

# MY START IN PHOTONICS

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CARLA/Working in Photonics  
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## A RIDDLE:

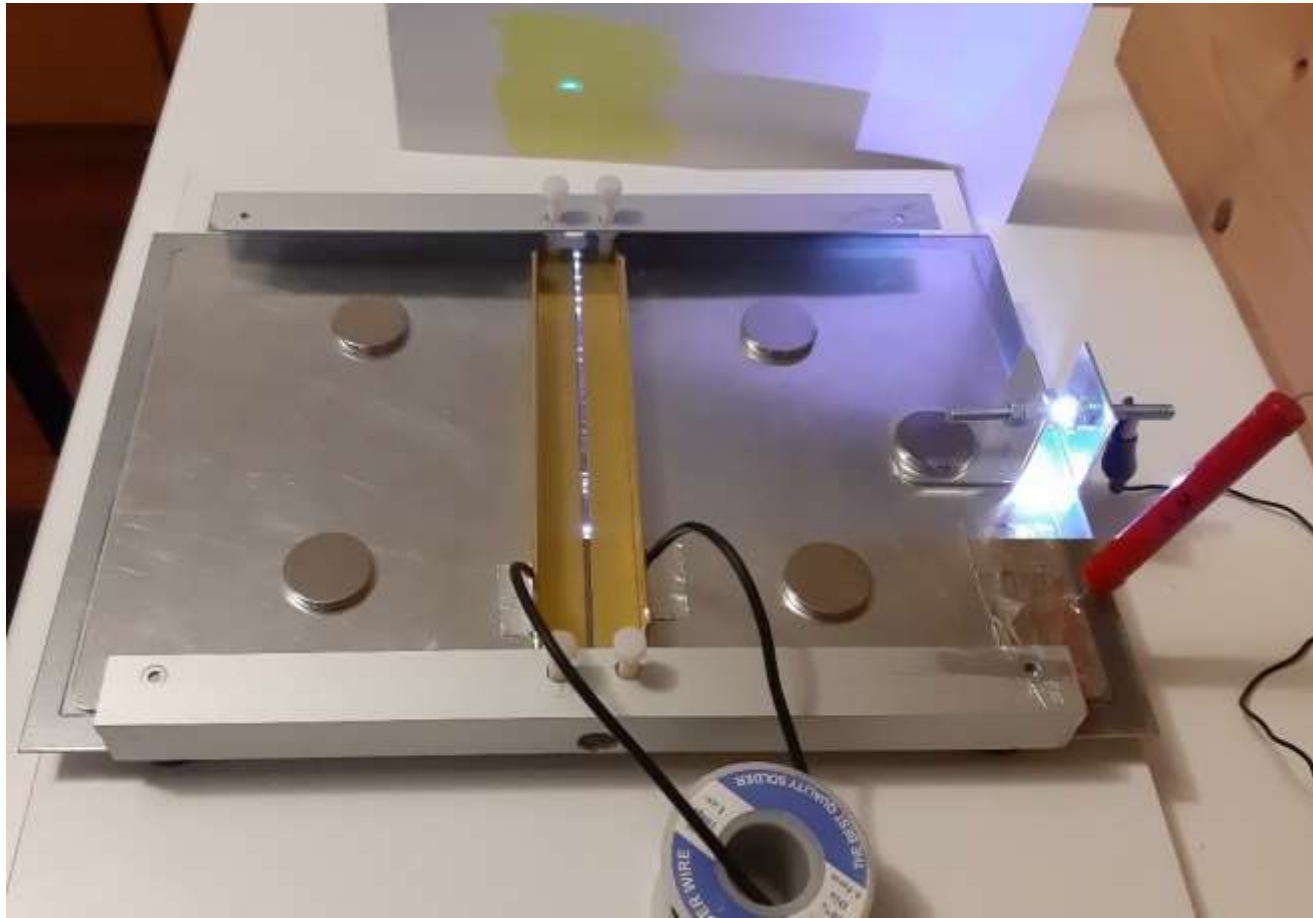


What do a cat and a optical physicist have in common?

**LASERS!**



# 2009: MY FIRST LASER: NITROGEN TEA LASER



- Air as medium!
- Atmospheric pressure
- No mirrors
- Superluminescent
- Ultraviolet
- 2 ns pulse!

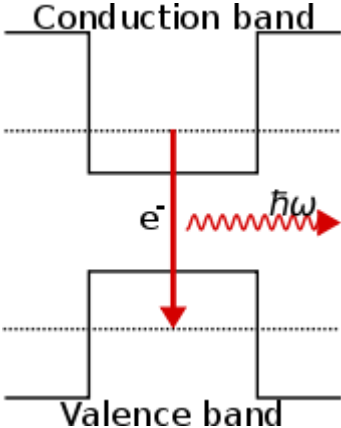
# QUANTUM CASCADE LASERS

~2012-2018

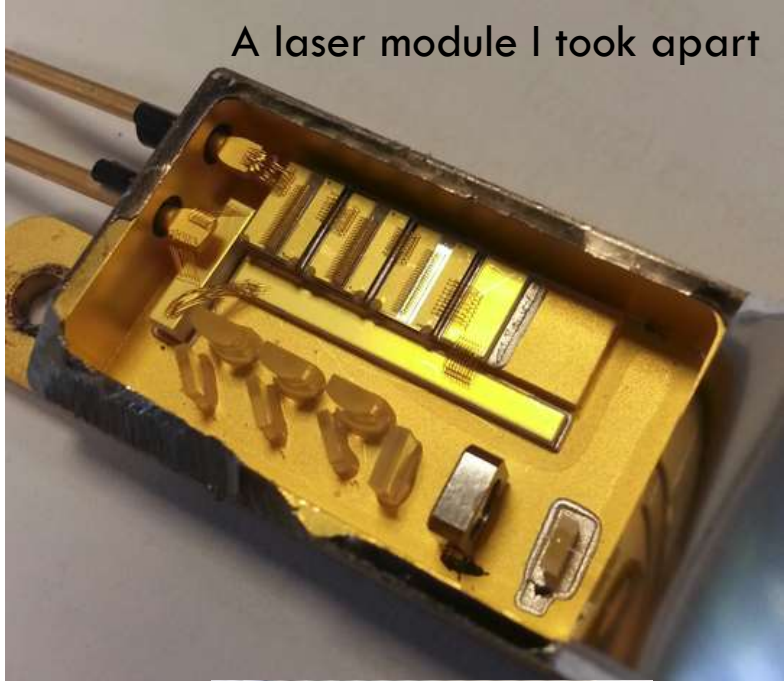
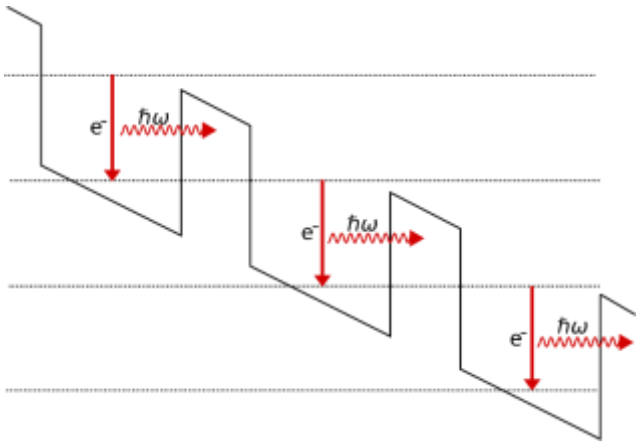


Cascade de Glandieu, Wikimedia

Boring laser:

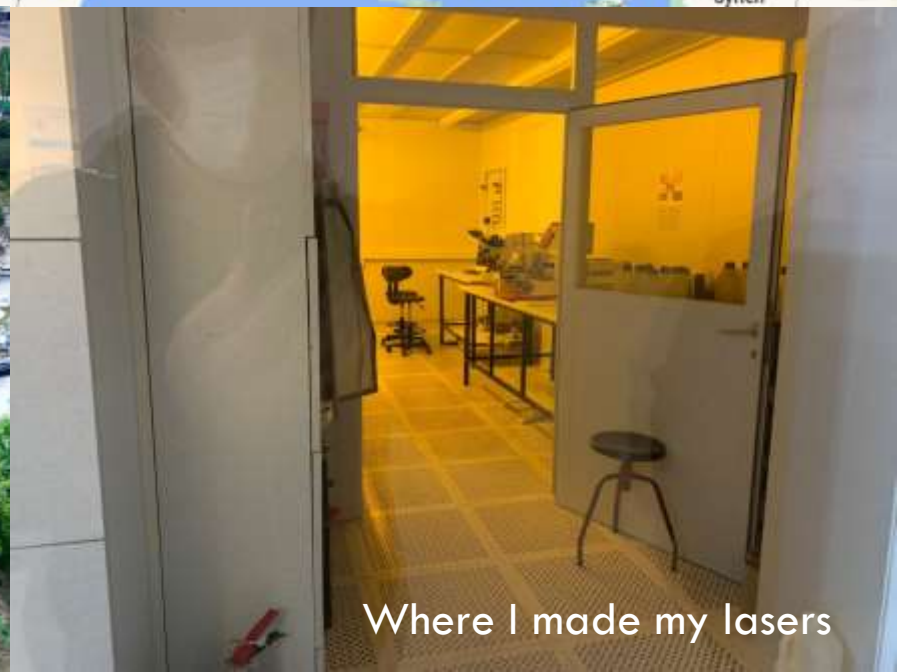


Cascade laser:



# BILKENT UNIVERSITY

Physics department



Where I made my lasers

# BRAINSTORMING



## FUN FACT:

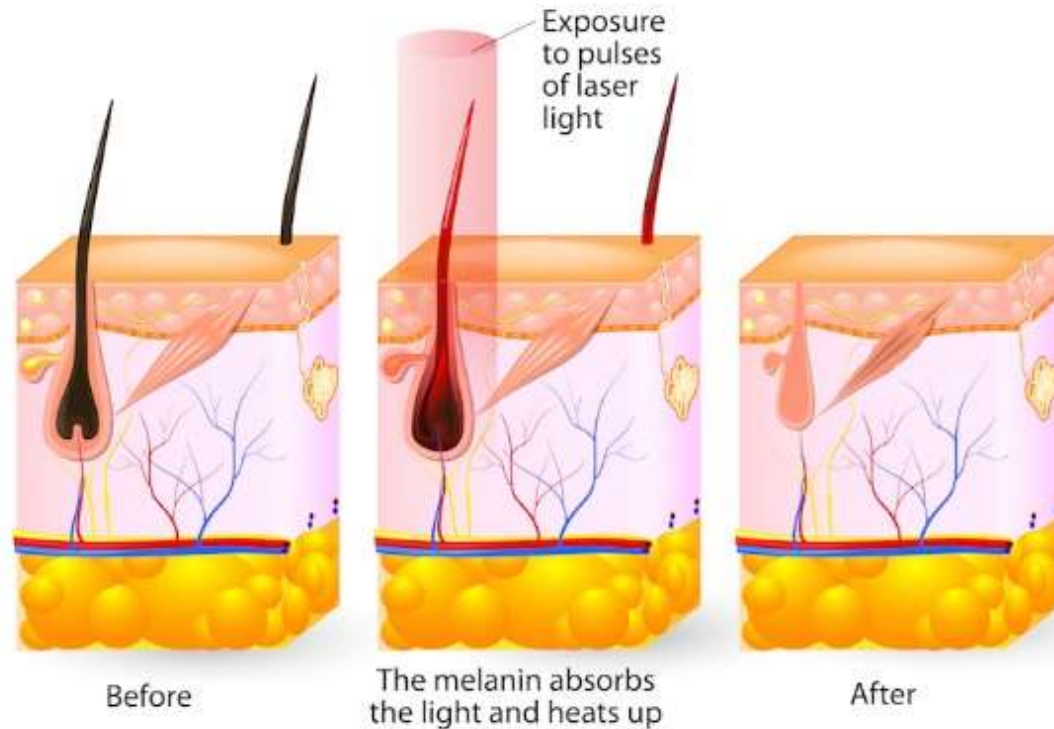
First medical application of the lasers:  
Hair removal (together with eye surgery)  
What did they use before lasers?





# TO MAKE THE BEST LASER HAIR REMOVER

## LASER HAIR REMOVAL



## IMAGE PROCESSING & SCANNING



# STARTING A TEAM



# PROTOTYPES

2015-2018

First prototype: Server rack



Second prototype: Thermoformed



Third prototype



Application:



# KOREA: IBS PHYSICS OF COMPLEX SYSTEMS (PCS)

2019-2021 AS POSTDOC

IBS Headquarters



Bell of King Seongdeok



Typical Korean Street



Jeju trip



- Topologic photonics
- Laser dynamics
- Metamaterials
- Optical lattices

Daniel Leykam

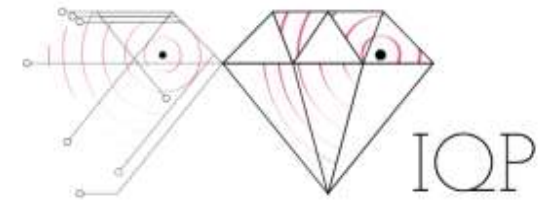


Sergej Flach



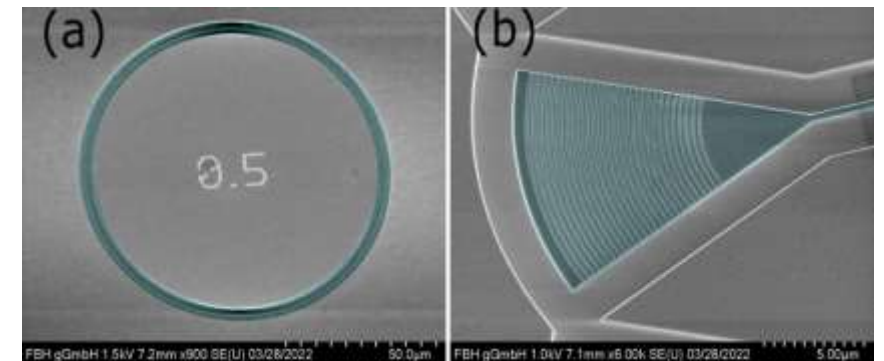
[pcs.ibs.re.kr](http://pcs.ibs.re.kr)

# BERLIN: HUMBOLDT UNI. INTEGRATED QUANTUM PHOTONICS GROUP (IQP)



2021-Today  
Dr. Tim Schröder

Aluminum Nitride – Diamond nanophotonics



Ring resonator

Grating coupler

THANKS!

No cats were harmed in the making of this video

She might be slightly annoyed though.

