Science and Technology Cabinet

Loudoun County, Virginia, USA

CABINET AGENDA

9:30 a.m. - 10:00 a.m. Continental Breakfast, Coffee & Networking

10:00 a.m. – 10:15 a.m. Introductions

10:15 a.m. – 12:45 p.m.

Featured Program:

Artificial Intelligence: Digital Smarts, Thinking Machines, and Implications for Society

Moderator: Leslie A. Platt, J.D., Chair, Loudoun Science & Technology Cabinet

I. Overview

James L. Olds, Ph.D.
Director and Krasnow University Professor of Computational Neuroscience
Krasnow Institute for Advanced Study
George Mason University

II. Artificial Intelligence (Industry/Entrepreneur Perspective)

John Zett
President & CEO
Alatheia US Ltd.

III. Interactive Discussion on Region's Science & Technology Future

Dr. Gary P. Evans
US Chief Executive Officer
Angle Technology

Moderator: Larry Rosenstrauch, Director of Economic Development

Lunch 12:45-2:00

During lunch there will be a brief overview of an NSF Grant presented by Michael Peterson and Seema Jain of SkillSource.

BIOGRAPHIES

James L. Olds, Ph.D.

Jim Olds received his bachelors of arts degree in Chemistry from Amherst College in 1978. After graduating, Olds interned on Capitol Hill for the United States House of Representatives researching chemical aspects of mid-future electrical energy alternatives for the New England Congressional delegation whose members at the time included such leaders as Speaker "Tip" O'Neill, Paul Tsongas, Edward Markey and Silvio Conte.

Olds entered the Neuroscience Ph.D. program at the University of Michigan in 1983, and received his Ph.D. (1987) in neurosciences from that institution. His thesis advisor was Bernard W. Agranoff, the Director of the Neuroscience Laboratory and the Mental Health Research Institute at the University of Michigan Medical Center.

Following the award of his doctorate, Dr. Olds continued his training as a post-doctoral fellow in the Laboratory of Molecular and Cellular Neurobiology (LMCN), NINDS at the National Institutes of Health. Laboratory Chiefs of LMCN included, among others, Dr. J. Craig Venter and Dr. Daniel L. Alkon. Commencing in 1989, Olds published a series of papers which, for the first time, imaged learning-specific changes in the distribution of the activated form of the enzyme protein kinase C in the brains of both invertebrates and mammals. For this work and follow-up studies, Dr. Olds received the NIH award of merit in 1993. In 1994 Dr. Olds was appointed as a senior staff fellow in the newly formed Laboratory of Adaptive Systems (LAS), NINDS. During this period of time Dr. Olds founded the internet news group "bionet.neurosciences". Thousands of articles have been posted to this internet news group from all over the world. Dr. Olds shares authorship of two U.S. Patents for novel CCD-based imaging devices which image radioligand distributions directly from biological tissue.

During his government service, Dr. Olds also served as U.S. project officer on two successive government R&D contracts to develop novel biologically-based computer algorithms which emulate human associative learning and image comprehension. Total expenditures on these efforts totaled approximately 1.2 million dollars over six years and led to the issuance of two U.S. patents along with over 20 peer reviewed publications. Routinely, as part of his duties, Dr. Olds briefed senior members of the U.S. intelligence and military communities.

Dr. Olds also has had a close affiliation with the Marine Biological Laboratory in Woods Hole Massachusetts since 1978. In 1991 Dr. Olds was elected a member of the MBL Corporation and served on the MBL computer advisory committee from that time through 2002. In 1994, Dr. Olds led a team of MBL summer investigators which, for the first time, imaged the activation of protein kinase C in living sea urchin eggs following fertilization using laser-scanning confocal microscopy. In 1995 Dr. Olds moved to the private sector to become the Executive Director of the American Association of Anatomists, a professional scientific society representing some 2,500 biomedical scientists. During his tenure, membership and participation in the Society's annual meeting grew significantly. He was also responsible for creating the Association's web site and using it to reinvigorate the Society's public affairs presence.

In summer of 1998, Olds departed the Association to accept the position of Director and CEO at the Krasnow Institute for Advanced Study, an independent research institution located on the campus of George Mason University in Fairfax Virginia. Following the Institute’s merger with George Mason University in 2002, Olds remained as Director. Concurrently he is Krasnow University Professor of Computational Neuroscience at George Mason University and on the Krasnow Institute Faculty in Neurobiology. He has additional academic faculty appointments in the Department of Psychology,

George Mason University, the School of Computational Sciences at George Mason University, and the Department of Anatomy and Cell Biology at the Uniformed Services University of the Health Sciences in Bethesda Maryland. In August 2004, he was named editor-in-chief of the journal *Biological Bulletin* for a 5-year term.

In a volunteer role, Olds served as a Virginia Governor appointee on the Commonwealth Alzheimer's and Related Diseases Commission from 1998-2004. Dr. Olds has served on grant review panels for the National Institutes of Health, the National Science Foundation and the Office of Naval Research. He is currently serving a three-year term on the Society for Neuroscience's Public Information Committee. He served as President of the Potomac Chapter, Society for Neurosciences from 1995-1996. Continuing his involvement with Anatomists, he served on the American Association of Anatomist's Public Affairs Committee from 1995-2002. Dr. Olds also serves on the editorial board of the *Journal of Cognitive Dynamics*. As a scientist and public policy expert Dr. Olds has been an invited speaker to many domestic and international meetings to speak on topics ranging from brain imaging to global warming. Dr. Olds is also a member of the Cosmos Club. In 2004, he began a 3-year term on the Board of Directors of Americans for Medical Progress.

Dr. Olds' research is directed toward understanding and simulating the molecular mechanisms that permit neurons and neuronal assemblies to store and recall memories, both under normal and pathological conditions. To this end novel computerized imaging and simulation techniques have been developed that have, with ever increasing spatial and temporal resolution, revealed emergent characteristics of nerve cell ensembles as they interact to store and recall memories. His longer-range objective is to further develop these strategies in order to sufficiently increase the spatial and temporal resolution of the imagery so as to reveal three-dimensional structure and maps of mnemonic function in both animal and human brains in close to real-time. As delineated in over 35 publications in print or in review, the critical role of protein kinase C in the molecular chain of events that lead to associative learning has been exploited by using labeled phorbol ester as a probe for membrane-associated, or activated protein kinase C in animals that have undergone various behavioral paradigms designed to assess learning. From such "memory maps", principles have been extrapolated to allow complex qualitative simulations of large modular regions of the mammalian nervous system such as the cerebellum and hippocampus.

John A Zett

John Zett is an electronics industry veteran and experienced CEO. He is a recognized entrepreneur having founded two successful high-technology companies in Northern Virginia prior to joining Alatheia. He has raised nearly $20 million of venture capital during his career and has a solid track record for producing results.

Mr. Zett's extensive experience in product development, operations, and strategic business planning are directly applicable to Alatheia - a developer and manufacturer of sophisticated medical diagnostic equipment. Prior to joining Alatheia in May of 2005, his most recent business venture qualified for the Deloitte and Touche Fast 500 program ranking 31st in Virginia for increasing revenue by 351% over a 5 year period. The Washington Post listed him as one of the top five regional entrepreneurs to watch in 2005.

Mr. Zett's professional career also encompasses large corporations. He has served in executive and technical roles at StorageTek, Motorola and E-Systems where he was instrumental in bringing many cutting-edge technologies to market. Mr. Zett received his BSEE degree from the Pennsylvania State University and has participated in executive training programs at the Harvard Business School and the Massachusetts Institute of Technology.

Dr. Gary P. Evans

Gary Evans has a BSc in Chemistry, a PhD in Physical Chemistry, and a Diploma in Management Science and was Visiting Professor in Innovation Management at the Robert Gordon University, Aberdeen from 1997 to 1999. Dr Evans undertook post-doctoral research in solid-state physics at the University of Cambridge from which he moved into the private sector, working in R&D management with Cambridge Life Sciences plc, where he was responsible for collaborative R&D, and managed a portfolio of development projects with partners which included Abbott Laboratories Inc and Ciba-Corning Diagnostics Corporation in the US and Fresenius AG in Germany. He then joined the development agency, Scottish Enterprise. Dr Evans joined ANGLE in 1997.

Leslie Platt, J.D.

Leslie Platt is an attorney/executive with over 30 years of legal, management and consulting experience at senior levels in the private and public sectors. Mr. Platt has been a Principal at a Big 4 accounting and consulting firm, involved in strategy and operational consulting in the global health sciences sector. He also has served as Executive Assistant to the Director and Chief of Operations, Office of the Director, National Institutes of Health (NIH), and was general counsel and a senior executive of two bioscience research organizations.

Earlier in his career, Mr. Platt was Deputy General Counsel-Legal Counsel of the U.S. Department of Health and Human Services and Staff Director and Counsel of the White House Agent Orange Working Group. At the outset of his career, Mr. Platt rose through career attorney ranks and served as chief legislative counsel of the U.S. Department of Housing and Urban Development.

Mr. Platt has extensive experience regarding legal, management, policy and ethics issues in bioscience. He has negotiated landmark agreements in biotechnology facilities finance, research alliances and collaborations, and technology transfer and alliances.

Mr. Platt is the recipient of numerous awards for outstanding service. He writes and presents internationally on legal, policy, regulatory and ethics issues in health and life sciences. Mr. Platt also serves as Chairman of the Biojudiciary Project (www.biojudiciary.org), an independent 501(c)(3) organization co-established by BIO, whose mission is to help educate the Federal judiciary about scientific and technical issues at the intersection of biotechnology and the law.

Mr. Platt also served as a member of the Task Force on Genetic Technologies of the National Conference of State Legislatures and as a member of the International Bar Association Working Group on the Draft International Convention on the Human Genome.

Mr. Platt is a graduate of New York University School of Law and is a member of the Bar of the District of Columbia.