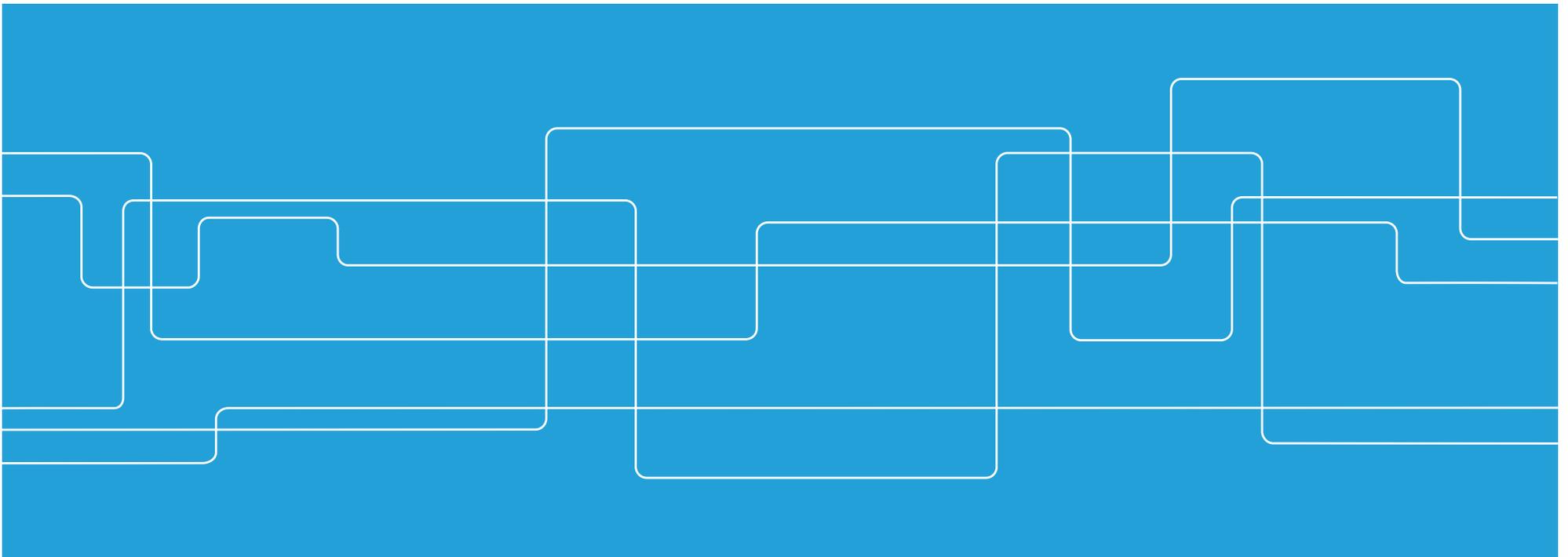




TTFYM – The master's programme in engineering physics

Academic year 2019-2020

Magnus Andersson, Programme director, TTFYM





Agenda

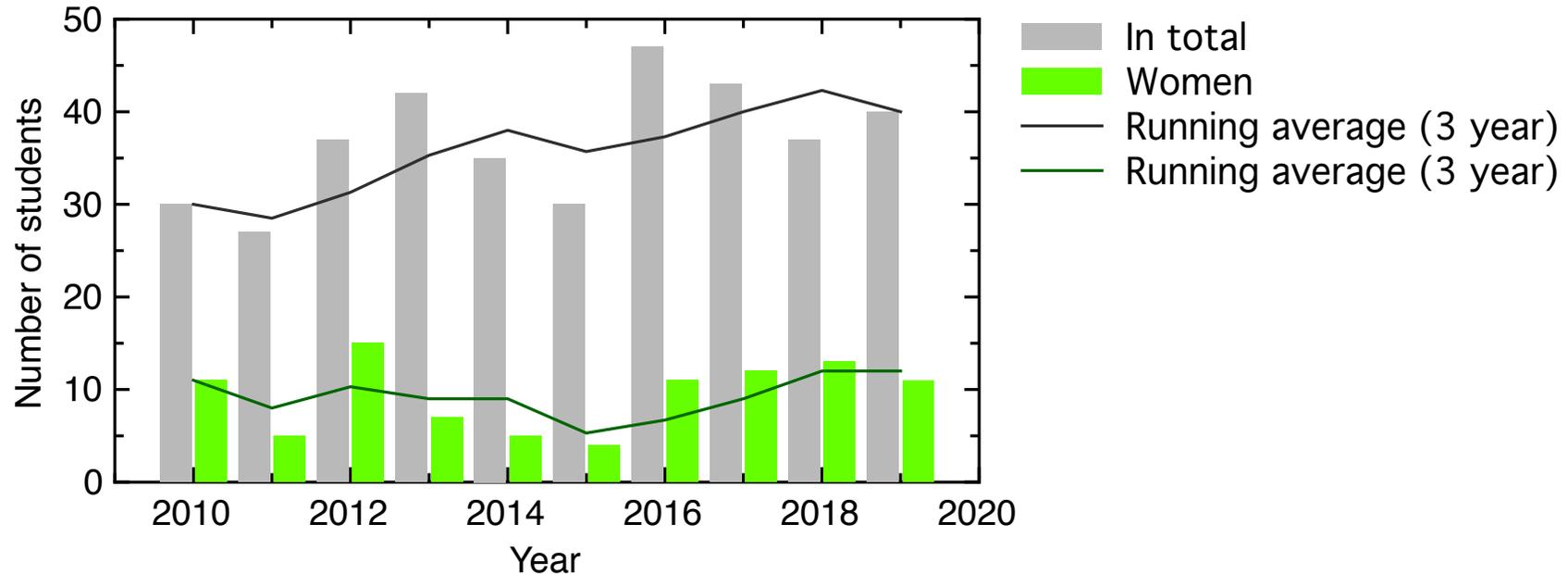
- Student admission 2019
- Open House 2020
- Meetings to promote quality
- Ongoing activities in the programme

VISION FOR THE TTFYM PROGRAMME

A common concern and responsibility for all the faculty at the two physics departments.



Admitted students - trends



Background:

2019: CTFYS (25), CMEDT (7), CELTE (1), External (6)

2018: CTFYS (25), CMEDT (2), CELTE (2), CMIEL (1), External (8)

2017: CTFYS (21), CMEDT (12), External (10)

Double degree students: 2019 (6), 2018 (7), 2017 (10)



Admitted students per track

Track	2019	2018	2017	2016	2015
TFYA: Theoretical physics	19 (3)	18 (4)	17 (3)	15	16 (2)
TFYB: Subatomic & astrophysics	2 (1)	5 (2)	2 (1)	9 (1)	5
TFYC: Optical physics	-	3 (1)	3 (1)	6	1
TFYD: Nanophysics	-	7 (2)	3	2 (1)	2 (1)
TFYE: Biomedical physics	13 (6)	5 (3)	18 (7)	15 (9)	6 (2)
TFYF: Optics & photonics	2 (1)	-	-	-	-
TFYG: Quantum technology	4	-	-	-	-
Total number of students (females)	40 (11)	38 (12)	43 (12)	47 (11)	30 (5)

TTFYM is mapped to CFATE from HT2020

Increased number of external applicants for HT2020



Open House, Thursday, April 2, 2020, 15-18

Main outcomes from Open House 2019

Appreciated by both students and teachers
70-80 students participated VT19

Invited students

TTFYM students
Year 2 and 3 students (CTFYS, CMEDT, CELTE, CFATE)
Year 1 students (CTFYS)

Planning

Welcome & Invited speakers, room FD5
Poster session
Closed area activities
Food: coffee, wraps+beverage



Open House - schedule

SCHEDULE (EXAMPLE)	INSPIRATION (TED) TALKS (MAIN HALL)	THEORETICAL PHYSICS (OWN AREA)	SUBATOMIC & ASTROPHYSICS (OWN AREA)	BIOMEDICAL PHYSICS (OWN AREA)	OPTICS & PHOTONICS (OWN AREA)	QUANTUM TEHCNOLOGY (OWN AREA)
15.00-15.30	15.15 Welcome	Posters & Coffee	Posters & Coffee	Posters & Coffee	Posters & Coffee	Posters & Coffee
15.30-16.00	Welcome, cont.	Posters & Meet Faculty	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour
16.00-16.30	Talk 1	Posters & Meet Faculty	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour
16.30-17.00	Talk 2	Posters & Meet Faculty	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour
17.00-17.30	Talk 3	Posters & Meet Faculty	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour
17.30-18.00	Talk 4	Posters & Meet Faculty	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour	Posters & Lab tour

Track responsibility

6-8 minute talk during Welcome

Posters

Track activities, small student groups, flexible start





Open House – invited speakers

Invited speakers

4 talks, 20-25 minutes

Balance: male-female, faculty-Alumni

Invited speakers – Dept. Physics

Alumni: Katarina Atteryd

Faculty: Jens Bardarson

Invited speakers – Dept. Applied Physics

Alumni: ???

Faculty: ???



Change processes in education

Two main driving forces

1. Digitalization -> new ways to learn
2. Students need to learn more about complex thinking than before

“University teaching is in the early stage of a historical transition changing from an individual folk art to a field with established expertise, much as medicine did 150 years ago.”

C.E. Wieman, *Daedalus*, vol. 148, no 4, 47-78 (2019).

Today: Too much individual discussions, **slow development**
Future: Smart collegial discussions, **faster development**



Programme meeting

Once a year

Support programme development

Strategic programme related issues

Collegial discussions about external (e.g. student) input

Innovative ideas for the programme

This year's programme meeting

Wednesday, May 20, 2020, 09:00-13:00, Room FA32

Please mark this in your calendar already now!



Track meetings

Once a year

Marketing of the track

Look e.g. at programme web pages

<https://www.kth.se/en/studies/master/engineeringphysics>

Strategic discussions within the track

Create input to programme director

My expectations for these meetings

Inclusive atmosphere

Time-efficient discussions



Ongoing activities

Track renewal

Biomedical physics (TFYE)
Hjalmar Brismar

Suggestion for new track

Computational physics (idea from TFYA)
Anatoly Belonoshko, Mats Wallin

Sustainability within programme

Working group
Torbjörn Bäck
Magnus Andersson
Jonas Strandberg
Anna Burvall