
Editorial

Editorial—Special Section Honoring N.A. Peppas

Mark E. Byrne^{1,2}

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This theme section of *Pharmaceutical Research* is dedicated to Professor Nicholas Peppas. In August 2008, a group of colleagues, former and current students and post-docs, and friends and family gathered in Austin, Texas for a symposium and dinner to celebrate the occasion of Professor Peppas' 60th birthday. This special section of *Pharmaceutical Research* was conceived by the organizers of the symposium and celebrates Nicholas' exceptional, extensive, and visionary contributions to our field and his impact to society. In this theme section, you will find a number of excellent and timely articles from colleagues and former students of Prof. Peppas.

While Nicholas' interdisciplinary research contributions can be found in the literature, one of his greatest gifts to our field has been his sustained building and promotion of it. Of course, his leadership in organizing and directing our field is apparent, but lesser known is his direct role and generosity in developing talent. For many years, he has discretely mentored a large number of younger scientists and engineers outside his immediate and former research group. To many, he has been a 'greeter' of sorts, one that brings them into the inner circles of our field's leadership of successful and established engineers and scientists. He takes time and considerable effort to develop these relationships, promote scholarship, and nominate colleagues for writing and speaking engagements, invited talks, society leadership positions, etc. You will still find him attending numerous conference sessions listening to presentations and introducing himself to our next generation. He also has made considerable strides as an interdisciplinary ambassador in reaching across disciplines to promote established researchers and educators in related fields.

For his own graduate and undergraduate students, he has directly and indirectly made countless contributions to their education, professional development, and career. Many of whom now have very distinctive and distinguished careers in

industry and academia. While there is insufficient space to list all aspects of the superb education that Nicholas provides to his students, three aspects rise above the rest. First, he prepares students well by providing an extraordinarily fertile and diverse learning environment with high standards of scholarship and dedicated professional development in all areas, not only research activities. He is also a major advocate in developing and nurturing their talents and character and has the utmost confidence in them. Third, he is a true mentor with honest and critical assessment and leads by example as an inquisitive, avid learner with superior diligence and unparalleled efficiency. These provided the requisite tools for many students to not only reach their potential, but to surpass it.

As you read this special section, you will find a number of interesting articles involving important topics, the current state of the art, and recent challenges and progress. In many cases, one can observe Nicholas's broad influence in the work.

Rather than provide an exhaustive review of a particular area in the field, the focus of this special section is key research and development with high potential to impact several areas within the field. In the twenty-first century, therapeutic delivery technology is becoming progressively controlled at the molecular level, and it is evident that molecular understanding will drive the next generation of commercial drug delivery, therapeutic devices, tissue engineering, and diagnostics.

A brief description of Nicholas' biography, research directions, and contributions from Kloda and Mikos can be read in the first article of this section entitled "Biomaterials, Drug Delivery, and Bionanotechnology—The Research that Paved the Way: Professor Nicholas Peppas' Research Over the Years" For the remaining issue, there is a balance of review and original research articles.

Informative reviews discuss siRNA delivery using non-viral polymeric vehicles; recent innovations in oral drug delivery; synthesis mechanisms of polyethylene glycol (PEG) hydrogels and uses in regenerative medicine; peptidomimetic nanoparticles in imaging, tumor delivery, vaccination, tissue engineering, and intracellular delivery; and externally-triggered drug delivery with a focus on magnetothermally activated systems.

¹ Biomimetic & Biohybrid Materials, Biomedical Devices, & Drug Delivery Laboratories, Department of Chemical Engineering, Auburn University, Auburn, Alabama 36849-5127, USA.

² To whom correspondence should be addressed. (e-mail: byrname@eng.auburn.edu)

Original research articles also cover a significant portion of the issue and include promising areas such as vaccine delivery exploiting polyanhydride chemistry, in-vitro release measurement techniques for biodegradable particles, biodegradable nano- and micro-carriers for imaging contrast agents, novel pentablock copolymers for selective transfection, PEGylated insulin for oral delivery from complexation gels, nanocomposite remotely degradable hydrogels, and biomimetic, molecularly imprinted gels for ocular delivery of the comfort molecule, hyaluronic acid.

On behalf of Nicholas and myself, I would especially like to thank the former editor-in-chief, Professor Vince Lee, for conceiving and supporting this special section and the symposium

organizing committee (Antonios Mikos (Rice Univ.), Kristi Anseth (Univ. of Colorado), Chris Bowman (Univ. of Colorado), Surya Mallapragada (Univ. of Iowa), and Balaji Narasimham (Univ. of Iowa)) for their work in planning Nicholas' 60th Birthday Symposium and Celebration.

It has been a pleasure to work with Nicholas through the years, as I am certain all his students will attest, and we thank him for his significant contributions to our education, professional development, and career. He has been a wonderful mentor throughout our career, and we look forward to many more years of collaboration and discovery. We are fortunate to be his students, colleagues, and friends and consider it a great privilege to work with him.