



Preface

The 2010 Tetrahedron Prize for Creativity in Organic Chemistry

The Executive Board of Editors, together with Elsevier, the Publisher of Tetrahedron Publications, are delighted to announce that the Tetrahedron Prize for Creativity in Organic Chemistry for 2010 has been awarded to Professor Satoshi Ōmura of Kitasato University, Japan. The prize was awarded in recognition of Professor Ōmura's varied, extensive and fundamental contributions to the fields of natural product chemistry, chemical biology, natural product synthesis and development of pharmaceuticals. The Tetrahedron Prize will be presented to Professor Ōmura on Thursday, August 29, 2011 at a Prize Symposium during the Fall 2011 ACS National Meeting in Denver, CO, USA. In recognition of his award, Professor Ōmura will give a special presentation entitled 'Microbial metabolites: 45 years of wandering, wondering and discovering'.

To further commemorate the award, a special Symposium-in-Print has been compiled, with a keynote article written by Professor Ōmura. In it he provides a unique personal account of his 45 years of endeavour in a continuing search of new bioactive microbial metabolites, almost exclusively carried out at The Kitasato Institute and Kitasato University, Tokyo, Japan.

Reflecting his approach to both science, the specific field of natural product research and personal collaboration he describes his philosophy as to how research should best be undertaken and what steps can be taken to help make it successful. His account covers his early research on antibiotics, especially on macrolides and subsequent discovery research, which includes a description of 25 kinds of novel, representative screening methods originated by his group, together with details of the organic chemistry and biology of more than 35 new types of compounds, such as atpenin A5, avermectin, lactacystin, herbimycin A, phosalacine and madindoline, discovered via the innovative screening mechanisms.

Professor Ōmura's focus has not just been on the discovery of new compounds, but encompasses a comprehensive approach to also include the total synthesis and biosynthesis of the compounds themselves, as well as an understanding of the genetic basis of their production by microorganisms, thereby offering the promise of the creation of artificial natural compounds through genetic manipulation. The fruits and impact of his work and discovery, in terms of the massive improvements to medicine, human and animal health, agriculture, the Life Sciences and most fields of chemistry are also demonstrated. In particular, the unparalleled benefits of the discovery of novel microbial metabolites, such as avermectin and staurosporine, and how they have facilitated massive global improvements in human health and socioeconomic welfare are outlined.

Professor Ōmura's account encapsulates his very personal approach to research and includes many of his unique aspects of re-

search and reporting and communication of his work. One example of this is the inclusion of an electronphotomicrograph of the producing microorganism, which he has traditionally placed alongside the structural formula of each compound that he has discovered. This unique presentation style represents his profound recognition of the incomparable contribution of the microorganisms themselves. His respect for nature and the organisms themselves, and his awe at their unlimited potential, has been a driving force behind his work. Indeed, he has long been convinced that 'microorganisms never engage in futility, it is just our lack of knowledge and vision that prevents us from understanding'. After 45 years of his pioneering work, we are at least a good way forward in increasing our knowledge and understanding—and are reaping the substantial and increasing benefits bestowed as a result.

Accompanying Professor Ōmura's impressive introductory article are papers from the many co-workers, colleagues and friends who have been inspired by his challenging research and complex-structured natural products. It should be emphasized that papers from Tohoku area where damaged by March 11 earthquake are included. It is my belief that the articles contained in this Tetrahedron Symposium-in-Print will delight and educate current chemists in the fields of natural product chemistry and synthetic methodology as well as inspiring a new generation of chemists to embark on chemical adventures of their own.

It has been a great personal honour to play a role in this 2010 Tetrahedron Prize Symposium-in-Print. I will conclude by placing the words 'Microorganisms produce many kind of interesting and useful chemical structures and they are waiting for a great hunter who discovers them. Talented synthetic chemists also are waiting for new and complex-structured compounds hopefully with powerful biological activities. Challenging targets discovered by Professor Ōmura stimulate the challenging spirits of synthetic organic chemists to promote the chemistry into the dreaming stage of future.'

At the earthquake of March 11, I was participating in the party in Tokyo where Professor Ōmura was also there. In spite of great confusion, this 2010 Tetrahedron Prize Symposium-in-Print comes to finalization of the editorial work by the collaboration of many friends. Finally, many congratulations!

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