

**Proposed Change in By Laws**  
**Aimed at Increasing Membership by Increasing the Breadth of RRS**  
by William Bernhard

**A. Proposed Change**

1. **Composition of Council remains unchanged:** 2 Medicine, 2 Biology, 2 Chemistry, 2 Physics, and 2 At Large
2. **Change in Election of Councilors:** Both councilors (instead of just one) representing a discipline are elected by those registered in that discipline. At-Large Councilors continue to be elected by the entire membership. (Requires a change in the By Laws but not the Constitution.)

**B. Central Points**

1. The stated objective of RRS is “To promote original research in the natural sciences relating to radiation.” In stating this objective, the writers of the Constitution recognized that (i) radiation effects are important in both biological and non-biological materials and (ii) the unique properties of ionizing radiation are imbued in the physics of energy deposition, resulting in highly specific types of chemical and biological responses. Thus, sustenance of all four disciplines (physics, chemistry, biology, and medicine) is of fundamental importance to the prosperity of the Society.
2. The field of radiation research is mature. There is less funding, fewer degree programs, and fewer young radiation scientists. This is true irrespective of discipline. But the percentage loss of physics and chemistry members from RRS greatly exceeds the percentage loss from the worldwide community of radiation scientists (Footnote 1). This loss is a direct consequence of inadequate representation in RRS governance.
3. The activities of RRS are governed by Council and the Executive. If this body does not adequately represent physics and chemistry, then physics and chemistry will disappear from RRS. With respect to the Annual Meeting, this is already occurring (Footnote 2). One of Council’s duties is to exercise oversight on committees, insuring their composition meets the criteria given in the Constitution and By Laws. In recent years, lack of oversight has resulted in Program Committees with inadequate representation in physics and chemistry. This occurs whenever the Executive and Council lacks members actively doing radiation research in physics and chemistry, particularly in non-medical fields. In effect, the RRS is becoming blind to non-biomedical research.
4. In order to increase membership, RRS needs to adhere to its original objectives. This means supporting the full **breadth** of radiation research, and doing so on an **international** scale. The majority of radiation chemists and physicists do not belong to RRS; 8 out of 120 at the Gordon Conference were members of RRS. And, there is a large number of radiation scientists working

outside of North America that are not RRS members; < 30% of the attendees at ICRR 2008 were RRS members.

5. There are two types of radiation scientists, call them alpha and beta. The alphas endeavor to understand how radiation produces a particular effect. The betas use radiation but are not compelled to understand how it produces the desired, or undesired, effect. Most of the scientists working in oncology, DNA repair, crystallography, nuclear power, etc., are beta types. A viable RRS requires a core membership made up of alphas. Recruiting from the betas is a good idea, mainly because some of the betas will become alphas. However, strategies that are aimed at recruiting betas (footnote 3) but end up losing members of the alpha type will hurt the long term survival of RRS.

Footnotes:

1. Three events that indicate the RRS has lost breadth relative the rest of the radiation community.
  - The **2008 Gordon Conference on Radiation Chemistry** (begun in 1953) had 120 registered attendees; 30 % were post doctoral and graduate students. 8 of the attendees were RRS members.
  - University of Manchester is investing 20,000,000 £ on a new Department of Radiation Chemistry (Chaired by Simon Pimblott).
  - The European Society of Radiation Biology (**ESRB**) has changed its name to the European Radiation Research Society (**ERRS**) and it is now working to increase the chemistry and physics content of their annual meeting.
2. Below is a list of **program topics from the Gordon Conference on Radiation Chemistry 2008**. The *topics in italics*, 8 out of 10, are not currently supported by RRS annual meetings.

*Free radical chemistry*

*Polymer chemistry*

DNA Damage and Repair

Cell damage

*Superheated water*

*Electron attachment and detachment*

*Extraterrestrial chemistry*

*Water photolysis*

*Nuclear power*

*X-ray Crystallography*

3. Recent strategies, or proposed strategies, that are aimed primarily at recruiting beta type members but are very likely to result in the lose of alpha type members.
  - Joint meetings with ASTRO.
  - The proposal to no longer use the ICRR as the RRS annual meeting.
  - The proposed change to the constitution that will reduce representation of physics and chemistry on Council.