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To: CCE

From: Tony Wright, Mustafa Sözbilir, co-chairs, CCE IYC Committee

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#### CCE IYC Committee Members

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## Suggestions for Possible IYC Education Activities

### General Approaches

- The activities might be targeted at:
  - The public understanding of chemistry.
  - School and university students

### International Educational Activities:

#### *Student-Centred Activities*

- a. **Global Experiment(s)** – Students will carry out chemical experiment(s) and contribute data from the experiment(s) to a collective database to provide a common resource. An experiment might be chosen that can be performed at different levels of expertise, or, separate experiments at primary, secondary and tertiary levels might be chosen. The topic for the experiment(s) might relate to global issues such as climate change or renewable energies, or, might focus of personal interests of students.

Criteria for selection might include:

- a. Value/interest of the experiment for students
- b. Scientific value – *e.g. the nature of the data collected*
- c. Local and global relevance – *e.g. climate change*
- d. Practical value– *e.g. cosmetics, biofuel, water quality, CO<sub>2</sub> production of a human per day, design of a experiment, science competition,*
- e. Value of combined data
- f. Cost

#### Tasks:

- Invite national associations to participate.
- Collect ideas for experiment(s) and select appropriately
- Organise appropriate infrastructure for running event (IUPAC)

- b. **History of Chemistry Project** – students investigate their local/national history of chemistry and contribute articles to the IUPAC website.
- Tasks:**
- Invite national associations to participate.
  - Organise appropriate infrastructure for running event (IUPAC)
- c. **Chemistry Day or Week** – a day or week be assigned by IUPAC of other organisation that would be recognised around the world.
- Tasks:**
- Examine feasibility of assigning a particular day or week.
  - Make the case for the designation by the appropriate body.
- d. **Public Lecture/Demonstration Series** – these events might provide a focus of global significance to national activities and might be motivational or about significant issues:
- Entertaining – *e.g. chemical magic*,
  - Understanding Issues – *e.g. alternative energies*
- e. **Chemistry Teachers Event** – This might be an event to provide teachers with a global perspective on their work.
- f. **Poster contest in YAC activity** – A poster component might be added to the highly successful Young Ambassadors of Chemistry Project.
- g. **Did You Know Stickers:** regarding the public awareness of chemistry, visiting large chemical products (such as cleaning products, medicines, construction products that public use widely) manufacturers and requesting them to advertise IYC2011 on their products and even develop some kind of small "did you know" stickers about the product they sell.
- h. **Open Days:** discussing the possibility of open days in the chemistry and chemistry related departments that students from each level could come up as a group and visit chemistry departments and discuss with the staff working there. During this visit some seminars about the chemistry, what does chemist do, how chemist help to overcome problems we face in everyday life and also include some demo experiments that takes students attention.
- i. **Problem-solving projects:** through which students can use their knowledge of chemistry to develop solutions to local problems
- j. **Career fairs:** at schools at which professionals show how they use chemistry in their jobs.

### *Teacher-Centred Activities*

- k. **Inquiry-based learning environments:** Developing authentic inquiry-based learning environments for teacher students.
- l. **Activity Efficacy:** developing an instrument to evaluate the efficiency of activities meant to improve public image of chemistry.
- m. **Teacher Attitudes and Beliefs:** investigating teacher attitudes and beliefs in cross-country contexts,
- n. **Problems and Issues Learning Chemistry:** investigating learning problems and issues worldwide.