



The Scientific Publication

Lecture no 5, April 3, 2017

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Lecture series for PhD students
of the Universities of Bourgogne and Franche Comté
March – April 2017

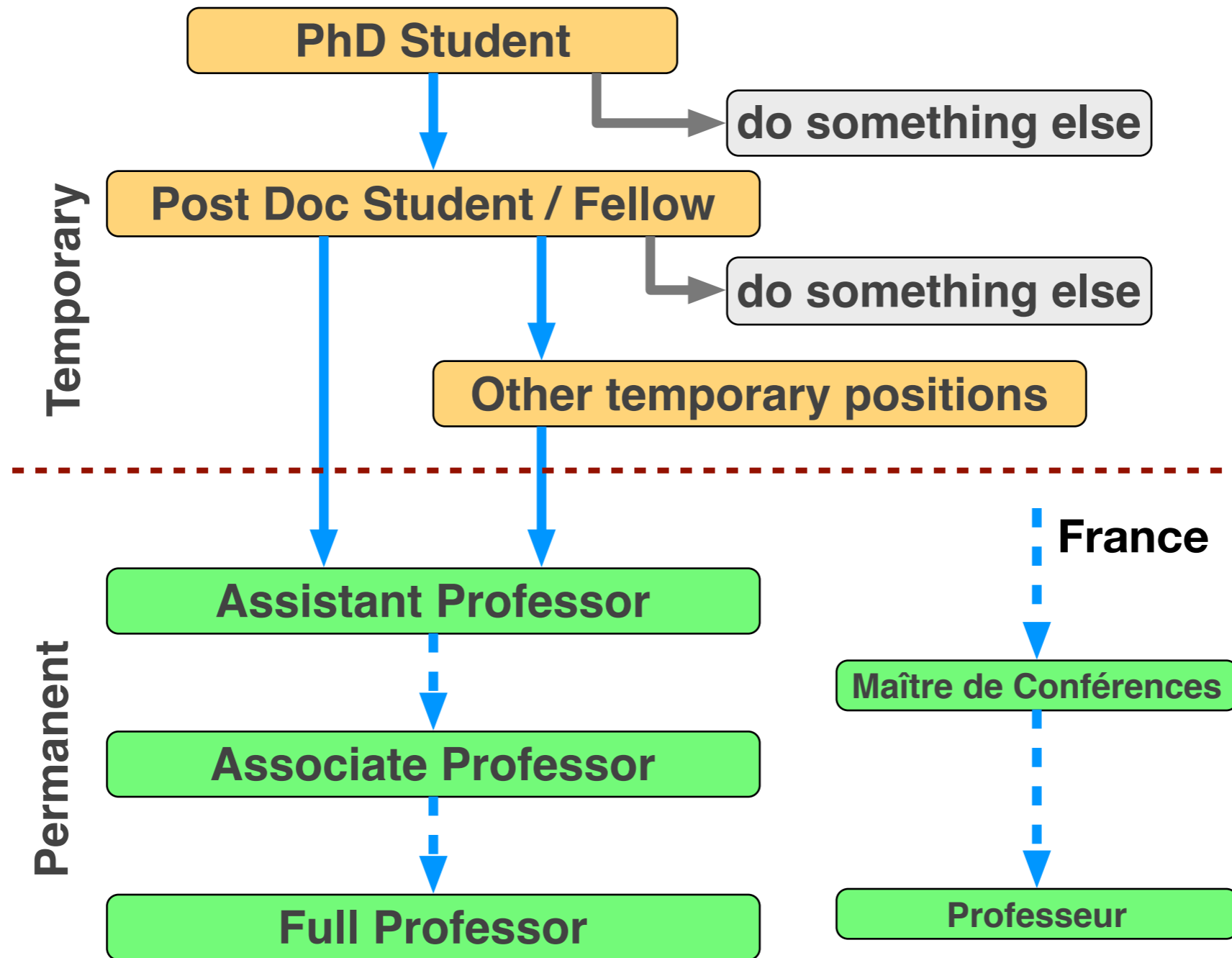
Guest attendees are welcome

Academic careers

home page <http://rubiola.org>

Academic Careers in the World

Academic Career – Simplified



Vocabulary (1)

- **Faculty Member / Academic Career**
 - **Professor (Full Professor)**
 - **Associate Professor**
 - **Assistant Professor**
- **Others**
 - **Lecturer**
 - **Instructor**
 - **Fellow (BR)**

Vocabulary (2)

- **Research Professor**
 - **Some Countries only**
 - **Specific research grants / tasks**
 - **Generally, less than Full Professor**
- **Guests / Visitors Professor**
 - **Young / Senior**
 - **Usually the terms “Assistant / Associate / Full” do not apply**
 - **Often**
 - **Permanent staff member somewhere else**
 - **Retired**

France

General (1)

- **All universities (universités and écoles) are government institutions**
 - **Very few exceptions**
- **All academics are permanent employees of the French Government**
- **Instructions and schedules on the **Galaxie** web site**
- **PhD degree is mandatory – The PhD student has a salary**
- **Teaching during the PhD training is not mandatory**
 - **Strongly recommended, and well payed (same as a full professor for additional teaching)**
- **Postdoc (1–2 y) is more and more necessary**
 - **Depends on university and on position**

General (2)

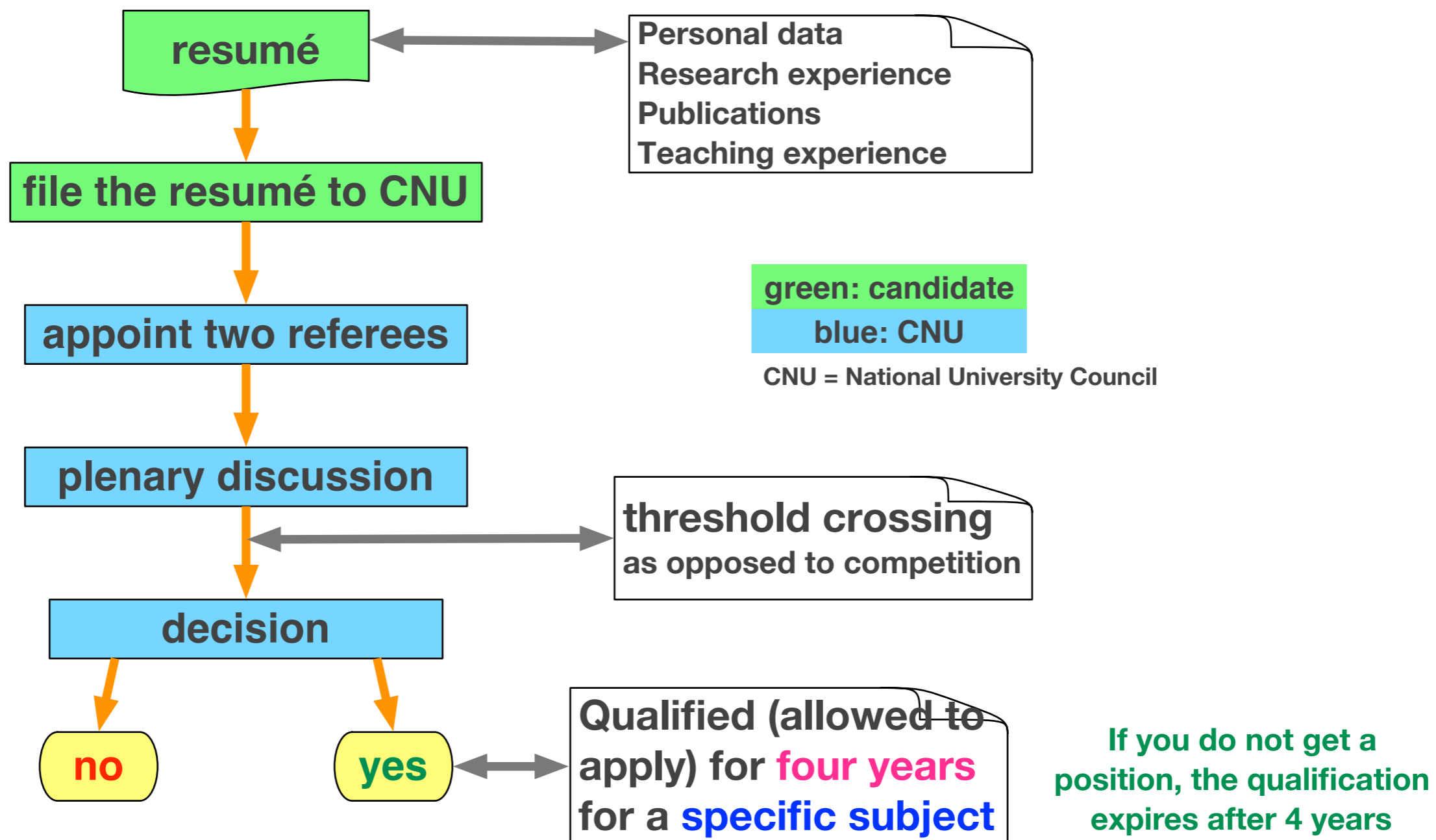
- **“Qualification” is mandatory, managed by the CNU**
- **Available positions are published in the “Journal Officiel”**
 - **Most calls (not all) are synchronized to March, for starting Sep 1st**
- **Selection managed locally by the university**
 - **The candidate must mention all the position he/she is applying for**
- **The selected candidate is appointed by the President / Minister**

Academic Positions

Position	Grade	Access	Equivalent
MCF Maître de conférences	2nd class (established after 1 y)	Entry level (local selection)	Assistant professor – or – Associate professor
	1st class	Automatic, after 4 y	
	HC (hors classe)	Competition (national & local)	
PR Professeur des universités	2nd class	Entry level (local selection)	Full professor
	1st class	Competition (national & local)	
	CE (classe exceptionnelle)	Competition (national & local)	

- **PR and MCF have similar tasks**
 - **PR is expected to manage research and education**
 - **PR is expected to lecture – as opposed to Classroom work and labs**
 - **In many practical cases cases the legal difference is not respected**
- **Grades differ only in salary**

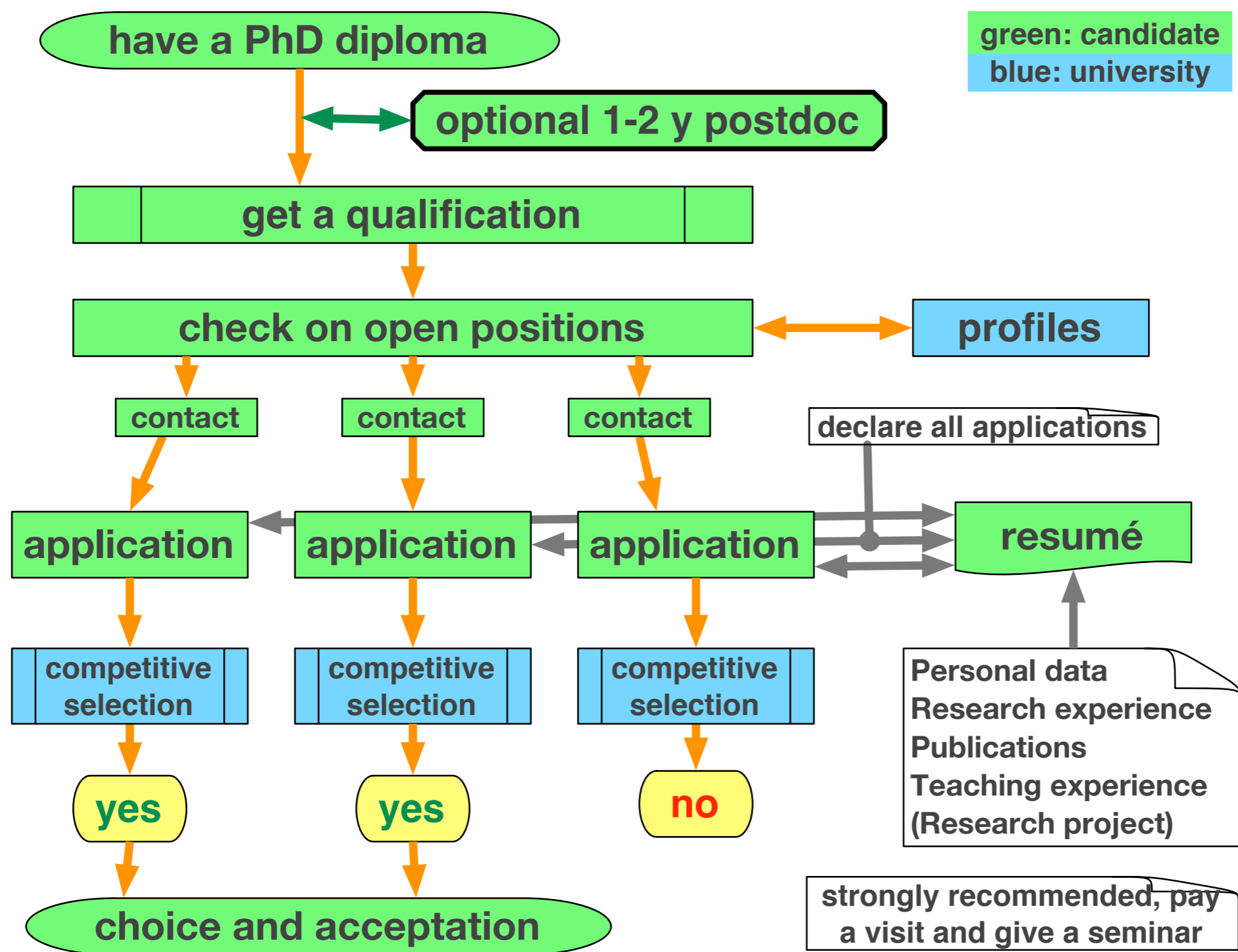
Qualification



Same process for MCF and PR qualification

French applicants must have HDR (ScD) degree for PR level

Apply for a MCF Position in France



In science domains, most often 5–10 (max 30) applications for an open position

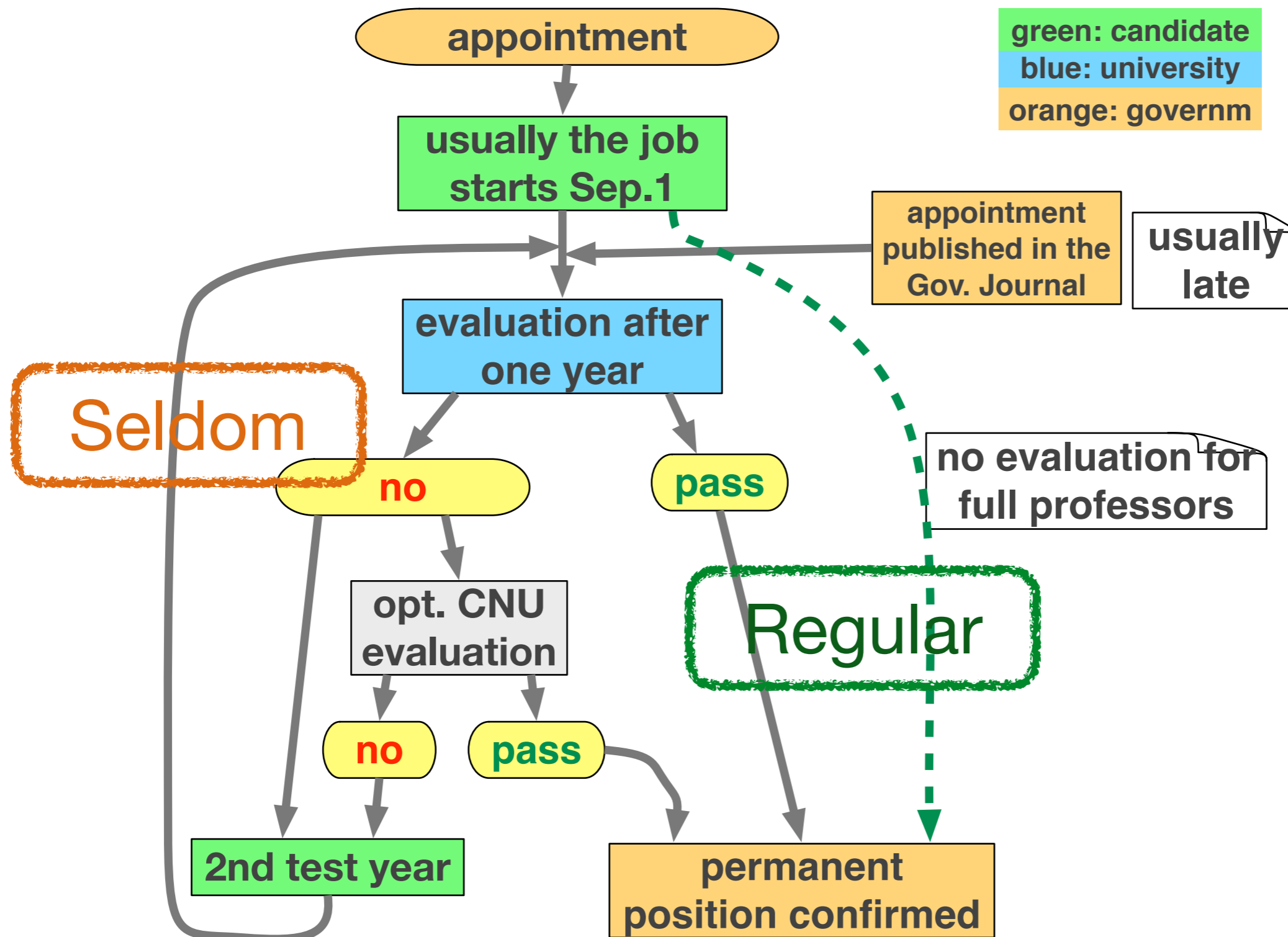
The Selection Process

- The expectations are detailed in a document called **Profile** (profil)
 - Usually mentions two contact persons, research and teaching
- The university appoints the **Selection Committee** (comité de sélection), an examining board specific for each position open
 - Members $\geq 50\%$ from other universities
- **Screening** ($\approx \sqrt{N}$ invited for an interview)
 - Rank (publications, contracts, experience, etc...)
 - Profile / resumé matching
- **Interview** (virtual meeting is allowed)
 - Report on experience / research / contracts / education
 - Research project (sometimes required, sometimes not)
 - Answer to the Committee's questions
- **Decision, by the Selection Committee**
- **Strongly recommended, before the interview**
 - Visit university & lab, introduce yourself, and get all possible information
 - Give a seminar on your work, or on a subject of broad interest
 - If possible, have a correspondent who gives feedback

Probation Period

- **Maître de Conférences**
 - One year for
 - Report to CNU
 - Lifetime position confirmed (most cases)
 - One more year probation (seldom)
- **Professeur**
 - No probation period
 - Lifetime position at the time of hiring

Get the Position



This is a lifelong tenure

Problems and Plagues (1)

- **Hiring and of promoting local folks**
 - In some universities and disciplines, up to 95% of PR are former MCF from same institution
 - **Exception:** mathematicians never hire or promote local folks
 - Since 2009, the by law targets fixing the problem
 - Selection Committee must have $\geq 50\%$ non-local people
- **Too short interview & analysis of the CV**
 - Short plenary discussion at the selection committee, two referees for each applicant report on the resumé
 - In some cases, the interview takes 15 minutes for a lifetime tenure!!!

Problems and Plagues (2)

- **Salaries and career opportunities**
- **Difficult to hire strongly motivated and ambitious people**
 - Lower salaries, as compared to some other wealthy Countries
 - Unclear hierarchy
 - Heading a team is really tough – no control on coworkers
- **Heavy teaching duty, 50% of time**
 - 192 h/year + preparation, assignments, exams, meetings...
 - Professors → No assistants for labs, assignments, schedule, etc.
 - Heavy coordination between small modules
- **No real link between research and teaching**

CNRS

National Research Council

- **Same career as in universities, different names**
 - MCF \leftrightarrow CR = Chargé de Recherche
 - PR \leftrightarrow DR = Directeur de Recherche
 - Approximately same salary as in university
- **No obligation of teaching**
 - Teaching is encouraged,
 - Paid at standard hour rate, same as PhD student
 - Lectures and no of hours negotiated with the university
- **Tough competition**
 - National selection
 - Open-research positions and specific positions
 - **The research project is a relevant point of evaluation**
- **Slow and tough career**
 - 5% of CR get DR position at $t \rightarrow \infty$

USA and Canada

General

- **Most universities are private (or private-like) companies**
 - **No profit (yet not necessarily)**
 - **A few “State Universities” also exist** **University of California**
UCB, UCSD, UCLA, UCSB, UCI etc
- **All academics are employees of the university**
 - **Many positions are temporary**
 - **It takes long time to get a permanent position**
 - **Selection and promotions managed by the university**
- **PhD degree is mandatory for academic career**
 - **The PhD is paid on a research contract, otherwise has no salary**
 - **High tuition charges even at PhD-student level**
- **Postdoc generally required, minimum 1–2 years (or other non tenure-track research experience)**
- **Relevant skills**
 - **Teaching experience (teaching during the PhD/postdoc training is strongly recommended)**
 - **Write financial proposals**

The Concept of Tenure Track

- The young academic is hired on a tenure-track position
 - Assistant professor for 3–4 years
 - Associate professor for 3–4 years
 - Confirmed or not, at each step
- A permanent position – **the tenure** – is given only
 - To the researcher getting to the rank of full professor
[some universities give a tenure to associate professors]
 - After a long probation time (7–10 years) from hiring
- Non tenure-track positions do exist
 - Of little interest → No hope to get a tenure
- **In summary**
 - The researcher is hired at the lowest rank with the perspective of a full professor position (sometimes associate professor)
 - The tenure is given only after achieving the targets regularly
 - The term “permanent” is weaker than in Europe

Academic positions

Position	Tenure	Access	Age	Fraction
Assistant Professor	Usually NOT	Entry level	≥ 28 (*)	50% (*)
Associate Professor	Seldom Usually track	Usually track	≥ 32 (*)	30% (*)
Professor (Full Professor)	YES	Usually track	≥ 35 (*)	20% (*)
Professor (Distinguished Professor) [“named chair”]	YES	Special	Senior	very few
(*) Penn University 2012 (rank 12)				

Example: Christoph Wolff (musicologist) is Adams University Professor at Harvard University

Selection Process

- Ads in broad-interest technical/scientific journals
- Online application October..., Selection process starts March-April
- Major universities get **500–1000 applications** / tenure-track position
- **Screening (get ≤ 100 candidates)**
 - Quick look at the resumé and publication record
 - Discard misplaced applications
- **Pre-selection, get $\approx 5-6$ candidates for in-depth evaluation**
 - More careful analysis of the resumé
 - Recommendation letters
- **Final selection**
 - Invited to give a seminar, and long interview (often, travel paid by the university)
 - Research program
 - Teaching statement (including diversity)
 - Previous positions & experience, publication record
- **Decision and appointment**

Liberal Economy

- **Startup package**
 - Research grants come from contracts
 - The newly-hired (assistant) professor spends the first year in writing financial proposals – supervised by a senior
 - The first year needs full financial support by the university [\$0.5M]
 - Room, laboratory space, PhD students
- **Teaching assistant(s)**
 - Fruitful teaching requires support work
 - Assignments, lab operation, tutorship, etc.,
 - Not appropriate to a professor, and done by non-academics
- **Teaching duty**
 - However free, often results from needs/resources tradeoff
 - Some 100 h/y is appropriate
- **Salary**
- **Careers versus achievement of targets**
 - Minimum targets to get the next step and the tenure in a given time

Germany

General

- **Almost all universities are government institutions**
- **Almost all academics are permanent government employees**
- **PhD degree is mandatory**
The PhD student has a comfortable salary
- **Teaching during the PhD training is mandatory**
- **Two selection/hiring systems co-exist since 2002,**
The old is progressively abandoned
- **Nobody is promoted or appointed a permanent position on the same site where he/she already works**
 - **Prevent corruption in the selection process**
 - **The newly hired person always brings new knowledge**
 - **A promotion always goes with a true change of job**
 - **Clear hierarchy, the boss always comes from another site**

The Traditional Habilitation System

Almost gone

The Habilitation is a ScD-like diploma required for permanent academic positions

- **Scientific Assistant (1)**

- Hired after the Master degree
- Selection and hiring managed by the university / team
- Teaching duty 8 h/week, can be 4–5 if the SA works on a PhD
- Temporary position, maximum 6 years – and must get the PhD in 6 y
- Salary \geq 4 k€/mo, slightly progressive

- **Scientific Assistant (2)**

- The SA period can be renewed once for 6 years, temporary position
- Small salary progression
- Target the “Habilitation,” ScD-like diploma required for academic career
- Got the Habilitation, the SA can apply for a permanent position
- After the 2nd period (\leq 12 y), the SA leaves, Habilitation or not
- Cannot get a permanent position in the same university

Academic positions (traditional)

Position	Duration	Access	Diploma	Grants
Scientific Assistant (1)	≤ 6 y	entry level, local decision	Master	NO
Scientific Assistant (2)	≤ 6 y	SA renewed, local decision	PhD	NO
Associate Professor [W2]	permanent	must move, full competition	Habilitation	YES
Professor [W3] (Full Professor)	permanent	must move, full competition	Habilitation	YES

The Junior Professor System (≥ 2002)

Alternate fast access to academic career, without Habilitation

New System, adopted progressively

- Hired after the Master degree, PhD candidate
- Teaching duty 4–8 h/week
- Must get the PhD in 6 years
- Option A \rightarrow Get Habilitation \rightarrow Academic assistant
- Option B \rightarrow Junior Professor [W1]
- Can start independent research and apply for grants
- Temporary position maximum 2 \times 3 years with evaluation in between
- At end of 6 years, unemployed

Notes

- **Rule:** For a permanent position or a promotion, one must move
- **Problem:** Hiring a W1 generates an unemployed 6 years later
- **Solution:** The university must open a W2 position after 6 year, so that *in the average* the no of positions fits the no of people

Tenure: W3 and W4 only. First tenure at age 42 (avg)

Academic Positions (JP/W1)

Position	Duration	Access	Diploma	Grants
Junior Professor [W1]	≤ 6 y	Entry level, full competition	Master	YES
Associate Professor [W2]	permanent	must move, full competition	PhD + W1	YES
Professor [W3] (Full Professor)	permanent	must move, full competition	???	YES

United Kingdom

General

- **Competitive system**
- **Open to foreign nationals (1/4 of total)**
- **Most universities are government institutions**
- **All academics are permanent employees of the university**
- **PhD degree is mandatory for academic career**
 - **UK/EU students, optional salary on the advisor's research contracts**
 - **Non-EU students must find a grant by themselves**
 - **4.5 k£ for UK/EU students, 16.5 k£ otherwise**
 - **The degree must be obtained in 3–4 years**
 - **Teaching is not mandatory, yet encouraged and useful**
- **Postdoc 3 y typical, optional 2nd (shorter) one**
- **After long-time temporary position, the employee may have priority in the selection process**

Academic positions

Position	Duration	Access	Duty	Age, typ
Teaching Fellow	temporary	university selection	teaching	
Research Fellow	temporary	university selection		
Lecturer A / B	permanent	university selection	teaching & research (sometimes teaching only)	start at 28–30
Senior Lecturer	permanent	university selection	teaching & research (sometimes teaching only)	
Reader	permanent	university selection	teaching & research	start ≤ 40
Professor	permanent	university selection	teaching & research	start at 45–50
Promotions: Focus on teaching: Lecturer → Senior Focus on research: Lecturer → Reader			20% administration 40% teaching 40% research	
Probation period of 3 years, quite informal				

Selection process

- **There can be 100 application for 1 position**
- **A committee selects a short list of 4–6 people**
- **The selected candidates give a presentation**
 - **Also get feedback from the staff**
- **Final decision made by a panel**
 - **At least one external advisor and one administrator**
- **Probation period, then the permanent position is granted**

Italy

General

- **Universities are government institutions**
 - Very few exceptions
- **Permanent academics are Government employees**
- **PhD degree is mandatory for academic career**
 - Small salary for 3 years, little tuition charges
 - Teaching is not mandatory, yet encouraged and useful
- **Postdoc not mandatory, yet necessary in practice**
- **Long time between PhD and permanent position**
 - Some people have to choose, give up after years, or wait with no salary
 - **Sometimes patience and mediocrity wins, vs results and smart brain**
- **Sometimes the law or its applications lag years**
 - Fixed at some point by a government decree, unpredictable results
- **Overall, hardly predictable system**
 - Niches of excellence
 - Few brilliant researchers leave

Selection Process

- **Assistant Professor A (Ricercatore A)**
 - Competitive access
 - Teaching duty
 - Temporary position, 3 years, can be prolonged to 5 years after evaluation
 - Target “idoneità” (aptitude) —> apply for Associate Professor position
- **Assistant Professor A (Ricercatore A)**
 - Same as B, but 3 years only
- **Associate-Professor “idoneità” (aptitude, not position)**
 - National competition
 - (no. of qualified) = $1.5 \times$ (no of available positions in Italy)
 - Expires after four years
- **Associate Professor**
 - The university calls a “qualified” person
 - Kind of negotiation between university and candidate
- **Professor**
 - Same process, qualification and call

Academic Positions

Position	Duration	Requisite	Access	Duty
Assistant Professor A	3-5 years	PhD	competition (university)	??
Associate Professor	permanent, after probation	Qualification (competitive)	university choice	≤ 350 h/y
Full Professor	permanent, after probation	Qualification (competitive)	university choice	≤ 350 h/y
<p>Probation period of 3 years (70% salary)</p> <p>The professor writes a report at the end, judged by a national panel</p> <p>The probation period can be renewed for 3 years</p>				<p>including exams, tutorship, etc.</p>

**Dear students,
thanks for attending my
lectures, and best wishes
for your career**

**Yours,
Enrico Rubiola**