

## ライフサイエンス産学連携研究センター 学術講演会

本年 4 月から文部科学省私立大学戦略的研究基盤形成支援事業「創剤・創薬・創材支援を企図した医用ナノパーティキュレートシステム基盤研究拠点の形成」がスタートしました。この事業の一環として、スマートポリマーシステムを用いた各種薬物のデリバリーに関する学術講演会を企画しましたのでご案内申し上げます。年の瀬を迎え、ご多忙のことと存じますが、皆様の積極的なご参加をお待ち申し上げます。

### 記

日 時： 2012 年 12 月 13 日 (木) 16:00～17:00

会 場： 神戸学院大学ポートアイランドキャンパス  
C 号館 1 階 LSC カンファレンスルーム

主 催： 神戸学院大学 ライフサイエンス産学連携研究センター  
文部科学省私立大学戦略的研究基盤形成支援事業（平成 24 年～平成 28 年）

協 賛： 神戸学院大学 薬学部 製剤学研究室, 薬物送達システム学研究室

講 師：

Prof. Nicholas A. Peppas

Fletcher S. Pratt Chair in Engineering, Professor of Biomedical Engineering,  
Chemical Engineering, and Pharmacy,

Chairman, Department of Biomedical Engineering,

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Website : [www.che.utexas.edu/research/biomat/index.htm](http://www.che.utexas.edu/research/biomat/index.htm)

演 題：

Intelligent Polymer Systems for the Delivery of Proteins, siRNA and  
Chemotherapeutics

お問い合わせ先

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# **Intelligent Polymer Systems for the Delivery of Proteins, siRNA and Chemotherapeutics**

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## **Abstract**

In recent years there has been significant new interest in the development of transmucosal (mostly oral) pharmaceutical formulations for the delivery of therapeutic proteins. We have worked with advanced designs of swollen hydrogels prepared from neutral or intelligent polymeric networks. The most successful of such systems will be presented and their promise in the field described. Emphasis will be given to the molecular design of new carriers for the delivery of insulin, calcitonin and various types of interferons for the treatment of diabetes, osteoporosis and cancer. We will also address delivery of siRNA and chemotherapeutic agents.

## Curriculum Vitae

Nicholas Peppas is the Fletcher Pratt Chair of Chemical Engineering, Biomedical Engineering and Pharmacy at the University of Texas at Austin. He is a world leader in the fields of bionanotechnology and molecular recognition processes, nanodevices for controlled drug delivery, intelligent biomaterials, and molecular modeling of protein structures in contact with biomaterials and tissues. Among other medical devices, he has developed and patented nanodelivery systems for oral administration of insulin to type I diabetic patients, systems for oral delivery of calcitonin for treatment of postmenopausal women



suffering from osteoporosis, new treatments using growth hormones, as well as intraocular lenses, articular cartilage, hemodialysis membranes and artificial vocal cords.

Dr. Peppas joined the University of Texas at Austin in January 2003. He is a member of the Institute of Medicine of the National Academies, the National Academy of Engineering, the Academies of France and Spain, and the Texas Academy of Medicine, Engineering and Sciences. He is the author or co-editor of 37 books, 1,150 publications and 50 international patents. He is one of the most cited chemical engineers in the world with more than 47,000 citations. He received his doctor of science (Sc. D.) from the Massachusetts Institute of Technology and three additional honorary doctorates from the University of Ghent, Belgium, the University of Parma, Italy, and the University of Athens, Greece. He is the President of the International Union of Societies of Biomaterials Science and Engineering. He was President of the Society for Biomaterials in 2003-04, President of the Controlled Release Society in 1987-88, Director of AIChE in 1999-2002 and Chair of AIMBE (2004-05). Peppas has been elected a Fellow of all the major societies in chemistry (ACS), physics (APS), pharmaceutical sciences (AAPS), chemical engineering (AIChE), biomedical engineering (BMES and AIMBE), biomaterials (SFB), controlled release (CRS), and engineering education (ASEE). He has been recognized with more than 100 national and international awards including the 2012 Founders Award of the National Academy of Engineering. In 2008, AIChE named him as one of the 'One Hundred Engineers of the Modern Era'. Peppas has supervised the theses of 95 Ph.D. students, including 41 current professors in other Universities.