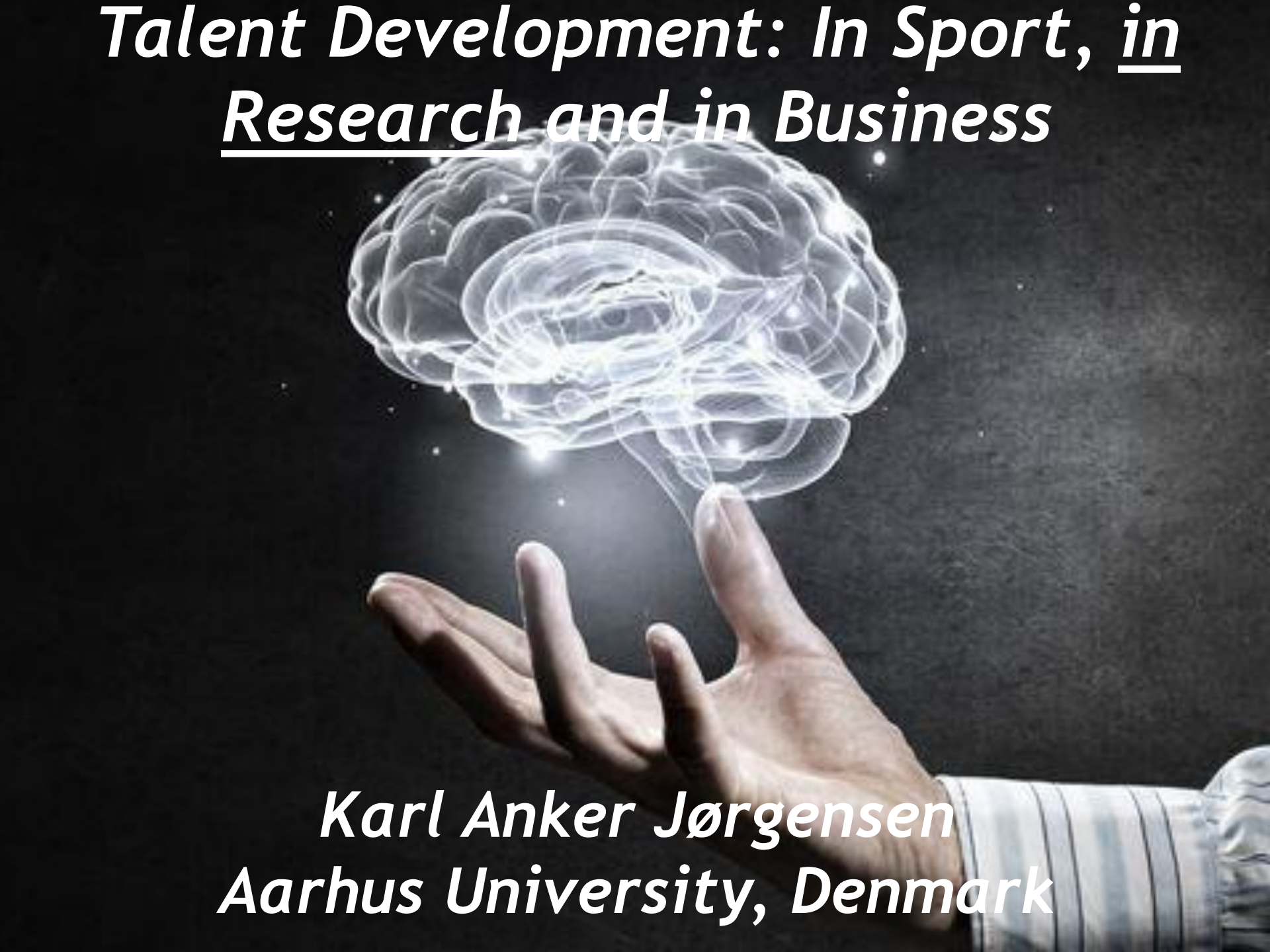
Talent Development: In Sport, in Research and in Business



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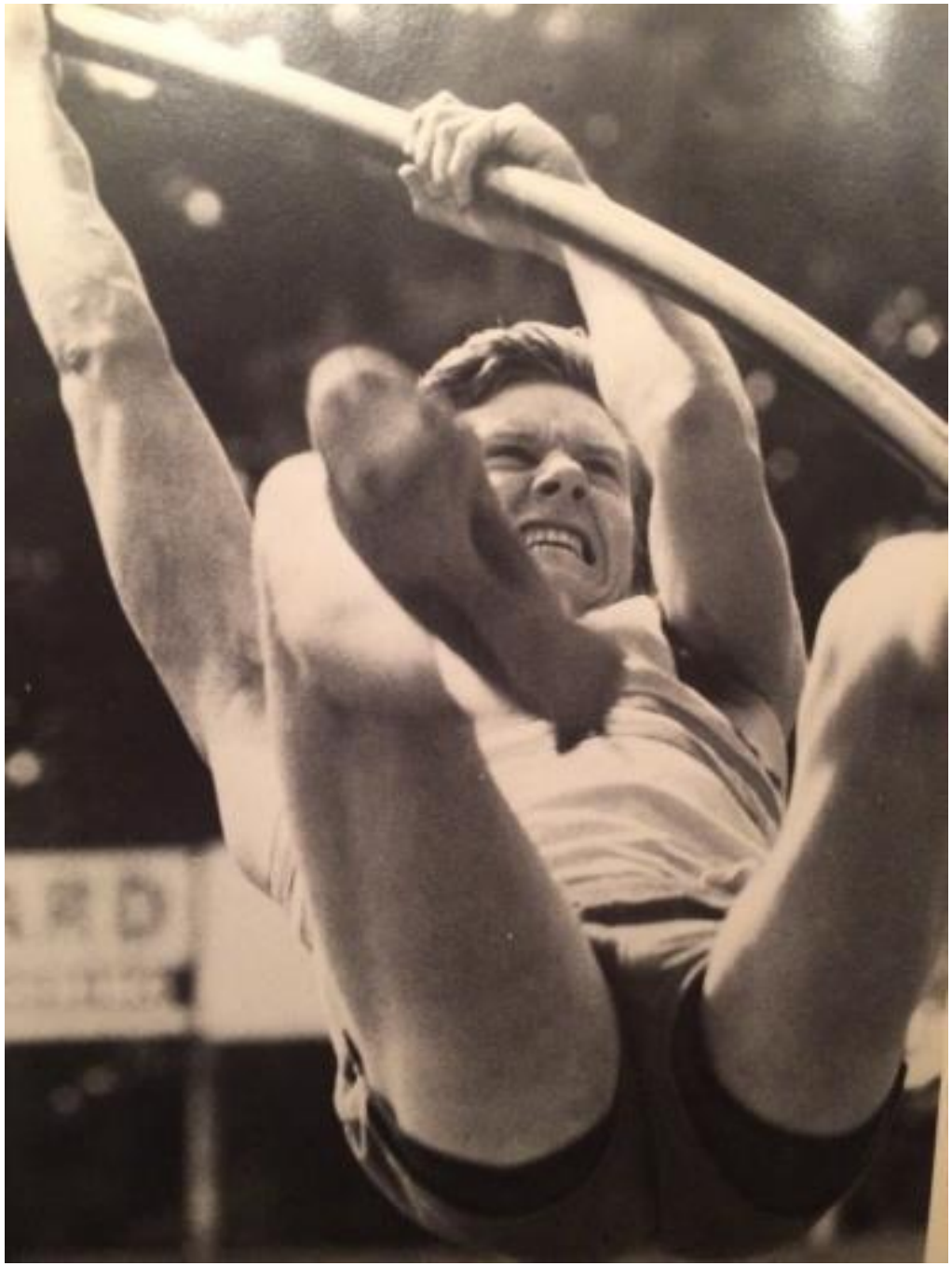
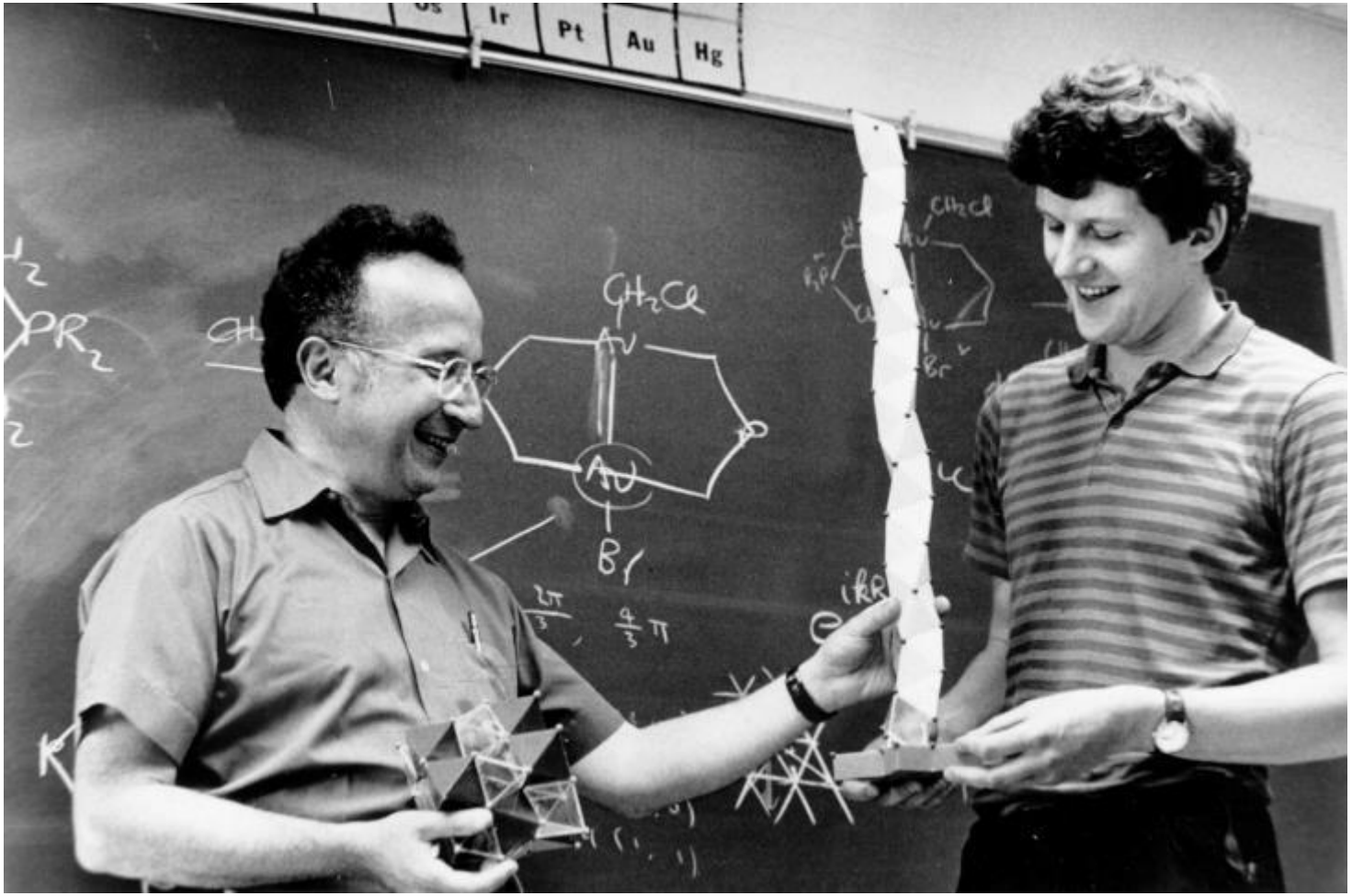
Talent and success

Age	100 m	200 m
15	-	21.73
18	-	19.93
22	9.69	19.90

McNeil: *Lack of dedication to training ... practical jokes*

- Ability
- Will
- Social competences/personality

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Scientific talent: Career and success

- **The right time at the right place**
- **Age and the will to do science, creativity**
- **Age and scientific productivity**
- **Quality in science**
- **Importance of equipment and colleagues**
- **Competition**
- **The importance of place and time**

Where do you play?

What is a successful scientific carrier and what drives a scientist?

- Recognition (Harvard dean: *Money and flattery*):
  - Prestigious journals - priority: *Science is not just a game for one's enjoyment. It is a game to win!*
  - Citation of work – h-index
  - Invitations to speak
  - Appointments to prestigious departments
  - Awards

- Money
  - Productivity = money

Age: Must be young to do great things?

Einstein: *A person who has not made his great contribitions to science before the age of thirty will never do so.*

Age	Chemistry	Physics	Medicine
21-25	0.9	7.4	0.7
26-30	15.7	19.9	10.3
31-35	27.0	27.2	24.8
36-40	28.7	19.9	23.5
41-45	16.5	14.7	25.5
46-50	7.0	8.1	6.0
51-55	0.9	1.5	6.0
55-60	2.6	1.6	1.3
61-65	0.9	0.0	1.3
Mean age	37.6	35.7	39.0

Age matters, but not nearly as much, for average scientists

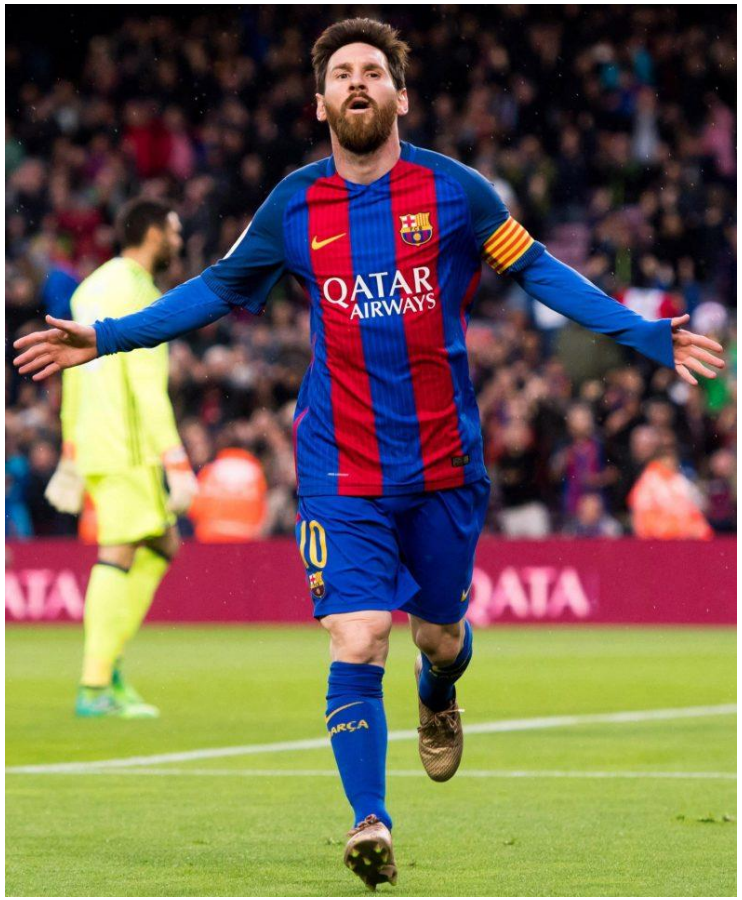
Age: Scientific productivity – talent development

- **Publications:**
  - **PhD (average): 2.4 publ/2 year**
  - **<40 years (average): 3.2 publ/2 year**
  - **>55 years (average): <2 publ/2 years (less competitive, lower-ranking journals**
- **Top-scientists:**
  - **Play the global game**
  - **Know how to play the game/strategy**
  - **Publication strategy**
  - **>10 publ/year**
  - **Top-ranking journals**
  - **Continuous visibility**
  - **«Do not» collaborate – only if necessary**
- **Young scientists:**
  - **Faster to accept new ideas**
  - **Move away from supervisor/postdoc advisor's field**
  - **Independent publications – DO NOT publish with your supervisior**
  - **Quality = top-ranking journals = success!**

Competition

- **Science has always been competitive!**
- **Until 2000:**
  - **Science has been growing at an exponential rate**
  - **New player: China**
- **Increased competition:**
  - **Crossbar for the tenure hurdle has increased**
  - **Higher expectations to young researchers:**
    - **Not only quality – also quantity**
    - **Ability to obtain funding**
    - **Difficult to obtain research position without having funding in hand**
- **Funding:**
  - **Playing the safe card – top-scientists will continue doing top-science**

Too much competition



- Compare a top-scientist to a top-football player!

- Attractive for top-institutions:
  - Buy track record
  - Buy international recognition/ranking
  - Attracts funding
  - Attracts students/postdocs
  - Important for e.g. industries

Time and place: The right time at the right place

- **Prestigious departments: Lively colleagues and exceptional graduate students**
- **Intellectual climate**
- **Scientists trained when change is in the air .... become in some sense part of the change**
- **Access to modern facilities and equipment**
- **Learned how to play the game in terms of project planning, strategy and publications**
- **Money is not a problem**

The best way to predict who will make a discovery worth a Nobel prize is simply to examine who trained them

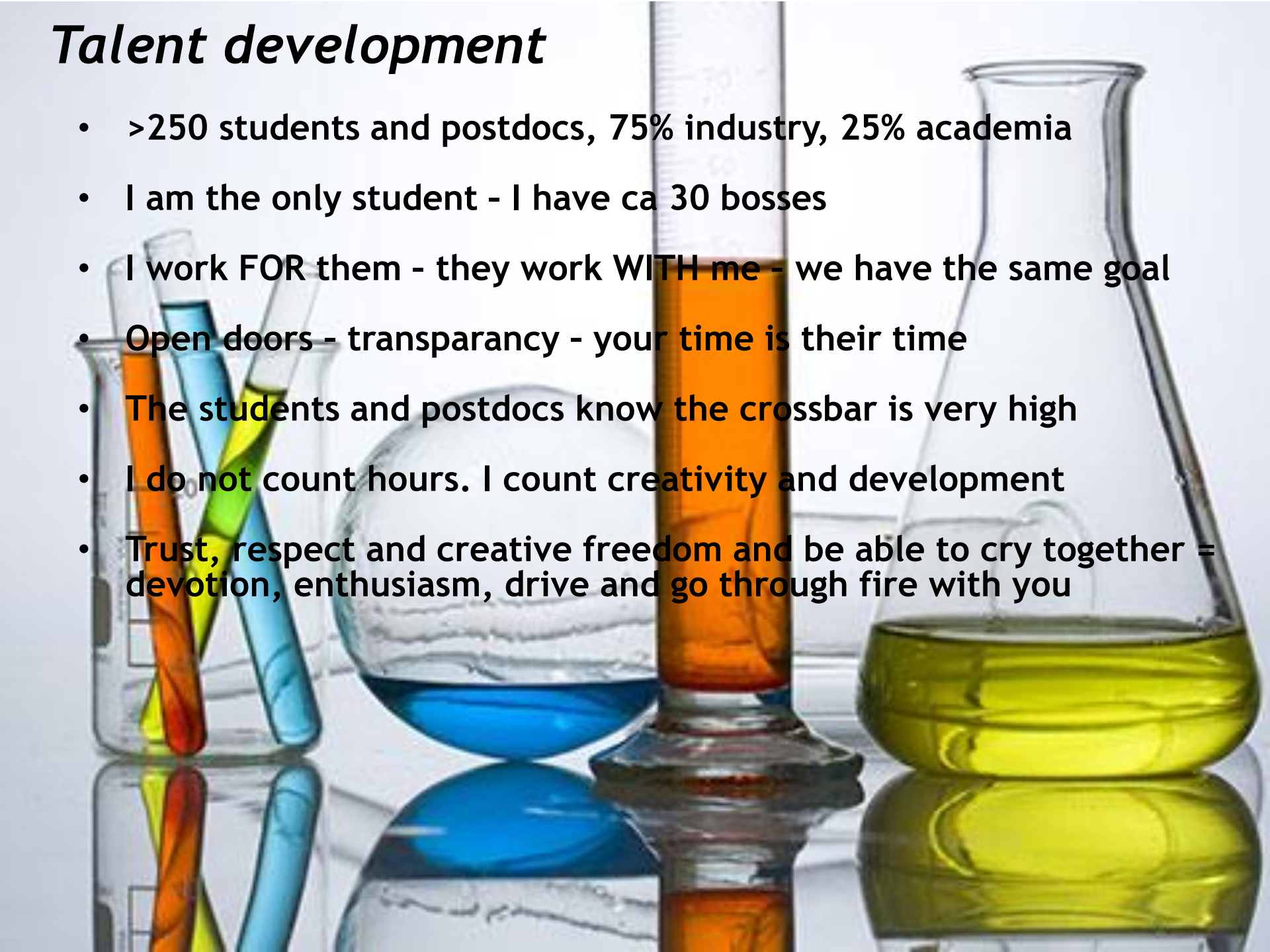
Talent development

- Scientist/talent development - different?
- Grades ≠ scientific success
- Ability - will - social competences/personality
- Be orginal - not one more!
- Science is 9 days uphill with frustations
- Set the crossbar high - only quality counts
- Students are the fuel for succesfull science

- You work for yourself

Talent development

- >250 students and postdocs, 75% industry, 25% academia
- I am the only student - I have ca 30 bosses
- I work FOR them - they work WITH me - we have the same goal
- Open doors - transparancy - your time is their time
- The students and postdocs know the crossbar is very high
- I do not count hours. I count creativity and development
- Trust, respect and creative freedom and be able to cry together = devotion, enthusiasm, drive and go through fire with you



NO PAIN

NO GAIN