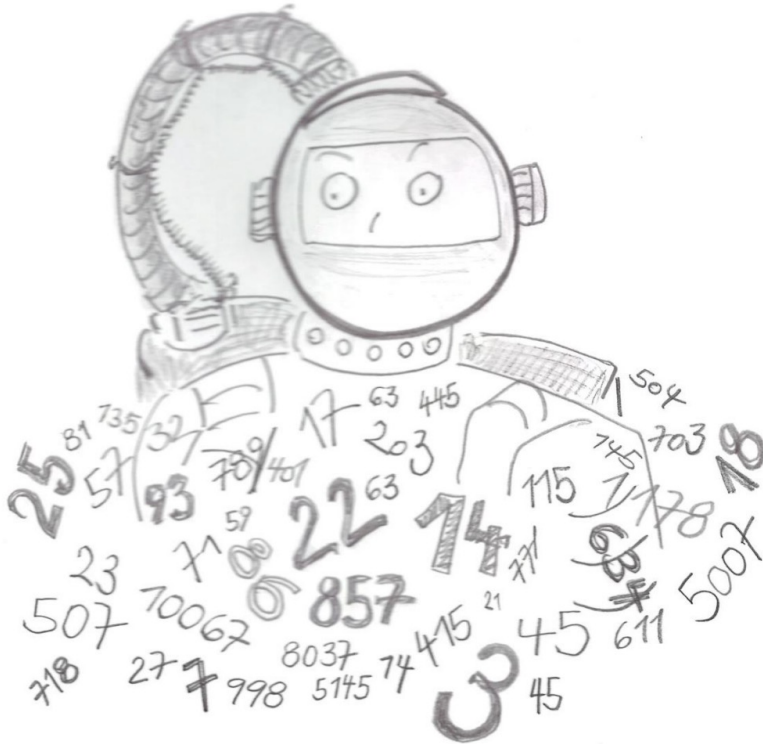


Image Credit: Klaus Albrecht



## Being an ASTRONAUT?

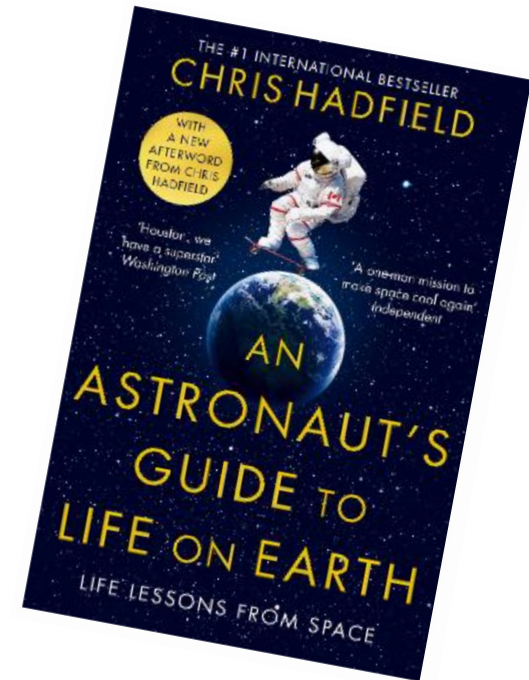
- Motivation
- Managing stress
- Concentration
- Seeing DATA
- Quick interpretation of DATA
- Working without knowledge





## Being an ASTRONAUT?

- Managing stress
  - Concentration
  - Seeing DATA
  - Quick interpretation of DATA
  - Working without knowledge
- 
- Professional Decision in Extreme Environments
    - **TRAININGS**









## CONTEXT

- Cognitive Load
- Experimental Design
- Psychological Effects
- Scientific Data Literacy
- Report Research
- Summarize, simplify and present Data
- Student Centered problem-based learning
- Interdisciplinary Activities
- Collaboration

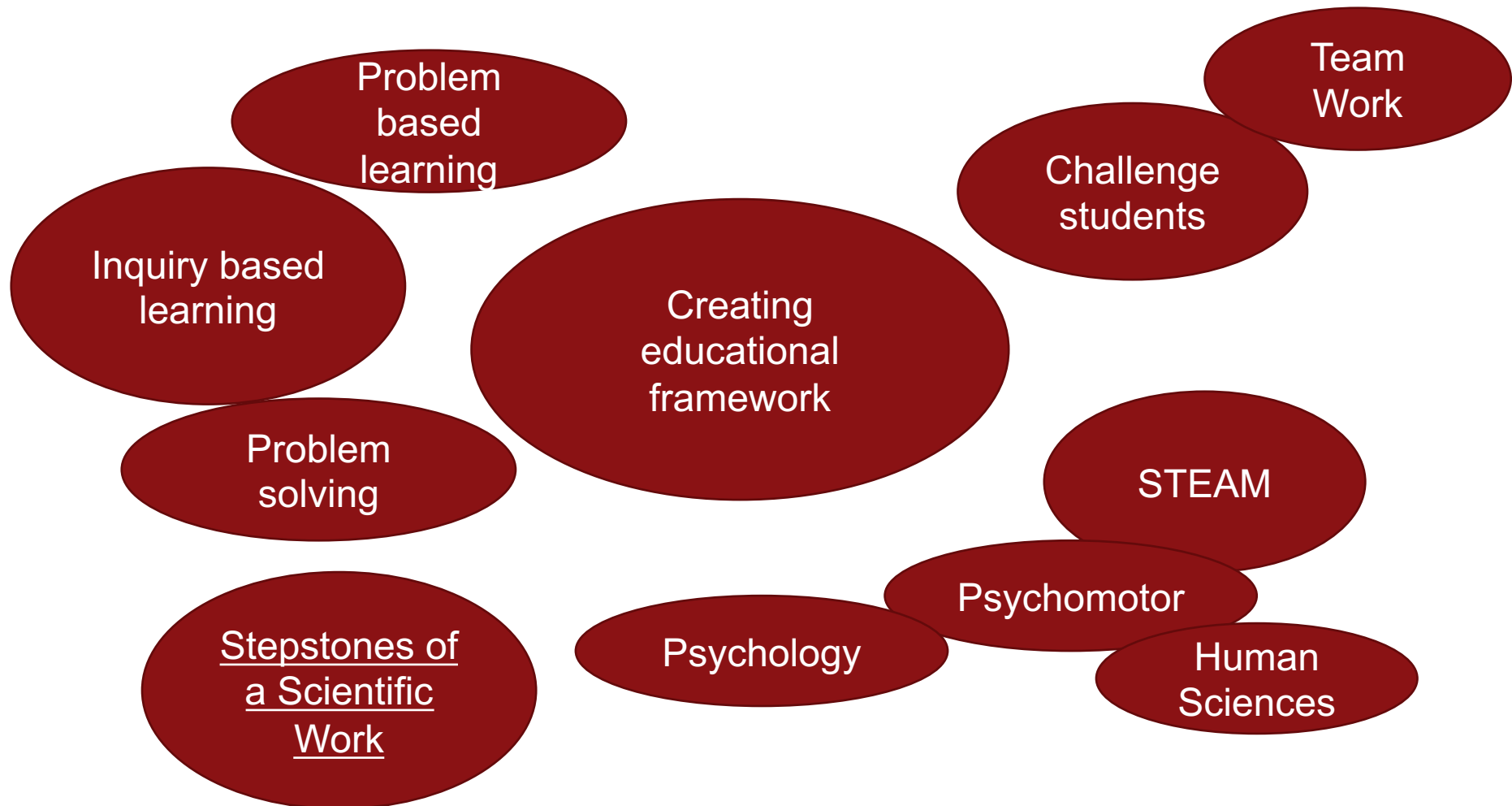


Primary and  
Secondary Level



3hrs

# Objective





# Training: Planning and Investigation

## REACTION TIMES of Astronaut Candidates

Stretch out the arm and forms a gap with the index finger and thumb. As a first test run, a colleague drops the ruler lengthwise through this gap.

1. Now the first run of the experiment can begin. To do this, Gustavo marks a zero line on the ruler. Gustavo now holds the ruler so that the zero line lies exactly in the gap that I form with my fingers.
2. Without any warning, Gustavo suddenly drops the ruler at a certain moment.
3. Am I fast enough to catch the ruler by closing only my thumb and index finger quickly? I must only move my thumb and index finger in this experiment - not my whole arm!
4. Could I catch the ruler? Possibly - but certainly above the zero line that Gustavo drew in before.
5. How many centimetres above the zero line could I stop the ruler from free falling?  
ÖWF Write down the value.

# Training: Planning and Investigation

## REACTION TIMES of Astronaut Candidates

Stretch out the arm and forms a gap with the index finger and thumb. As a first test run, a colleague drops the ruler lengthwise through this gap.

1. Now the first run of the experiment can begin. To do this, Gustavo marks a zero line

For an experimental research design students should perform the experiment **under different conditions**, such as different levels of background noise.

whole arm!

4. Could I catch the ruler? Possibly - but certainly above the zero line that Gustavo drew in before.
5. How many centimetres above the zero line could I stop the ruler from free falling?

öWF Write down the value.

Attempt	Distance on ruler (cm)	Distance on ruler (cm)	Order	Order	
Number	with noise	without noise	with noise	without noise	
1					<b>HIGH</b>
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					<b>LOW</b>
<b>TOTAL</b>					

# Training: Planning and Investigation

## REACTION TIMES of Astronaut Candidates

- No single Value
- 20 times repetition and record the values
- Lots of number collected, for????
- Evaluation
- Now time to evaluate my reaction time under different conditions=e.g. background voice

**Experiment for you all!!**



## Orienting & Asking Questions

- ✓ With these preliminary remarks in mind, a "Be an Astronaut!" activity is composed of three elements:
  - ✓ • The teacher provides the necessary knowledge for the activity, e.g., *"How do you find the median of a particular data set?"* or *"How can you visualize the summary of this data set?"*
  - ✓ • The teacher specifies the task at hand (see examples below).
  - ✓ • The teacher gives a series of hints to scaffold the problem solving process.

Define Goals and/or questions from current knowledge

Attempt	Distance on ruler (cm)	Distance on ruler (cm)	Order	Order
Number	with noise	without noise	with noise	without noise
1	16	13	16	13
2	14	13	14	13
3	14	10	14	10
4	12	9	12	9
5	13	6	13	6
6	12	5	12	5
7	12	6	12	6
8	11	7	11	7
9	10	5	10	5
10	10	5	10	5
11	8	3	8	3
12	8	4	8	4
13	7	3	7	3
14	8	3	8	3
15	7	2	7	2
16	5	2	5	2
17	4	3	4	3
18	3	2	3	2
19	4	1	4	1
20	3	1	3	1
<b>TOTAL</b>	<b>181</b>	<b>103</b>		

HIGH

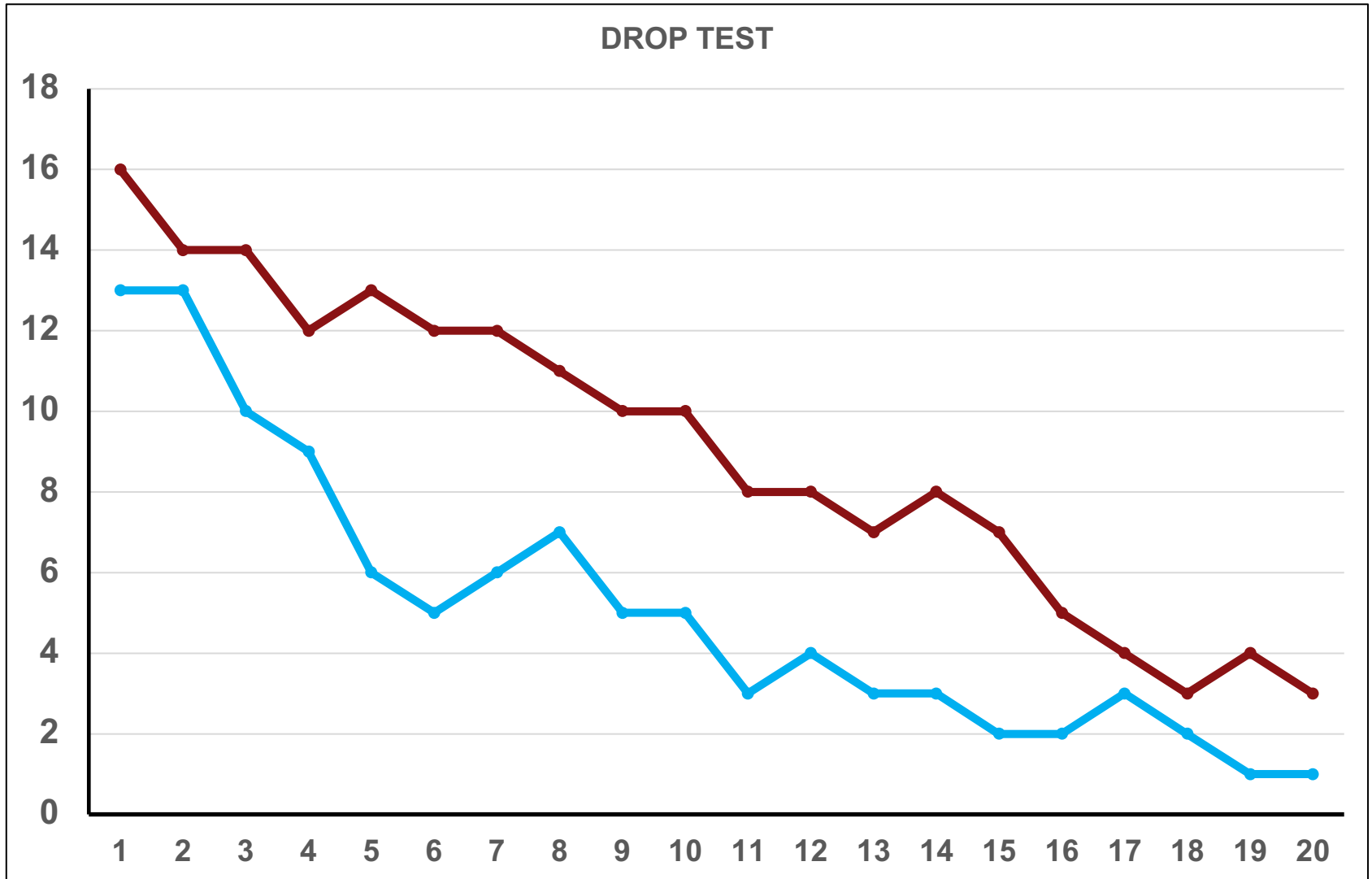
WN

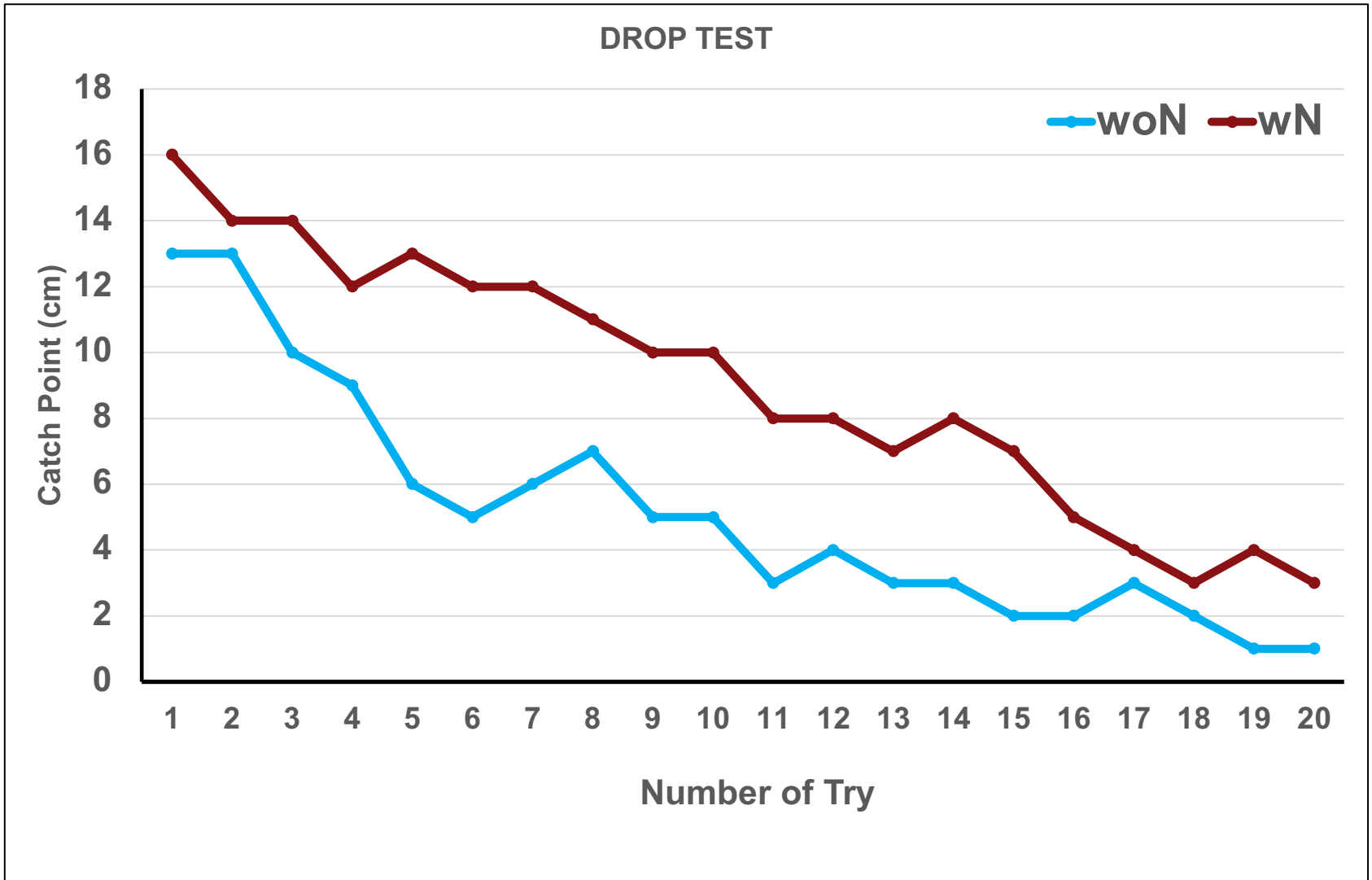
Average	Median	Mode	Extreme
9,05	4,5	12	16/3

WoN

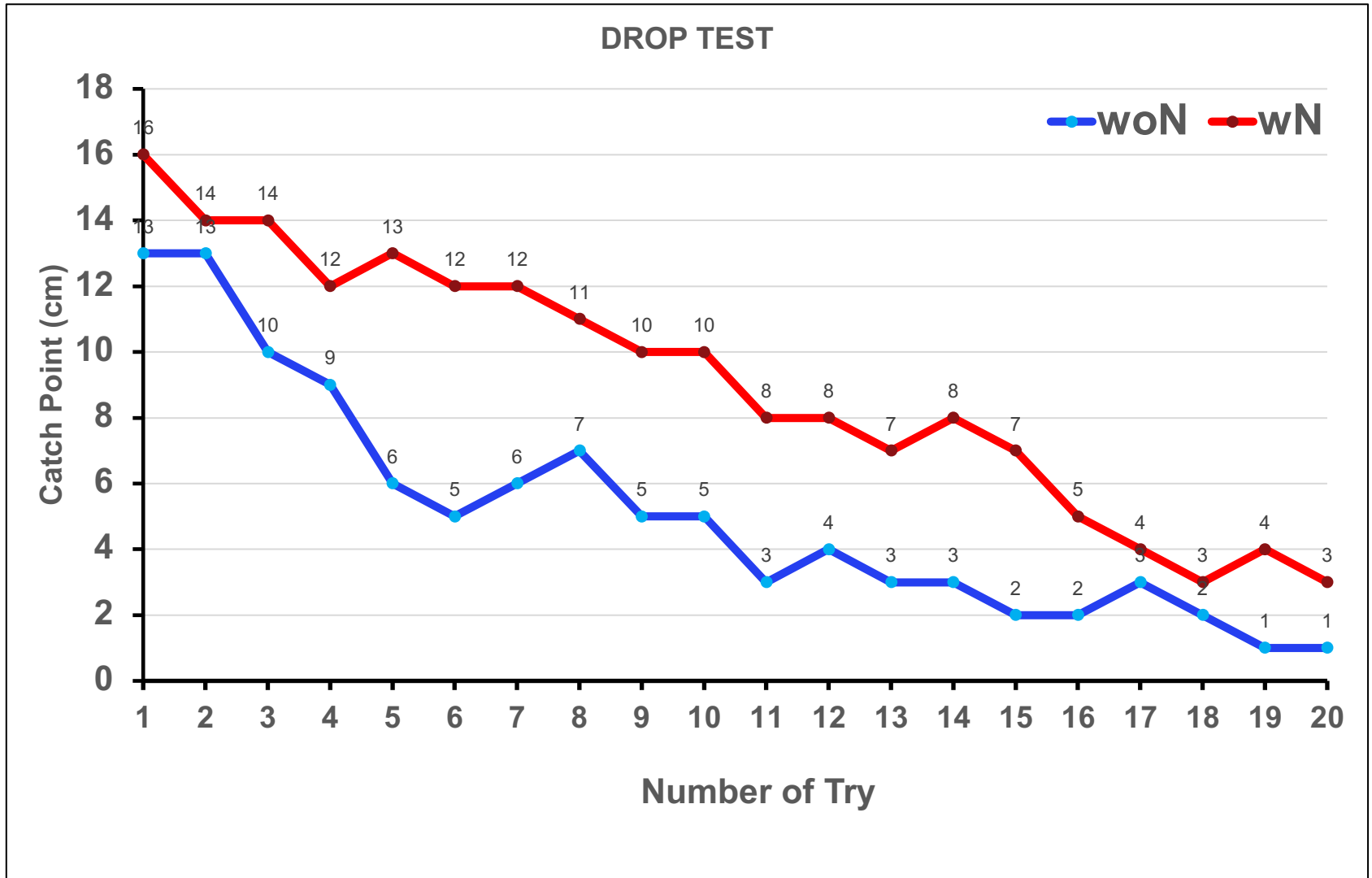
Average	Median	Mode	Extreme
9	5,15	3	13/1

LOW









# OeWF Multi-Mission Data Archive

Last modified by [Olivia Haider](#) on 2018/04/21 20:14

Welcome to the multi-mission Science Data Archive of the Austrian Space Forum.

This archive contains information about the scientific and engineering experiments of our field missions, the type and quantity of data collected as well as information about the Principal Investigators and how to contact them.

For questions, please send us a message via the [Contact Us](#) link.

## Missions



**2018 AMADEE-18**  
**Location:** Dhofar region, Oman  
**Duration:** 01-28Feb 2018  
[Science Archive AMADEE-18](#)



**2017 Aouda Test Campaign 17C**  
**Location:** Tirol, Austria  
**Duration:** 21Aug2017

Show tou

# https://mission.owf.org/archive



Wir ermöglichen  
die Leidenschaft Weltraum  
zu leben.

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