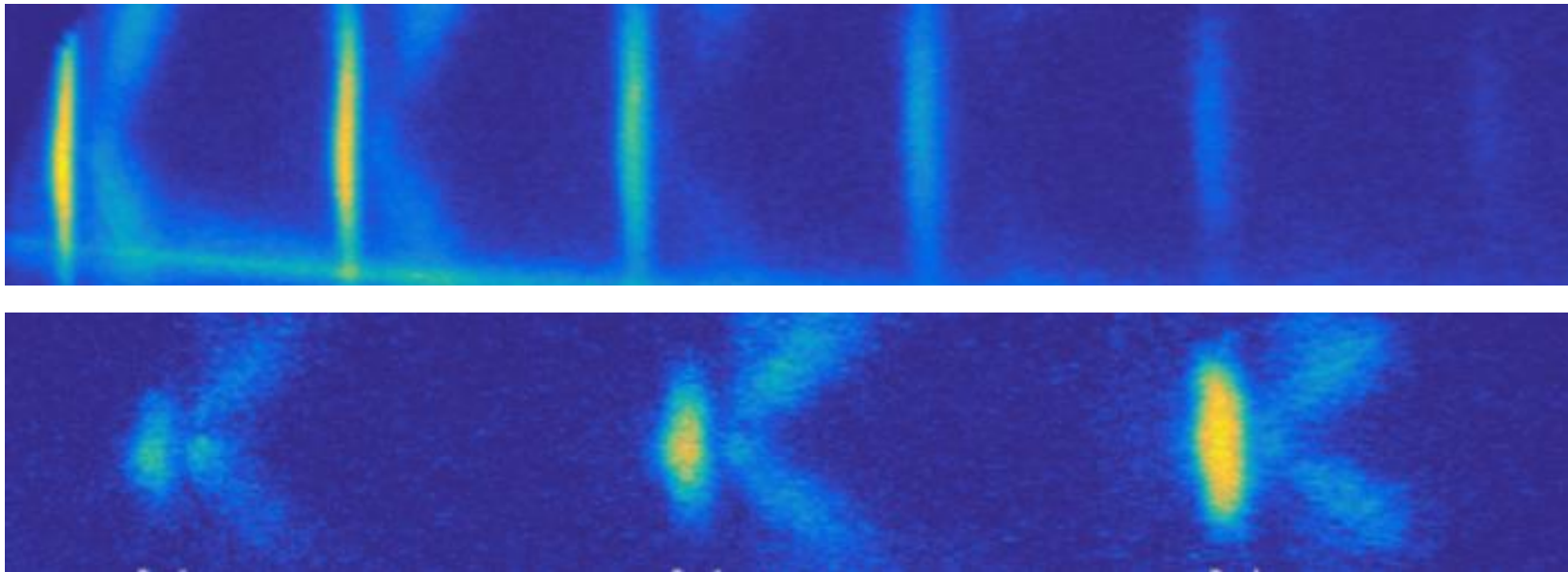


MSCA implementation and career impact

Ondřej Hort



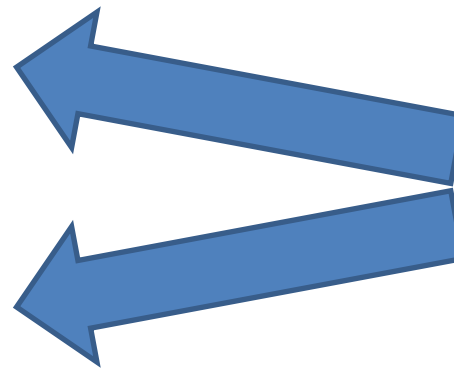
CHAMPAGNE CoHerent AMplification and PArametric GeNeration of Euv radiation



EUV (XUV) = extreme ultraviolet = radiation (light) between UV and X-rays

Lasers that generate ultrashort pulses
Extreme nonlinear optics
Basic research

- 2005 – 2011 FJFI Czech Technical University
- 2009 – 2010 Erasmus (Bordeaux)
- 2010 – 2014 PhD (Bordeaux)
- 2014 – 2015 PostDoc (Vienna)
- **2015 – 2017 MSCA IF (Vienna)**
- 2017 – 2018 PostDoc (Prague)
- **2018 – 2020 MSCA IF (Prague)**



Proposal preparation

HOW to get MSCA IF

- Excellent scientific profile (track record)
- Excellent Science case
- Excellent supervisor
- Excellent beneficiary institution
- Excellent transfer of knowledge
- Excellent ...

excellent proposal

That's the only thing the reviewers see

= excellent evaluation

EUV Attosecond transient absorption spectroscopy

EUV transient grating

Goal: Combining of 2 new and difficult methods & new physics

- | | |
|--|-------------------------------|
| D 1.1: Setup upgrade & general spectrum | Planned: 2 months. Done in 12 |
| D 1.2: Gas krypton spectrum | Planned: 5 months. Done in 25 |
| D 1.3: Description of the spectra | Planned: 7 months. Done in 25 |
| D 2.1: Solid krypton spectrum | Estimated time: in 1 year?... |
| D 2.2: Description of the spectra. | |
| D 3.1: Transient grating implementation. | |
| D 3.2: Solid krypton spectrum with transient grating. | |
| D 3.3: Identification of the new features obtained in the spectra. | |

- Overoptimistic goals
- The project was completely new, not related to any running project in the group.
- No direct support
- No other people involved until month 17.
- Infrastructure problems
- Insufficient risk analysis

Negatives

No guidance
No international collaboration
No publication
No conferences
Nearly no follow-up

Positives

I learned a lot
I did what I wanted
I got a job I wanted

New physical process: XUV parametric generation

Goal: amplification of XUV radiation

- D 1.1: Optimized spectrometer
- D 1.2: EUV signature of the process
- D 1.3: Analysis
- D 2.1: THz characterization setup
- D 3.1: THz generation setup
- D 3.2: New setup for THz injection
- D 3.3: amplification of XUV

Planned [month]	Completed [month]
2	23
5	Not yet
6	Not yet
12	12 (partial)
18	14 (rebuilt needed)
22	Not yet

Risk analysis connected to milestones:

- Used 4 of 5 contingency plans
- One risk not covered by the risk management
- The project was completely new, yet related to running project => infrastructure support
- People involved: 1 PhD student, 1 Bc. Student

Negatives

No general interest in the project
=> Very limited guidance
Need to fight alone for the beamtime
Publication on preliminary data only
Other work duties

Positives

I learned a lot
2 conferences
Preliminary data paper
Follow up (project submitted)

Goal: Combining of 2 new and difficult methods & new physics

Project achievements: 1 method, not optimized. 3/8 deliverables done
= scientific (technical) only

- Report

Technical part = you explain what you did
(picture of setup, some data, ...)

„Soft“ part = more important

what you learned, career advance, training,
transfer of knowledge, ...

Conclusion: project successful

Only 1 report at the end of the project (60 days after the end)

- Written report: 7 pages of sparse text
- Financial report:
 - No details needed
 - Just click „submit“

Conclusion: report is very easy

Project submission

- easier than GACR
- Completely paperfree

Communication with project officer

- Normally no need of communication
- All messages handled via the web portal
- Replies usually in 1 – 2 working days

IT helpdesk

- Quick solution

Conclusion: administration is very easy

Impact on my career

- During COFFEE I managed to get a new job
- During my new job I managed to get CHAMPAGNE
- During CHAMPAGNE
 - Supervised undergraduate students
 - Co-supervising a PhD student (working on the project)
 - Submitted 2 grants
 - International GACR = continuation of the project
 - IES Royal Society travel grant = beginning of a new project
 - Participated on other projects with more or less common infrastructure
 - Papers and conferences
 - Advanced in the institute „table“

Conclusion for the current report: I advanced

Key question: proposal or project implementation?

- Overambition, overoriginality, overimpact, big boss as supervisor, in the proposal ???
⇒ Higher chance of getting the grant,
but more difficult to accomplish during the project.
- Optimally balanced project plan should yield in optimal proposal.
 - Research goals
 - Resources (infrastructure, budget, access, ...)
 - Human resources
 - Integration in the scientific group
very difficult
- Don't be afraid of the reporting

Very General Conclusion

Proposal

- Make it easy & nice for reviewers
- Project that fits the group
- Supervisor interest
- Manpower & resources
- Risk analysis (including „career contingency“)

Avoid getting stuck & alone

Very General Conclusion

During the project

- Follow your proposal, use contingency plans
- Go for very good & expensive conferences
- Go for conferences even as a tourist (it's not forbidden)
- Develop your soft skills and your career
- Get slightly involved in other projects, but not much
- Plan and manage the follow-up (if it's worthy)

Thank you for your attention