Public Communication of S&T
German and European Perspectives

Paper presented by
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PCST-7 Session
Dialogue in Science Communication
Germany has been a late developer in the field of Public Understanding of Science!
Objectives for the first nation-wide initiative „Science in Dialogue“

- Mobilising political support for S&T in Germany (after reunification!)
- Counteracting the declining interest of young people in the natural sciences and engineering
- Improving science education in schools
- Raising public awareness of science in general
Instruments

• **Science Years:**
  2000 Physics, 2001 Life Sciences, 2002 Geoscience, 2003 Chemistry
  → Mobilization of the scientific community

• **Science Summers:**
  2000 Bonn, 2001 Berlin,
  2002 Bremen, 2003 Mainz/Wiesbaden
  → Increased visibility by joint action

• **PUSH Competition:**
  → Funding grass-roots activities
Public Understanding of Science (and Humanities) today
Problems for dialogue

• Many scientists still believe in the „Deficit Model“
• They lack communication skills
• … and are not used to disputes outside their discipline
• In Germany, the theoretical background = „scientific understanding of the public“ is meagre!
Public Understanding of Science tomorrow = Public Engagement?
<table>
<thead>
<tr>
<th>Receiver</th>
<th>Science</th>
<th>Industry</th>
<th>Education</th>
<th>Politics</th>
<th>Media</th>
<th>Citizen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Science</strong></td>
<td>Exchange of knowledge</td>
<td>We have some great new ideas!</td>
<td>Discoveries Education</td>
<td>More Money! We have some Problems</td>
<td>Whats new!</td>
<td>It’s just too complicated...</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td>We need products that sell!</td>
<td>Business as usual</td>
<td>More (young) consumers!</td>
<td>They don’t tell us!</td>
<td>Advertising, New Products</td>
<td>Advertising, Products</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Questions?</td>
<td>More money!</td>
<td>Exchange of ideas. Society..</td>
<td>Criticism...</td>
<td>No teacher watches TV!!</td>
<td>We know – you don’t!</td>
</tr>
<tr>
<td><strong>Politics</strong></td>
<td>You get less money! We need some solutions</td>
<td>We need more money! Solutions, Jobs</td>
<td>No politics in school!!</td>
<td>They don’t just speak!</td>
<td>Dear citizen Vote us</td>
<td>We are the best</td>
</tr>
<tr>
<td><strong>Media</strong></td>
<td>Protest, Hope for cure, Problem solving</td>
<td>Protest, Problem solving</td>
<td>Science is fun!</td>
<td>More liberties More channels</td>
<td>We are the best</td>
<td>Dear viewer Stay with us</td>
</tr>
<tr>
<td><strong>Citizen</strong></td>
<td>Protest, Hope for cure, Help..</td>
<td>Consumer, Questions, Children</td>
<td>More jobs, more money</td>
<td>The answer is: Yeah</td>
<td>Gossip...Just talk</td>
<td></td>
</tr>
</tbody>
</table>
New ways conducive to Public Engagement in Science

1. Informal Science Education at the interface university – school → Public Understanding of Research

2. Science in Fiction → Reaching unreceptive target groups

3. Finding a „Responsive Mode“ → Science Hotline

4. Setting the agenda → S&T Foresight
PUS vs. PUR (NSF)

PUS
- established knowledge
- one-time learning experience
- past applications

PUR
- research into the unknown
- ongoing presentation (research process incl. setbacks)
- future applications, incl. ethical, social and policy implications
Consensus conferences for kids?

Example: „Pathways to Utopia – Understanding and Assessing Technology“ to show realisation of utopian ideas as a societal process, to further a non-reductionist concept of science and to improve power of judgement

- Schoolchildren and apprentices defined the topic (in this case communication technology)
- They chose the experts they wanted to interview
- They wrote a report
- They presented it to and discussed it with politicians
The Boloney Detector

• Understanding complex systems
• Interpreting statistics
• Telling the difference between science and pseudo-science: „What is a scientific question?“
• Understanding uncertainty and the limits of science

→ Challenges for the responsible citizen
Reaching unreceptive target groups

• „Science“ Film Festival: Hollywood movies + introduction and discussion with a scientist (e.g. Jurassic Park, Outbreak etc.)

• Theatre(-in-education): Pig in the Middle, Copenhagen, Oxygen, Calculus, An Immaculate Misconception etc.

→ science / sender driven approaches!
Finding a „Responsive Mode“ (I)

Science Hotline experiences e.g. in France, Germany and the UK → Science Line,
• a free telephone helpline and website that answers all science questions (Mo – Sa 1-7 p.m.)
• 6 full-time staff
• 1.500 enquiries per month, 500-600 accepted, 70% can be answered while on the phone; max. waiting time for clients 6 weeks
• database with some 10.000 questions and 1.500 experts
• Links to specific TV programmes
Bioethics debate in Germany 2001:
• elitist debate on feature pages
• far from the lives of ordinary citizens
→ „1.000 questions“ campaign in 2002:
„We need your question!“
• Target group: general public, handicapped people
• start October 10
• some 3.000 questions within 6 weeks
What has been achieved …

• Growing attention of the media
• Increasing numbers of visitors, audiences etc.
• Much easier recruitment of scientists (estimation: Communicator Prize!)
• Lasting effect of events
• Growing number of freshmen in science
• Growing number of actors (foundations, museums etc.)
European dimension

• Very similar objectives to national activities (Dialogue …?!)
• Multitude (and weakness) of national organisations
• Limits to pan-European cooperation
• Weakness of European organisations (with respect to remit, available funds etc.)
• Cultural differences (a wealth of Europe!)
• Different languages
The science & technology field

• Is increasingly important
• Interests, concerns & affects people
• Is not always well understood or perceived in the media or by the public
• Is to a large extent funded by the public
• Needs to communicate with society
• Is relatively underfunded in Europe
EuroScience Open Forum 2004 in Stockholm

Supported by
Main aims

- To present science and the humanities at the cutting-edge
- To stimulate scientific awareness
- To foster debate on science & society
Formats

- Keynote & plenary presentations
- Specialised symposia & seminars
- Interactive discussions
- "Pro" & "Con" debates
- Interviews
- Computer interactive sessions
- "Mini-referenda"
- Poster presentations
- Other formats
ESOF 2004 should …

• make use of the rich experience in Europe (and beyond!) concerning science communication;
• be a platform for many actors, i.e. organised in a bottom-up fashion;
• be funded from a variety of sources;
• put a lot of emphasis in outreach activities;
• develop into a „virtual science center“.