HelmholtzZentrum münchen
German Research Center for Environmental Health

Institutional Development of the R&D System
Bucharest, 07.- 08. July 2010

"Quality Assurance in Research Organisations"

Dr. Stefan Echinger
Helmholtz Zentrum München
German Research Center for Environmental Health

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Outline

- **Helmholtz Association**
- **Helmholtz Zentrum München**
  German Research Center for Environmental Health
- **Types of Evaluation**
- **Examples**

  - Programme-oriented Funding

  - Evaluation of Institutes

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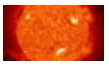
Facts and Figures

- 16 (+1) research centres with 240 institutes
- 27.913 staff
  - 9.043 scientists
  - 4.400 PhD students
  - 1.620 apprentices
- 2.8 billion € budget
  - 1.9 bn € institutional funding
  - 0.9 bn € third party funding

Helmholtz Centre
Branch of a Helmholtz Centre
Helmholtz Head Office


Energy

Earth & Environment

Health

Key Technologies

Structure of Matter

Aeronautics, Space and Transport

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Major Strategic Lines

- Collaboration and partnership with universities
- Promotion of young researchers
- Participation and leadership in international projects
- Cooperation with industry and technology transfer

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Helmholtz Zentrum München

- Founded in 1960
- 23 Institutes
  3 Core Facilities
  13 Clinical Cooperation Groups
- 1.740 employees
- 153 Mio. € total budget (30% third-party)
- 340 PhD students with 50 PhD graduations p.a.
- 676 publications in peer-reviewed scientific journals

Campus Neuherberg

Hämatologikum

Research Farm Scheyern

Life & Science Center (CPC)

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Impact of Global Change

Climate & Ecosystems
Global Economy
Socioeconomics & Demographics
Behavior & Life style

?

Well Being
Health
Diseases

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Types of Evaluation

Ex Ante Evaluation: **- Establishment of new research fields**

- Decision on research proposals

- Appointments of leading scientists

Ex Post Evaluation: **- Evaluation of existing research institutes, centers, programs**

Systemic Evaluation: **- Organisational Performance of a research institution or system**

Peer – Review!

Importance of Evaluation

Instrument for:

- ensuring high scientific quality

- assessment of the research

- discussion of research content and research strategy

- appropriate allocation of resources

- justification of the budget

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Programme-oriented funding
Programme Development

Research policy requirements

- Structure of the research field and budget framework
- General objectives and criteria for the programme evaluation

Principles of support policy

- Cooperation across institutional and disciplinary borders
- Competitions for research funds

Guidelines for the Programme Proposals

- **Comprehensive description of**
  - Programme strategy
  - Future Research proposed for individual topics
  - Previous achievements / competences of the participating centres
- **Planning of annual resources (5-year period)**
- **Identification of concepts for significantly improving / extending the potential of scientific approaches**

Programme Evaluation Criteria

- Scientific Quality
- Strategic Significance
- Cost Effectiveness

Decision Making Procedure

- Review panels with 350 international and independent **experts**.
- 28 **review panels'** votes.
  Generation of differentiated initial funding and scientific recommendations.
- The **senate commission**, which includes the chairs of the review panels, compares the **programmes and their developmental perspectives**.
  From this, specific funding recommendations are derived.
- The **senate** allocates the available budget (including the increase for the research field).

Assurance of Scientific Excellence (I)

Regular international peer review:

I - Programme Oriented Funding Review (5-year period)

- Programme-level
- Focus on overall scientific performance and strategy
- Focus on future programme planning

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  - Programme-oriented Funding

  - Evaluation of Institutes (general aspects)

Assurance of Scientific Excellence (II)

Regular international peer review:

II - Intermediate Evaluations of Research Topics / Institutes

- Research Centre level
- Focus on detailed scientific performance
- Focus on previous achievements

Importance of Evaluation

- **ensuring high scientific quality**
- **assessment of the research**
- **discussion of research content and research strategy**
- **appropriate allocation of resources**
- **justification of the budget**

Peer – Review!

Ex Post Evaluation

Regulations – Transparent Procedure:

- Authority
- Nommination and appointment of members (independent international experts)
- Timeframe
- Self-evaluation
- Meeting of the SAB
- Report of the SAB
- Receptor
- Consequences

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Ex Post Evaluation

Criteria

- Importance of the institute compared to national and international standards
- Evaluation of the scientific work programs, personnel, and structure
- Prospects for the research field
- Appropriate allocation of funding (incl. third-party funding)
- Cooperation within the institute, with national and international partners
- Transfer into application
- Promotion of junior researchers and equal opportunities
- Awards, job offers (young) scientists receive

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Evaluation

The use of bibliometrics and indicators:

„Administrators need to understand what the various metrics can and cannot tell them“ (nature, June 17, 2010)

Informed Peer–Review!

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Ex Post Evaluation

The Status Report - Self-Evaluation:

- Research concept
- Highlights of the research
- Publications/Patents
- Junior scientits and guest scientists
- Cooperations (national & int´l)
- Budget
- Third-party funds
- Personnel structure
- Research equipment and infrastructure
- Teaching activities
- Development of young scientists (appointments, awards, etc.)
- Interaction with business, politics and society
- Public relation work

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Meeting of the SAB

Meeting of the SAB:

- Participation of a representative of the authority/receptor
- Interaction with all kinds of institute members
- Lectures from individual departments
- Poster presentation
- Closed sessions
- written report of the SAB should be drafted
- most important results are disclosed to the representative

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Report of the Scientific Advisory Board

- Chairman writes the report in coordination with the other members
- Discussion of the institute's standing in a national and international context
- Evaluation of the scientific results and research performance
- Evaluation of the scientific importance in relation to the allocation of funds incl. third-party funds
- Opinion on future endeavors and concentrations
- Assessment of the cooperation within the institute and with external colleagues
- Contains proposals for changes and restructuring
- Recommends continuing or closing of an activity

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Ex-post Evaluation

Consequences

- Recommendation on research portfolio of departments and institutes
- Influence on financial endowment
- Influence on personal salary

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Thank you for your attention!

Dr. Stefan Echinger
Helmholtz Zentrum München
Head of the Department
Scientific Organisation Development

Tel.: +49 - 89 3187-4650
Fax: +49 - 89 3187-3372
E-mail: stefan.echinger@helmholtz-muenchen.de

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