









Excellence: writing the research proposal

Torbjörn Sjöstrand

Theoretical Particle Physics
Department of Astronomy and Theoretical Physics
Lund University

MCnet Employability Training event, 8 September 2020

Researcher — Project — Presentation Layout and language — Other issues

The researcher

- Experience: past accomplishments
- Creativity: ability to see beyond the obvious
- Intellectual capacity: can develop ideas, crack problems
- Reliability & commitment: will deliver on promises
- Independence vs. team work:
 not all articles with the same coauthors
- Old vs. new collaborators for project
 Why do you want to come/go specifically to Karlsruhe?
- MSCA Individual Fellowship: career development, e.g. to attain professional independence

No false modesty, but remain credible

The project

- Quality and credibility of research
- Level of novelty
- Explain why your scientific approach is feasible
- Explain why the methodology your propose is appropriate
- Have a clear end goal for your project
 - but also visions beyond
- Show why the project helps solve an important problem or fills a need, e.g. in the experimental community
- Acknowledge a dynamic world; targets may shift
 If new physics is found at the LHC, then . . .
- MSCA Individual Fellowship: quality of training and supervision

Set ambitious but realistic targets

The presentation

- Who is the reader? What spread of levels?
 Phenomenologist particle physicist physicist
 natural scientist academic?
- Smooth transition from popular introduction to expert level.
- Place your work in context: show the state of the art and originality of your project
- Show why your experience and potential equips you to deliver your project
- Don't ignore the competition show why you are better
- Take help to check presentation

Tell a credible story

Layout and language

- Clear, organized structure (easy to find your way, to go back)
- Headings, subheadings, bulleted lists, . . .
- Avoid excessive italics, boldface or underline in running text
- Spacious impression: font size, page size
- Pictures, diagrams, tables to highlight key points



- Clean & legible figures (older readers → reduced eyesight)
- Cultivated but still accessible language (get → obtain)
- Check spelling, with and without spell-checker (lose \neq loose)
- Take help to check language (especially if non-native)

Should be readable and flow well

Other issues

- Good title + good acronym
 Collider Phenomenology and Event Generators ⇒ MorePheno
- Refer to the guidance and evaluation criteria when you are writing your proposal – approach these like exam questions
- Budget: if more than your salary, then table with numbers,
 but also legible brief summary near the end of the running text
- Work packages or not? Convenient for big collaborations, but straightjacket for the smaller project. Subprojects?
- Distribute full application to writers of recommendation letters
- Start well ahead of deadlines, rewrite, get input, re-rewrite

Take grant writing seriously