How Scenarios and Role Models can foster scientific careers.

International Symposium on Gender Equality in the Academia: Best Practices

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Vertical segregation shows that there are still typical thresholds at which women opt out of classical science careers.

Source: German Council of Science and Humanities, 2012. Data for Germany and EU-countries.
The knowledge and innovation potential of women is still not sufficiently used in many countries

- Careers in science are often associated with uncertainty and fractures, male-dominated structures frighten off women (Eagly & Carli, 2007; Grün et al., 2009; Connolly & Fuchs, 2009).

- Ambivalent attitude of young scientists: high attractiveness through variety of topics, but many structural problems (Jaksztat et al., 2011).

- Recruitment of young scientists: absence of a formalized access to promotion and female role models, so that informal specifications, networks, and individual support relationships gain importance (Costas, 2003; Allmendinger, 2005).

- Informal patterns foster rather those groups of people who already make up the majority of an organization = process of homosocial co-optation (Matthies et al., 2001; Allmendinger, 2003; European Commission, 2008).
What new concepts can be designed for young female scientists to establish new ways of providing information on scientific careers?

- Especially the German research landscape is characterized through a high complexity. Decision making often has to be done when knowledge about the research system is still quiet low (Mangematin, 2000).

- Research organisations are often shaped through social practices and not only through official laws and organisational structure (Nöbauer & Zuckerhut, 2002).

→ Assumption that the knowledge about structures, laws and informal practices within the complex research system can be decisive for retaining young researchers within the research system.
The goal of Creating Futures in Science is to develop a workshop-format that ...

- shows career opportunities and allows to understand and capture different science systems,
- supports young scientists with their individual career planning,
- increases the attractiveness of a research career through a scenario-based, participatory approach,
- acts on an individual and an organizational level,
- and connects classical methods of knowledge transfer with methods from the design area.

→ This project aims to help individuals, and women in particular, to navigate more effectively the complex array of relationships between events and decision points that shape a scientist’s professional development and career path.
Creating Futures in Science – the three-stage scenario-based approach to promote young female scientists

Source: own representation; Fraunhofer 2013
Creating Futures in Science – Reflection and Knowledge

- **Reflection phase prior to the workshop**
  - Getting to know the science system
  - Individual contextualization in the science system
  - 4 key elements: institution, scientific community, impact on research and individual factors

- **Knowledge**
  - Formal and institutionalized knowledge
  - Informal structures and values
  - Implicit expert knowledge
  - Networking
Creating Futures in Science – Reflection and Knowledge

Career Box

Experts/Lectures

Networking

impressions
“Enabling Space is a space enabling, supporting and facilitating knowledge and innovation work” (Peschl, 2007).

Enabling Spaces as a framework for individual and collaborative learning with physical conditions, mental conditions and intellectual frameworks (Peschl, 2007).
Scenarios are the most powerful vehicles I know for challenging our ‘mental models’ about the world, and lifting the blinders that limit our creativity and resourcefulness.” (Schwartz, 1991)

- **AcademiaNet Role Models**
  - Successful female scientists as Role Models and showing different career opportunities

- **“Cross Check” (Confrontation)**
  - Considering their own scientific career path from the perspective of another person

- **Future CV**
  - Individual, scenario-based creation of a personal Future CV for visualizing and reflecting the own potential career paths
Creating Futures in Science – Scenario-based Tools

Role Models

“Cross-check”

Future CV
Creating Futures in Science – three different settings

<table>
<thead>
<tr>
<th>Berlin</th>
<th>Tel Aviv</th>
<th>Zurich</th>
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<tbody>
<tr>
<td>one workshop in 09/12</td>
<td>two workshops in 12/12 and 01/14</td>
<td>one workshop in 09/13</td>
</tr>
<tr>
<td>12 participants</td>
<td>27 and 25 participants</td>
<td>16 participants</td>
</tr>
<tr>
<td>PhDs natural science/ engineering and social science</td>
<td>PhDs natural science/ engineering</td>
<td>PhDs natural science/ engineering</td>
</tr>
<tr>
<td>Special: interdisciplinary approach</td>
<td>Special: social expectations</td>
<td>Special: very international group</td>
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The scenario-based approach provides an innovative contribution to the understanding of the complex scientific system.
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<table>
<thead>
<tr>
<th>Methods</th>
<th>Career box</th>
<th>Enabling spaces: Role Models and Funding</th>
<th>Confrontation</th>
<th>Future CV</th>
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<tbody>
<tr>
<td>Average</td>
<td>4,4</td>
<td>3,3</td>
<td>4,2</td>
<td>4,9</td>
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*Table 2: Rating of scenario-based workshop elements within the European workshops (N= 26; max. value = 5)*

<table>
<thead>
<tr>
<th>Methods</th>
<th>Flowers</th>
<th>Career stories</th>
<th>Mirror exercise</th>
<th>Future CV</th>
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<tbody>
<tr>
<td>Average</td>
<td>4,4</td>
<td>4,6</td>
<td>4,3</td>
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</tr>
</tbody>
</table>

*Table 3: Rating of scenario-based workshop elements within the Israel workshops (N= 49; max. value = 5)*
The scenario-based approach provides an innovative contribution to the understanding of the complex scientific system

»It was great to see your own situation from the perspective of another person and then to build on this input for your own reflection.«

Workshop Berlin

»The workshop gave me a different way of looking at my career choices. It helped me clarify what I want and hope to achieve both personally and professionally.«

Workshop Zurich

»I managed to find much greater clarity regarding my career, what I would like to achieve, and what I have to do in order to get there.«

Workshop Tel Aviv
For more information and some insights and comments from one of the Israeli workshops, please check out the following link on the Elsevier Foundation Youtube Channel:

https://www.youtube.com/watch?v=Zf4ZuCdFncl

THANK YOU VERY MUCH FOR YOUR ATTENTION!

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