

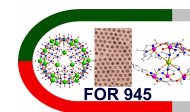
# What makes your Ph.D. a real success?

Jürgen Schnack

Department of Physics – University of Bielefeld – Germany

<http://obelix.physik.uni-bielefeld.de/~schnack/>

Neurobiology Group Meeting  
Bielefeld University, Germany



# What is a Ph.D.?

## Your dissertation shows:

- ⇒ Mastery of your subject
- ⇒ Research insight
- ⇒ Respect for the discipline
- ⇒ Capacity for independent research
- ⇒ Ability to communicate your results

<http://www.findaphd.com/advice/finding/what-is-a-phd.aspx>

# What do you need for a Ph.D.?

## For your Ph.D. you need:

- ⇒ Curiosity
- ⇒ Passion
- ⇒ Creativity
- ⇒ Willingness to suffer

## Curiosity:

- ⇒ It's your project! You should like your project.
- ⇒ You want to find out, you want to solve.
- ⇒ Read, discuss, question, ask others.

## Passion:

- ⇒ You love your project!
- ⇒ It's your baby. You want to be proud.
- ⇒ Careful, care about details.
- ⇒ You want to be good, convincing, successful.

## For creativity you need:

- ⇒ Domain-relevant skills
- ⇒ Creativity-relevant processes: independence, risk-taking, new perspectives, disciplined work, ability to break out of perceptual and performance scripts, . . .
- ⇒ Intrinsic task motivation
- ⇒ Appropriate social environment at work

Teresa M. Amabile, Componental theory of creativity, Harvard Business School



## Willingness to suffer:

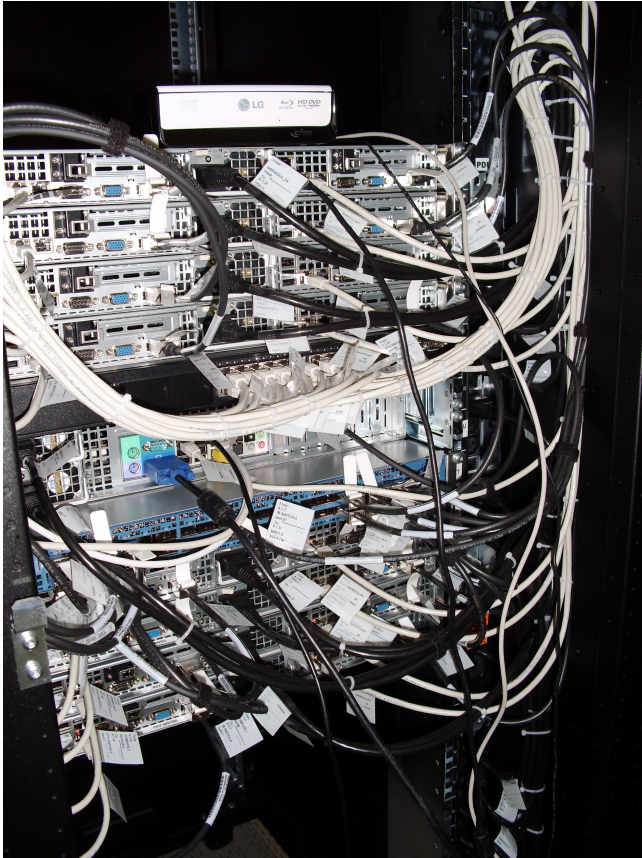
- ⇒ You are ready to suffer for what you love!
- ⇒ Things don't work – that's normal.
- ⇒ You need to spend a lot of time!

# What is the role of your supervisor?

## Role of your supervisor:

- ⇒ Mentor and scientific colleague.
- ⇒ Responsible for your settings: equipment, time, travel, meetings.
- ⇒ Provide freedom for creativity.

# Summary



- You are a scientist, not a student!
- You are a member of a team, not a slave!
- And thus you are responsible.
- In the end it's your scientific contribution to the knowledge of mankind (no joke). Your scientific results might have some eternal character – there is not much in your life with such qualities.

# Links and Literature



- What is a PhD? <http://www.findaphd.com/advice/finding/what-is-a-phd.aspx>
- 9 things you should consider before embarking on a PhD <http://www.elsevier.com/connect/9-things-you-should-consider-before-embarking-on-a-phd>
- 10 Things You Should Know Before Starting A PhD <http://www.nextscientist.com/graduate-school-advice-series-starting-phd/>
- The illustrated guide to a Ph.D. <http://matt.might.net/articles/phd-school-in-pictures/>
- COMPONENTIAL THEORY OF CREATIVITY <http://www.hbs.edu/faculty/Publication%20Files/12-096.pdf>