We cannot help you to get ideas - these are worked out with your Supervisor/Colleagues, later with your students.

But how to avoid avoidable causes of failure?

In climbing and in research, the first step is to secure your position.

*Citius, Altius, Fortius!!*

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**Why research?**

Aristotle: Nichomachean Ethics:
Meaning of Life is:
Philosophy, Public Life or Private Life

Lineus: To discover and confirm the greatness of God

Heaviside: Assisting in Industrial Revolution

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**Why research?**

Pirsig: Zen and the art of motorcycle maintenance, part II, sections 9, 10

Research as a FPS game
Watson: Double Helix
Why research?

The Lisbon Declaration: Allows EU to beat its competitors:
Research is done by morons but must be competently managed.
Discourse of administration and excellence (Readings)

Solzenicyn: The First Circle: Relation of Research to Power. See also Ben-David in Course package

Why research?

• Is it a good idea to choose a topic where you can use your competence also outside the university system?
• Is it a good idea to do your PhD (except thesis defense) outside the university system? (Industrial PhD)
• Plan ahead!!

How Research?

• Are you a splendid thinker sneezing new ideas out of nothing? (standard hagiography of researcher)
• Probably not: Research is a social activity (Latour)
• Connect!

Cambridge Wranglers
- Created the math you studied: Green, Stokes, Macauly, Routh, Maxwell, Larmor, Cunningham, Dirac…
- Competitive math examination aimed at ranking candidates for fellowships --
- Appointments for life with no particular duties -- often awarded at age 20-25. Still many fellows continued the course conditioned by training.
So now you’re on your own?

- Admitted PhD students in Sweden have very good working conditions compared to professors hired after 1999.
- However, useful to know your rights and duties defended and developed by ‘CSC doktorandrådet’ (Dag Lindbo).

First hurdle: Get authorship right to NEW IDEA

- First papers: Main concern is acceptance: send good paper to good conference, sloppy paper to sloppy conference. But electronic paper acceptance is dangerous: Sometimes impossible papers are accepted, so let someone read your manuscript. Also risky with many rejections: results tend to become obsolete
- Later papers: More concern about reception: Write papers that can conveniently be cited, and add to your bibliometric indicators.
  - (IF discourse of excellence is sharpened, you must make a citable Master’s Thesis.)

Language

- Anyone can have ideas (Ibn Khaldun)
- Only with skilled use of language can you persuade others to: accept your paper, read your paper, cite you, give you a grant or position.
- International English: don’t be too literary - your text will not mostly be read by native speakers of King’s or President’s English.
- Correct spelling (US or UK) and grammar: plural/singular, references (syftning)
- Use space well: CARS
- Don’t be late, take advice when possible.
- Can a confused text hide lack of truly interesting ideas? Some reviewers have a tendency towards benevolent interpolation, but they seem to be in minority

Displaying your credentials

- Research is about communication
- CV: should contain dry, verifiable facts
- Your ideas are described as such, not as a part of you
- Follow ‘instructions for authors/applicants’
- I am not writing for an immediate audience, but for eternity (Κτήμα εις Αἰεν, Κτήμα είς ἀιόλοι): Thukydides motto applies more to papers than to applications, risky even for papers.
- Use space well: A grant should be obtained, a paper remembered. Abstract and lay summary for panels and potential reviewers, not for the ‘man in the street’ or for politicians.
Encouraging innovative research (NSF)

- What is the intellectual merit?
- How well qualified is the proposer?
- Suggests and explores creative and original concepts?
- Conception and organization?
- Access to resources?

Encouraging innovative research (NSF, ctd)

- Broader impacts on society?
- Advance discovery and promote training and learning?
- Broadens participation of underrepresented groups?
- Broad dissemination?
- Benefits to society?

Creative Environment? (N-E Sahlin)

- Generosity
- Community
- Trust
- Competence
- Flat - no hierarchy
- Equality
- Curiosity
- Small scale
- Tolerance

7 Obstacles to Creative Environment? (N-E Sahlin)

- Luxuria (extravagance, later lust),
- Gula (gluttony),
- Avaritia (greed),
- Acedia (sloth),
- Ira (wrath, more commonly known as anger),
- Invidia (envy), and
- Superbia (pride)
Vetenskapens guld till salu

Publicerad: 10 november 2008, 04.43

FORSKNING OCH FÖRETAGANDE
Vetenskapliga insikter lyser med sin frånvaro i den nya forskningspolitiken, grundad på ideologisk spekulation i den ekonomiska nytan av att gifta samman forskning och industri.

Politiken präglas av en närmast religiös tilltro till kvantitativa mått, skriver Alexandra Waluszewski, Ylva Hasselberg och Sharon Rider, forskare vid Uppsala universitet.

Criteria for researcher survival

- Researcher is more a consultant than a civil servant. Outside recognition, ‘earned profit’, matters.
- Publications, Grants, Prizes, Students, Patents, Position(where?), title.
- Relevant non-academic experience?
- Service to the University is cheap! Service functions seldom make you rich.

Large scale evaluation

- Everyone writes to be remembered. Publications and their use by other researchers may indicate ‘lasting value’ - interestingly, no-one seems to have checked
- Formal citations are indirect evidence of use.
- This is however the least important use of citation: Most citations are perfunctory - used to position work socially, used to remove embarrassing objections, indiscriminately included by citation managers such as LaTex, or pure errors (Latour).
- Bibliometry is based on the assumption that formal ‘bibliometric indicators’ mirror quality of research - with many reservations
- As soon as numbers reach management/governance, all reservations disappear - ‘this is what we have’

KTH Research Assessment Exercise and similar enterprises

- Formative evaluation is good, summative is not.
- Accountability - typically owners use independent outside expertise to evaluate use of resources
- However, the use of external experts in internal ‘evaluation’ as legitimation for management’s own purposes is more common in academic world
- Researchers who can be efficiently humiliated become more manageable (cf Solzenicyn, Foucault)
- Academic values disappear in hands of managerism and economical.
- Effective questioning of methodology makes RAE’s less useful, and outcomes less damaging, than intended.
The Danger of Excellence: 
(hypothetical action plan)

XXX hosts a number of excellent researchers. We will actively promote this type of excellence on an individual basis, i.e., providing conditions that facilitate sustained excellence. We will similarly also promote international scholarly activities such as editorial board memberships, hosting of high-profile international conferences, writing of textbooks, and membership in program committees of key international conferences.

Bibliometry and proxy quality

- Low quality quality indicators make the research system vulnerable:
- If all PhD students adapt too successfully to bad indicators, the core values of research will slowly disappear, leading to (well-deserved) research financing crisis:
- Why should tax-payers pay for your empty bibliometric indicators?
- What today is regarded as a research front can tomorrow be a sign of a research bubble.

KTH RAE bibliometry 
(full account in HW7 definition)

- P : number of papers (favours large units)
- FracP weighted by inverse of authors (favours authors that avoid doing their share of the work, not so uncommon)
- CPP citations per paper
- NCSj normalized citation score.
- NCSf Field normalized citation score
- \( \Sigma \)NCSf sum of above
- SCSf Standard field citation score
- TOP5%
- Selfcit Self-citations
- Pnc Non-cited (in ISI) papers
Whitley, Gläser analysis (2007)

- We want to understand why bibliometric methods are being embraced by an ever-increasing number of users with an ever-decreasing regard for validity and reliability
- Citations are strongly influenced by sloppy referencing, editorial styles, conventions, language problems, author identification problems, foreign author names, common names, and differences in data capturing.
- Overall the only available data sources have extremely low quality, and leave out large sections of science result citation. Thomson-Reuter Company strategy is currently to make researchers responsible for company’s errors.

The Danger of Excellence: (hypothetical action plan)

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Discourse of Excellence (Readings)

- YOU are not in a position to question sloppy evaluations of your work:
- Anyone who questions evaluation or its methodology will be accused of trying to avoid fair evaluation and accountability (only Royal Chartered professors can, but with some cost even for them)
- What you CAN do is to understand the more important streams from research result to proxy indicators - but beware: the system is continually tuned.
Avoiding bad indicators

- Typical case in US tenure example: of 330 legitimate citations, only 50 were in SCI
- Vitality: Refer to NEW publications, this boosts one of the indicators:
  - Aristotle [NE, ca 300 BC] defined the forms of knowledge used today.

Replace the above by:
- According to modern research, e.g., Holer [American Catholic Philosophical Quarterly, 2007(81)], Aristotle defined the forms of knowledge used today
- This helps your indicator. But it is possibly an illegitimate citation: you were interested in 2007, not in Holer

Internationalisation, team-appearance

- Have mixed sets of co-authors, with many international partners - an international partner is however NOT a researcher with a foreign-sounding name, but one with an international academic affiliation.
- Be sure that all affiliations among authors are correct according to ISI.
  - KTH has an official name ‘Königliche Technische Hochschule’ (acquired when TU Berlin went Imperial) which you should not use because ISI does not recognize it
- Avoid having your advisor as co-author on all your papers.

Some ‘care of indicators’ strategies are considered as Misconduct

- Same result should not be published twice
- One study should not be split into several
- Every author must fulfill authorship requirement, and everyone qualified must be offered coauthorship
- Misconduct of reviewers (intentional delay)
- Nonreported conflict of interest.

(Ophtalmologica 2004;218:1-3.)
  Journal editors promise to bring violations to the attention of author’s institutions

Manners

- Right ‘tone’ in correspondance.
- Suitable, but not exaggerated, respect for colleagues.
- Reasonable acknowledgements.
- Measured self-presentation.
- Reasonable behaviour in negotiations.
- And in scientific discussions.
- Manners is not hard cash, but helpful.
Or on the toes of Dwarfes?