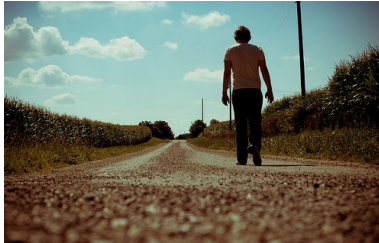


# Strategic Career Planning for Science

PD Dr. Melanie Fritz  
Research Strategy and Research Support, ZI


## Professional orientation is a continuous process!

curiosity    persistence    motivation  
 frustration tolerance    flexibility    optimism  
 Unconventionality    patience    effort    self-initiative



## Career in science / academia

curiosity    persistence    motivation  
 frustration tolerance    flexibility    optimism  
 Unconventionality    patience    effort    self-initiative



## Career in Science - Academia – situation analysis esp. Germany



**Young researchers:**

- PhD position: easy to get, Post-Doc position: quite easy to get – often very short term contracts
- Professorship: highly & increasingly competitive (4% of PhD student cohort achieve permanent position)
- Very high & multiple dependencies due to fixed term-contracts and academic system
- Own funding for Post-Doc quite easy to get, much options available for up to 5 years after PhD – perspective after this?
- Incentives for **interdisciplinarity** in young researcher funding – Professorships within fields
- Easy funding for Post-Doc stay abroad – return?

**Career perspectives:**


- **Up or out** principle (Wissenschaftszeitvertragsgesetz, max. 12/15 years after Master/Exam)
  - Professorship or nothing
  - Not many other careers as competitive as research
  - Time starts running as soon as you start PhD
- Very **difficult to plan** (almost no „tenure track“, no clear criteria)
- Income based on third party funds and dependency of Prof? – funding rates of projects 8-10%
- Requires **very high endurance** as permanent position late in life (in your 40ies, if any → importance of plans B)
- **Change of institution** for career advancement (Hausberufungsverbot) → high mobility!

**Plan B !**

**Work life balance:**

- **Very high demands** regarding working performance & time, demand for permanent availability – **NOT a 9 to 5 job**
- Men & women in research more often **without kids** than peers with permanent contract – children as „competitive disadvantage“ as they require time...

Source: Wissenschaftsrat 2014



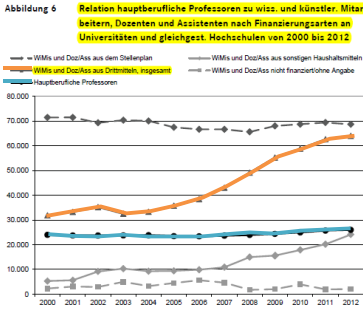
→ High risk – doing Post-Doc = risky decision!  
 → Very high intrinsic motivation required – *passion!*

**Plan B !**

Source: Wissenschaftsrat 2014

## Increasingly competitive due to third party funds

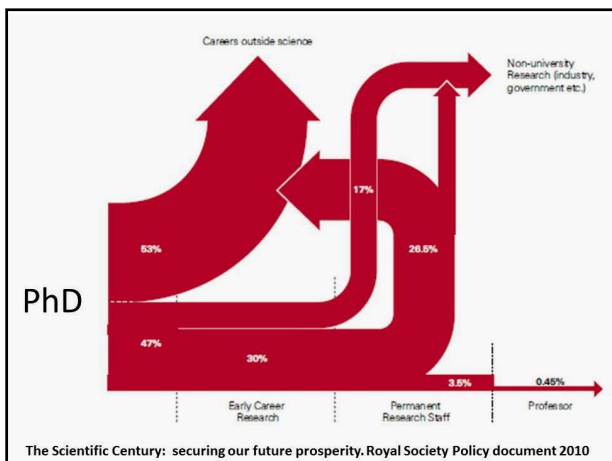
Abbildung 6 **Relation hauptberufliche Professoren zu wiss. und künstler. Mitarbeitern, Dozenten und Assistenten nach Finanzierungsarten an Universitäten und gleichgest. Hochschulen von 2000 bis 2012**



The graph shows four data series over time (2000-2012):

- WIMs und Doz/Ass aus dem Stellenplan:** Shows a steady increase from approximately 20,000 in 2000 to 30,000 in 2012.
- WIMs und Doz/Ass aus sonstigen Haushaltsmitteln:** Shows a steady increase from approximately 10,000 in 2000 to 20,000 in 2012.
- WIMs und Doz/Ass aus Drittmitteln, insgesamt:** Shows a significant increase from approximately 30,000 in 2000 to 65,000 in 2012.
- Hauptberufliche Professoren:** Shows a steady increase from approximately 70,000 in 2000 to 75,000 in 2012.

Wissenschaftsrat 2014



### Conditions other countries

- UK:** Early independence & permanent position as lecturer, well defined career development criteria
- USA:** Early independence & tenure track position as assistant professor, well defined career development criteria for permanent position
- NL:** Early independence & tenure track position as assistant professor (5 years fixed-term), well defined career development criteria for permanent position
- Switzerland:** Early independence & tenure track position as assistant professor (6 years fixed-term), well defined career development criteria for permanent position
- Austria:** Early independence & tenure track position as assistant professor („Laufbahnstelle“, 6 years fixed-term), well defined career development criteria for permanent position
- Denmark:** Early independence & tenure track position as assistant professor (3 years fixed-term), well defined career development criteria for permanent position

### Up or Out - Characteristics Professorship

Professorship = Leadership position

Scientific work	Teacher	Self-administration	Manager
Conferences Reviewing papers, projects Supervisor Scientific societies Writing papers Collaboration partners	To students To PhD students Mentor	PhD committees Appointment committees Teaching committees Examination boards	Funding acquisition – proposal writing Budget planning Project manager Employing researchers, admin staff Personnel manager – motivating, directing Marketing & sales manager

**If you want to try a career in science:  
Do not „just“ work!**

### Career in science = your self-responsibility

**STRATEGY**

**SUCCESS FACTORS**  
Burning desire to know something!

- Promising own research profile, important results
- Expert in the field
- High-level publications
- International experience
- Independency, own research group
- Own funding acquisition
- Prestige grants (e.g. Emmy-Noether, ERC Starting)
- Network within community & visibility
- Awards, prestigious memberships
- Citations

*Your reference brand!*

**Skills & Capabilities**

### Self-Responsibility – Science Survival Skills

**OUTDOOR SURVIVAL**  
SKILLS TIPS TO SURVIVING OUTDOORS

**WILDERNESS SURVIVAL**  
SECOND EDITION  
GREGORY J. DAVENPORT

**CAMPING & WILDERNESS SURVIVAL**  
PAUL TOWERILL

**OUTDOOR SURVIVAL SKILLS**  
LENNY DEAN RUSCH

**A PhD IS NOT ENOUGH!**  
A Guide to Survival in Science  
PETER J. FEIBELMAN

### Overview

1. Strategy development tools for assessment of
  1. Career environment
  2. Yourself – your competitive position
2. Basic strategy map

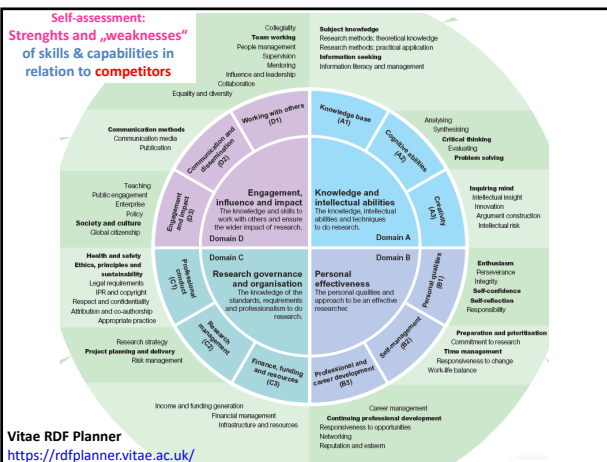
### What is a strategy? Safari!



#### Strategy

- Is like being in the jungle, not able to recognize directions or animals
- Is plan for future, describes path how to reach objective
- Needs continuous adaptation to dynamically changing reality
- Basis: assumptions on cause-and-effect relations

**For career in science: Cold-blooded analysis, no romanticizing → Tools**



### Profile of strengths and „weaknesses“ of skills & capabilities – competitive advantages

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
<b>Knowledge and intellectual abilities (A)</b>					
Knowledge base (A1)					
Subject knowledge	-	-	Achieved	-	-
Research methods - theoretical knowledge	-	-	-	-	Achieved
Research methods - practical application	-	-	-	-	Achieved
Information seeking	-	-	-	Achieved	-
Information literacy and management	-	-	-	-	Achieved
Languages	-	-	-	Achieved	-
Academic literacy and numeracy	-	-	-	Achieved	-
Cognitive abilities (A2)					
Analysing	-	-	-	-	Achieved
Synthesising	-	-	-	Achieved	-
Critical thinking	-	-	-	Achieved	-
Evaluating	-	-	-	-	Achieved
Problem solving	-	-	-	-	Achieved

### Self-assessment: Strengths and „weaknesses“ of capabilities & skills → targeted training



### Self-assessment: Core competencies

Source for competitive advantage, enables researcher to **develop unique & special research profile**

Unique combination of

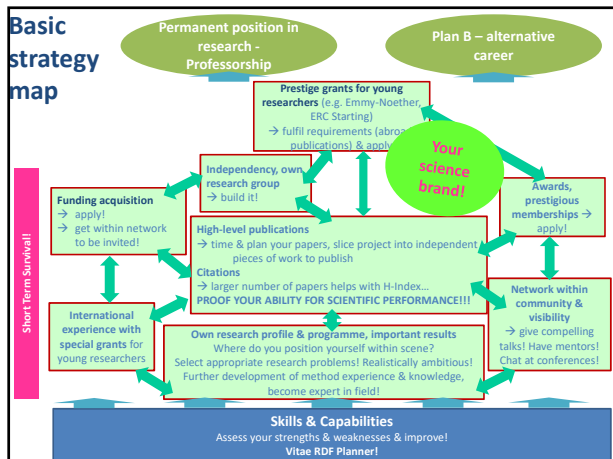
method experience + topic knowledge + perspective on problems + writing skills + network within community + communication skills + project management skills + feeling for „hot“ research problems + seeing complex things + motivating people + grantspersonship + .....

- difficult to imitate by competitors
  - considered as valuable by research community
  - unique compared with competitors
- To „sell“ in your job & funding applications

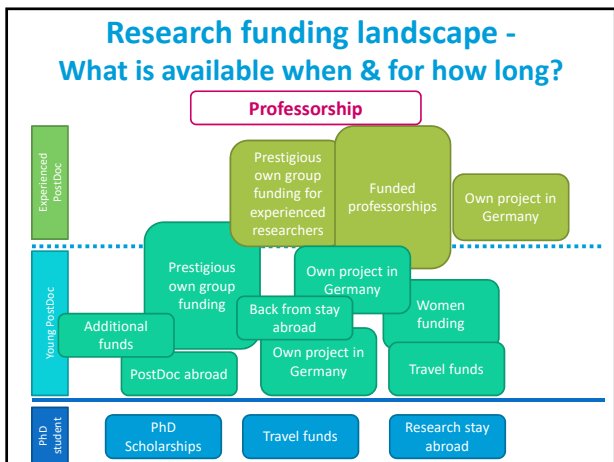


### Overview

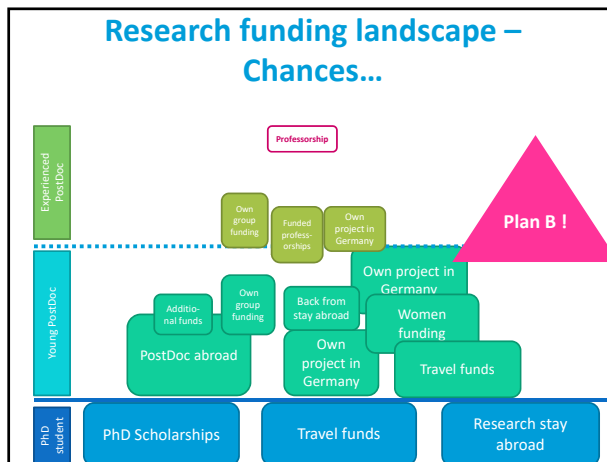
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### Research funding landscape - What is available when & for how long?



### Research funding landscape – Chances...



What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
DAAD Jahres- und Kurzzustipendien für Doktorandinnen	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation	Open Topic specific	Submission to call Submission at any time

#### DAAD Research Fellowship for PhD students

**Characteristics:** Fellowship for research stay abroad, 1 to 12 month  
**Coverage:** Fellowship for living and travel costs  
**Personal requirements:** Above average qualified PhD students  
**Project requirements:** Research project abroad embedded in the PhD project  
**Application dates:**  
 02. May - 17. June 2024, for a start in December 2024  
 01. October - 15. November 2024, for a start in May 2025  
 01. February - 17. March 2025, for a start in September 2025

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
Fulbright Commission - USA	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers	Open Topic specific	Submission to call Submission at any time

#### Fulbright Kommission – USA for PhD students

**Characteristics:** Realisation of research works in the USA in connection with the PhD-project  
**Coverage:** 1 600 €/month or 6-9 month  
**Personal requirements:** PhD-students at the beginning of their PhD, Post Docs, German citizenship  
**Project requirement:** Research stay at an American guest institution, open to all subjects, physician: due to visa requirements only for projects in natural sciences without contact to patients  
 Application two times a year (1 November, 1 June)

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
DAAD Postdoc-Programm	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers Open	Topic specific	Submission to call Submission at any time

**DAAD Postdoc-Program**

**Characteristics:** Fellowship for a self chosen research project abroad  
**Coverage:** Fellowship for living costs, travel expenses, 3-6 months  
**Personal requirements:** Scientists with above-average qualifications who have completed their doctorate with very good results before starting their fellowship, max. 4 years after PhD.  
**Project requirements:** Open to all subjects  
 Application possible three times per year (March, June, November)

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
Marie Skłodowska-Curie Individual Fellowships	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers Open	Topic specific	Submission to call Submission at any time

**Marie Skłodowska-Curie Postdoctoral Fellowships**

**Characteristics:** Research projects within in and outside of the EU, support of scientific career through mobility and independence. Research stays abroad of 12-24 months, some calls up to 36 months. Part of Horizon 2020 an presumably also of Horizon Europe.  
**Coverage:** own position, mobility allowance and if applicable family allowance, the institution receives research material allowance and overhead.  
**Personal requirements:** researchers with a doctoral degree and a maximum of four years of research experience. Mobility rule: Applicants must not have resided or carried out their main activity (work, studies, etc.) in the country of the beneficiary (for European Postdoctoral Fellowships), or the host organisation for the outgoing phase (for Global Postdoctoral Fellowships) for more than 12 months in the 36 months immediately before the call deadline.  
**Project requirements:** Open to all subjects,  
 Application possible once per year (April-September)

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
DFG Forschungsstipendium für Ausland	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers Open	Topic specific	Submission to call Submission at any time

**DFG: Walter Benjamin Programme**

**Characteristics:** By securing funding for their own research project, particularly qualified postdoctoral researchers pave the way for the next stages of their increasingly independent research career and exercise autonomy. The programme thus promotes early research careers with the aim of fostering the mobility and thematic development that are crucial in this career phase; therefore, the programme generally requires that the applicant change his or her research institution.  
**Coverage:** Amount of funding depending on selected modules, duration of max. two years. The institution at which the project is located should cover additional project needs.  
**Personal Requirements:** Postdoctoral researchers at an early career stage  
**Project requirements:** The project may not be based at an entity that is for-profit or that does not permit the publication of findings in a generally accessible form. Proposals may be submitted at any time.

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
Leopoldina Postdoc-Stipendium	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers Open	Topic specific	Submission to call Submission at any time

**Leopoldina-Postdoc-Scholarship**

**Characteristics:** scholarship for outstanding postdoctoral scientists for a research stay abroad up to two years  
**Coverage:** basic grant according to DFG-rates for postdoctoral grants, 250€ per month for consumables and material and travel costs  
**Personal requirements:** Specially qualified postdocs, application submitted within seven years of completing the doctorate.  
**Project requirements:** Independent projects at the most renowned research institutions of natural sciences or medicine abroad.  
 Application possible at any time

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
DFG Eigene Stelle	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers Open	Topic specific	Submission to call Submission at any time

**DFG-Temporary Positions for Principal Investigators**

**Characteristics:** Temporary positions for principal investigators enable national and international scientists and academics to focus exclusively on their proposed research projects at a German research institution. Grants for such positions must generally be used for employment at a research institution in Germany or at a German research institution abroad. During DFG-funded working hours, no other work may be performed for the employer (incl. teaching or non-research services such as patient care). Outside regular working hours, however, you may perform such duties in accordance with the secondary employment regulations applicable at your university.  
**Coverage:** Three years plus extension, money für own position, consumables, travel costs etc.  
**Personal requirements:** PhD (dissertation at least submitted)  
**Project requirements:** High scientific quality and originality of the project  
 Application possible any time  
**Chances:** 30-40%

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
Fresenius-Stiftung Projektförderung für Erst- und Zweittragesteller	For PhD students Directly after PhD For post docs with experience For senior researchers (e.g. habilitation)	Own salary Flexible funds (e.g. travel, personnel) Scholarship Own research group Research stay abroad Conference participation For women only Back from research stay abroad Network with other researchers Open	Topic specific	Submission to call Submission at any time

**Fresenius Foundation First and Second Applications**

**Characteristics:** Funding of projects in the field of medicine for first and second applicants  
**Coverage:** Personnel costs a consumables, approx. 1/3 of total project expenditure must be provided in the form of human and material resources from the institutional funding.  
**Personal requirements:** PhD or MD and first-author-publication, physician or life scientist who has acquired no more than one project-funding resources in peer-reviewed procedures from the Else Kröner-Fresenius-Stiftung foundation, DFG, BMBF, the EU and/or similar entities.  
**Project requirements:** All topics of medical research  
 Application possible at any time

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
	For PhD students	Own research group		
	Directly after PhD	Research stay abroad		
	For post docs with experience	Conference participation		
	For senior researchers (e.g. habilitation)	For women only		
	Own salary	Back from research stay abroad		
	Flexible funds (e.g. travel, personnel)	Research with other researchers		
	Scholarship	Open		
	Own research group	Topic-specific		
		Submission to call		
		Submission at any time		
DFG Emmy-Noether Nachwuchsgruppe				

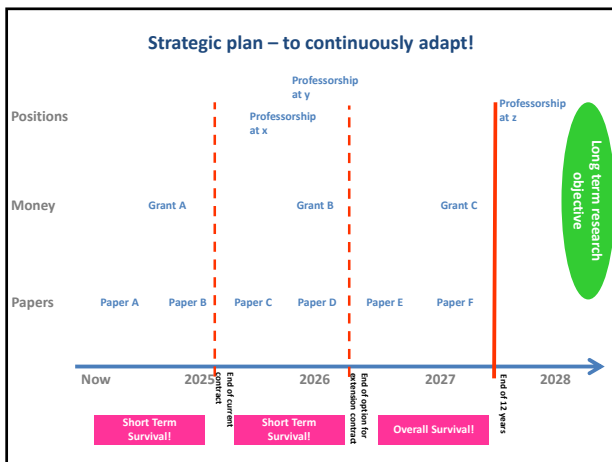
**DFG Emmy-Noether-Junior Group**

**Characteristics:** To give outstanding researchers the opportunity to satisfy the prerequisites for appointment as a university professor by leading an independent junior research group and performing relevant teaching duties  
 To attract outstanding early career researchers (back) to Germany from abroad  
**Coverage:** Six years, amount of funding depending on selected modules  
**Personal requirements:** Early career researchers in all disciplines, normally up to 4 years after completion of the doctorate, normally at least two years of postdoctoral experience, substantial international research experience, the programme is not open to those who have already satisfied the requirements for a professorship (no habilitation).  
**Project requirements:** Outstanding scientific claim  
 Application possible at any time

What am I looking for? What is available?	Career level	Type of funding	Topic	Submission
	For PhD students	Own research group		
	Directly after PhD	Research stay abroad		
	For post docs with experience	Conference participation		
	For senior researchers (e.g. habilitation)	For women only		
	Own salary	Back from research stay abroad		
	Flexible funds (e.g. travel, personnel)	Research with other researchers		
	Scholarship	Open		
	Own research group	Topic-specific		
		Submission to call		
		Submission at any time		
ERC Starting Grant				

**ERC Starting Grant**

**Characteristics:** Support for excellent Principal Investigators at the career stage at which they are starting their own independent research team or programme. Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal.  
**Coverage:** Max. 5 years 1,5 Mio €  
**Personal requirements:** 2 to 7 years after PhD, A competitive Starting Grant Principal Investigator must have already shown the potential for research independence and evidence of maturity, for example by having produced **at least one important publication as main author or without the participation of their PhD supervisor.**  
**Project requirements:** scientific excellence, high risk / high gain  
 Application possible once a year



**DON'T!**

- Don't shut yourself away & "just" work
- Don't have no results = publications in time (= contract / project time) → „unfinished“, „low performer“
- No own research program
- Don't work on too ambitious & long term problems → no publications...
- Don't be slave to your supervisor
- Don't say yes to everything you are asked for
- Don't do too much admin work / teaching



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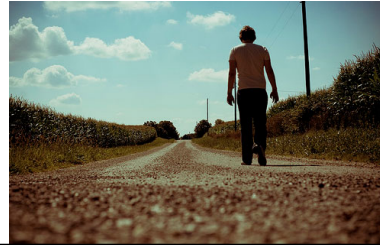


### Some interesting links

- **A PhD is not enough! A guide to survival in science.**  
EXCELLENT book about how the academic world works and what should be done and be avoided to succeed. I really recommend this as a MUST READ. <http://www.amazon.de/PhD-is-Not-Enough-Survival/dp/0465022227>
- **Wissenschaftszeitvertragsgesetz.**  
Gesetz: <http://www.gesetze-im-internet.de/bundesrecht/wisszeitvg/gesamt.pdf>  
Informationen zur aktuellen Reform (03/2024): <https://www.bmbf.de/bmbf/shareddocs/faq/wisszeitvg-reform.html>
- **The many hats of an academic researcher**  
Information about the many different roles a professor must live <https://www.asmb.org/asmb-today/careers/100114/the-many-hats-of-an-academic-researcher>
- **How to build a career in the biomedical sciences**  
<http://blogs.nature.com/naturejobs/2014/10/06/how-to-build-a-career-in-the-biomedical-sciences>
- **Science Careers. Running your lab.**  
Excellent collection of career relevant information for young researchers. <https://www.science.org/content/resource/career-trends-running-your-lab>

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