

Introduction

This Special Issue is dedicated to the memory of Gerald (Jerry) T. Babcock (1946–2000). Jerry's research interests covered an exceptionally wide range of biological systems and problems, as vividly illustrated by his list of publications included in this issue. It was not easy to decide on a scientific composition for this issue that would accurately reflect the breadth and depth of Jerry's interests in and contributions to science. In fact, several Special Issues would be needed to fully cover all fields to which Jerry contributed significant results and ideas. This issue is divided into three major sections representing subjects to which Jerry made his most significant impacts. One such subject is Photosynthetic Water Oxidation, a field that attracted Jerry during his time as a graduate student at the University of California, Berkeley. The second major topic of this Special Issue is Oxygen Reduction and Proton Pumping by Respiratory Oxidases, an area that Jerry was introduced to during his postdoctoral years at Rice University. As a member of the faculty of the Department of Chemistry at Michigan State University, Jerry continued to study photosynthetic water oxidation and respiratory oxygen reduction, and established himself as a leading scientist in both of these fields. The third topic of this Special Issue describes theoretical and experimental aspects of Proton-Coupled Electron Transfer in Model and Biological Systems. This represents a topic area that became central to Jerry's thinking in more recent years as the structural features of photosystem II and cytochrome *c* oxidase became clearer and a greater emphasis could be put on the details of the fascinating and complex chemistry catalysed by these two enzymes.

Each of the three main sections begins with an introductory article that outlines Jerry's contributions to the

field and, in addition, describes work from the author's own laboratory. The section describing Proton-Coupled Electron Transfer in Model and Biological Systems is introduced by Daniel Nocera. The Photosynthetic Water Oxidation section is introduced by James Barber and that on Dioxygen Reduction and Proton Pumping by Respiratory Oxidases is introduced by Graham Palmer. There is no strict organization of manuscripts within each main section. They are loosely grouped into subtopics, but since many of the articles review or describe multiple aspects of the topic discussed, the subtopics tend to blend together. We are very pleased about the enthusiastic response from the contributors to this Special Issue and thank all of them for their efforts.

Finally, we note that with the tragic loss of Jerry Babcock the scientific fields in which he worked have not only been deprived of an outstanding scientist, but also of a warm-hearted and generous friend and colleague. Many of the articles in this issue contain personal reflections and memories of Jerry that bring back the image of an exceptional scientist whose intense presence brought out the best in all of us who had the pleasure of knowing him.

Peter Brzezinski
Anders Ehrenberg
Cecilia Tommos

*Department of Biochemistry and Biophysics,
Arrhenius Laboratories for Natural Sciences,
Stockholm University, Svante Arrhenius vag 12,
Stockholm 106 91, Sweden
E-mail address: peterb@dbb.su.se*