

Young Researchers – The Academic Research “Engine”. Some Specific Problems in Romania

*Tinerii universitari – “motorul”
cercetarii academice de pretutindeni.
Cateva probleme specifice Romaniei*

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Academic Research – unlike military research or industrial research – is characterised by the followings:

- It is an open research
- It is developed through international scientific cooperation
- The research's results are published (scientific reviews, conferences, etc.)

The Young Researchers' Role in developing Efficient Academic Research is Crucial, because:

- **They have an impressive work power**
- **They are creative and enthusiasts**
- **They easily adapt to new scientific challenges**
- **They are motivated through some pragmatic targets (PhD programs, Post-doc programs, etc.)**

Young Researchers – The Academic Research “Engine”

- **Practically, in each academic research project are integrated young PhD researchers.**
- **Young researchers are mainly involved in some concrete research activities (especially in simulation/emulation/implementation activities).**
- **Most scientific reviews & conferences are publishing papers developed by young researchers (PhDs, post-docs).**

PhD Students' Institutional Problems. Possible Solutions (I)

- The Rule must be: PhD with frequency (full-time), financed in an adequate manner
- PhD programs must be focused on research project (many PhD students/one research project) and not on a PhD student working alone on her/his own project (one project/PhD student)
- Maximum 4 didactical hours per week for each PhD student

PhD Students' Institutional Problems.

Possible Solutions (II)

- Enlarging the “joint PhD” system (with 2 supervisors, one from an EU country)
- Before finishing the PhD thesis it is necessary to publish papers in some prestigious journals & conferences (ISI - *Institute of Scientific Information*)
- There are necessary new PhD regulations

Young Researchers and Scientific Performance Evaluation (I)

- Scientific performance evaluation according to international scientometric criteria (ISI *Thomson*; objective elitist criteria, quantification of research results through indexed citations number, using scientific international data bases, etc.)
- Developing an unitary national system for scientific performance evaluations at individual level, project level and institutional level (FP6 is an useful guide)

Young Researchers and Scientific Performance Evaluation (II)

Some interesting opinions at:

- <http://mepopa.com/su.htm>
- <http://mepopa.com/Pdfs/daniel21apr.pdf>

Increasing the Number of PhD Researchers in Industry

- In Romania most PhDs are working in universities and few PhDs are working in companies.
- Filling the “semantic gap” between industrial research and academic research.
- It’s necessary a new Industry-Academia partnership scheme, with flexible rules concerning the criteria for the eligibility of researchers to be recruited.

Institutional Problems for Young PhDs. Possible Solutions (I)

■ To establish a new fellowship scheme to fill the gap that currently exists between postdoctoral and established academic positions. Such scheme should promote early independence of young researchers by providing them with start-up funds and other means to set up their own research groups or develop their entrepreneurialships. Details at URL:

<http://nextwave.sciencemag.org/cgi/content/full/2000/11/02/13>

Institutional Problems for Young PhDs. Possible Solutions (II)

- Enhancing/Establishing Research Careers for young Doctors, inclusive in R&D companies
- A good initiative: Ministry Order O.M. 3861/13.04.2005 Infiintarea programelor de cercetare post-doctorala (**Post-Doc Research National Program**) – based on CNCSIS Proposals); Opinions: http://www.ad-astra.ro/journal/6/buhai_conditia_cercetatorul_ui.pdf

Facilitating Young Researchers Access to Academic Managerial Positions (I)

- Romanian present-day academic system is quite rigid, bureaucratic and not sensitive to prestigious scientific research results
- It is necessary an academic system centred on research group/centre, institute, etc., as a fundamental atomic entity, and not on administrative structures (faculties, councils, etc.) and functions (vice-deans, dean, vice-rectors, rector, etc.)

Facilitating Young Researchers Access to Academic Managerial Positions (II)

- **These research groups must be autonomous (scientific, financial)**
- **These research groups will produce and teach certain knowledge for students**

Improving Research's Financial Aspects

- **Romania (5000 Euro/Researcher) vs. EU (80,000 Euro/Researcher)**
- **Romania (0.39% PNB) vs. EU (1.9% PNB)**

Enlarging and Improving Institutional Cooperation with Prestigious European Research Groups

- Improving young researchers' mobility degree (through special regulations)
- Special funds allocation, for each university, in order to finance young researchers participation to scientific international top-conferences
- Promotion to be conditioned by foreign research stages in prestigious EU and US universities (Visiting Researcher/Professor, minimum 6 months ?; E.g. Slovenia)

Attracting back some (Romanian) Valuable Young Researchers that work in Foreign Countries

- Introduction of a specific fellowship scheme to attract back to Romania the research *diaspora*
- They can be integrated in our best research institutes (4 European Excellence Centres, etc.)
- Courageous managerial and financial offers
- An institutional approach. E.g. *Rointera Program*:
www.rointera.ro

Stopping Romanian Young Researchers Emigration

- Growing up research budgets
- Researchers' social prestige rehabilitation
- Researchers' autonomy, etc. Some interesting opinions at:
- <http://www.ad-astra.ro/journal/6/szedlacsek.pdf>

Conclusions (I)

- **The Young Researchers' Role in developing Efficient Academic Research is Crucial**
- **Young Researchers represent The Academic Research "Engine"**
- **Solving Some PhD Students' Institutional Problems**
- **It is necessary to develop a National Scientific Performance Evaluation System (compatible ISI)**
- **Increasing the Number of PhD Researchers in Industry**
- **Solving Some Institutional Problems for young PhDs**
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Conclusions (II)

- **Facilitating Young Researchers Access to Academic Managerial Positions**
- **Improving Research Financial Aspects**
- **Enlarging and Improving Institutional Cooperation with prestigious European Research Groups**
- **Attracting back some (Romanian) Valuable Young Researchers that work in Foreign Countries**
- **Stopping Romanian Young Researchers Emigration**