Dr. Andriy Voronov

Dr. Voronov primary research focus has been in polymer science, with well-documented years of experience in synthesis, characterization and self-assembly of polymers and polymer-related materials, including responsive polymer materials.

He made his MSc and doctoral degree at Lviv Polytechnic National University in Ukraine. His postdoctoral research was carried out at the Institute Charles Sadron in Strasbourg, France and University of Ulm, Germany. He worked in Bayreuth University, Germany, as an Alexander von Humboldt fellow (AvH Fellowship, 2000-2001, and Long-term cooperation AvH Fellowship, 2001-2003), where his focus was on the investigations of microphase separation of thin triblock copolymer films.

In 2003 he moved to Institute of Particle Technology at the Friedrich-Alexander University Erlangen-Nuremberg where worked 4 years as a Staff Scientist. His research activities were focused on nanoparticles' synthesis, stabilization, and nanoparticulate structure formation.

He joined Coatings and Polymeric Materials Department at North Dakota State University in the fall of 2007 as an Assistant Professor. His current research is focused on several areas including synthesis, characterization, self-assembly and application of various functional amphiphilic macromolecules for developing responsive polymeric materials.

His research team has been able to synthesize a novel class of responsive (invertible) macromolecules that self-organize in assemblies both in polar and non-polar environments. Amphiphilic properties of these assemblies are the basis of new nanoscale structures, both in solution and on solid surfaces, and could be used in a broad range of applications.

*Topic of Presentation***:** *TBD*

Dr. Anshu Mathur

Dr. Mathur received her PhD in Biomedical Engineering from Duke University where her work focused on cell adhesion, cellular nano-mechanics, and cell engineering for endothelializing the vascular graft. As an Associate Professor in the Department of Plastic Surgery at MD Anderson Cancer Center in Houston, TX, the research conducted in her lab, Tissue Regeneration and Molecular Cell Engineering Lab (TRAMCEL) is focused on the development of clinically translatable solutions for treating tumor defects using applied nanotechnology in combination with biomaterials and cell engineering for regenerative medicine, therapeutic, and reconstructive applications. The major emphasis of her research is in the field of translational biomedical engineering applied to reconstructive plastic surgery with special interest in nanotherapeutics, stem cells, biological scaffolds, cellular and molecular bioengineering, and instrumentation. Our lab provides a unique research environment for training students and postdoctoral fellows in an inter-disciplinary environment.

Topic of Presentation: Silk Fibroin Derived Nanotherapeutics for Cancer Therapy

Dr. Devika Chithrani

Dr. Devika Chithrani is an assistant professor in the Department of Physics at Ryerson University, Canada. She obtained her BSc from the University of Colombo, Sri Lanka in 1999 where she was awarded the faculty gold medal and gold medal for physics. Further pursuing her higher education in Canada, she received her MSc and PhD degrees from University of Toronto where she was supported by the prestigious NSERC, OGS, and OGGST fellowships. Dr. Chithrani completed her PhD research work at National Research Council, Canada and was granted an NSERC fellowship to continue her postdoctoral research in the field of nanobiotechnology. Dr. Chithrani has become a respected member of the science community as her scientific papers have received thousands of citations in a few years. To extend her work into the use of nanotechnology for cancer research, she joined the Princess Margaret Hospital in 2007. Dr.Chithrani's extensive research has been both published and featured (on the cover) of the Journal of Radiation Research in 2010. She is currently directing the Nanoscience and Technology Development Laboratory at Ryerson University. Her research program is skillfully designed to improve the understanding of the bio-nano interface. Better knowledge of the nano-bio interface would lead to better tools for diagnostic imaging and therapy. As a positive step forward in this direction, gold nanoparticles are being used as a model platform for understanding how size, shape, and surface properties of nanoparticles (NPs) affect their intracellular fate. These fundamental studies will facilitate building of better NP-based platforms for improved results in the future cancer care of patients. Dr. Chithrani has earned a strong international reputation for her innovative research through her many review articles, book chapters, and invited presentations. She also currently holds the associate editor position for the reviews in Nanoscience and Nanotechnology journal.

Topic of Presentation: Enhanced Cancer Therapeutic Effects Using Targeted Nanoparticles

Dr. Vladimir P. Torchilin

Vladimir P. Torchilin is a University Distinguished Professor and Director, Center for Pharmaceutical Biotechnology and Nanomedicine, Northeastern University, Boston. He has published more than 350 original papers, more than 150 reviews and book chapters, wrote and edited 10 books and holds more than 40 patents. He is Editor-in-Chief of *Current Drug Discovery Technologies* and of *Drug Delivery* and on the Editorial Boards of many journals including *Journal of Controlled Release* (Review Editor). Professor Torchilin got the 1982 Lenin Prize in Science (the highest award in the former USSR). He is a Member of European Academy of Sciences and Fellow of AIMBE, AAPS and CRS, and received the 2005 Research Achievements in Pharmaceutics and Drug Delivery Award from the AAPS, 2007 Research Achievements Award from the Pharmaceutical Sciences World Congress, 2009 International Journal of Nanomedicine Distinguished Scientist Award, 2010 Controlled Release Society Founders Award, 2012 Alec Bangham Life Time Achievements Award, and 2012 Journal of Drug Targeting Life Time Achievements Award. In 2005 he was a President of the CRS. In 2011, Times Higher Education ranked him number 2 among top world scientists in pharmacology for 2001-2010.

Topic of Presentation: Bringing nanomedicines inside cells to treat cancer

Dr. Vladimir Muzykantov

Vladimir Muzykantov obtained his M.D. in Internal Medicine in 1980 from Moscow Medical School and Ph.D. (Biochemistry, 1985) from Russian National Cardiology Research Center, where he worked in 1980-1993. He joined University of Pennsylvania in 1993. Since early eighties, his career is dedicated to research, educational and translational efforts in the area of vascular targeting of drug carriers, biotherapeutics and imaging probes. He described many new findings in the areas of novel molecular targets for drug delivery and nanocarriers targeted to vascular endothelium including first reports on induced endocytosis of nanocarriers anchored to normally non-internalized cellular receptors, targeted intracellular delivery of semi-permeable nanocarriers encapsulating antioxidant enzymes, paradoxical enhancement of targeting by collaborating antibodies and enhancement of targeting selectivity by controlled reduction on nanocarrier avidity. Among other findings, he devised a paradigm-shifting strategy and biotechnology platform for new class of recombinant mutant protein pro-drugs using blood cells as natural carriers for targeted drug delivery. He has published ~170 peer reviewed papers on drug delivery in the leading journals including Nature Biotechnology, PNAS, Blood and ACS Nano and edited a book "Biomedical Aspects of Drug Targeting" (Kluwer Academic Press, 2003). Honors include the American Heart Association Established Investigator Award and Bugher Stroke Award, Chairing Transatlantic Conference on Imaging Target Molecular Signatures in Lungs (Luzerne, 2009) and the Gordon Conference on Drug Carriers (2012), Dr. Jane Glick's Graduate Teaching Award (2013).

Topic of Presentation: Vascular targeting of nanocarriers

Dr. Weibo Cai

Dr. Weibo Cai is currently an Assistant Professor of Radiology and Medical Physics at the University of Wisconsin - Madison. He received his Ph.D. degree in Chemistry from the University of California, San Diego in 2004, and did his postdoctoral research at the Molecular Imaging Program at Stanford University. In February 2008, Dr. Cai joined the University of Wisconsin - Madison as a Biomedical Engineering Cluster Hire, and his research there has focused on molecular imaging and nanotechnology (http://mi.wisc.edu/).

Dr. Cai has authored over 110 peer-reviewed articles, 11 book chapters, and more than 100 conference abstracts. He has won many prestigious awards, including the Society of Nuclear Medicine Young Professionals Committee Best Basic Science Award (2007), the Wisconsin Partnership Program MERC New Investigator Award (2009-2012), the Department of Defense Prostate Cancer Research Program IDEA Award (2011-2014), the European Association of Nuclear Medicine Springer Prize (2011), European Association of Nuclear Medicine Eckert & Ziegler Abstract Award (2012), among many others. Dr. Cai has served on the editorial boards of 18 scientific journals, performed peer review for over 100 journals, participated in many grant review panels, and chaired sessions at multiple international conferences. Prof. Cai is currently the Executive Editor of the American Journal of Nuclear Medicine and Molecular Imaging (http://www.ajnmmi.us), which was launched in 2011 and is currently fully indexed in PubMed.

Topic of Presentation: Nanoplatforms for Cancer Targeting and Imaging: a Quest for the Best

Dr. Xiaohu Gao

Prof. Xiaohu Gao received his Ph.D. degree in chemistry from Indiana University, Bloomington in 2004, and his postdoctoral training from the Department of Biomedical Engineering at Georgia Tech and Emory University. He became a faculty member in the Department of Bioengineering and the Center for Nanotechnology at the University of Washington, Seattle in 2005. His research is focused on biomedical nanotechnology, molecular engineering and optical imaging. He has authored or co-authored ~45 peer-reviewed papers; and he is also a recipient of the *NSF CAREER Award*. He has been a member of the American Chemical Society (ACS) and Biomedical Engineering Society (BMES) since 2003, and is an elected fellow of the American Institute for Medical and Biological Engineering (AIBME).

Topic of Presentation: Molecular profiling of single tumor cells with quantum dots

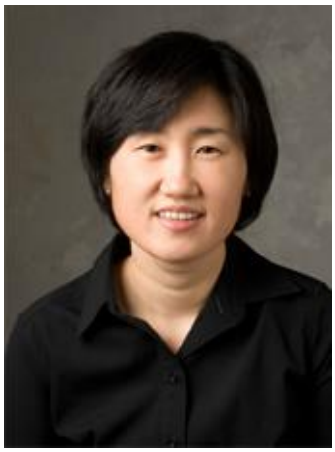
Dr. Muhammad Delwar Hussain

Dr. M. Delwar Hussain is Associate Professor of Pharmaceutics at the Texas A&M Health Science Center (TAMHSC), Irma Lerma Rangel College of Pharmacy. He received both his bachelor's and master's degrees in Pharmacy from the University of Dhaka, Bangladesh, and his Ph.D. degree in Pharmaceutical Sciences from the University of Alberta, Canada. Dr. Hussain's teaching and research interests are in pharmaceutics, drug delivery, pharmacokinetics, nanomedicine and biotechnology. His current research focuses on formulation development, in-situ implants, targeted drug delivery, nanotechnology and cancer therapy. Dr. Hussain is graduate faculty member at TAMHSC and Texas A&M University, Kingsville. He has published more than 90 publications, book chapters and abstracts. Dr. Hussain worked in Quality Control, Pre-clinical and Clinical drug development areas at pharmaceutical industries in the USA and outside. During his work at pharmaceutical industries he was involved in all aspects of drug development and drug delivery activities leading to product registration in USA.

Dr. Hussain has served as USP expert committee member. Dr. Hussain is involved in various national committees including Chair-elect, Pharmaceutics section, American Association of Colleges of Pharmacy (AACP); Paul R. Dawson Biotechnology Award Committee (AACP); Council of Faculties Nominations Committee, AACP; Steering Committee, Animal Pharmaceutics & Technology (APT) focus group, American Association of Pharmaceutical Scientists (AAPS); Graduate Students Award Committee, AAPS; New Investigator Grant Award Committee, AAPS; Founding member and Executive committee member, American Association of Bangladeshi Pharmaceutical Scientist (AABPS); Secretary and treasurer, South Texas Section of American Chemical Society (ACS). He is member of the following professional associations: AACP; AAPS; Controlled Release Society (CRS); International Society for the Study of Xenobiotics (ISSX); Registered Pharmacist, Bangladesh. Dr. Hussain has been invited as speaker and chair for scientific sessions at both national and international meetings. He has served as NIH grant reviewer and is member of editorial boards of scientific journals.

Topic of Presentation: TBD

Dr. Yoon Yeo



Yoon Yeo, Ph.D. is Assistant Professor of Industrial and Physical Pharmacy at the College of Pharmacy with a join appointment as Assistant Professor at the Weldon School of Biomedical Engineering at Purdue University, West Lafayette, Indiana. She earned her B.S. in Pharmacy and M.S. in Microbial Chemistry at Seoul National University in Korea, and Ph.D. in Pharmaceutics at Purdue University in the USA. She completed post-doctoral training in Chemical Engineering at Massachusetts Institute of Technology and returned to Purdue as a faculty member. Her research focuses on nanoparticle surface engineering for drug delivery to solid tumors, inhalable drug/gene delivery for cystic fibrosis therapy, and functional biomaterials based on carbohydrates. Dr. Yeo has published 55 peer-reviewed papers and 7 book chapters, and received the NSF CAREER award (2011) and New Investigator Awards from the American Association of Pharmaceutical Scientists (2009) and American Association of Colleges of Pharmacy (2008).

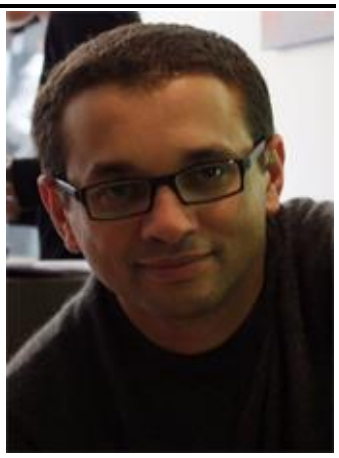
Topic of Presentation: TBD

Dr. Juntao Luo

Dr. Juntao Luo is an assistant professor in the Department of Pharmacology at SUNY Upstate Medical University. Dr. Luo obtained his PhD degree in polymer chemistry and physics in Nankai University, China in 2003. Thereafter, he pursued his first postdoctoral research in biopolymers and nanomaterials at University of Montreal, Canada. In 2006, he moved to UC Davis Medical Center, University of California at Davis for second postdoctoral research in combinatorial chemistry and nanomedicine in cancer research and cancer treatment. In 2008, Dr. Luo was promoted as a research faculty in the Division of Hematology & Oncology, Internal Medicine, UCDMC, UC Davis. In 2011, Dr. Luo moved to SUNY Upstate Medical University as tenure tracked assistant professor in Pharmacology. Dr. Luo has co-authored around 50 research publications and 8 issued and applied patents. Dr. Luo has developed a well-defined and engineer-able versatile telodendrimer nanocarrier system for efficient delivery of a broad spectrum of chemodrugs for cancer treatment. Dr. Luo's group is also interested in the research in gene delivery and protein/peptide delivery.

Topic of Presentation: Rational Design of Telodendrimer Nanocarriers For Anticancer Drug Delivery

Dr. Hicham Fenniri



Dr. Hicham Fenniri is the Director of the Supramolecular Nanoscale Assembly Program at the NRC National Institute for Nanotechnology (Canada's Government Laboratory), and is Professor of Chemistry and Biomedical Engineering at the University of Alberta, Edmonton, Canada.

Dr. Fenniri has achieved international recognition as a leader in the areas supramolecular chemistry and materials sciences. His group works at the forefront of basic and applied nanosciences, in collaboration with various academic institutions, federal laboratories, and with the private sector. Dr. Fenniri's contributions appeared in over 130 publications, 8 patents, and over 320 contributed national and international conference papers. Dr. Fenniri's work was also presented in over 130 invited distinguished lectures, colloquia and seminars around the globe. His research programs are supported by the Natural Science and Engineering Research Council of Canada, Alberta Advanced Education and Technology, the US National Institutes of Health, the National Research Council of Canada, the University of Alberta, and several private, provincial and federal funding organizations.

Dr. Fenniri is the recipient of several academic and professional awards, including the Xerox UAC Award (2006–2008), the 3M Faculty Award (2000, 2002), the Showalter Trust Fund Award (1999, 2001), the Trask Trust Fund Technology Innovation Award (2000), the Cottrell Teacher Scholar Award (2000–2005), and the US National Science Foundation Career Award (1999–2003). Dr. Fenniri is Member of the Editorial Board of several scientific journals and serves on several national and international scientific boards, panels, and committees. Dr. Fenniri has been an invited professor at the College de France and Université de Strasbourg (2010), the National University of Taiwan, Taiwan (2007), and the University of Colorado Boulder, USA (2004). He has also been the DAAD Visiting Professor at Regensburg University, Germany (2002, 2003).

Topic of Presentation: TBD

Dr. Geoffrey D. Bothun

Dr. Geoffrey D. Bothun is an Associate Professor of Chemical Engineering at the University of Rhode Island, USA. Professor Bothun received BS degrees in Chemistry and Chemical Engineering from the University of Nevada, Reno in 1998 and MS/PhD degrees in Chemical Engineering from the University of Kentucky in 2004. He joined URI in 2006 as an Assistant Professor after completing a National Science Foundation Postdoctoral Fellowship, and was promoted to Associate Professor with tenure in 2011. In 2012 he was appointed as Director of the Rhode Island Consortium for Nanoscience and Nanotechnology, which is a statewide initiative supporting nanotechnology research and commercialization. Professor Bothun's research is in the area of bionanotechnology with an emphasis on membrane biophysics, molecular self-assembly, and colloidal and interfacial phenomena. His work has been supported by NIH, ONR, NASA, and NSF; and he is a recent recipient of a NSF CAREER Award to provide fundamental insight into nanoparticle-biomembrane interactions. Professor Bothun's research on liposome-nanoparticle assemblies, which are bioinspired structures, has opened new possibilities for designing more robust liposomal-based systems and new multifunctional theranostics. He has authored 36 journal publications and given over 30 invited and keynote presentations.

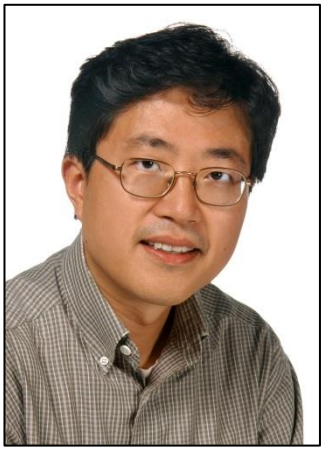
Topic of Presentation: TBD

Mr. Yi Zheng

Yi Zheng is a senior engineer in Powder Metallurgy Institute of Central Iron & Steel Research Institute (CISRI), Beijing of China. He had completed his undergraduate courses of Mechanical Engineering in 2000 at North-Eastern University (China), and received his diploma of Engineer Master about Materials Science in 2010 at University of Science & Technology Beijing (China). He is a crystallographer, and also focusing on nano characterization of materials by X ray method. For the reason of scale, the agglomerate effect is very common in all kind of nano particles. The measurement of Small Angle X ray Scattering (SAXS) is a good and only way, which can measure the statistic distribution of primary size of nano particles from the cake sample, whatever bedding in another materials or not. As the top scientist of SAXS, Yi Zheng has worked on the measurement research of nano particle over 11 years, and also measured the particle size of many nano drugs, including tradition medicines, which were used to raise the medical effect. Some nano products of tradition drugs are used in the treatment of anti-cancer, which extend some lives of cancer patients now.

Topic of Presentation: The anti-cancer treatment of tradition medicines with nano or without

Dr. Pu Chen



Dr. Chen's research is at the interface between nanotechnology and biomedicine; it involves the application of physical chemistry, surface thermodynamics, solid state physics, biochemistry and molecular cell biology to biomedical and energy storage systems. At the centre are studies of the molecular self-assembly, intercalation materials and interfacial phenomena in multiphase systems where nanomaterials or biomolecules in different states (or phases) co-exist and interact with one another. The research applies techniques emerging from innovations in nanotechnology, genomics, proteomics and nano/microelectronics to problems in nanomedicine, energy storage, colloid and surface science. Practical applications include drug and gene delivery; peptide-DNA/RNA binding; protein-lipid interactions, lipid bilayer and cell membrane actions; and rechargeable batteries. The study is highly interdisciplinary and can involve both experimental and theoretical work.

Topic of Presentation: TBD

Dr. Natalya Rapoport

Natalya Rapoport, PhD, is a research professor in the Department of Bioengineering at the University of Utah and a member of the Imaging, Diagnostics, and Therapeutics Program at Huntsman Cancer Institute.

Rapoport studies ways to deliver chemotherapy drugs targeted to cancer cells, but not the healthy cells, of patients. This includes packaging the drugs so they do not release until ultrasound imaging reveals they are near the cancer. This technique is called tumor-directed ultrasound treatment.

Rapoport received a PhD from the Karpov Institute of Physical Chemistry, Moscow, and a DSc from the Institute of Chemical Physics, Russian Academy of Sciences, Moscow.

Topic of Presentation: TBD

Dr. Nicola Tirelli

Nicola graduated in Chemistry at the University of Pisa (Italy) in 1992, where he stayed for a PhD in Industrial Chemistry. He then moved to Switzerland (ETH Zurich, Department of Materials) where he was first postdoc in the Institute for Polymers, and then Oberassistent, a position largely analogous to that of a Lecturer, in the Institute of Biomedical Engineering headed at the time by Jeff Hubbell (12/98-12/02) Since December 2004 Nicola has been Chair of Polymers and Biomaterials in the School of Pharmacy and Pharmaceutical Sciences, where he previously (since 1/2003) held an appointment as a Senior Lecturer. Before joining the University of Manchester. Since 2005 Nicola is part of the Executive Advisory Board of all Macromolecular journals of Wiley-VCH and since 2006 he is editor-in-chief of Reactive and Functional Polymers (Elsevier).

Topic of Presentation: TBD

Dr. Subhash Chauhan

Dr. Subhash C. Chauhan is serving as Scientist at Cancer Biology Research Center, Sanford Research/USD, Sioux Falls, SD. He also holds an appointment as Associate Professor at Sanford School of Medicine, The University of South Dakota, Sioux Falls, SD. He received his PhD degree from Central Drug Research Institute, India in year 1997 and then completed postdoctoral training at Medical College of Ohio (MCO), Toledo, Ohio and University of Nebraska Medical Center (UNMC), Omaha, Nebraska. His primary research interest is to identify and characterize the diagnostic and therapeutic targets for cancer. This research is aimed at identification and characterization of biomarkers that aberrantly express or localize in cancer cells to develop newer tools for early cancer diagnosis. The other interest of his laboratory is to develop a targeted Nano-therapy for cancer treatment since nonspecific distribution and suboptimal delivery of the anti-cancer drug(s) to the tumor cells are the major hindrances in the successful use of traditional chemotherapy. Dr. Chauhan has substantial experience and track record in pancreatic, prostate, cervical and ovarian cancer and cancer health disparity areas. Currently, he has two RO1/U01 grants funded through NIH/NCI. Additionally, he has successfully secured funding from local, state, pharmaceutical company (Merck) and federal agencies.

Topic of Presentation: TBD