Experimental Proseminar 2023

Outline:

Practical Information

What is a good/poor presentation?

Advises from Brigitte Decrausaz

Distribution of topics

PHY291 Proseminar in Experimental Physics

Thursdays, 10:15 - 12:00
UZH Y36K08 - Irchel Campus - **ONLINE**
2 ETCS points (60 h)
Language: English
Attendance: mandatory, at least 80% of presentations
Grading: failed/passed

PHY291 Proseminar in Experimental Physics

General information

With a focus on the experimental aspect, we will cover Nobel prizes (NP) in Physics and Chemistry, where the Noble lecture shall be the starting point for the 25 minutes (conference, not-youtube style) presentations.

The format attempts to simulate a conference environment in which you present your findings to a peer audience, which is composed of your fellow students.

The grade (fail/pass) is composed of your own presentation, your replies to the comments/questions to your presentation, and your participation in the presentation of your colleagues (commenting/question on at least 80% of the presentations mandatory). You are selecting the 3 best comments/questions for your talk, which serves as the basis for selecting the student with the best participation.
The presentations are ranked by the coaches and the best will receive an award.

PHY291 Proseminar in Experimental Physics

Timeline:

Before Thursday: (1) A Youtube link to the recorded talk (or the video file) is sent to coordinator (→ Johan Chang).

Thursday morning: The coordinator sends the link to all people involved.

The next Tuesday evening: Questions are closed.

The next Wednesday evening: Answers from the presenter are closed.

The next Thursday: Coordinator receives feedbacks from the coach and referees.

Examples of talks

Below are three examples of previous proseminar talks

Topic: ↗ The development of super-resolution fluorescence microscopy
Speaker: Mischa Stifter

Topic: ↗ Néel antiferromagnetism
Speaker: Christopher Binz

Topic: ↗ Discovery of fullerenes
Speaker: Stefanie Jucker

Proseminar in Experimental Physics: Program

#	date	speaker	topic	coach	referees
	23.02.2023 10:15-12:00	Johan Chang Brigitte Decrausaz	Introduction		
	02.03.2023	Anna Veron	Literature research		
	09.03.2023	Anna Veron	Literature research		
	16.03.2023		Preparation week		
1	23.03.2023		Invention of the Bubble Chamber Physics NP 1960	Patrick Owen	Lea Caminada
2	23.03.2023		Higgs Boson Discovery Physics NP 2013	Lea Caminada	Patrick Owen
3	30.03.2023		Neutron Scattering and Spectroscopy Physics NP 1994	Marc Janoschek	Jan Unkelbach
4	30.03.2023		Computer Assisted Tomography Medicine NP 1979	Jan Unkelbach	Marc Janoschek
5	06.04.2023		Graphene Physics NP 2010	Tatiana Latychevskaia	Johan Chang
6	06.04.2023		Qausi Crystals Chemistry NP 2011	Johan Chang	Tatiana Latychevskaia
7	13.04.2023		Scanning Tunnelling Microscopy Physics NP 1986	Fabian Natterer	Andreas Schilling
8	13.04.2023		High Temperature Superconductivity Physics NP 1987	Andreas Schilling	Fabian Natterer

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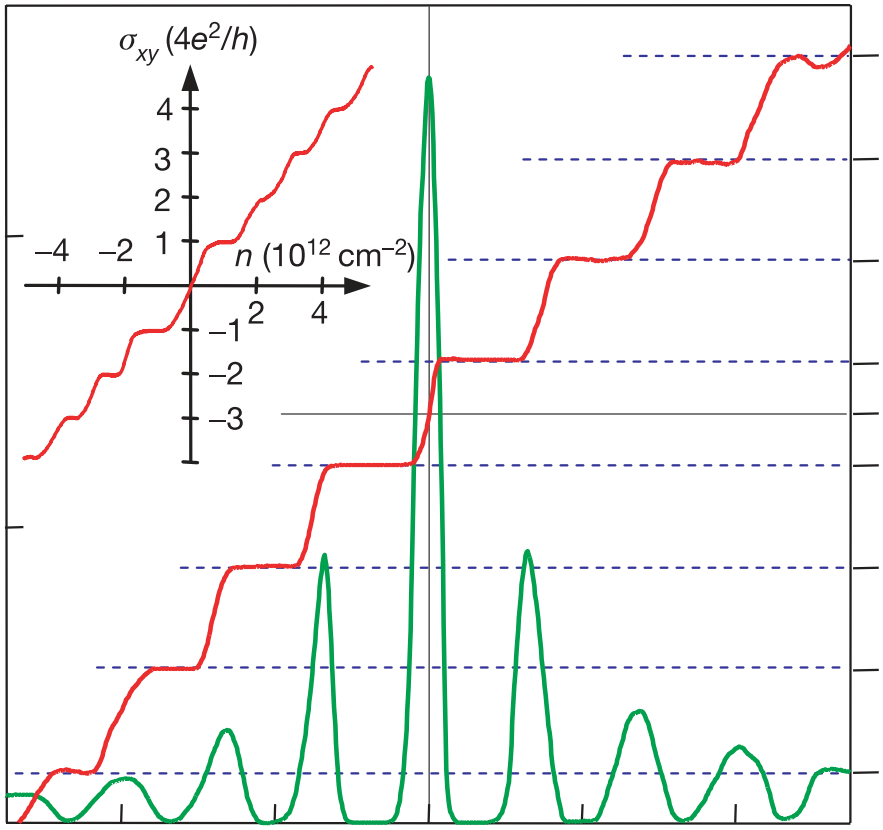
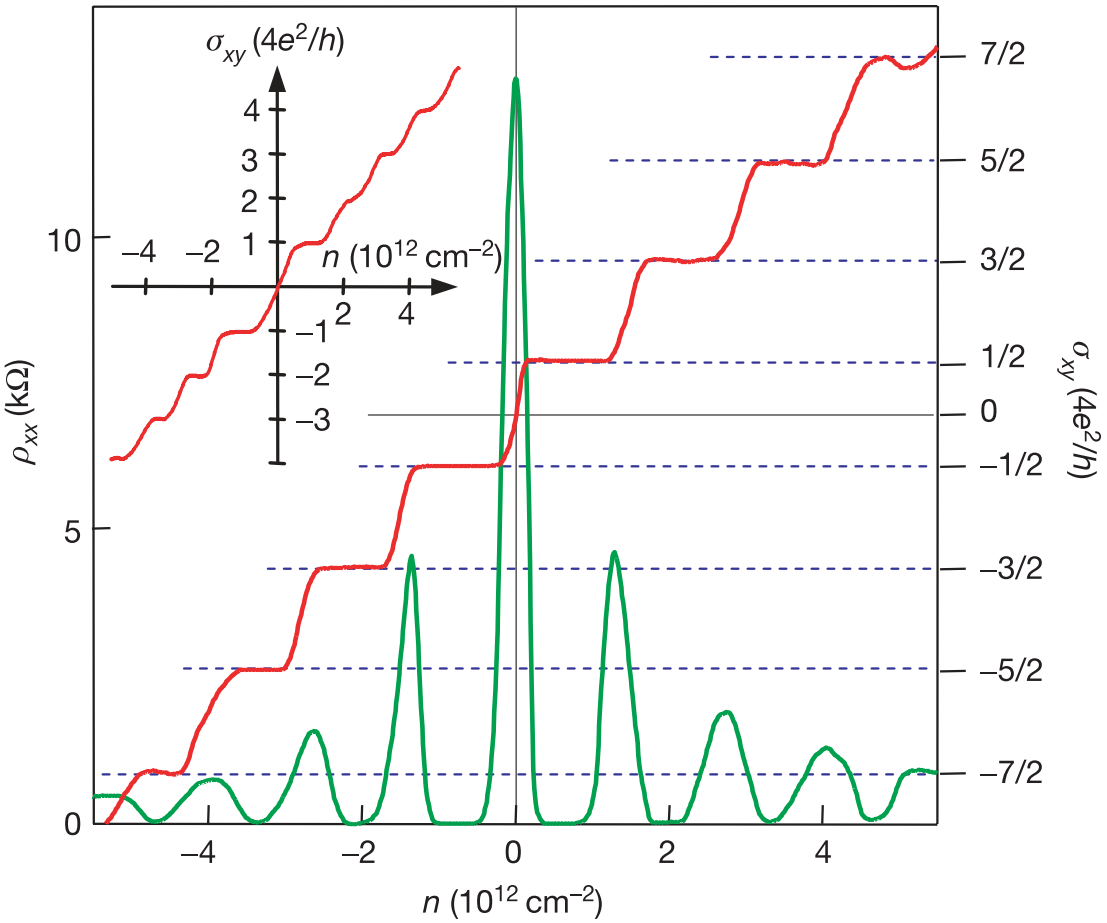
My advises

- Few key messages per slide
- Speak rather than read your talk
- Reveal your sources
- Explain the figures

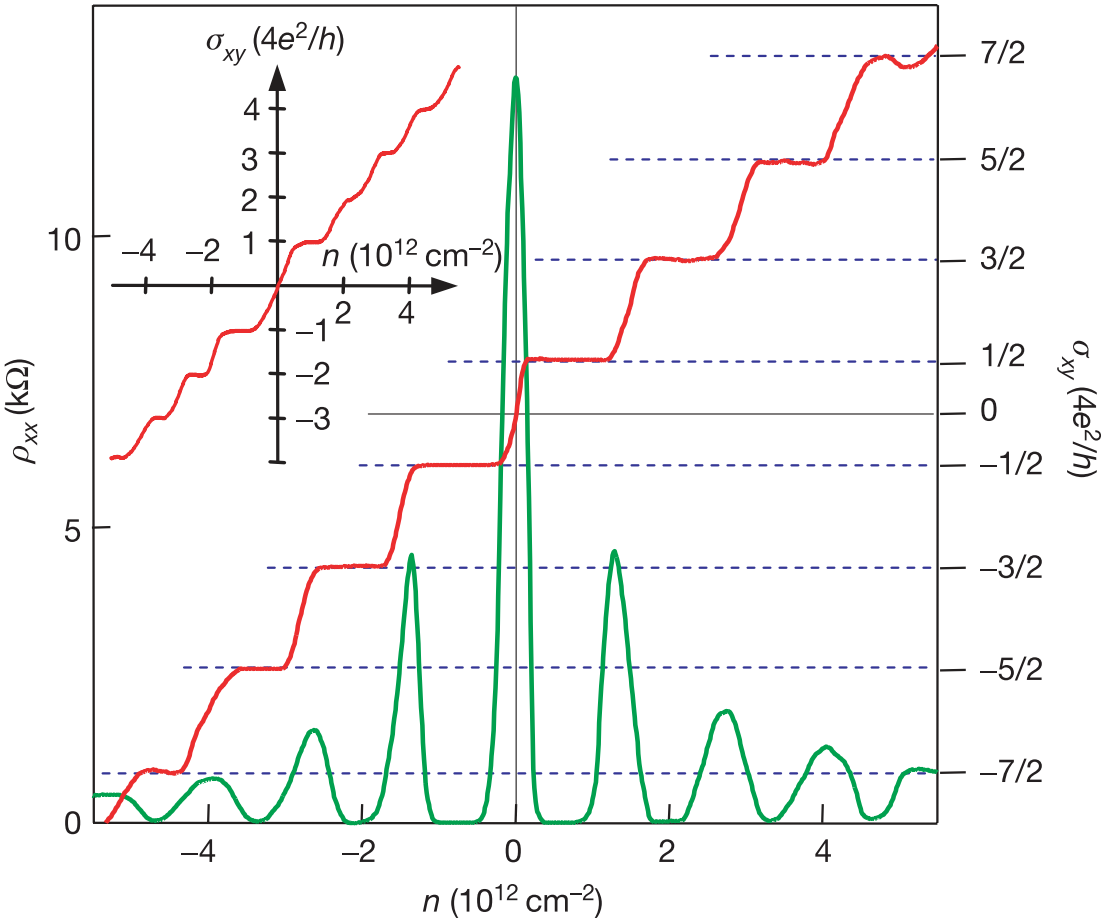
Selection of figures



Presentation of figures



Reveal your sources



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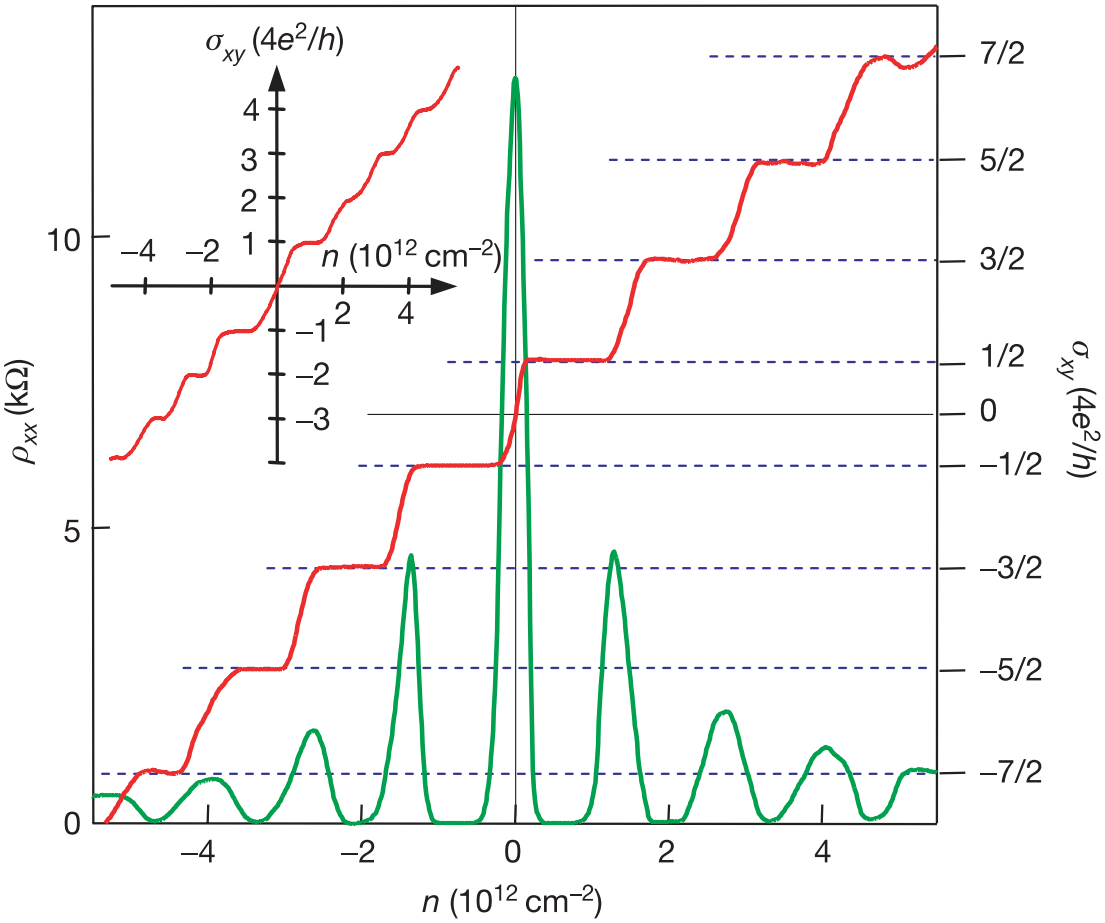
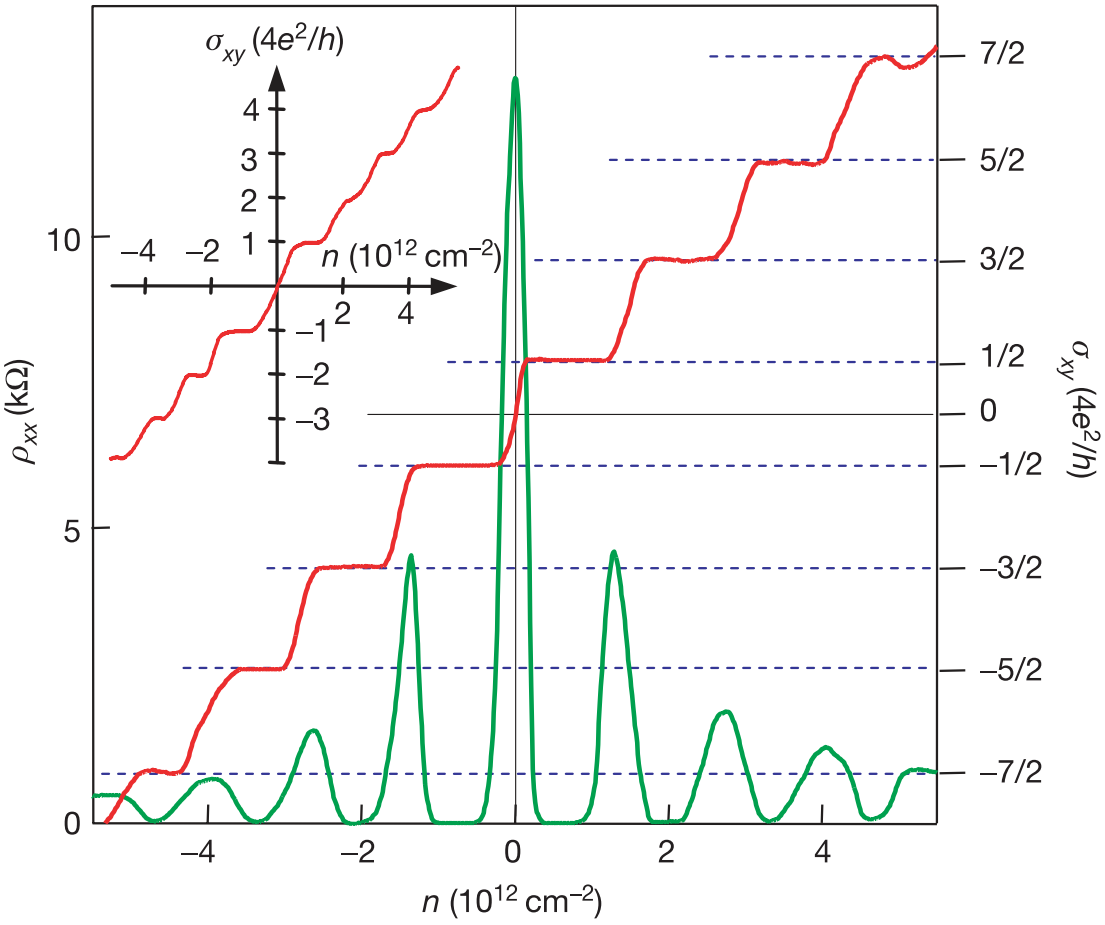


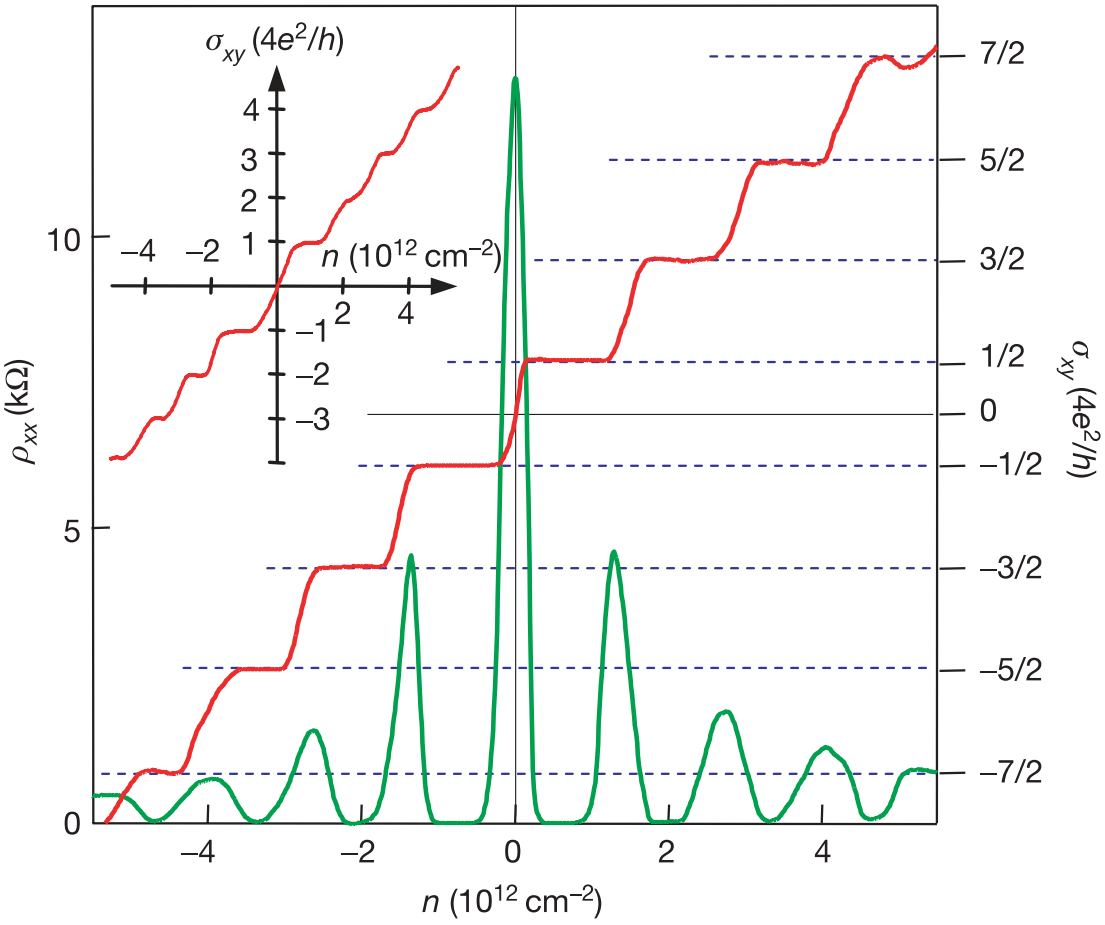
Nature (2005)

Reveal your sources



K.S. Novoselov *et al.*,

Explain the figure



K.S. Novoselov *et al.*,
Nature **438**, 197 (2005)

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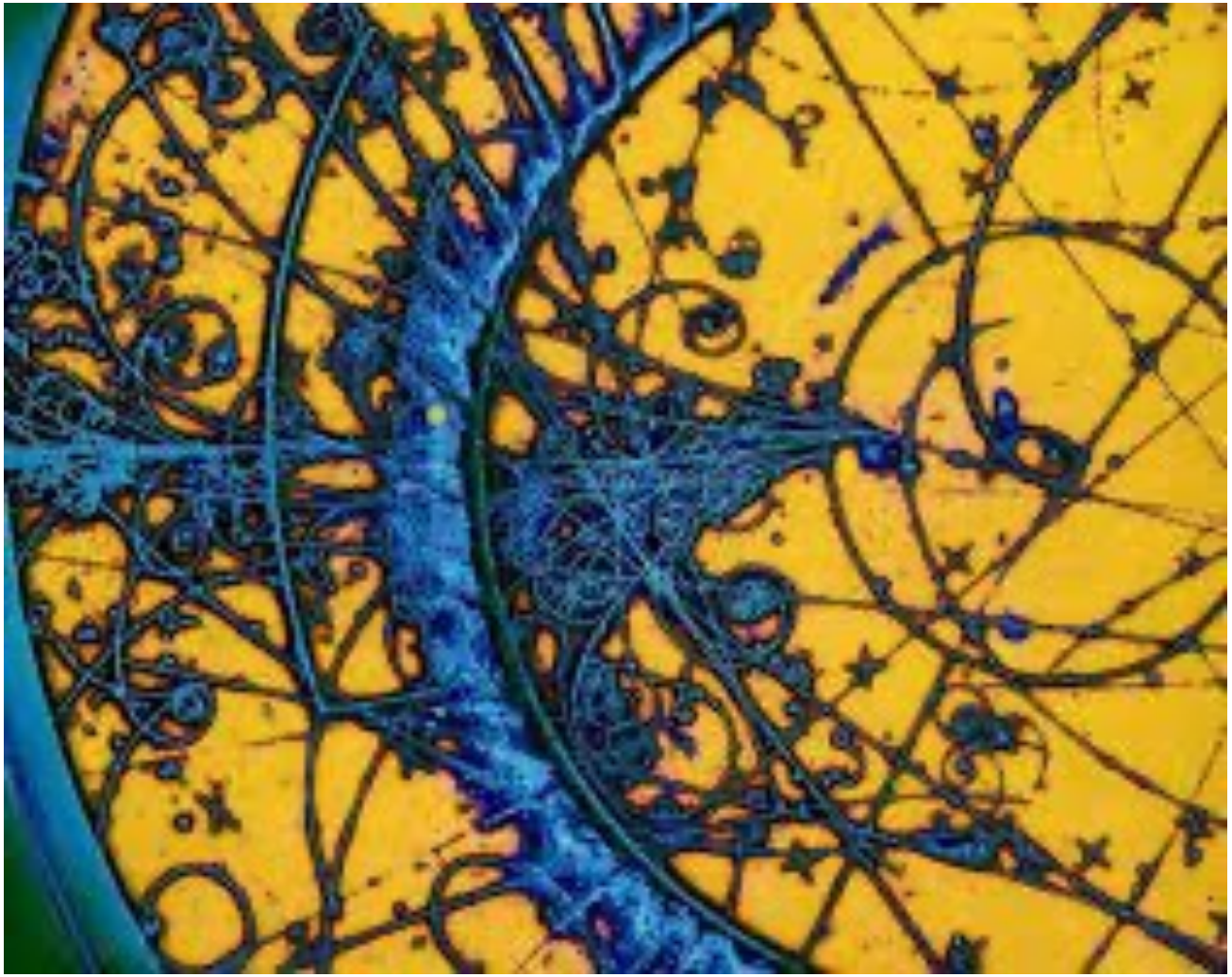
1. Invention of bubble chamber

Nobel Price Physics 1960

Patrick Owen

23.03.2023

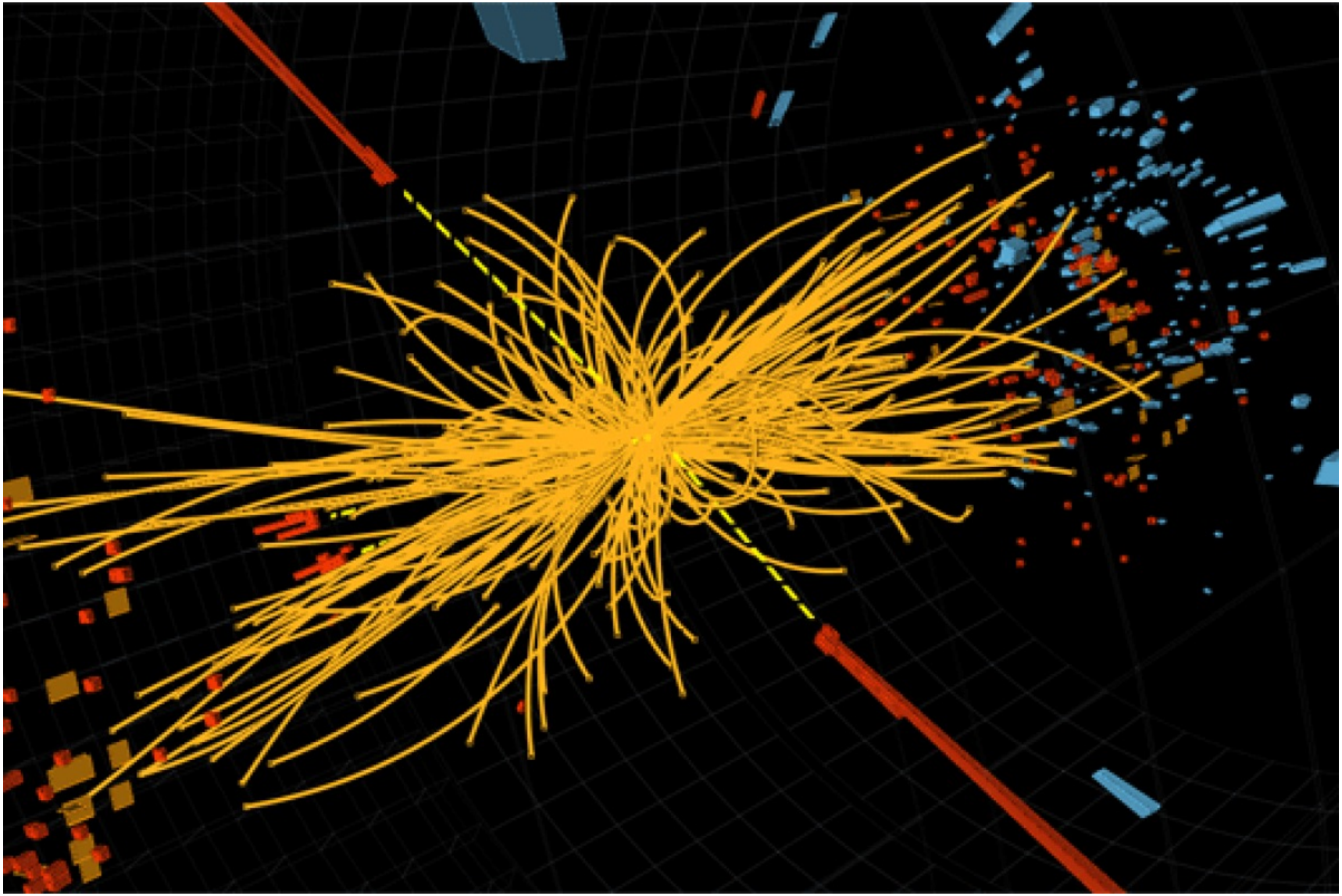


2. Higgs Boson Discovery

Nobel Price Physics 2013

Lea Caminada

23.03.2023

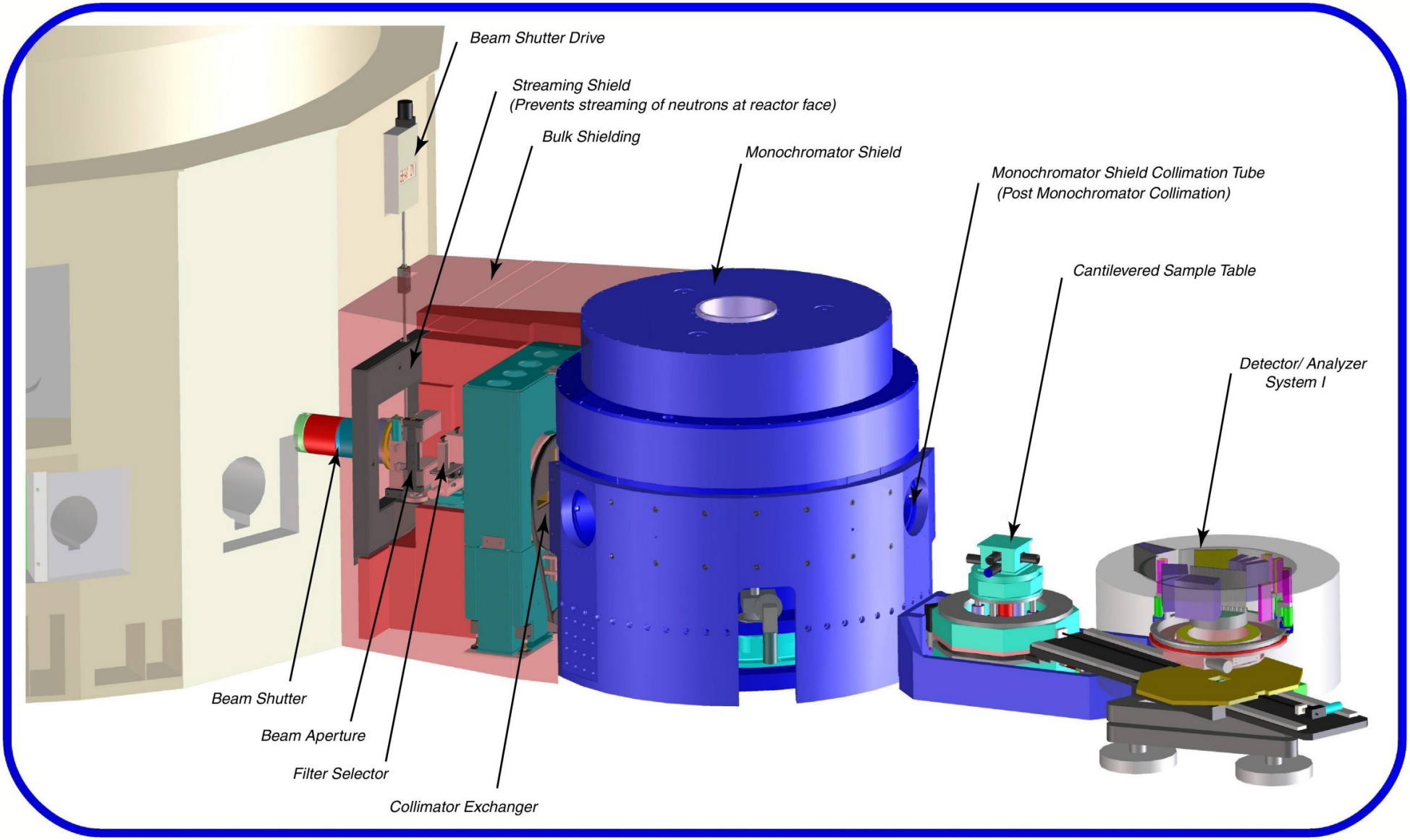


3. Neutron scattering and spectroscopy

Nobel Price Physics 1994

Marc Janoschek

30.03.2023

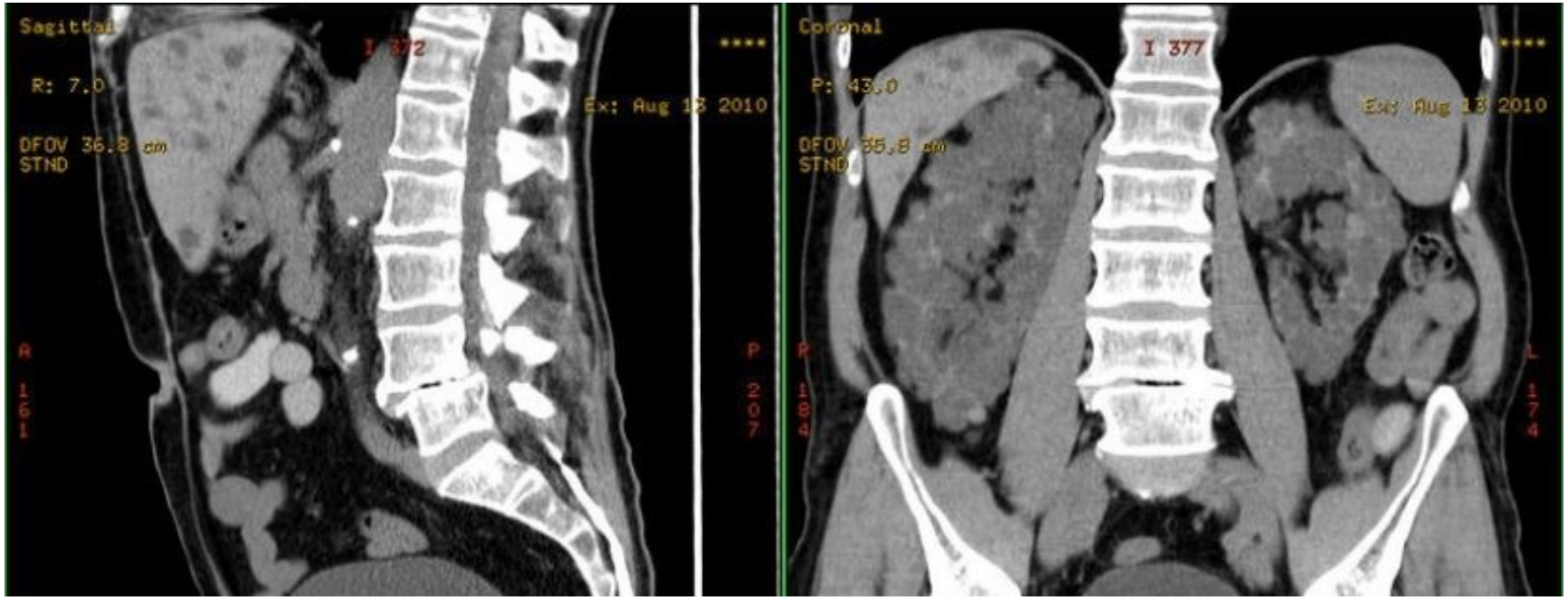


4. Computer Assisted tomography

Nobel Price Medicine 1979

Jan Unkelbach

30.03.2023

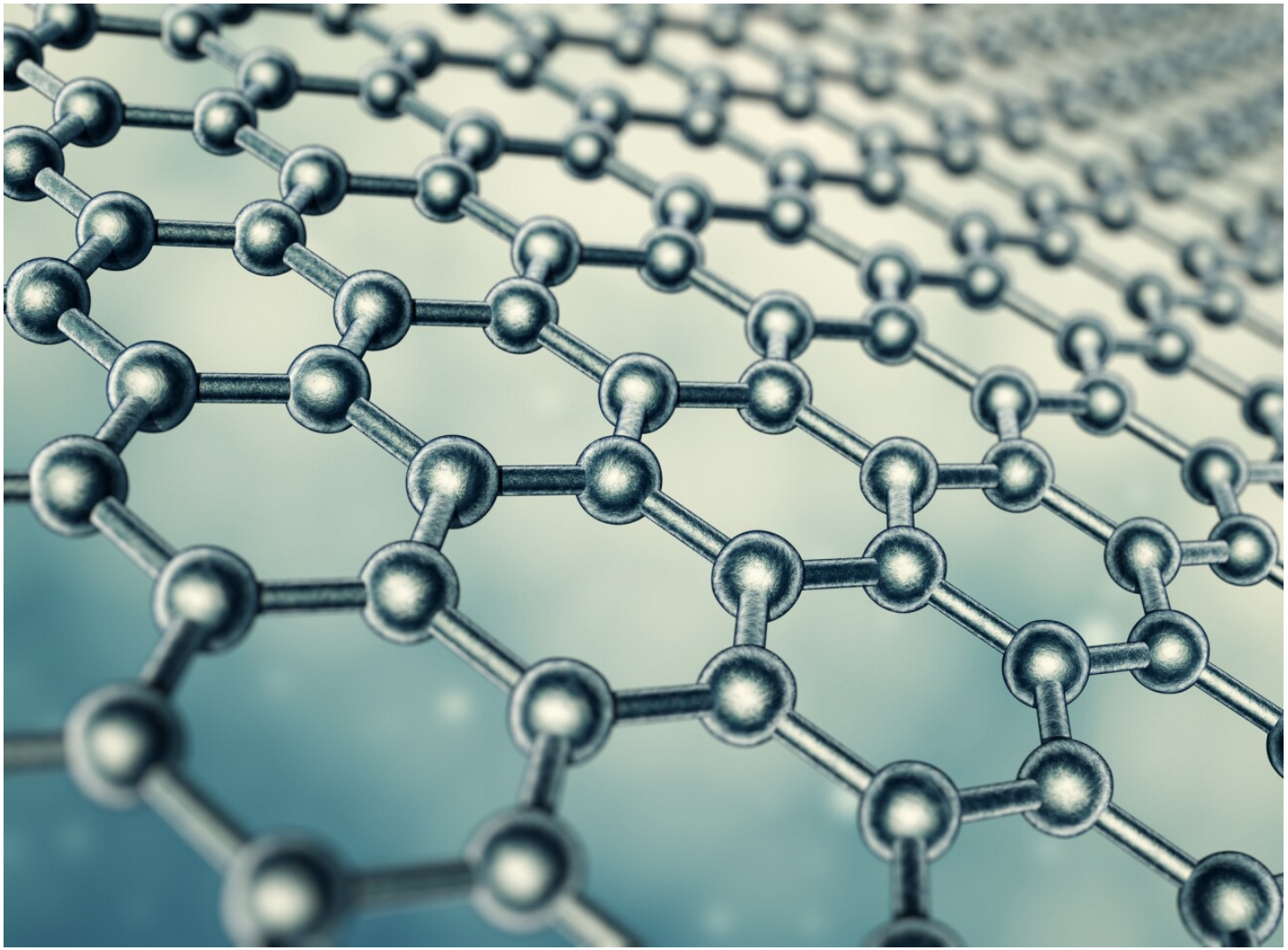


5. Graphene

Nobel Price Physics 2010

Tatiana Latychevskaia

06.04.2023

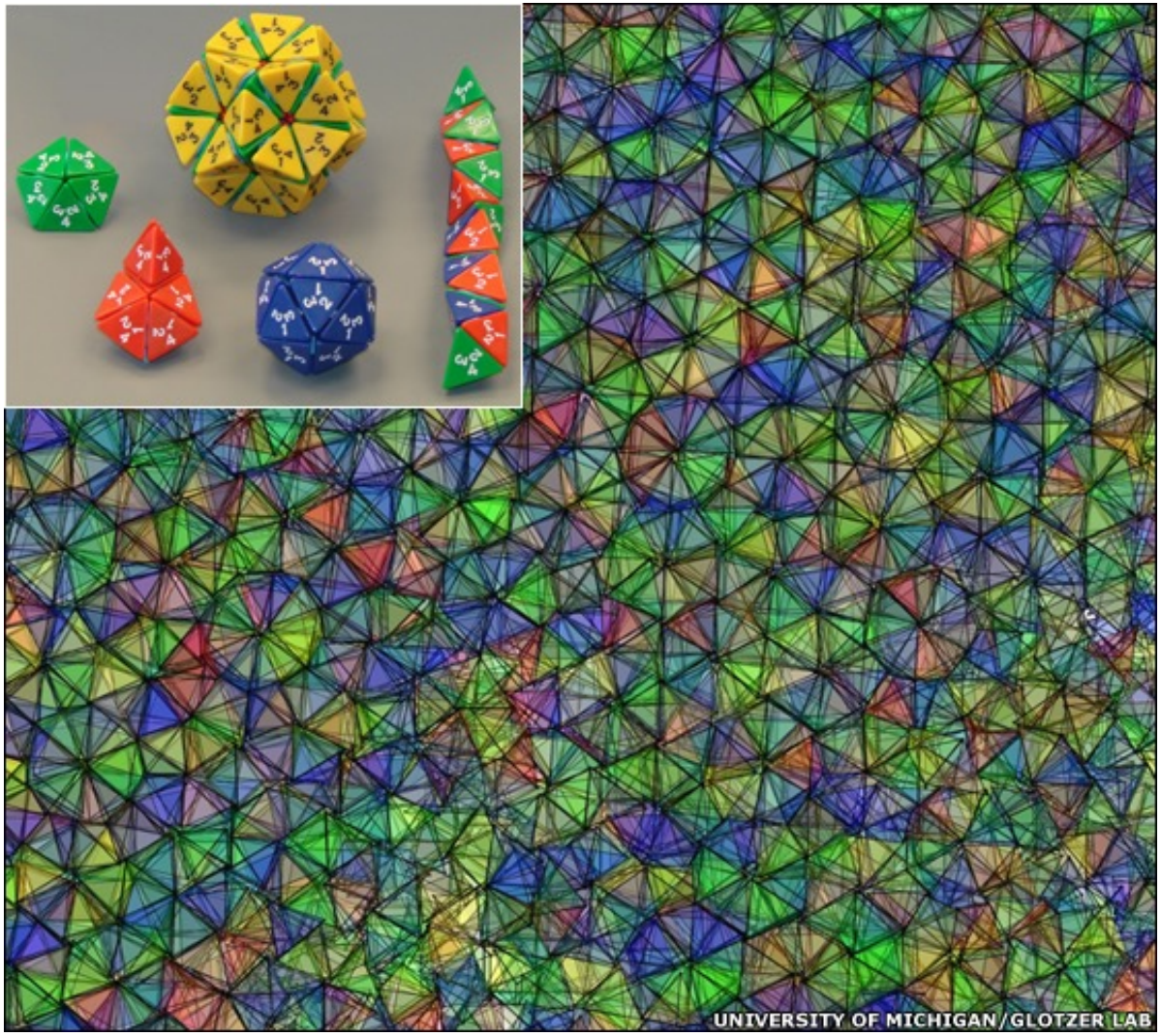


6. Quasi crystals

Nobel Price Chemistry 2011

Johan Chang

06.04.2023

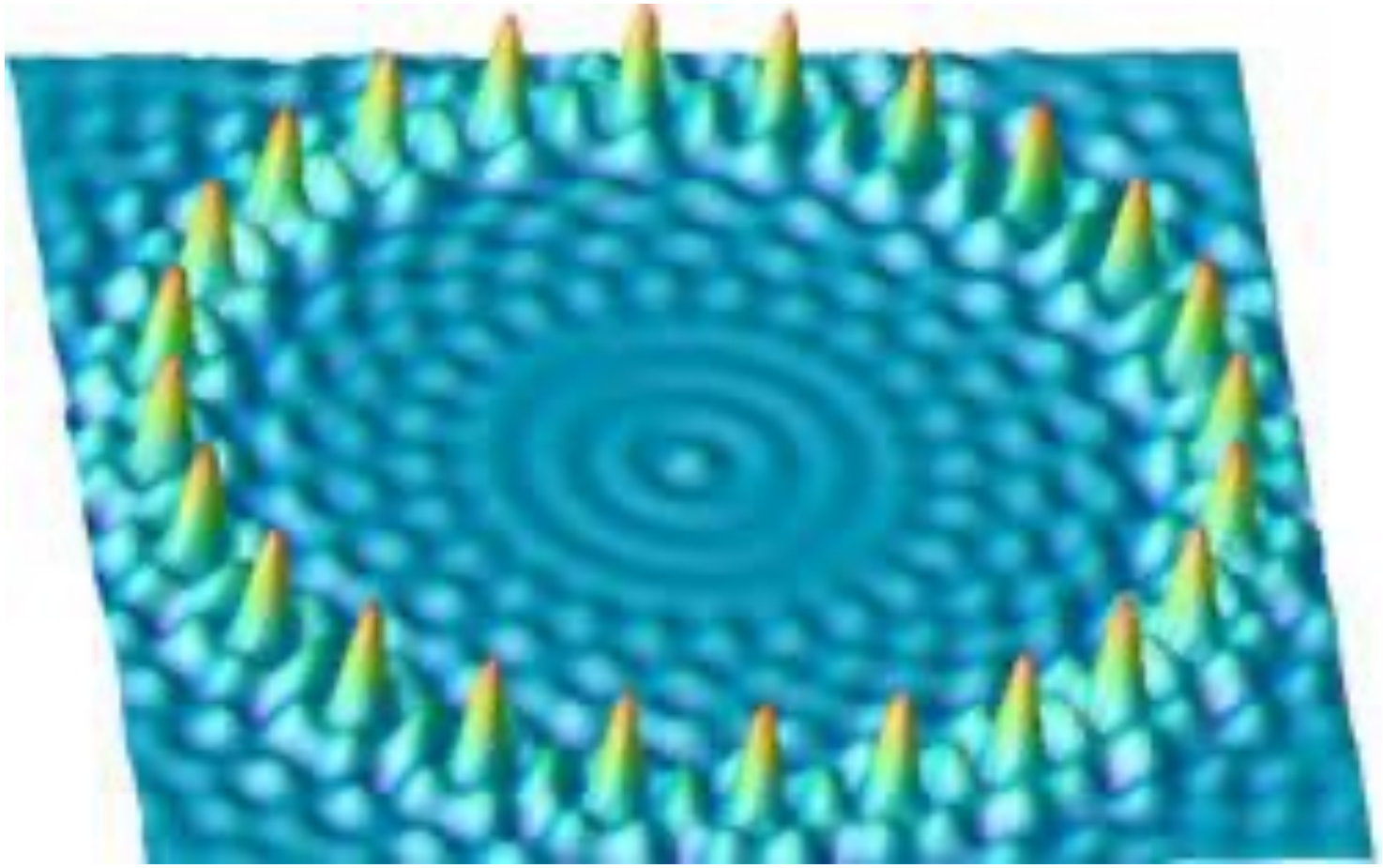


7. Scanning tunnelling microscopy

Nobel Price Physics 1986

Fabian Natterer

13.04.2023

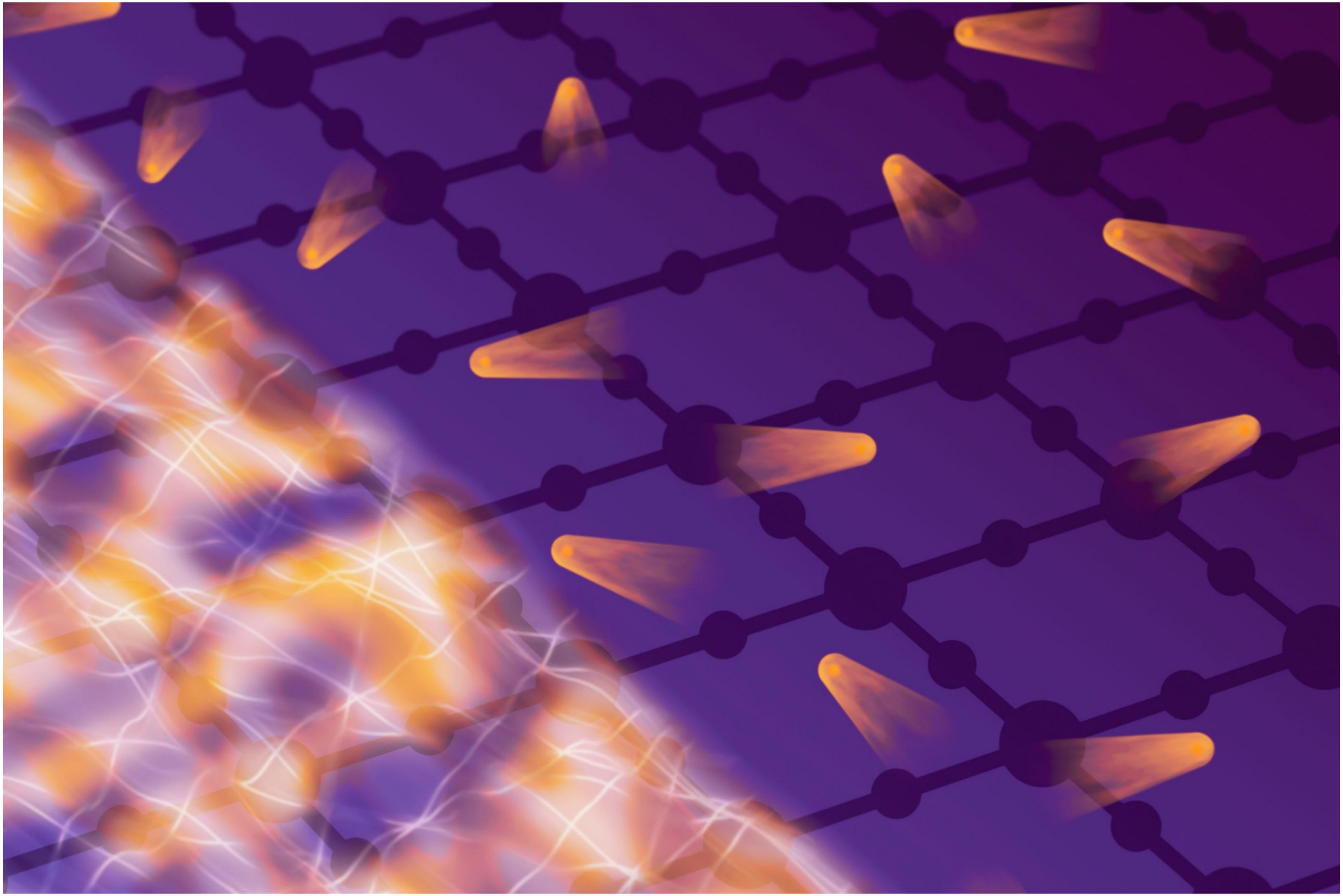


8. High temperature superconductivity

Nobel Price Physics 1987

Andreas Schilling

13.04.2023

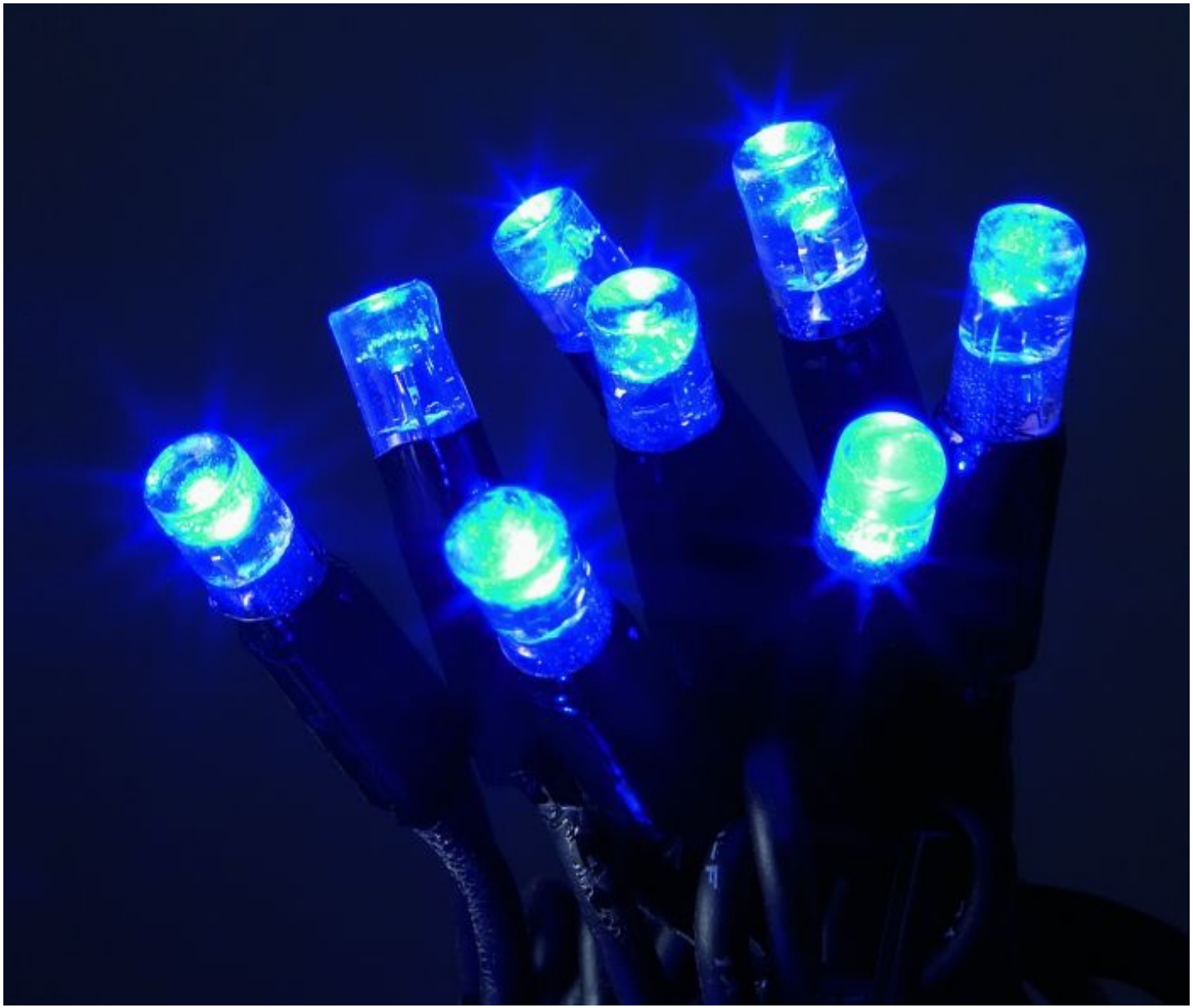


9. Blue LED light

Nobel Price Physics 2014

Thomas Greber

13.04.2023

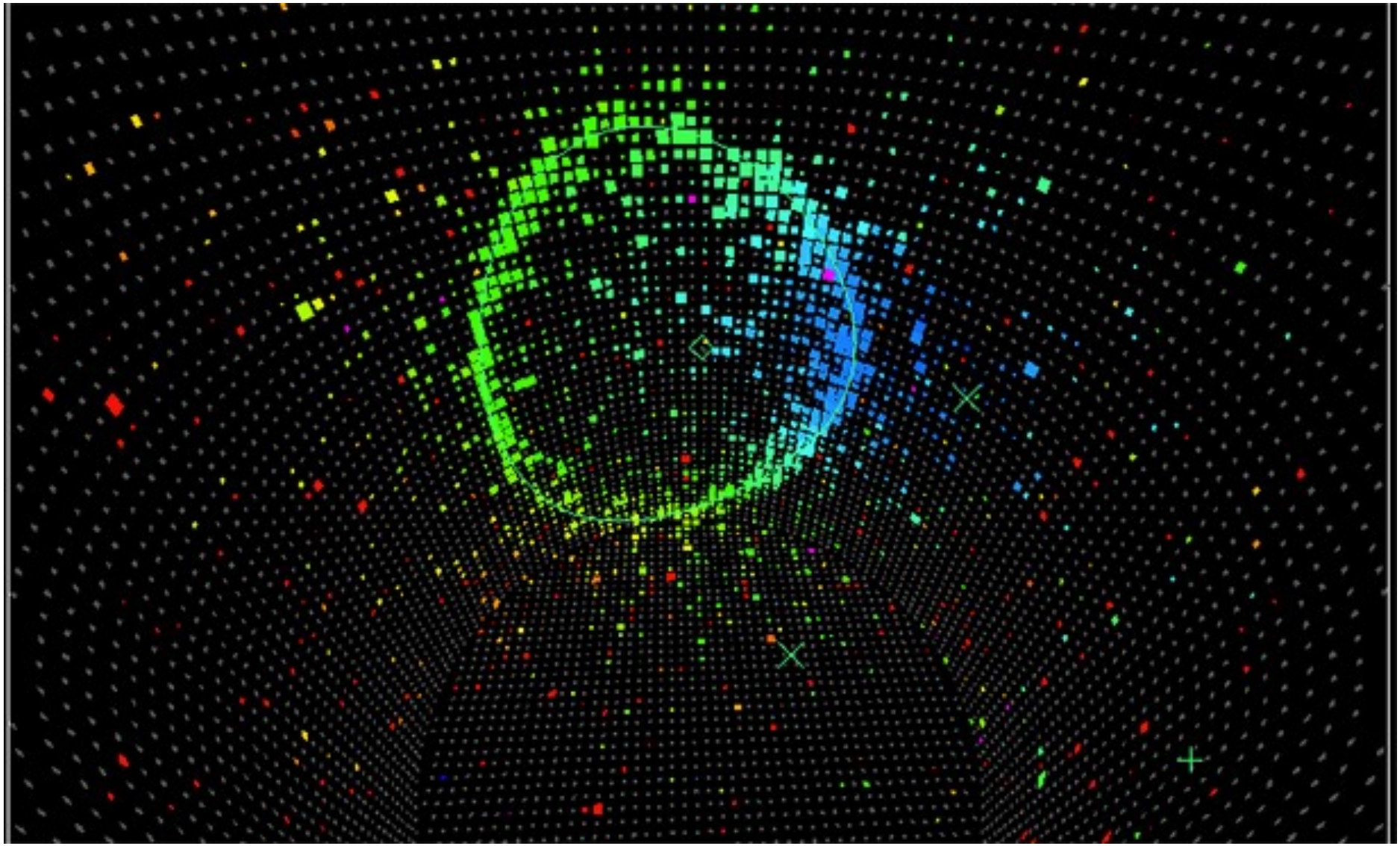


10. Neutrino oscillations

Nobel Price Physics 2015

Laura Baudis

20.04.2023

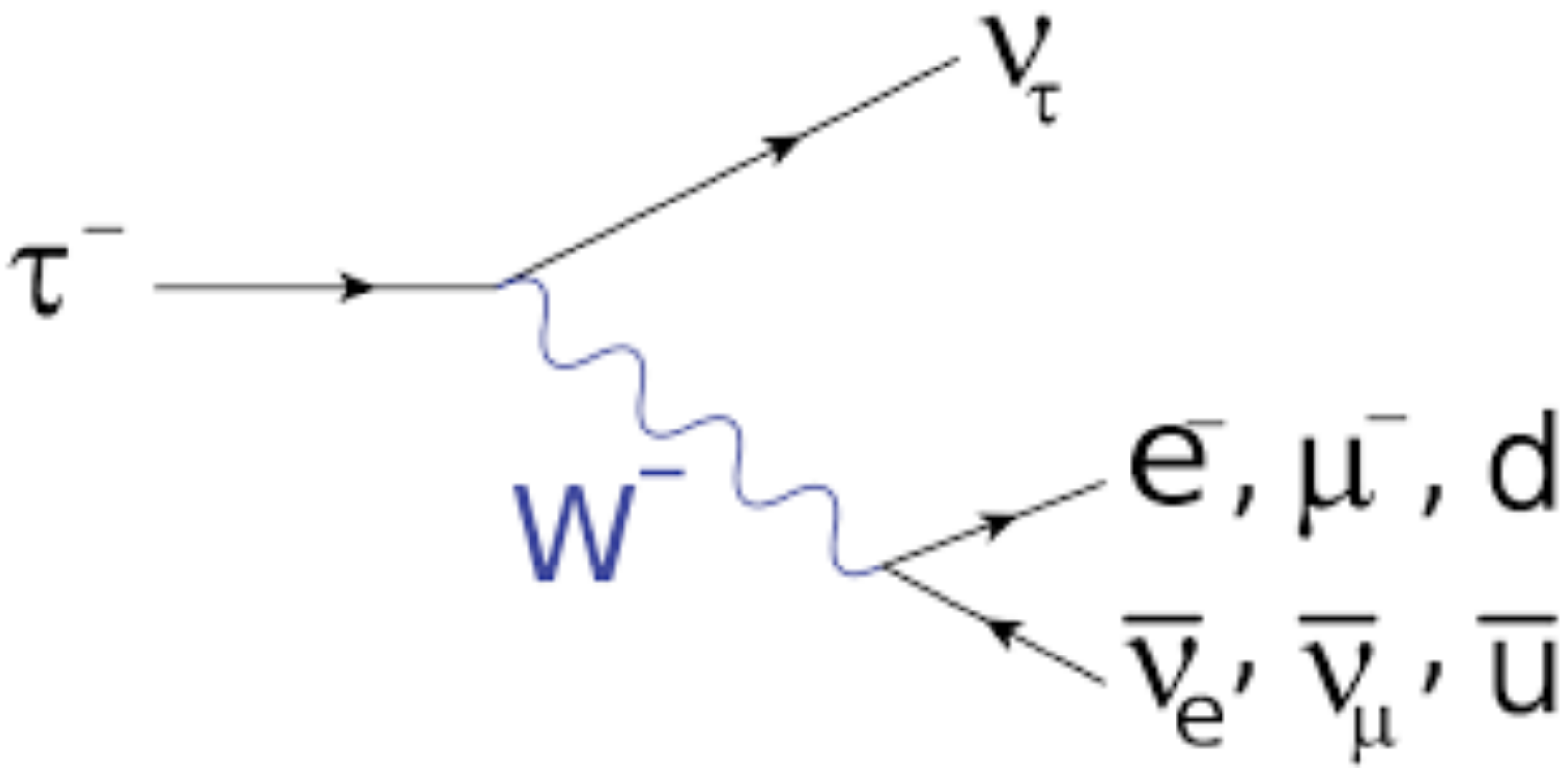


11. Discovery of lepton tau and neutrino detection

Nobel Price Physics 1995

Ben Kilminster

20.04.2023

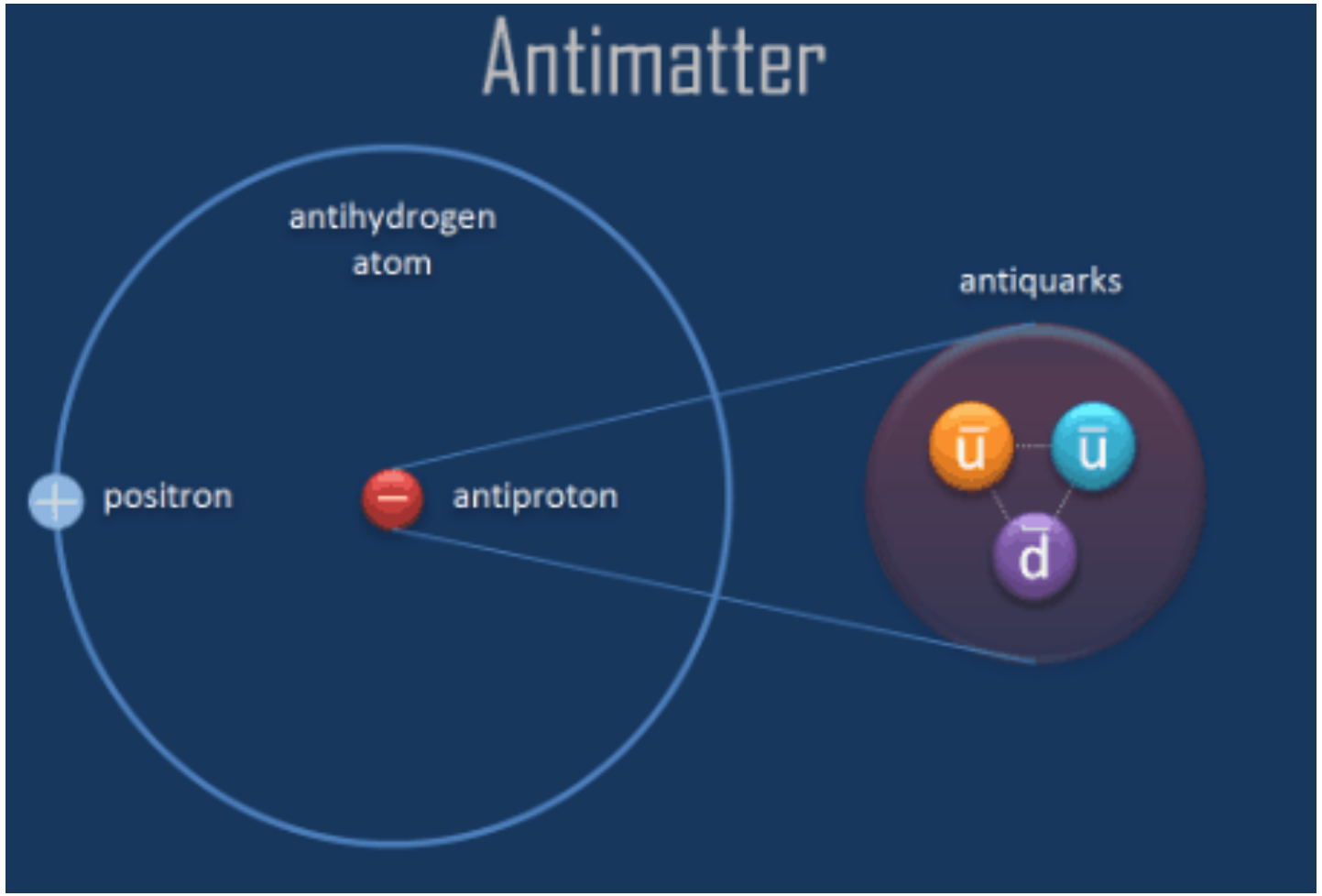


12. Discovery of anti-proton

Nobel Price Physics 1957

Florencia Canelli

27.04.2023

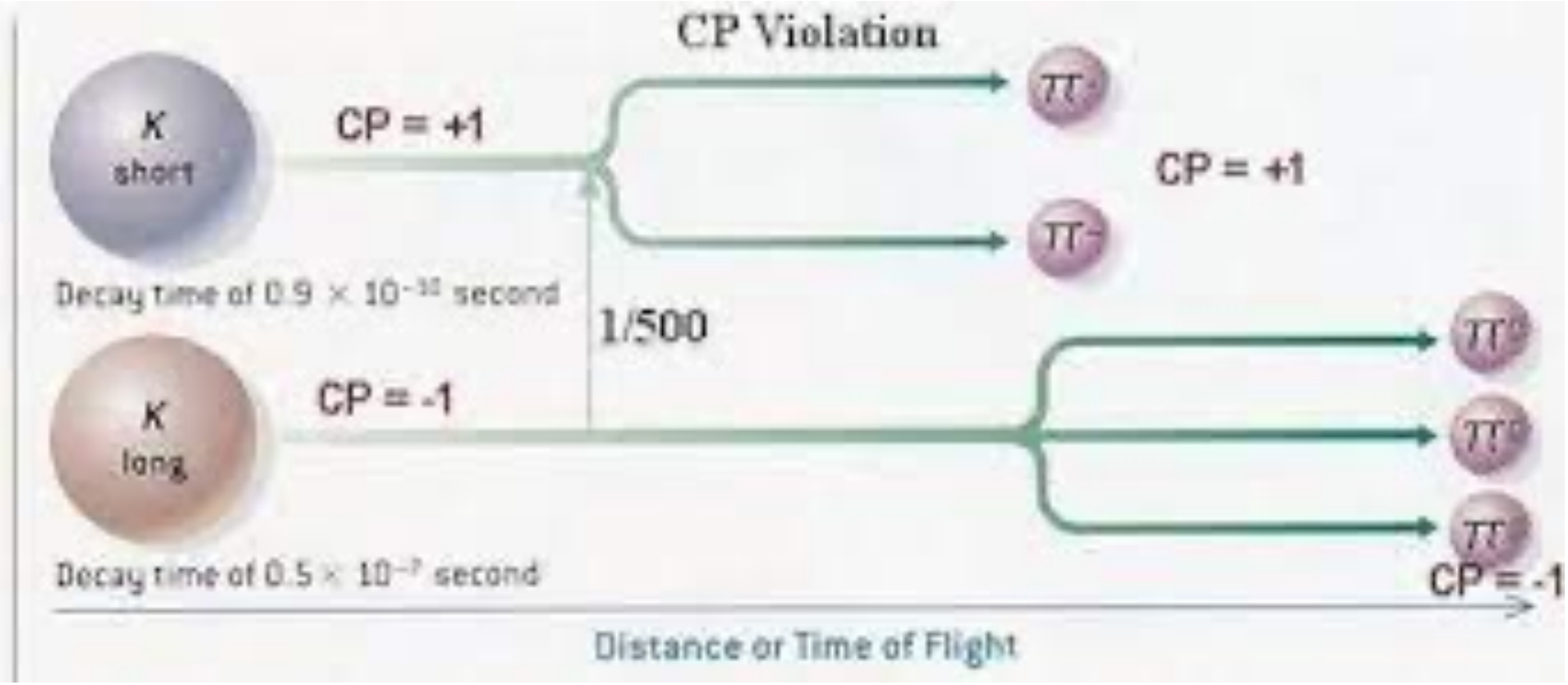


13. Violations of fundamental symmetry principles in the decay of neutral K-mesons

Nobel Price Physics 1980

Patrick Owen

27.04.2023

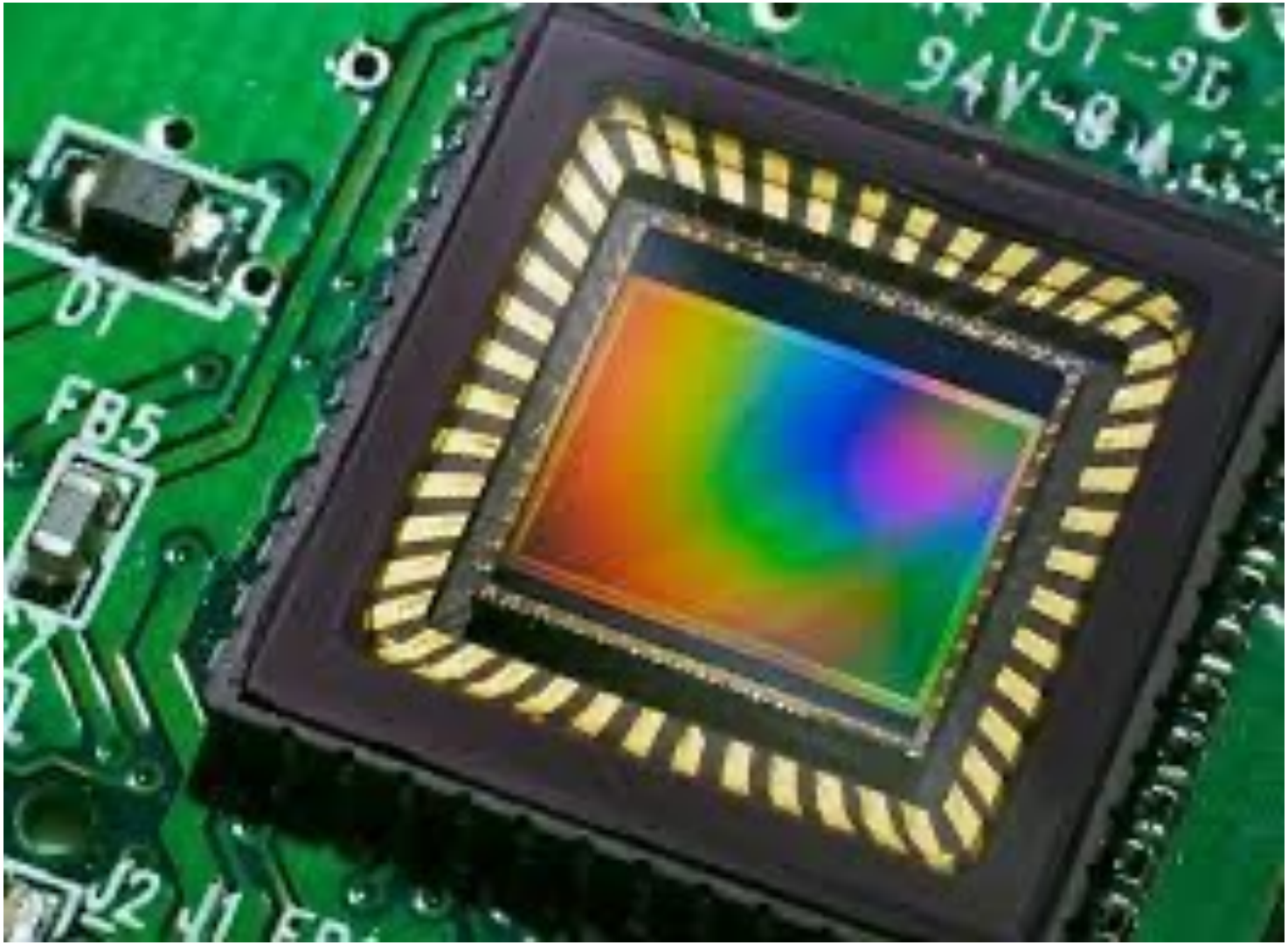


14. Invention of CCD sensor

Nobel Price Physics 2009

Ben Kilminster

27.04.2023

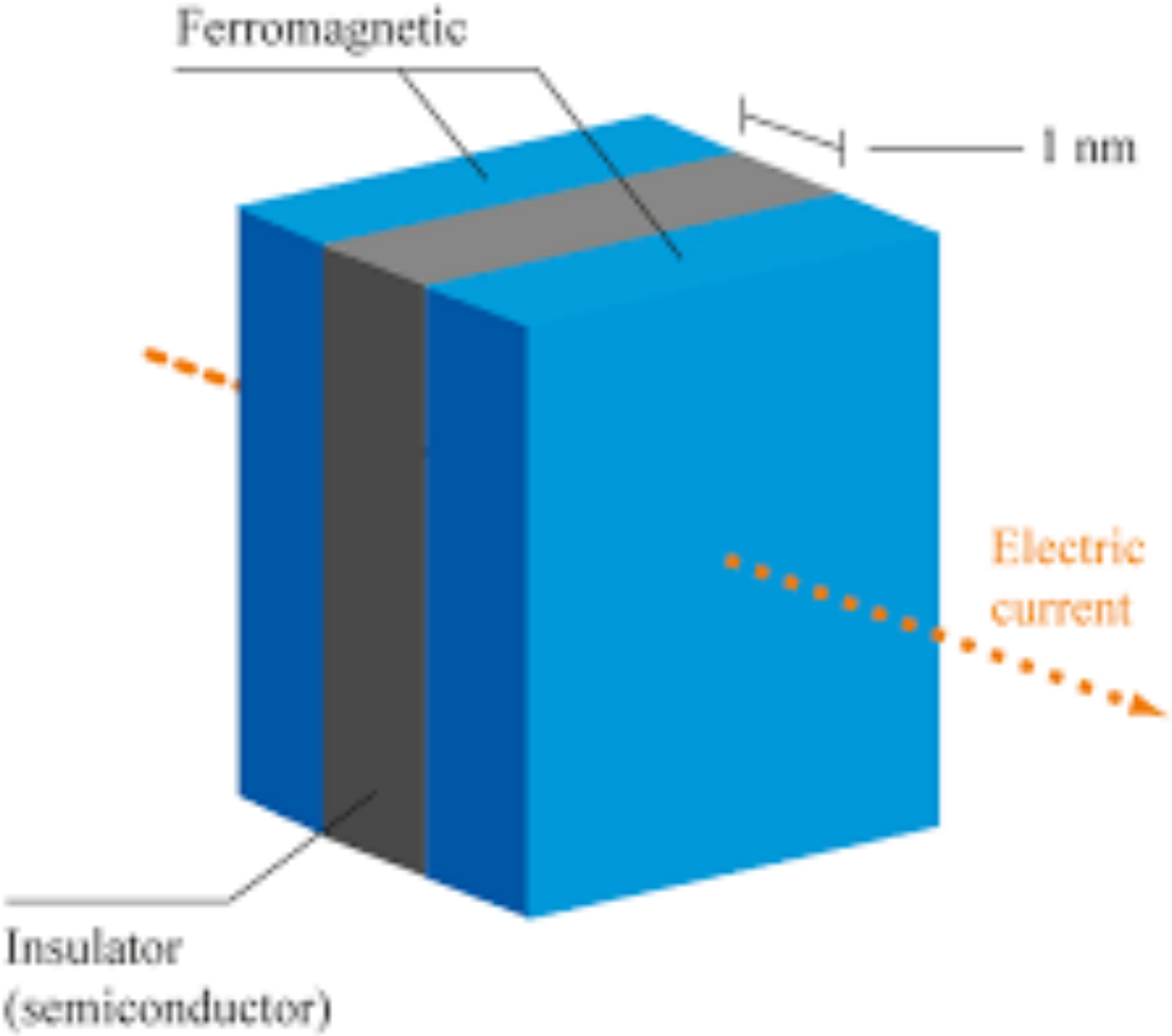


15. Giant magneto resistance

Nobel Price Physics 2007

Fabian Natterer

04.05.2023

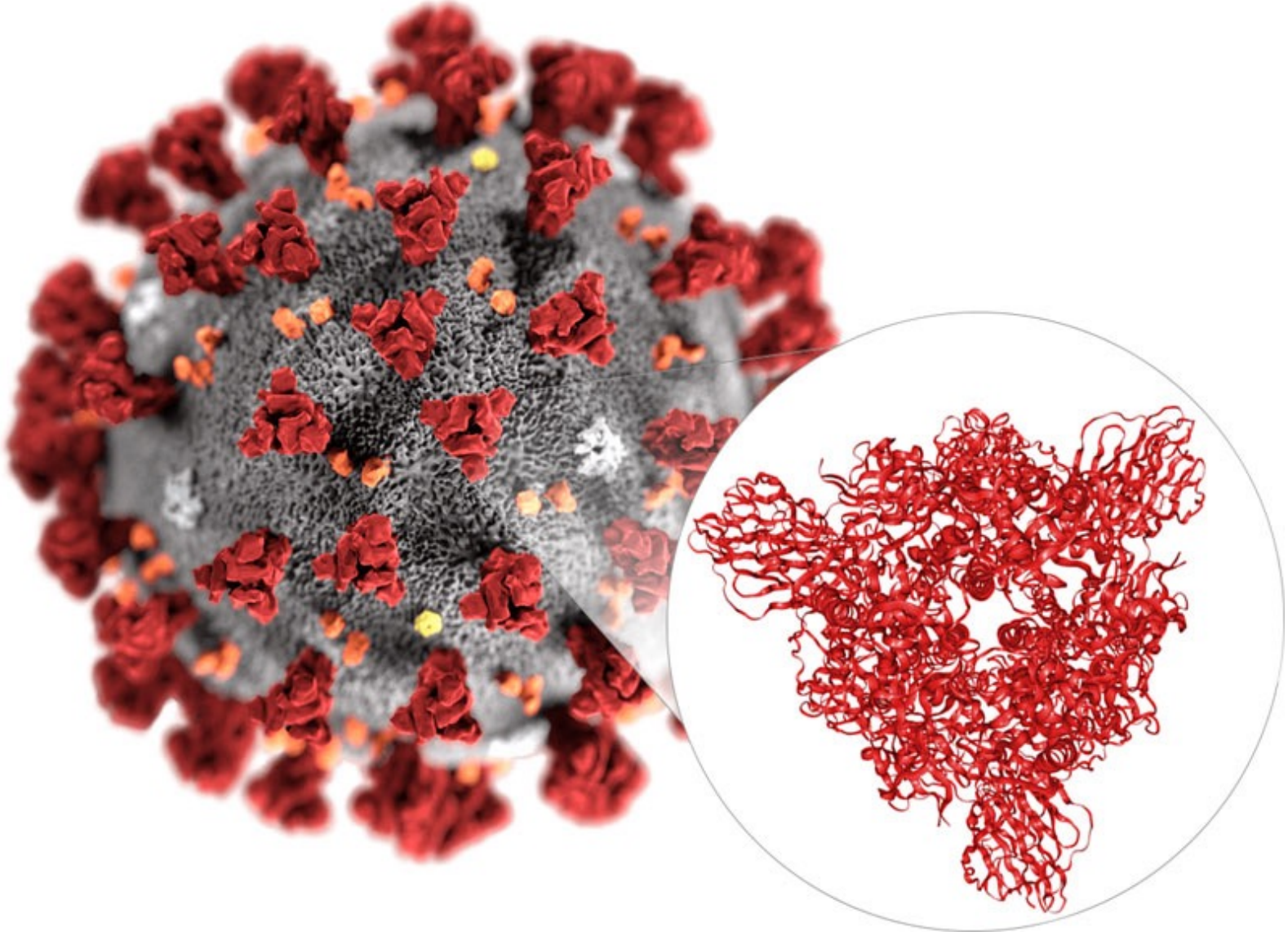


16. Cryo transmission microscopy

Nobel Price Chemistry 2017

Tatiana Latychevskaia

04.05.2023

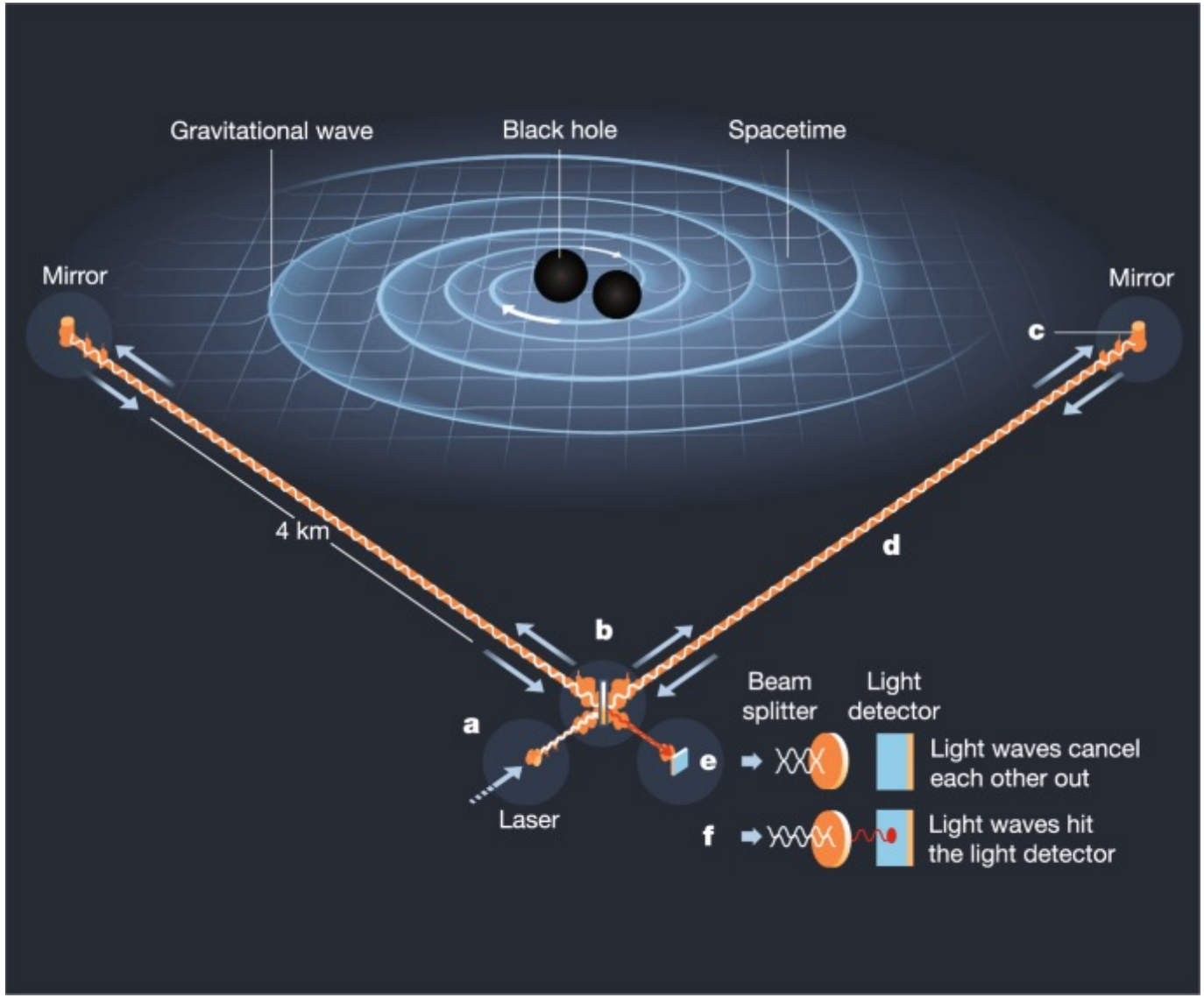


17. Gravitational waves

Nobel Price Physics 2017

Philippe Jetzer

11.05.2023

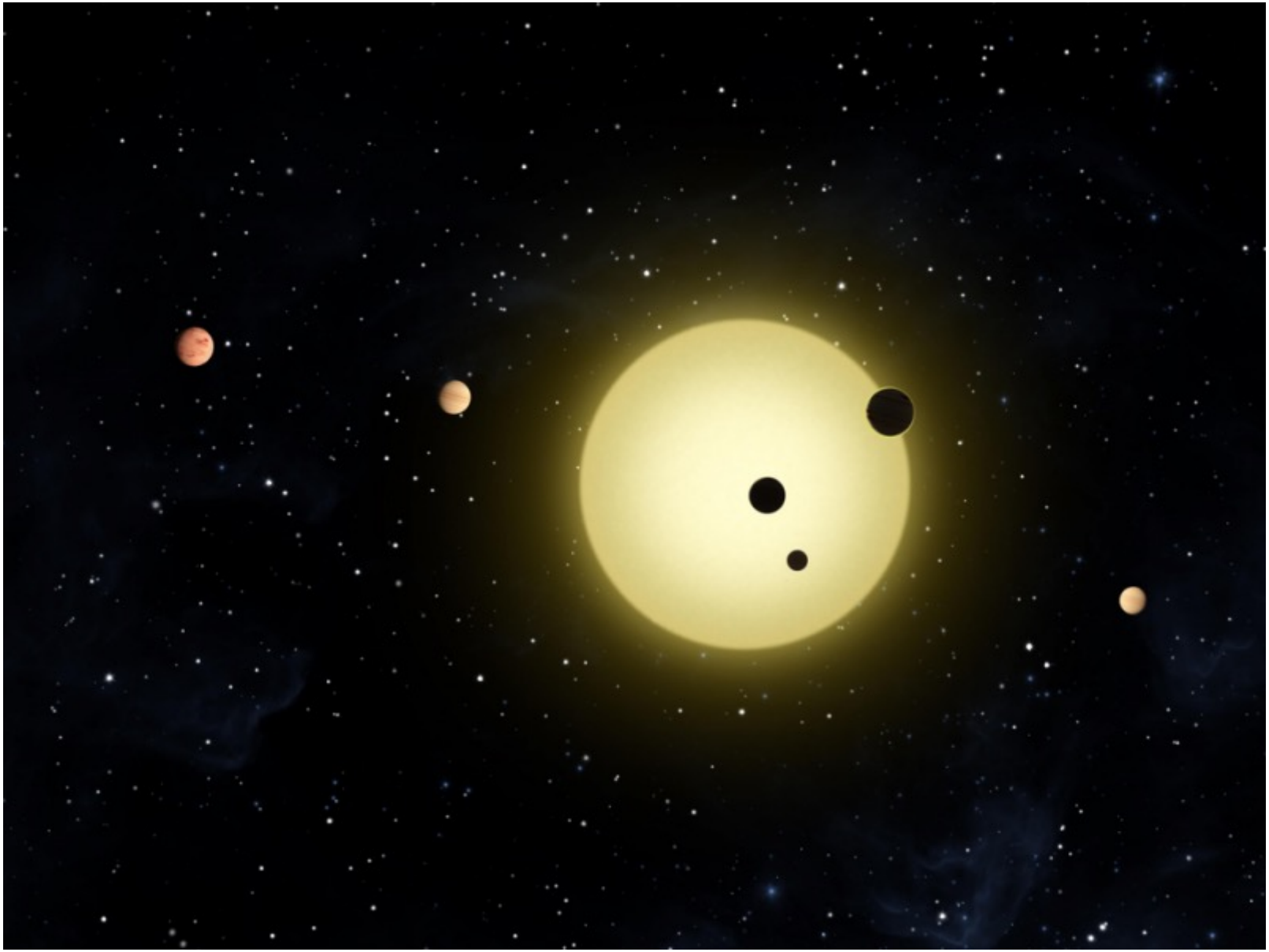


18. Discovery of exoplanets

Nobel Price Physics 2019

Julian Adamek

11.05.2023

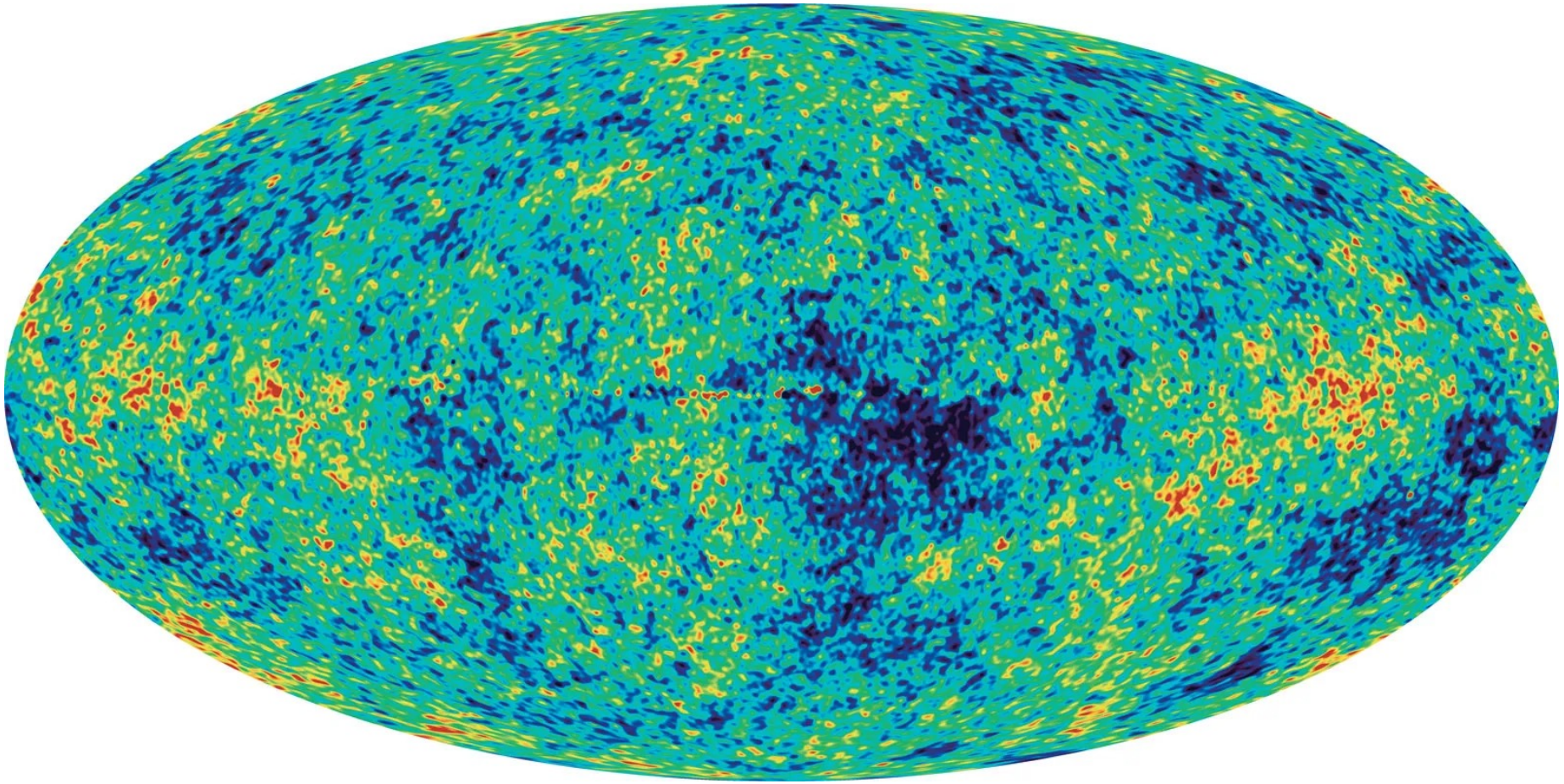


19. Cosmic microwave background

Nobel Price Physics 2006

Laura Baudis

11.05.2023

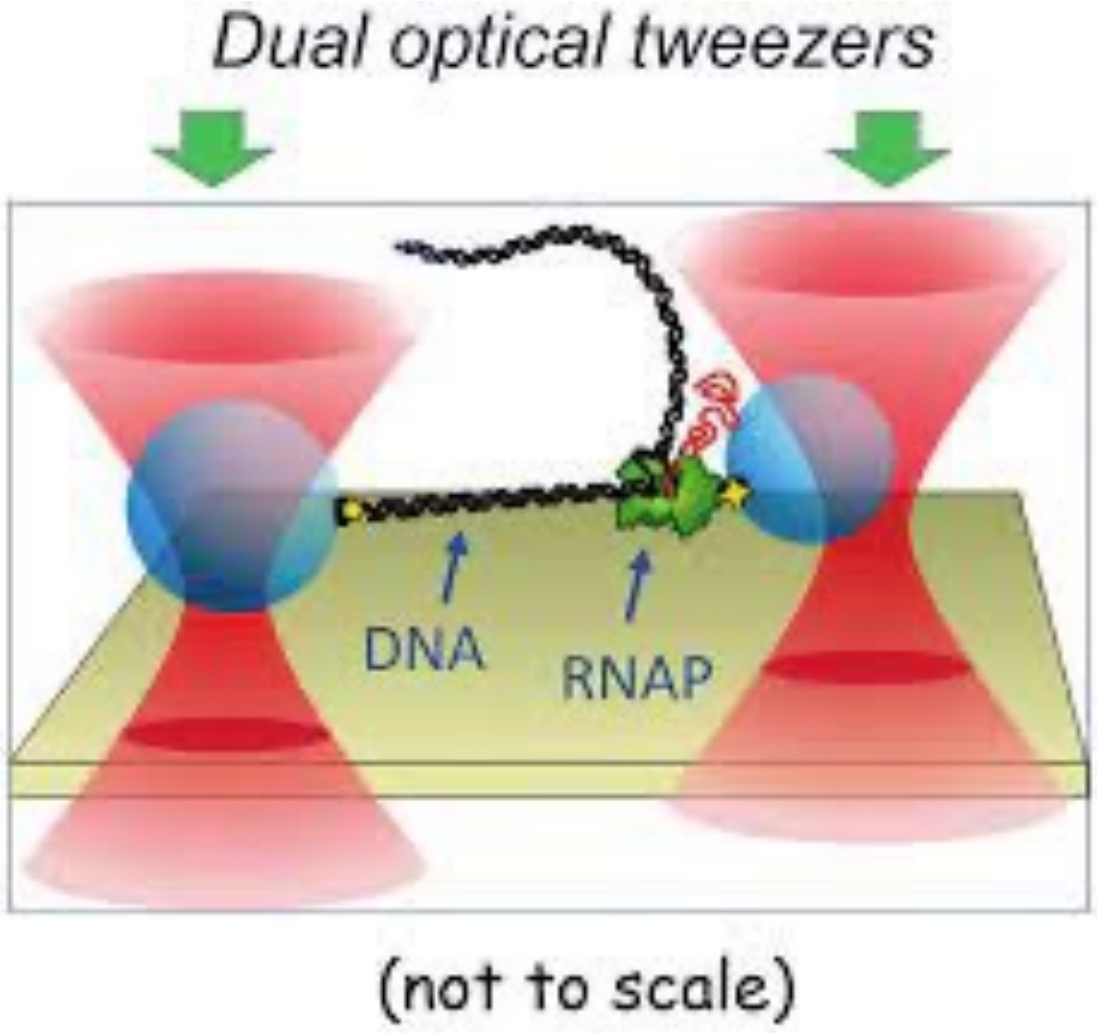


20. Invention of optical tweezers

Nobel Price Physics 2018

Christof Aegerter

18.05.2023

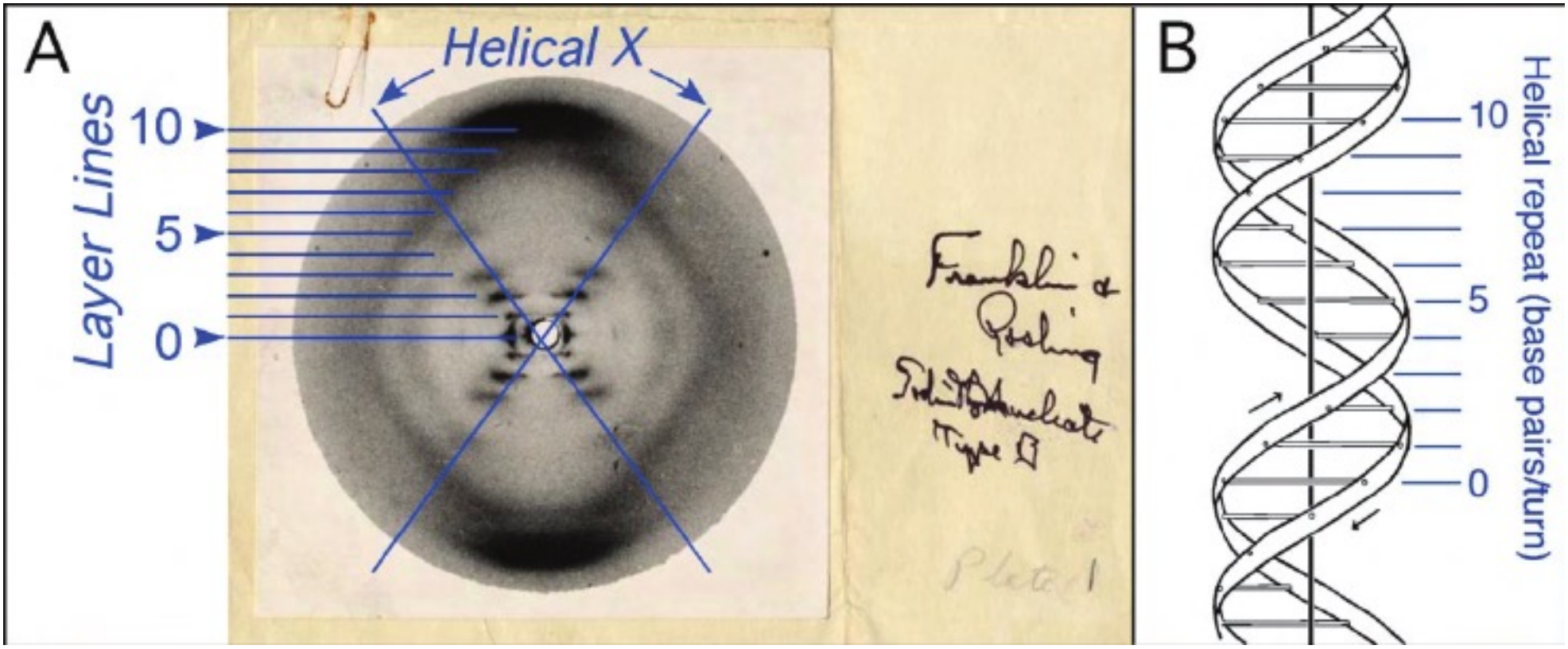


21. DNA structure

Nobel Price Medicine 1962

Johan Chang

18.05.2023

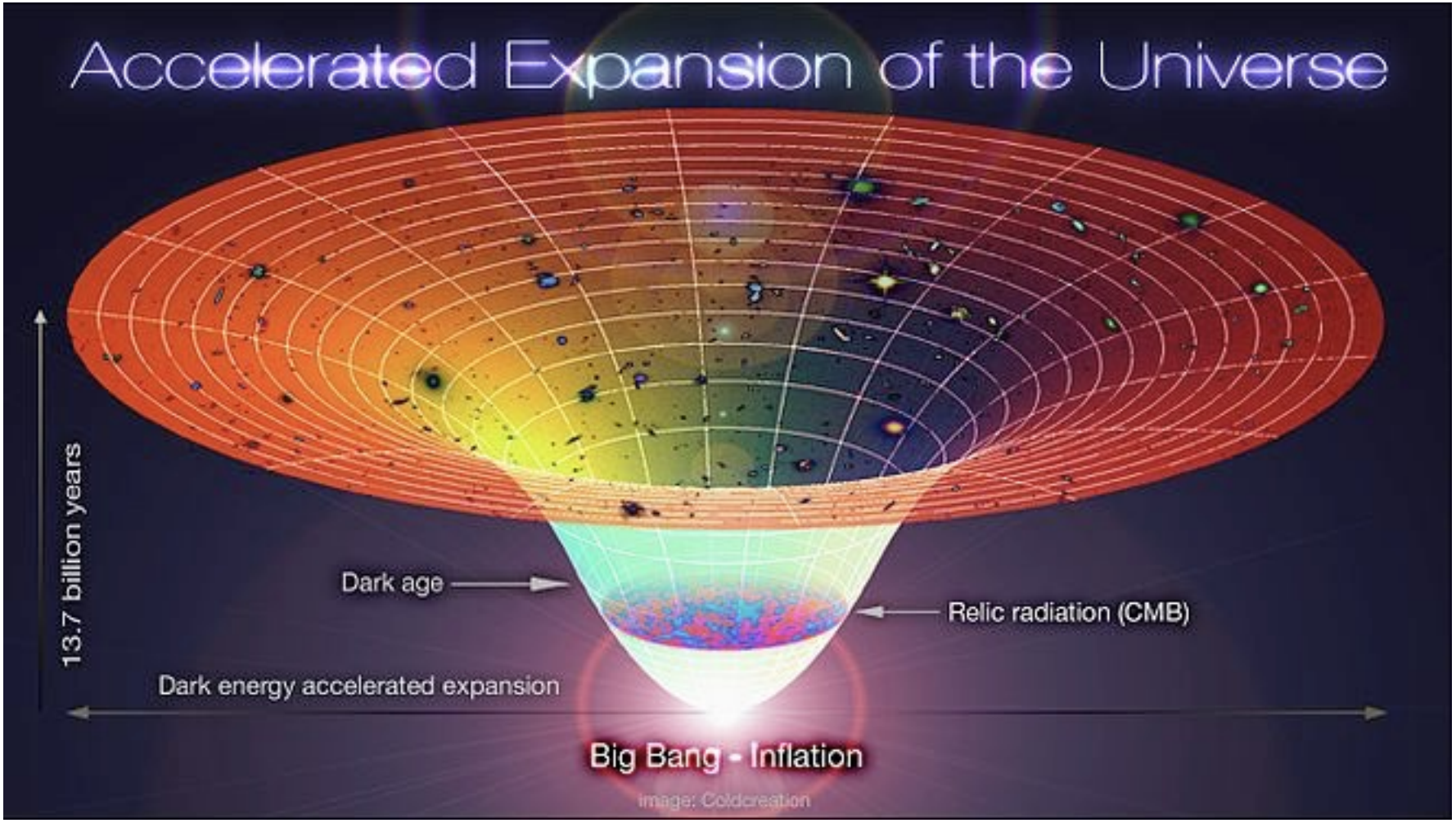


22. Discovery of accelerating universe

Nobel Price Physics 2011

Julian Adamek

25.05.2022



23. Global warming

Nobel Price Physics 2021

Christof Aegerter

25.05.2022