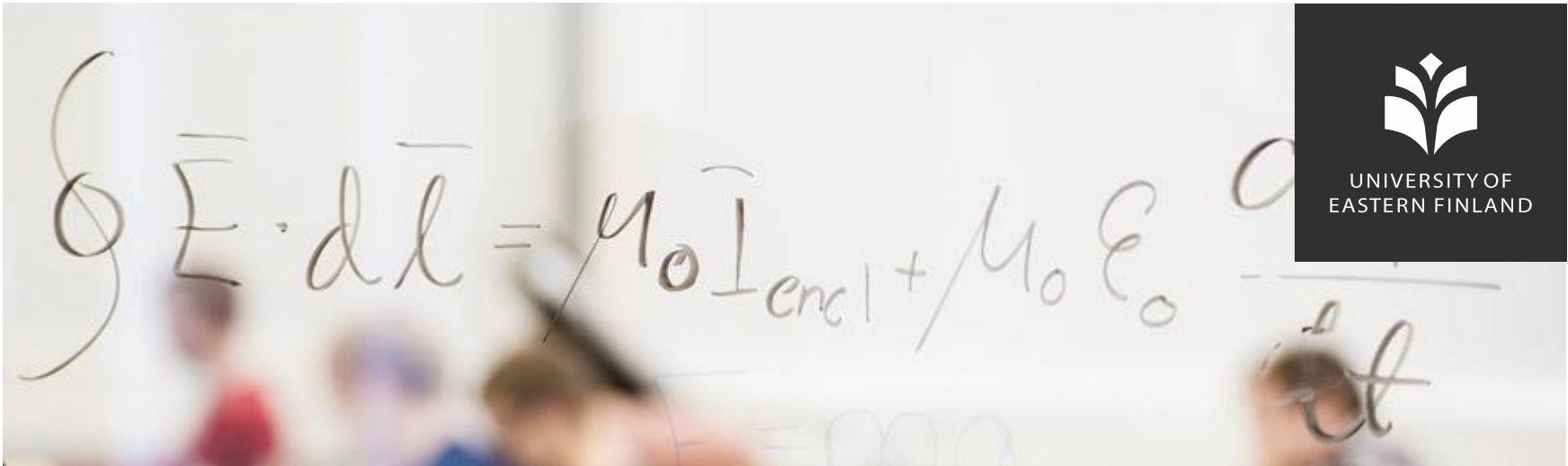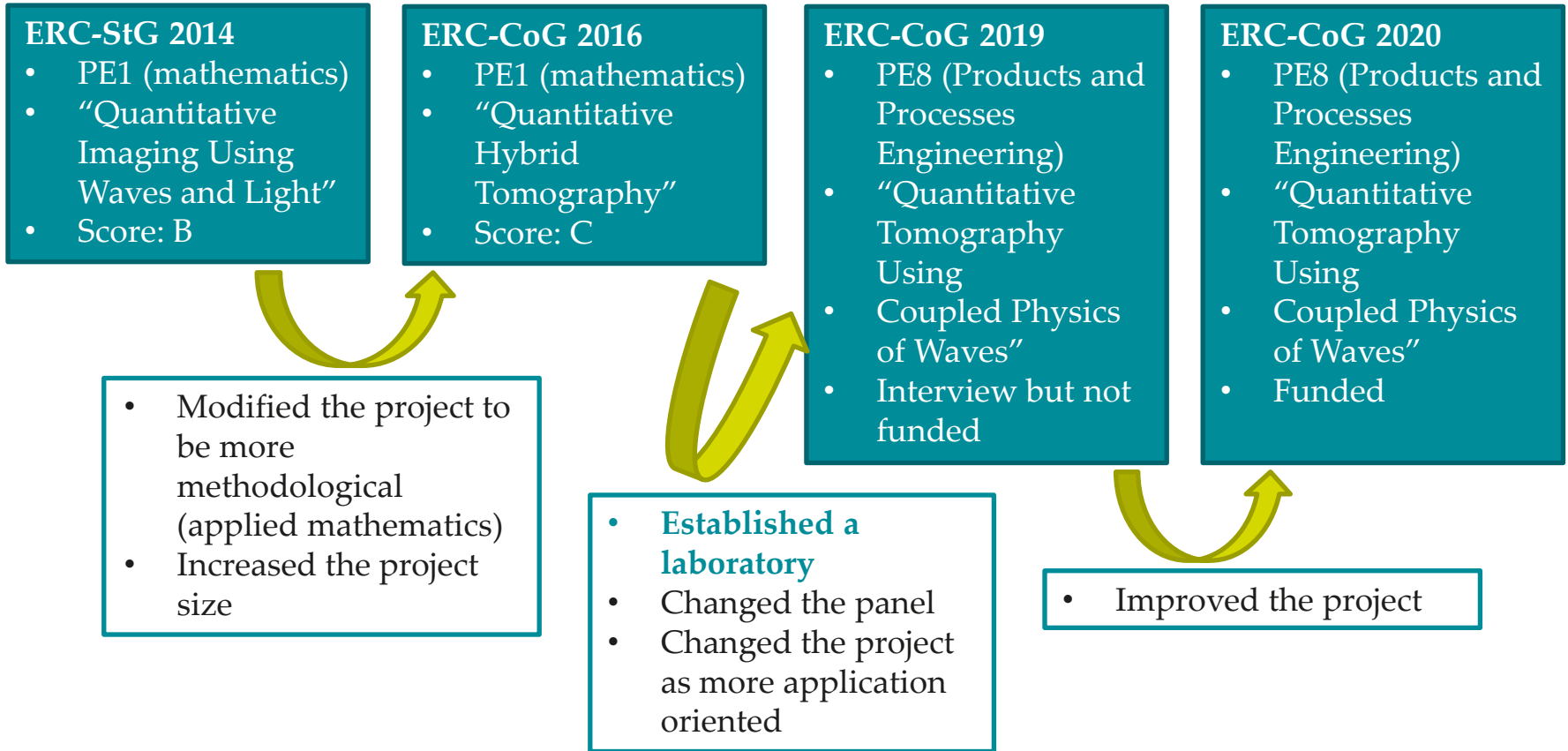# Comment from an ERC Grantee

Horizon Europe funding instruments for excellent science

Tanja Tarvainen, University of Eastern Finland

My application history

ERC-StG 2014
- PE1 (mathematics)
- "Quantitative Imaging Using Waves and Light"
- Score: B

ERC-CoG 2016
- PE1 (mathematics)
- "Quantitative Hybrid Tomography"
- Score: C

ERC-CoG 2019
- PE8 (Products and Processes Engineering)
- "Quantitative Tomography Using
- Coupled Physics of Waves"
- Interview but not funded

ERC-CoG 2020
- PE8 (Products and Processes Engineering)
- "Quantitative Tomography Using
- Coupled Physics of Waves"
- Funded

- Modified the project to be more methodological (applied mathematics)
- Increased the project size

- **Established a laboratory**
- Changed the panel
- Changed the project as more application oriented

- Improved the project

My complicated choice of the panel

The problem
- My research is multidisciplinary (physics, scientific computing, applied mathematics, biomedical applications)
- Panels are 'conservative'

Tips I got for choosing the panel
- "Choose the panel where you know the names of some members"
- "Many people in our field choose panel NN"
- "You should choose life sciences"
- ....
- "Choose the panel that can utilise the scientific impact"

The right panel for me
- The one that can utilise the scientific impact
- One which represents quite many fields of science

What I did (finally for a successful choice)
- Read through all panel keywords
- Searched funded projects by keywords and people that I know
- Read project descriptions of funded projects
- Went through funded projects from certain panels and searched the researchers' homepages etc.
- Went through previous panel members from certain panels, looked at their background, list of publication etc.

How I prepared the proposal ?

- The project is built on expertise and ideas that I have been building for a long time
- Now I had reached a point where I could formulate this idea as a project because I had:
  - A very good idea (a solution of a major problem)
  - Expertise on key aspects (computational modelling and Bayesian inverse problems)
  - Something new (a laboratory)

- I started planning the project a year before the deadline
- Spent quite a lot time on planning (during the best hours of the day)
- Discussed with colleagues
- I began my writing B1 (helped me to clarify my ideas)

- I began writing B1 approximately six months before the deadline (too late if you have other duties)
- After that wrote B2 and then modified both
- Spent time with CV, track record, online forms
- Got comments and feedback from two colleagues and a training service

- I would recommend everybody to reserve more time
- Even StG is larger and needs more work than an Academy Research Fellow proposal

Some useful advices that I got

- Look at a successful proposal that is not (exactly) from your research field
- Ask comments from your colleagues, utilise training services
- Utilise illustrations and graphs (moderately)
- Write the beginning of the proposal such that anybody can understand
- Write such that a non-expert can follow the proposal and an expert can appreciate the excellent science (balance between general and details)
- Make it clear what parts are already known and what are the novel aspects that you will do
- Write (and do science) in such a way that you hope that the best expert in the field will read your proposal

The big risk?

- Difficult problems always contain risk
- Plan the project such that even if something breaks, you will still provide significant results

Good luck!
If I could do it, you can do it!