Inspiration and In-depth Engagement: Public Science Events

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Joint ICTP-TWAS Workshop on Science Communication in Developing Countries: Bridging the Gap between Science, Policy and the General Public, Trieste October 2011

Overview

Main areas of focus:

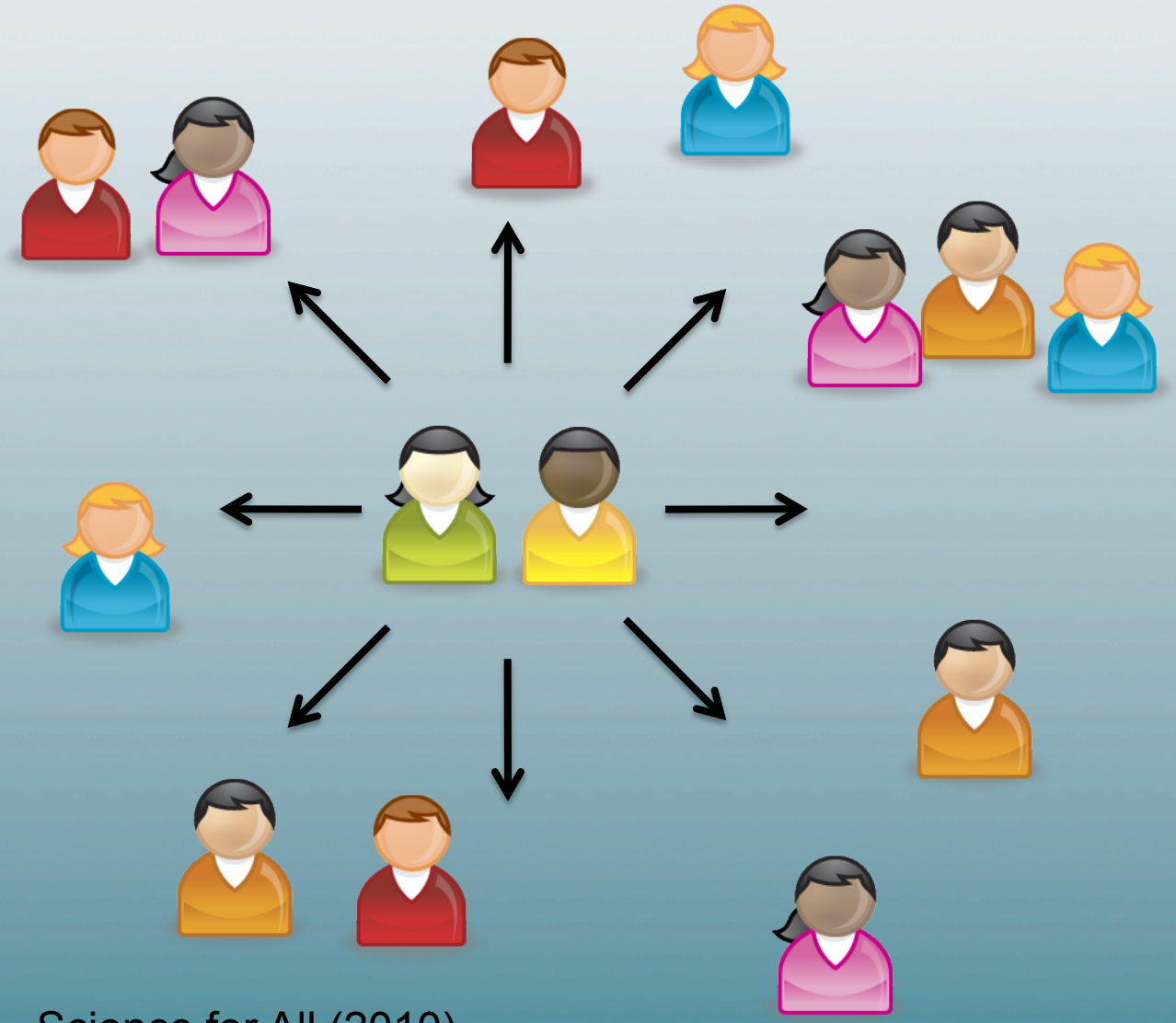
- Purposes of Science Communication
- Potential Venues
- Event Types
- Top Tips

Specific case studies:

- Science Centres and Museums
- Science Cafés
- Science Festivals

Purposes of science communication

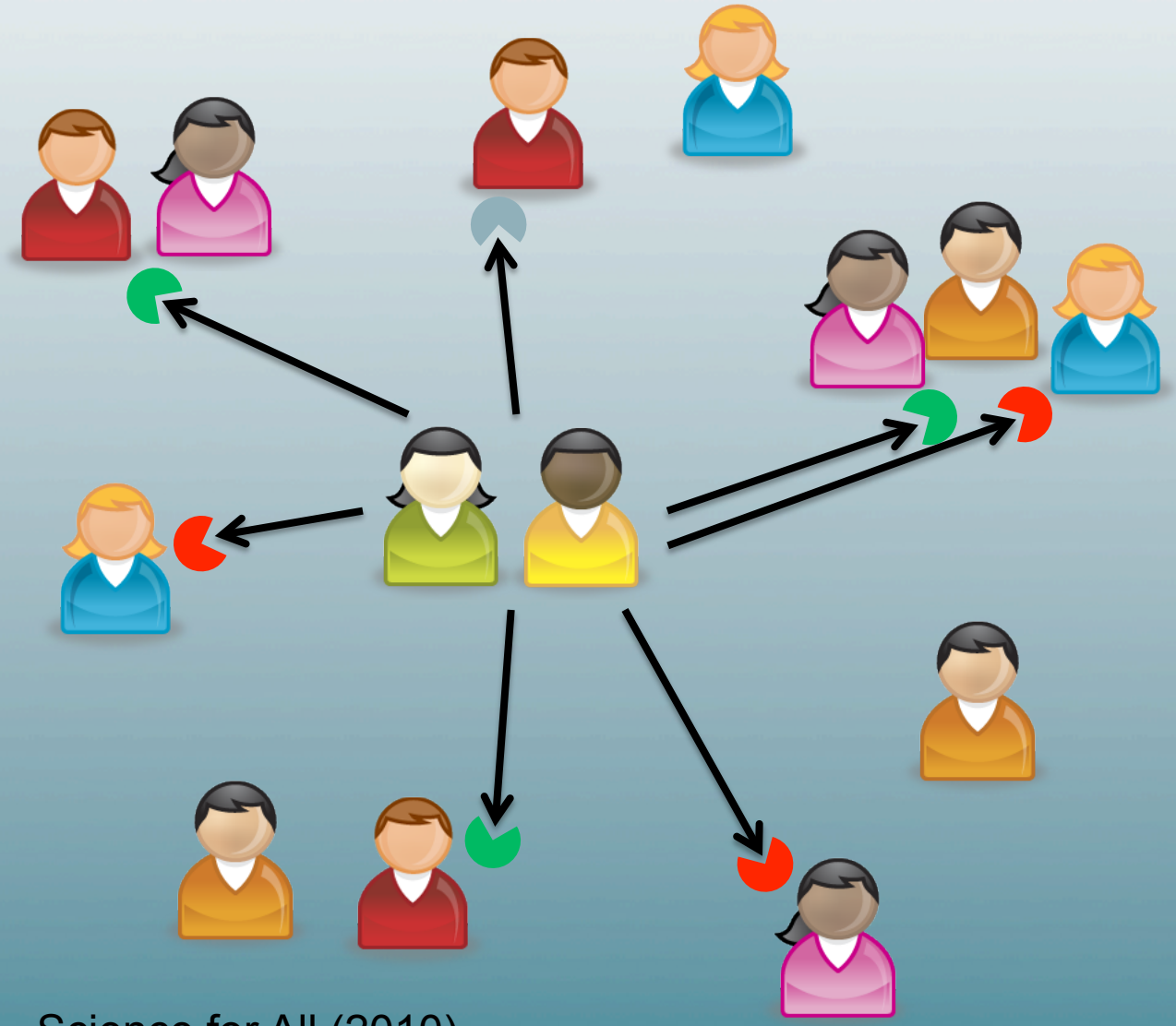
- Telling



Science for All (2010)

Purposes of science communication

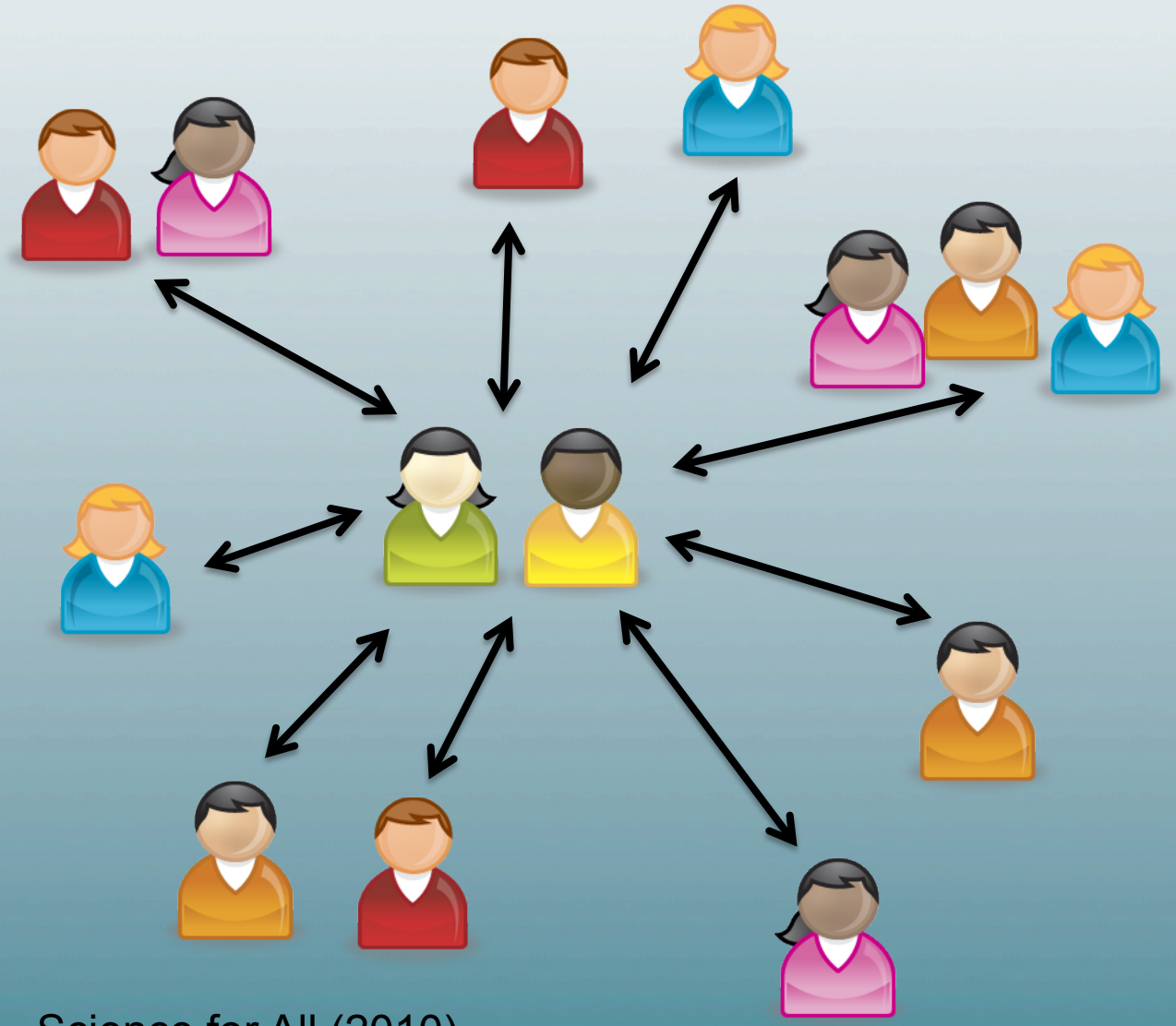
- Telling
- Sharing



Science for All (2010)

Purposes of science communication

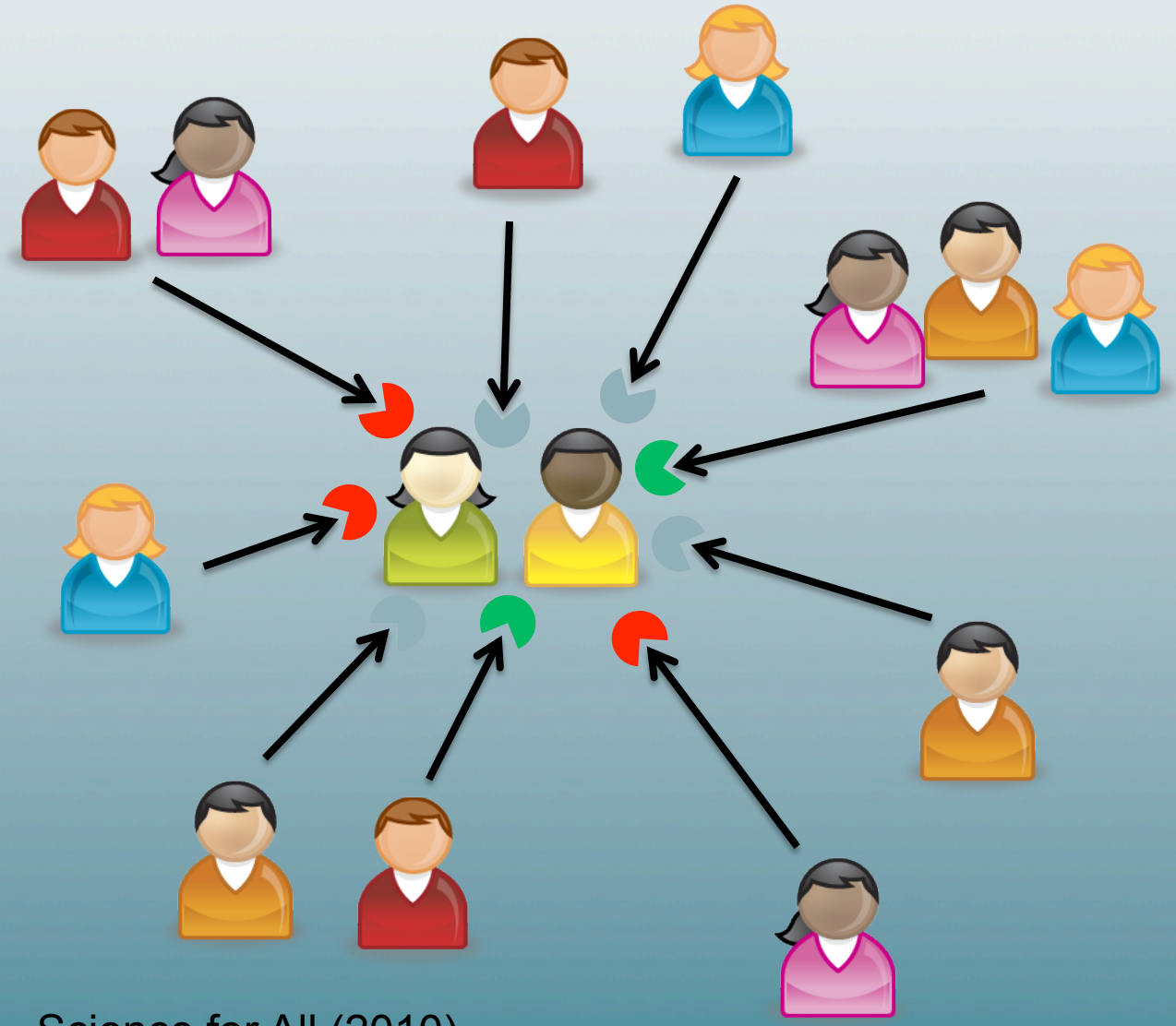
- Telling
- Sharing
- Involving



Science for All (2010)

Purposes of science communication

- Telling
- Sharing
- Involving
- Consulting

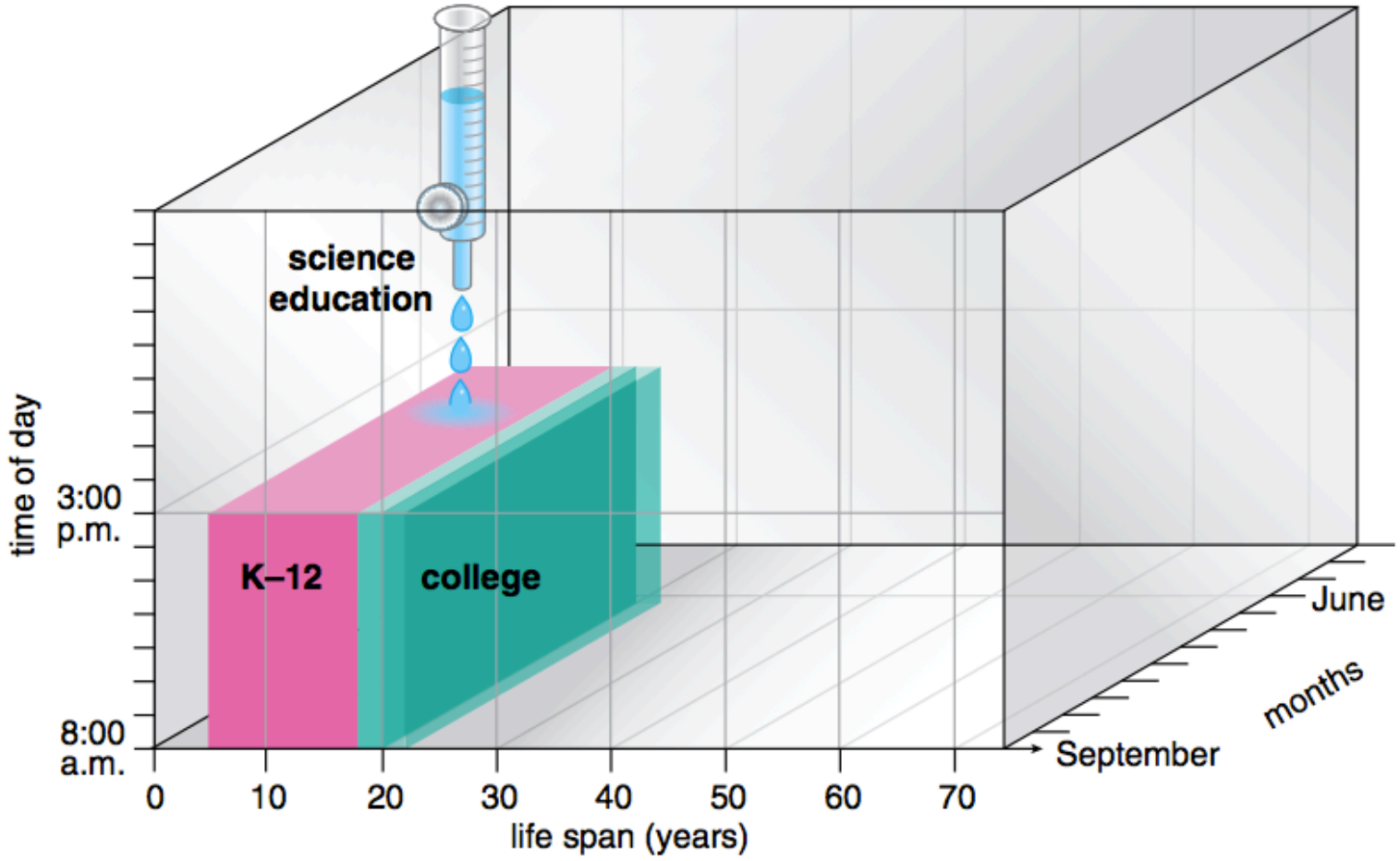


Science for All (2010)

Potential Venues

- Schools

The power of learning outside the classroom



Falk and Dierking (2011)

Potential Venues

- Schools
- Science Centres & Museums

Glasgow Science Centre, Scotland

Potential Venues

- Schools
- Science Centres & Museums

New York Hall of Science, USA

Potential Venues

- Schools
- Science Centres & Museums

House of Experiments, Slovenia

Potential Venues

- Schools
- Science Centres & Museums

Sharjah Children's Discovery Centre, United Arab Emirates

Science Centres and Museums

Glasgow Science Centre, Scotland

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Potential Venues

- Schools
- Science Centres & Museums
- Supermarkets & Shopping Malls

Potential Venues

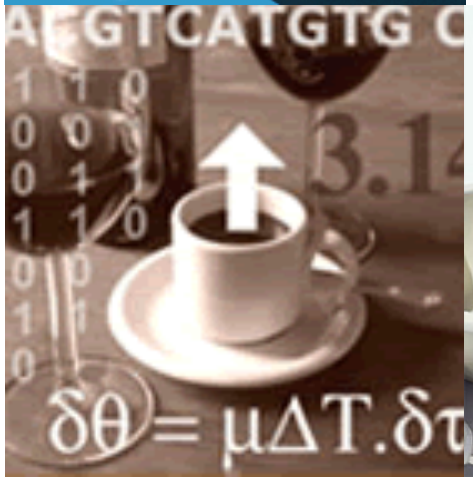
- Schools
- Science Centres & Museums
- Supermarkets & Shopping Malls
- Pubs!

Event Types

- Talks

Event Types

- Talks



Science Cafés

- Short (10-25 min) talk by an ‘expert’
  - Usually no slides, microphones or dimmed lights
- Break
  - Recharge drinks, informal conversations
- 1+ hour of discussion, questions, comments, thoughts and opinions
  - Between the speaker and the audience, the audience and the speaker and the audience and the audience

Science Cafés

http://www.cafescientifique.org/world-links.htm

Event Types

- Talks
- Exhibitions

Event Types

- Talks
- Exhibitions
- Debates & dialogue

play decide

Play Get involved View the results Share your results

PlayDecide is a discussion game to talk in a simple and effective way about controversial issues.

More about PlayDecide
Learn how to play

DECIDE

Choose from over 20 topics & languages available

Get decide kits

INSPIRING STORIES
PlayDecide for blind people

By Barbara Streicher - How can we offer DECIDE for elderly people who are blind or can hardly see? This was a challenge we took on when word-of-mouth about our microFUND "brain doping" DECIDE series prompted the Austrian Association for Blind People to invite us for this very special target group. It was indeed a specific challenge – and a wonderful experience!

Make your own PlayDecide kit!

Download the manual
to learn how to create a PlayDecide kit. It describes the process to prepare and develop a kit, with several references to previous experiences and projects.

Event Types

- Talks
- Exhibitions
- Debates & dialogue
- Street science

Event Types

- Talks
- Exhibitions
- Debates & dialogue
- Street science
- Science Festivals

http://www.scifest.org.za/index.php?p=-1

Science Festivals: the global picture

A ‘Science Festival’ is defined by the following characteristics:

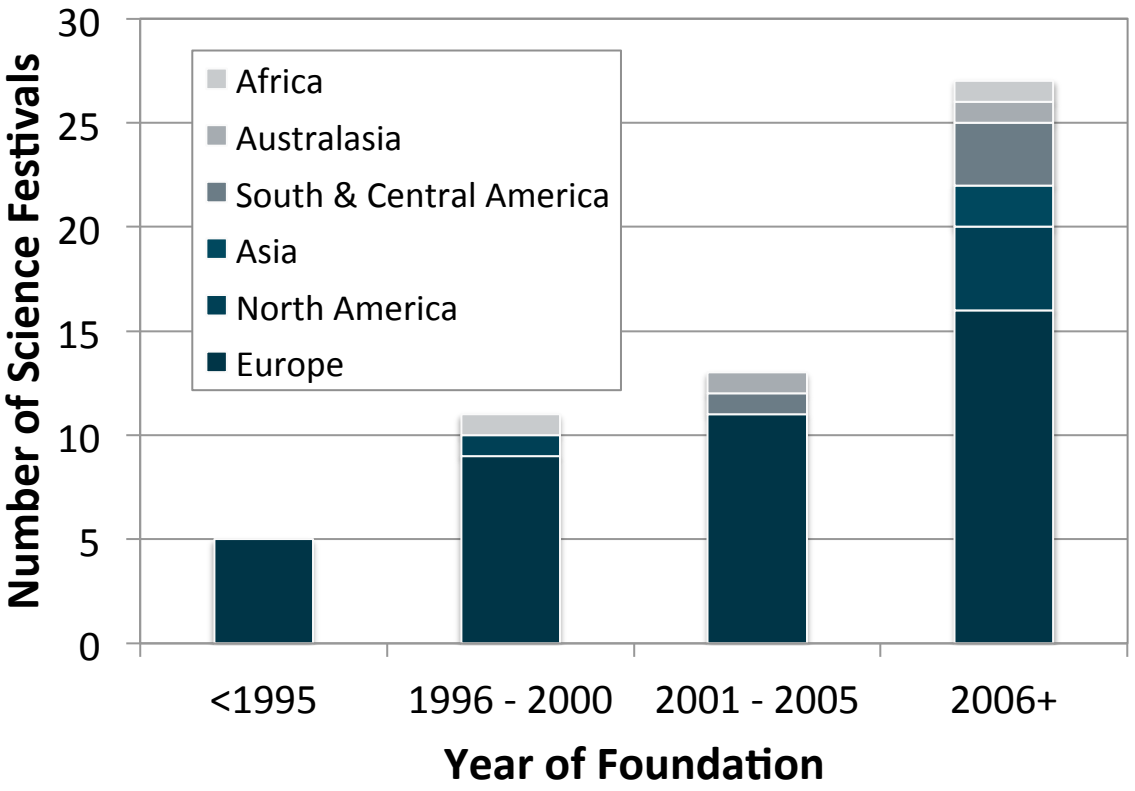
- The main focus is a *‘celebration’ of science*, technology, engineering and related aspects.
- The intention is to *engage non-specialists* with the scientific content.
- The event is *time-limited and recurring*, usually on an annual or biennial frequency.
- There is a *common theme and/or branding* to component activities.

Bultitude et al. (2011)

Science Festivals: the global picture

Data from Bultitude et al. (2011). *Note that data was collected in 2008/09.*

Science Festivals: the global picture



Global growth in the number of Science Festivals.

Data from Bultitude et al. (2011). *Note that data was collected in 2008/09.*

Science Festivals: the global picture

Proportion of all activities delivered	hands-on activities	lectures / talks	discussion / dialogue	plays / concerts
none	0	5	7	17
0 - 25%	16	30	31	33
26 - 50%	18	12	10	1
51 - 75%	6	3	2	0
76 - 100%	11	1	1	0

Types of activities offered by Science Festivals (n=51).

Data from Bultitude et al. (2011). *Note that data was collected in 2008/09.*

Science Festivals: the global picture

Budget Range (€)	Total Audience Size ('000 people)				Total Number of Science Festivals*
	<10	10 - 50	50 - 200	200+	
0	1	0	0	0	2
1 - 10K	2	1	0	0	4
11 - 50K	10	4	0	0	15
51 - 100K	5	3	0	0	8
101 - 200K	0	4	2	1	8
201 - 500K	2	4	4	0	10
501K - 1 million	0	1	1	1	3
1 - 5 million	0	0	1	0	3

Comparison between Science Festival budget and total audience size.

*Note that some Festivals did not answer both questions therefore the total number given in the final column may not equal the sum of the numbers in the other columns. (n=47 for both questions; n=53 for the estimated total budget).

Data from Bultitude et al. (2011). *Note that data was collected in 2008/09.*

Top Tips

1. Know your audience

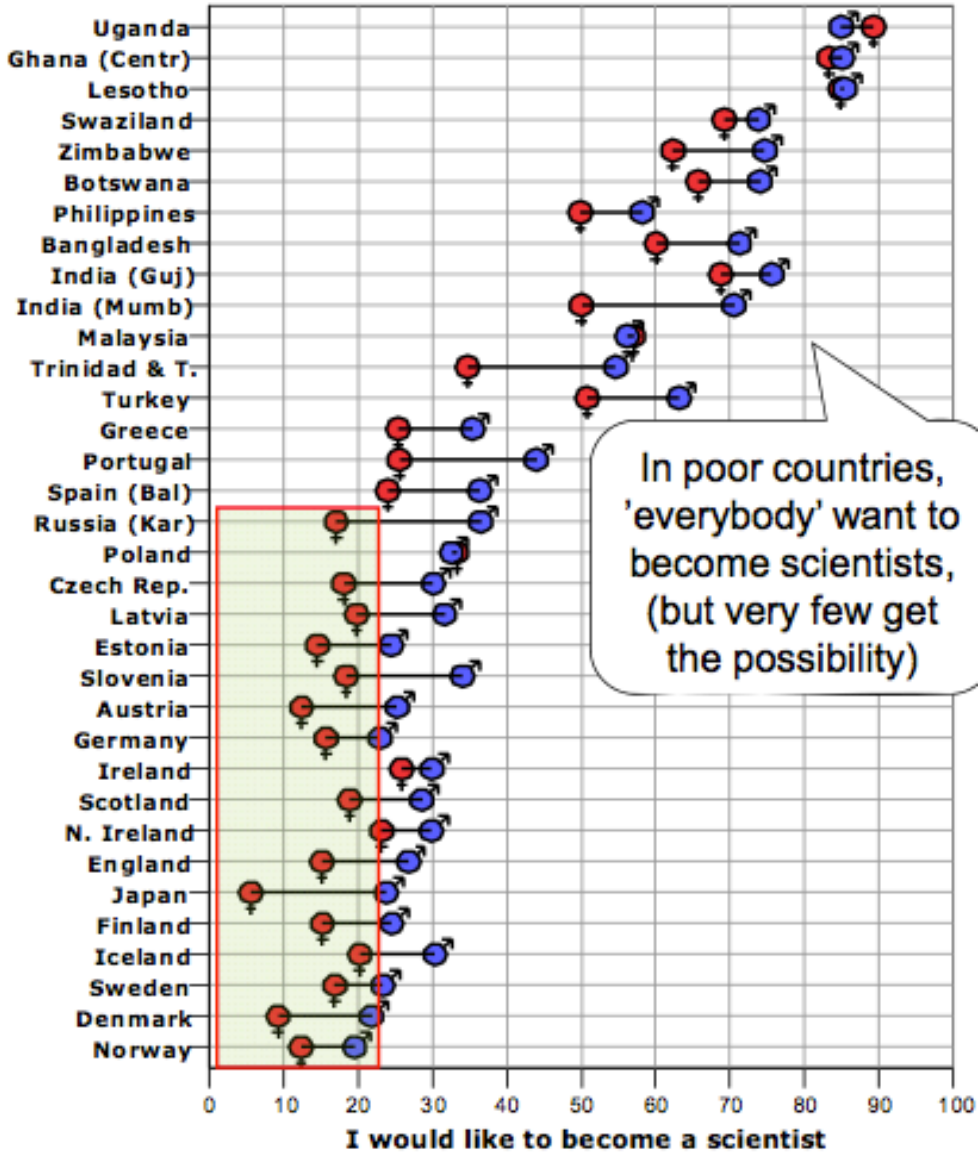
Audience Segmentation

- There is no such thing as ‘the general public’
- Target your audience:
  - Age
  - Gender
  - Ethnicity
  - Educational achievements
  - Occupation
  - Leisure interests
  - Political views
  - Marital status
  - Geographical location
  - …

ROSE

I would like to become a scientist

In wealthy countries, very few want to become scientists – in particular not the girls



Sjoberg and Schreiner (2010)

Top Tips

1. Know your audience
2. Think creatively about where to reach your audience and what mechanism to use

Einstein at Glastonbury

Top Tips

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3. Learn from previous experience

Learn from previous experience

- Find out what has worked in the past
- Talk to other people about your ideas
- Share your own challenges and successes publicly!

Existing Information Sources

- Informalscience.org
- Collective Memory

http://collectivememory.britishscienceassociation.org/

- Research2practice.info
- The Exhibit Files http://www.exhibitfiles.org/

Useful Networks

- Science Centre and Museum networks in Asia, Europe, Latin America/The Caribbean, North America, Africa:

  http://www.astc.org/profdev/networks.htm

- European Science Events Association (EUSCEA) http://www.euscea.org/

- The Science Festivals Alliance http://www.sciencefestivals.org/

Top Tips

1. Know your audience
2. Think creatively about where to reach your audience and what mechanism to use
3. Learn from previous experience
4. Evaluate your own activities

Evaluation

- *Monitoring*: measuring how many people attended, plus basic quantifiable aspects
- *Impacts*: what did the participants – public groups, researchers and event organisers – get out of it?

- Suggested resources:
  - Evaluation: Practical Guidelines

    http://www.rcuk.ac.uk/documents/publications/evaluationguide.pdf
  - Ingenious Evaluation toolkit

    http://www.raeng.org.uk/societygov/public_engagement/ingenious/evaluation.htm
  - The 2010 User-Friendly Handbook for Project Evaluation.

    http://informalscience.org/downloads/TheUserFriendlyGuide.pdf

Top Tips

1. Know your audience
2. Think creatively about where to reach your audience and what mechanism to use
3. Learn from previous experience
4. Evaluate your own activities
5. Enjoy yourself!

Any questions?

References

- Science for All (2010). *Report and action plan from the Science for All Expert Group*. London: Department for Business, Innovation and Skills. Available from http://interactive.bis.gov.uk/scienceandsociety/site/all/files/2010/02/Science-for-All-Final-Report-WEB.pdf.
- Falk, J.H. and Dierking, L.D. (2011). "The 95 Percent Solution". American Scientist 98: 486-493. Available from http://caise.insci.org/uploads/docs/FalkandDierking95perc.pdf.
- Bultitude, K., McDonald, D. and Custead, S. (2011) 'The rise and rise of Science Festivals – an international review of organised events to celebrate science' *IJSE: Part B* 1(2).
- Sjøberg, S. and Schreiner, C. (2010). *The ROSE project - An overview and key findings*. Available from http://roseproject.no/network/countries/norway/eng/nor-Sjoberg-Schreiner-overview-2010.pdf.

Other Relevant Resources

- Bultitude, K. (2011) “Science Communication – Why and How”. In Rosulek, P. (Ed) *Science communication se zvláštním zřetelem na sociální vědy (Science Communication with the specific focus on the social science)*. Pilsen: University of Western Bohemia.
- Bultitude, K. (2010) "Presenting Science". In: M. Brake & E. Weitkamp (eds.) *Introducing Science Communication*. London: Palgrave MacMillan.
- Research Councils UK (2010) *What’s in it for me? The benefits of public engagement for researchers*, published by RCUK, Swindon. Available from http://www.rcuk.ac.uk/documents/scisoc/RCUKBenefitsofPE.pdf.