Prof. Biscoe is an organic/organometallic chemist interested in the development of new reaction methodologies for application in drug discovery.

Research Interests

Keywords: Transition metal catalysis, Organic synthesis, Asymmetric synthesis

Broadly, research in the Biscoe group focuses on catalysis. The two major types of catalysis in which we are interested are transition metal catalysis and macromolecular catalysis. Our primary goals involve the development of practical and reliable processes for the construction of C–C and C–X (X = heteroatom) bonds. We are particularly interested in the development of new processes for the formation of common structural motifs of importance in medicinal chemistry and drug discovery.


Keywords: Cell signaling, cell adhesion, intracellular trafficking of membrane receptors, neutron scattering, protein dynamics

Research Projects include:
1. Structure, dynamics, and assembly of transmembrane cell adhesion molecules and receptors;
2. Protein-lipid interactions;
3. How intracellular adapter proteins influence the trafficking, assembly and function of transmembrane receptors;
4. Small angle X-ray and neutron scattering;
5. Quasielastic neutron scattering, neutron spin echo spectroscopy.
Dr. Maria Contel

Maria Contel is an inorganic/organometallic synthetic chemist. Her main interests lie on the rational design of metallodrugs and homogeneous catalysts.

### Publications


### Research Interests

**Keywords:** Organometallic, Cancer, Antimicrobial, Gold Catalysis, Water-soluble, C-C and C-Heteroatom Bond formation

Our group is focused on the synthesis of metallodrugs as anticancer and antimicrobial agents with a special interest on heterometallic gold-based compounds. We study the biological activity and possible mode of action of the compounds (in our own cell culture room). We use gold derivatives in homogeneous catalysis and we study the possible mechanism of these catalysts by using different techniques.
Dr. Desamero

Dr. Desamero is a spectroscopist by training currently investigating protein-ligand interaction as well as protein-protein aggregation using various techniques.

Ruel Z. B. Desamero
Associate Professor
York College, the Institute of Macromolecular Assembly, and the Graduate Center
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2010 - current  Associate Professor, York College - CUNY
2003 - 2010  Assistant Professor, York College - CUNY
2000 - 2002  Postdoc, Albert Einstein College of Medicine
1998 - 2000  Postdoc, City College - CUNY
1998  PhD, University of Connecticut

Publications


Research Interests

Keywords: vibrational spectroscopy; fluorescence; circular dichroism; temperature-jump techniques; structural biology; protein biochemistry; enzymology

My research is centered on investigating the structural and dynamical aspects of protein-small molecule interactions using techniques such as vibrational spectroscopy and temperature-jump relaxation. One aspect of the work is to understand at the molecular level how protein systems work. Enzyme-substrate interactions have long been recognized as representing an extreme expression of structural complementarities in biological chemistry. Basic research geared towards understanding the inner workings of an enzyme system is important if cures for the diseases caused by a malfunctioning or deficient enzyme are to be found. We have also started investigating the mechanism behind amyloid formation with the goal of synthesizing peptide inhibitors that diminish protein aggregation.
**Dr. Charles Michael Drain**

CM Drain is chair of the Department of Chemistry at Hunter College with research in supramolecular materials, photonics, phototherapeutics, and medical photo-diagnostics

Charles Michael Drain  
Professor  
Hunter College & Rockefeller University  
Department of Chemistry  
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www.hunter.cuny.edu/chemistry/mike/drain

### Publications


### Research Interests

**Keywords:** porphyrins, photophysics, phototherapy, nanotechnology, supramolecular

Bottom-up self-organization of functional photonic materials composed of porphyrinoid dyes allows fabrication of next generation sensors, solar energy harvesting, and biomedical devices. Click-chemistry makes the dye commercially viable, and the fundamental photophysical properties of these materials guides development of more efficient dyes. (2) Porphyrinoid dyes are being developed as theranostics (the same compound is used for both therapy and diagnostic) for photodynamic therapy of diseases such as cancer. (3) Biomedical applications of nanoparticles composed of organic and inorganic materials, including radiolabeled materials, for imaging and therapy are being developed in collaboration with Researchers at Memorial Sloan Kettering and Rockefeller University.
Dr. Emilio Gallicchio

Emilio Gallicchio's research is in the area of computational molecular biophysics. He uses advanced computational models to investigate the dynamics and thermodynamics of biological systems.

Emilio Gallicchio
Assistant Professor
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Publications


Research Interests

- Thermodynamics of protein-protein and protein-ligand binding
- Virtual drug screening
- Protein conformational equilibria
- Statistical thermodynamics of protein folding and misfolding
- Thermodynamics of solvation of biological macromolecules
- Force field development and high resolution protein modeling
- Design of high performance computational chemistry algorithms
- Parallel and distributed computing

2013- current Asst. Professor, Dept. Chemistry, Brooklyn College
2012-2013 Research Professor, Dept. Chemistry, Rutgers University
2001-2012 Associate Director, BioMaPS Institute, Rutgers University
1997-2000 Postdoctoral, Rutgers University
1991-1996 PhD Columbia University, Chemical Physics
The Gardner lab studies how cells perceive and respond to changes in the environment around them. Such information provides insights into fundamental principles of protein structure and signaling, guides the engineering of new protein-based tools, and lays the foundation for new therapeutic strategies.

Kevin H. Gardner
Director, Structural Biology Initiative
CUNY Advanced Science Research Center, Room 3.322
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structbio.asrc.cuny.edu • kglab.org

Publications

Y. Guo et al., Coiled-coil coactivators play a structural role mediating interactions in hypoxia inducible factor heterodimerization. J. Biol. Chem., 2015, online now.

V. Ocasio et al., Ligand-induced folding of a two component signaling receiver domain. Biochemistry, 54, 1353-1363.


2014- current  Director, Structural Biology Initiative, CUNY Advanced Science Research Center
Einstein Professor of Chemistry, City College of New York

1998-2014  Professor of Biophysics and Biochemistry, UT Southwestern Medical Center

1995-1998  Postdoc – Biomolecular NMR methods development, University of Toronto (w/ Dr. Lewis E. Kay)

1989-1995  Ph.D. – Molecular Biophysics & Biochemistry, Yale University (w/ Dr. Joseph E. Coleman)

Research Interests

Keywords: environmental sensing • protein/protein interactions • ligand binding • allostery • NMR spectroscopy • X-ray diffraction • biochemistry • photosensors • cancer • protein engineering
Publications


Gibney, B.R. Metallopeptides as Tools to Understand Metalloprotein Folding and Stability in Protein Folding and Metal Ions – Mechanisms, Biology and Disease, Gomes, C and Wittung-Stafshede, P. Eds. 2011, 227-245.


Research Interests

**Keywords:** De novo metalloprotein design, inorganic coordination chemistry, biophysics, bioenergetics, electrochemistry

Our research focuses on the role of metal ions in biological systems from both an inorganic coordination chemistry and biophysical perspective. We are currently investigating the role of zinc in controlling gene expressions in human cancer, and the role of heme proteins in cardiovascular disease.
Dr. Dixie J. Goss

Prof. Goss is a professor of Chemistry and Biochemistry and Elion Endowed Scholar

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http://www.hunter.cuny.edu/chemistry/faculty/Dixie/goss-group-1/resume

1990- current Professor of Chemistry
1989-1990 Associate Professor of Chemistry
1984-1989 Assistant Professor
Post-Doc. U. of Nebraska and U. of Georgia
1975 Ph.D U. of Nebraska

Publications

Recruitment of 40S Ribosome to the 3' Untranslated Region (UTR) of a Viral mRNA, via the eIF4F Complex, Facilitates Cap-independent Translation.

Pokeweed antiviral protein, a ribosome inactivating protein: activity, inhibition and prospects.

Rapid kinetics of iron responsive element (IRE) RNA/iron regulatory protein 1 and IRE-RNA/eIF4F complexes respond differently to metal ions.

Eukaryotic initiation factor (eIF) 4F binding to barley yellow dwarf virus (BYDV) 3'-untranslated region correlates with translation efficiency.

Poly(A) binding proteins: are they all created equal?

Research Interests

Keywords: protein synthesis, virus, protein-nucleic acid interactions

We use biophysical approaches to understand how non-coding regions of mRNA regulate function. Miss regulation of protein synthesis is responsible for many diseases including cancer. We are interested in how unique structures in viral RNA allow viruses to take over host cell protein synthesis.
Dr. Harding is an organic/medicinal chemist with interests in the design, synthesis, and evaluation of ligands for central nervous system receptors.

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http://www.hunter.cuny.edu/chemistry/faculty/Harding/
Wayne

2013- current  Associate Professor, Hunter College
2006-2013  Assistant Professor, Hunter College
2004-2006  Postdoctoral Fellow, University of Iowa
1994-1999  Ph.D.

Publications


Research Interests

Keywords: Medicinal chemistry, drug design, organic synthesis, central nervous system, CNS, receptor, serotonin, dopamine
Dr. Qiao-Sheng Hu

Qiao-Sheng Hu is Professor and Chair of Chemistry Department at the College of Staten Island. His research is focused on the development of new reactions/processes and catalysts for chemical synthesis including polymer/materials synthesis.

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2008- current
Professor, CSI-CUNY
2005-2007
Associate Professor, CSI
2000-2005
Assistant Professor, CSI
1997-2000
Postdoc, University of Virginia
1995-1997
Postdoc, North Dakota state Univ.
1991-1994
PhD, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences

Research Interests

Keywords: catalysis, palladium, cross-coupling reaction, polymerization, conjugated polymers

The Hu group are interested in the development of new catalysts including transition metal and organic catalysts for cross-coupling reactions and addition reactions, and novel reactions/processes from readily available and cost-effective small organic molecules. These new reactions/processes and catalysts have potential applications in chemical synthesis and polymer/materials synthesis. The approach is interdisciplinary, ranging from fundamental understanding of reaction mechanisms, reaction methodology development to polymer/materials synthesis.

Publications


H.-H. Zhang, C.-H. Xing, Hu, Q.-S., Controlled Pd(0)/t-Bu₃P-Catalyzed Suzuki Cross-Coupling Polymerization of AB-Type Monomers with PhPd(t-Bu₃P)I or Pd₂(dba)₂/t-Bu₃P/Ari as the Initiator, J. Am. Chem. Soc. 2012, 134, 13156-13159.


Dr. David Jeruzalmi

Jeruzalmi’s group applies X-ray crystallography, supplemented with electron microscopy, to understand these long-standing problems in DNA biology. We also use biochemical studies to inform these approaches and follow up on the resulting insights.

Research Interests

The faithful transmission of gene1c information is an important biological imperative. To carry out this function, organisms have evolved processes to replicate their genomes and defend them from attack. We study important mechanisms associated with the processes of DNA replication and repair. The central challenge in understanding these processes stems from the large size of the involved multi-protein DNA complexes; these entities also populate many conformational states. Together, these complications place limits on insights that can be revealed by static crystallographic structures or solution methods alone; both sources of information are essential for defining underlying mechanisms. To this end, my group applies X-ray crystallography, supplemented with electron microscopy, to understand these long-standing problems in DNA biology. We also use biochemical studies to inform these approaches and follow up on the resulting insights.

Publications


Dr. Shi Jin

Dr. Jin is a physical/materials chemist who is working on structure design, synthesis, characterization and optimization of organic optoelectronic materials for improved performance in devices such organic solar cells, light emitting diodes and field effect transistors.

Publications


Research Interests

Keywords: Soft Matter, organic optoelectronic materials
Dr. George John

George John is a Professor of Chemistry/the Center for Discovery and Innovation, the City College of New York -CUNY. His research is focused on molecular design of synthetic lipids, membrane mimics, soft nanomaterials, green energy technologies and organic materials chemistry.

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2012- current  Professor of Chemistry, CCNY
2004-2012  Associate Prof. of Chemistry, CCNY
2002-2004  Research Faculty, RPI, NY
1996-2002  JSPS Fellow/Scientist, Japan
1994-1995  Postdoc, University of Twente, NL
1993  PhD Kerala University, India

Research Interests

Keywords: biobased materials, green chemistry, soft materials, biorefinery, biomimetics, phase selective gels, oil structuring agents (food/cosmetics), antibacterial coatings, battery components/energy storage, green surfactants

John’s research is rooted in the idea that innovation can be inspired by nature to develop economical and sustainable technologies for a greener future. The group has harnessed crop-based precursors such as sugars, fatty acids and plant lipids to design a unique set of multifunctional soft-materials including polymers, gels and green surfactants. His group has successfully developed environmentally benign antibacterial paints, polymer-coatings, molecular gel technologies, oil spill recovery materials, battery components and oil thickening agents. As soft materials research is highly interdisciplinary and collaborative, John’s lab encourages the blending of such diverse elements including organic synthesis, green chemistry, material chemistry, interfacial phenomena, colloid science and biomimetics.

Publications


Dr. Mark N. Kobrak

Mark Kobrak is a theoretical physical chemist with expertise in classical and quantum dynamics simulations. Current work centers on theoretical description of ionic liquids, and studies of solid-liquid interfaces.

Mark N. Kobrak
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Research Interests

Keywords: Ionic Liquids, interfaces, molecular dynamics, thermodynamics

The group’s interest in ionic liquids centers on using both analytical and simulation techniques to understand this novel class of materials. The group has uncovered structure-property relationships relevant to both viscosity and solvent polarity in ionic liquids, aiding in the development of ionic liquids with optimal properties for applications of interest. Recent projects consider the use of ionic liquids for the extraction of metals from the aqueous phase.

Additional interests center on using thermodynamics to understand solid-liquid interfaces. The results demonstrate linkages between macroscopically-observable properties such as surface tension and the microscopic structure of the interface.

Publications


Dr. Sanjai Kumar

Dr. Kumar’s lab studies chemical biology approaches to understand enzyme function involved in human diseases. Development of small molecule probes and sensors of protein kinases, protein tyrosine phosphatases, and cysteine proteases.

Sanjai Kumar
Associate Professor
Queens College, and Ph.D. Program in Chemistry, The Graduate Center of the City University of New York
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Queen, NY 11367
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http://chem.qc.cuny.edu/~skumar/

2007- current 
Associate Prof. of Chemistry, Queens College

2002-2007
PostDoc, Albert Einstein College of Medicine

Publications


Dibyendu Dana et al. "Development of a highly potent, selective, and cell-active Inhibitor of cysteine cathepsin L-A hybrid design approach" Chemical Communications (Camb) 2014, 50(74):10875-8

Ivone Gomes et al. "GPR171 is a Hypothalamic G Protein-Coupled Receptor for BigLEN, a Neuropeptide involved in Feeding" Proceedings of the National Academy of Sciences (PNAS) USA, 2013, 110(40), 16211–16216

Tirtha K. Da et al. “Centrosomal Kinase Nek2 Cooperates With Oncogenic Pathways To Promote Metastasis” Oncogenesis, 2013, 2, e69; doi:10.1038/oncsis.2013.34

Dibyendu Dana et al. Development of Cell-Active Non-peptidyl Inhibitors of Cysteine Cathepsins” Bioorganic and Medicinal Chemistry, 2013, 21, 2975-87

Research Interests

Keywords: Protein kinases, Nek2 kinase, Cathepsin L, Cathepsin B, PTP1B, Chemical Biology, Small molecule Probes and sensors

The research in Kumar’s laboratory spans at the interface of chemistry and biology, and is broadly focused on discovery of unknown enzyme function using chemical biology approaches. The current project includes the development of small molecule probes for protein kinases and protein tyrosine phosphatases, a critically important group of cellular signaling enzymes. The probes are then utilized to understand the enzyme function in both normal physiology and human diseases. Another important area of current interest is to develop appropriate chemical biology tools that can be utilized to probe the function of cysteine cathepsin enzymes in diverse cellular processes. For more information, please visit the website.
Dr. Michal Kruk

Michal Kruk is a professor in chemistry. His research interest is in design of well-defined nanoporous and nanostructured materials using surfactant micelle templating, nanocasting and controlled surfactant/swell agent initiation polymerization.

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**Publications**


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**Research Interests**

Keywords: ordered mesoporous materials, hollow nanoparticles, controlled surfactant-initiated radical polymerization

- Design of ordered nanoporous materials.
- Application of controlled polymerizations in the synthesis of nanostructured materials, including porous inorganic/polymer nanocomposites.
- Development of methods for accurate characterization of nanoporous materials.
- Synthesis of nanoporous materials with closed pores.
- Synthesis of single-micelle-templated hollow nanoparticles.
Dr. Mahesh Lakshman is an organic/bioorganic chemist working in areas of (a) nucleoside modification by metal catalysis and uncatalyzed methods, (b) chemical carcinogenesis, (c) unusual applications of peptide coupling agents, (d) aryne chemistry, and (e) methodology.

**Keywords:** Metal catalysis, Nucleoside Modification, Biomolecules, Chemical Carcinogenesis

The program has many facets but can be broadly divided into the following areas.

**A. Nucleoside modifications by new metal-catalyzed as well as novel uncatalyzed routes.**

**B. Unusual applications of peptide coupling agents.**

**C. Structural and biological effects of DNA modification by environmental pollutants.**

**C. Novel reactions involving arynes.**

**D. New chemical methodology development.**

Every aspect entails a detailed understanding of chemical process via mechanism studies involving techniques such as molecular spectroscopy, multinuclear NMR, and isotopic labeling.

**Publications**


The Lazaridis lab works in the area of theoretical and computational Biophysics. In the past few years we have worked on the interaction of proteins with biological membranes. We are especially interested in the process of pore formation by antimicrobial peptides and other toxins.

Publications


Research Interests

My research is in the area of Theoretical and Computational Biophysical Chemistry, which aims to understand how biological systems work in terms of the fundamental laws of Physics and Chemistry. Biomolecules, such as proteins and nucleic acids, have well defined conformations which often change in the course of their function. Our goal is to understand the forces that operate within and between biomolecules and develop quantitative mathematical models for their energy as a function of conformation. Such models are useful in many ways, such as predicting the three-dimensional structure from sequence, characterizing conformational changes involved in biological function, or predicting the binding affinity between two biomolecules.
Dr. Jianbo Liu

Jianbo Liu
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Department of Chemistry and Biochemistry
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Queens, NY 11367
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http://chem.qc.cuny.edu/~jliu/Liu_page/Liu_main.htm

2013- current  Associate Professor, Queens College
2016-2013  Assistant Professor, Queens College
1999-2000  Postdoc, Lawrence Berkeley Lab
1997  Ph.D. (Physical Chemistry)

Research Interests

Keywords: mass spectrometry, singlet oxygen, reaction dynamics/kinetics, spectroscopy

Our research focuses on using various instrumental analysis approaches (e.g., mass spectrometry, laser spectroscopy, and ion-molecule reactions) to probe biologically relevant processes in a spectrum of systems ranging from isolated biomolecules, through micelles and aerosols, to biomolecule solution. The experiments are complemented by extensive computational efforts including statistical modeling and dynamics simulations.

We are also active in discovering and developing new instrumentation methods and nanotechnologies.

Publications


The Loverde laboratory utilizes all-atomistic (AA) and coarse-grained molecular dynamics (CG-MD) simulations, in combination with advanced sampling techniques, to investigate soft and biological materials.

Publications


Research Interests

Keywords: Molecular dynamics, molecular self-assembly, polymer membranes, cellular membranes, multi-scale models, polymers/biopolymers
Dr. Alan Lyons

Alan Lyons is Professor of Chemistry at the College of Staten Island and Graduate Center of CUNY. His research is focused on the effect of topography and chemistry on the wetting, thermal, optical and catalytic properties of surfaces.

Using natural surfaces as inspiration, the Lyons group fabricates nanoscale materials with unique wetting, catalytic, thermal and/or optical properties. We are especially interested in developing a fundamental understanding of reactions and properties at the solid-liquid-gas interface. We work closely with industry with the goal of transitioning our inventions into industrially relevant innovations; active projects include self-cleaning heat reflective cool-roofing materials, biological concentrators and anti-reflective self-cleaning coatings to increase the energy efficiency of photovoltaic panels.

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http://csivc.csi.cuny.edu/Alan.Lyons/files/

2008- current  Professor of Chemistry, College of Staten Island & Graduate Center CUNY.
1980-2008  Distinguished Member of Technical Staff, Manager & Group Leader, Bell Laboratories, Murray Hill NJ
1981- 1987  PhD, MS, Polymer Chemistry NYU-Poly

Publications


Research Interests

Keywords: superhydrophobicity, wetting, polymer pen printing, photocatalysis, thermal resistance, interfaces
Dr. Hiroshi Matsui

Hiroshi Matsui
Professor
Hunter College / Weill Medical College of Cornell U
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www.hunter.cuny.edu/chemistry/faculty/Hiroshi/Hiroshi

Matsui is a Professor at Hunter College and Weill Medical College of Cornell University. My research areas are Cancer diagnostics/therapeutics, Bionanotechnology, Lab-On-a-Chip, and Nanoparticle Synthesis for Medical Applications.

Research Interests

Keywords: Cancer Nanotechnology, Cancer Diagnostics/therapeutics, Lab-On-a-Chip, Medical Nanoparticles

1. Study of the effect on cellular structure by cancer metastasis.
2. Analysis of nanoscale vesicles released from cancer cells for diagnostics and therapeutics.
3. Electric silicon chip microfabrication for the detection of cancer and related cells.
4. Synthesis of nanoparticles in complex shapes for medical applications such as MRI contrast agents and drug delivery.

Publications


Aneta Mieszawska is an Assistant Professor in the Department of Chemistry at Brooklyn College. Her research is focused on nanomedicine and application of nanoparticle based systems for cancer detection and treatment.

**Research Interests**

**Keywords:** second generation nanoparticles, theranostics, biodegradable polymers, nanocrystals

The Mieszawska group research focuses on nanotechnology and nanomedicine with specific interest in designing and testing the nanoparticle systems for concurrent imaging and therapy of disease. These theranostic nanoparticles are based on slow releasing biodegradable and biocompatible polymers, such as PLGA or PLA, that encapsulate contrast agents and small drug molecules. The primary goal is to target and deliver efficacious therapy directly to cancer cells. This interdisciplinary research involves active collaboration with clinicians from Icahn School of Medicine at Mount Sinai.

**Publications**


Michael V. Mirkin is a professor of chemistry at CUNY-Queens College. His research interests are in the field of electrochemistry and include nano- and bio-electrochemistry, interfacial charge-transfer reactions, electrocatalysis, and scanning electrochemical microscopy (SECM).

Research Interests

Keywords: Electrochemistry/Physical/Analytical/Nano

We employ nanometer-sized electrochemical probes for molecular level characterization of chemical processes and materials. A wide variety of phenomena are studied including charge-transfer reactions at the solid/liquid and liquid/liquid interfaces, electrocatalysis, bioelectrochemistry, and electrochemical imaging. The main focus is on obtaining quantitative physico-chemical information by combination of experiments with mathematical modeling and computer simulations. We also maintain active interest in development of electrochemical techniques for analytical applications. These include carbon nanoprobees, amperometric nanosensors, and resistive-pulse sensors.

Publications


P. Sun and M.V. Mirkin, Electrochemistry of individual molecules in zeptoliter volumes, JACS, 2008, 130, 8241-8250.

Dr. Ryan Murelli

Dr. Murelli is a synthetic organic chemist who is interested in developing new synthetic methods and strategies that can be used to tackle fundamental problems in biology and medicine.

Ryan P. Murelli, PhD
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http://userhome.brooklyn.cuny.edu/rpmurelli/

2010- current  Assistant Professor, Boston College
2007-2010  Postdoctoral Associate, Yale University
2002-2007  PhD Student, Boston College

Publications


Research Interests

Keywords: Synthetic Organic Chemistry, Medicinal Chemistry, Chemical Biology

One of the most important discipline-bridging roles for synthetic chemists is in the development of therapeutics, where the ability to design and synthesize analogs of lead therapeutic hits is essential in the identification of new clinically viable derivatives. Toward this end, our lab is broadly interested in the interface between synthetic chemistry and medicinal chemistry, and we seek to develop new synthetic methods for use in a broad range of medicinal chemistry studies.
Ralf Peetz is interested in functional materials that could be of use in meeting future energy needs.

Research Interests

Keywords: Functional Materials, Conjugated Polymers, Donor Acceptor Systems

We are currently interested in the controlled synthesis of donor-acceptor macromolecules for potential use in organic polymer photovoltaics. Some candidates featuring promising electronic properties and absorbing over a broad range of wavelengths are currently scheduled to be tested in prototype photovoltaic cells.
Dr. Sébastien Poget

Dr. Poget is interested in membrane protein structure and function, with a particular emphasis on the interactions between ion channel domains and animal peptide toxins.

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www.csi.cuny.edu/faculty/POGET_SEBASTIEN.html

2009- current  Assistant Professor, College of Staten Island, CUNY
2003-2009  Postdoc, Albert Einstein College of Medicine, NY
2001-2003  Postdoc, Rockefeller University, NY
1997-2001  PhD, University of Cambridge, UK

Research Interests

Keywords: Solution-state NMR, membrane protein structural biology, ion channels, toxins, electrophysiology, biophysics

The Poget lab is interested in the structural and functional study of membrane proteins through solution-state NMR and other biophysical methods. Our studies focus on better understanding the interactions of animal peptide toxins with their target ion channel domains as tools for an improved understanding of ion channel function and starting point for drug development. To carry out these studies at the cutting edge of structural biology, we are also involved in the development of new and improved methods for membrane protein studies, including development of more powerful membrane mimetics such as bicelles and optimized NMR methods.

Publications


Dr. Krishnaswami Raja

Krishnaswami Raja is College of Staten Island Chemistry faculty working in the area of Bionanotechnology, Origin of life research and green drug discovery and development.


Raja, K.S.; Banerjee, P.; Lamoreaux, W.; Shi, W.; Auerbach, A.;“Novel Curcumin and Tetrahydrocurcumin derivatives” US patent number 8487139


Research Interests

Keywords: Origin of life, stigmergy scaffolds, 3D Cell culture, Ayurbiotecnology, Virus Chemistry, Bioconjugation, Green drug development, Polymer-protein hybrids

The Raja group is interested in creating programmable scaffolds for probing the origins of multi-cellular life, synthesis of well defined polymer-bionanoparticle/targeting protein hybrids and green drug discovery and development based on Ayurveda. The research spans the areas of small molecule and polymer synthesis, bioconjugation chemistry and bioengineering.
Publications

Liu, M. T.; Nagre, N. N.; Ryan, K., Structurally diverse low molecular weight activators of the mammalian pre-mRNA 3' cleavage reaction. *Bioorganic & Medicinal Chemistry* 2014, 22 (2), 834-41;

Li, Y.; Peterlin, Z.; et al., Aldehyde Recognition and Discrimination by Mammalian Odorant Receptors via Functional Group-Specific Hydration Chemistry. *ACS Chemical Biology* 2014;

Lama, L.; Seidl, C. I.; Ryan, K., New insights into the promoterless transcription of DNA coligo templates by RNA polymerase III. *Transcription* 2014, 5 (1);


Research Interests

**Keywords:** molecular recognition, olfaction, RNA, micro RNA, RNA interference, RNA polymerase III, chemical biology, transcription

In the RNA area, we study the use of chemically synthesized transcription templates as potential information-bearing molecules for producing small therapeutic RNA in human cells. A second RNA area is the biochemistry of RNA processing reactions that occur during the biogenesis of messenger RNA in human cells. In the olfaction area, we use pharmacology, organic synthesis and chemical biology to probe the biochemistry of the sense of smell.
Dr. Chwen-Yang Shew

Professor
Department of Chemistry
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Publications


Research Interests

Keywords: Statistical Mechanics, Computer Simulations, Soft Matters, Polymeric Materials, and Biopolymers

Our laboratory is focused on developments of statistical mechanics models to elucidate the thermodynamic properties and structure of polymeric materials and biopolymer systems. Our model studies have been extended to explore the role of the long-ranged electrostatic interaction on the self-assembly structure of like-charged macroions, the intramolecular self-assembly of a giant DNA, and the solution structure of polyelectrolytes. We are currently working on the structure of chromatin and nucleolus in the highly confined, crowded nucleus with applications to cancer cell diagnosis.
Ming Tang, PhD
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2013- current       Assistant Prof. of Chemistry, College of Staten Island, CUNY

Research Interests

Keywords: Membrane proteins, ion channels, amyloidogenic proteins, Phosphoinositide, solid-state NMR, protein aggregates, paramagnetic relaxation enhancement.

Publications


Ming Tang is an assistant professor in the chemistry and biochemistry programs at CUNY. His long-term research endeavor is to investigate the function-modulating interactions between proteins and membrane components by solving structures of membrane-associated protein complexes and aggregates. The elucidation of such structure-function relationships will contribute tremendously to our understanding of how proteins interact with lipids and/or cofactors to operate.

Dr. Ming Tang
Dr. Rein V Ulijn

Rein Ulijn is founding director of the nanoscience initiative at the Advanced Science Research Centre at CUNY and Professor of Nanochemistry at Hunter College. His research is focused on minimalistic molecular materials and adaptive systems that are inspired by biology.

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2014- current  Director of Nanoscience, ASRC
2008-2014  Professor of Nanochemistry, University of Strathclyde, Glasgow, UK
2003-2008  Associate Prof., U. of Manchester, UK
1998-2001  PhD University of Strathclyde, UK
1992-1998  MSc Wageningen University, NL

Research Interests

Keywords: molecular systems, bionanotechnology, hydrogels, peptides, biocatalysis, adaptive materials

The Ulijn group are interested in the development of materials and systems that mimic biology’s adaptive properties but are much simpler. These materials (including gels, emulsions, structured surfaces and nanotubes) have potential applications in health care, cosmetics, lifestyle products, food science. These applications are sought in active collaboration with researchers and companies across the globe. The approach is cross-disciplinary and covers the entire range from fundamental understanding to eventual applications and societal benefit.

Publications


Dr. Nan –Loh Yang

Nan-Loh Yang is a Professor of Chemistry at College of Staten Island. His research areas include: antimicrobial polymer nanoparticles; polymers with well-defined structure; and materials for nanoelectronics - giant dielectric constant element, fast conductance switch, 4-stage memory and room temperature magnetoelectric coupling.

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Current
1969-1970 Postdoc, Mount Sinai School of Medicine
1969 PhD Polymer Chemistry NYU-Poly

Research Interests

Keywords: Nanoelectronics, Superbugs killers, Photopolymers Novel Polyacetals, Supercapacitor Fast Switch, Amphiphilic Polyelectrolytes, Micelles

Professor Yang’s research group is involved in developing amphiphilic non-hemolytic and antibacterial nanoparticle based structural tuning with optimizing hydrophobic – hydrophilic molecular topography. The nanoelectronics research exploits the characteristic of micell reactors and interfacial polymerization.

Publications


Zajc is an organic/bioorganic chemist working in areas of (a) fluoroorganic chemistry, (b) chemical carcinogenesis, and (c) synthetic methodology.

Publications


Research Interests

**Keywords: Fluoroorganic chemistry, Biomolecules, Chemical Carcinogenesis**

The research is focused in two main directions. One area involves development of methods for regiospecific introduction of fluorine into organic molecules. Here, an expanding toolbox of novel reagents for the synthesis of variously functionalized vinyl fluorides, highly versatile synthetic intermediates, is being developed. Another area of research involves the use of fluorine as probe in structure activity studies in the area of chemical carcinogenesis. Specifically fluorinated polycyclic aromatic hydrocarbons, their metabolites and their DNA conjugates are synthesized as probes to understanding cellular events after metabolism and DNA binding.
Dr. Shengping Zheng

Our group focuses on the synthesis of bioactive heterocycles and their SAR studies.

Our group focuses on the synthesis of bioactive heterocycles and their SAR studies.

Publications


Research Interests

Keywords: Organic Synthesis, Anticancer, Antiviral, Heterocycles, Natural Products

1. New methodologies in heterocycle synthesis

2. Total synthesis of bioactive natural products
Dr. Shuiqin Zhou

Shuiqin Zhou is a Professor of Chemistry at CUNY College of Staten Island. Her research is focused on responsive polymer-nanoparticle (including carbon dots) hybrid nanogels, inorganic-carbon composite nanoparticles, and complex assembly of nanoparticles for sensing, imaging, drug delivery, and environmental remediation.

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2008- current  Professor of Chemistry, CUNY-CSI
2002-2007  Associate Prof. of Chemistry, CUNY-CSI
2000-2002  Senior Chemist, Dow Chemical Company
1996-2000  Postdoc, SUNY at Stony Brook
1993-1996  PhD, Chinese University of Hong Kong
1988-1991  MSc, Xiamen University, China
1984-1988  BSc, Xiamen University, China

Publications


Research Interests

Keywords: responsive polymers, hybrid nanogels, nanoparticles, carbon dots, assembly, biosensing, drug delivery, cell imaging, environmental remediation

The Zhou group is interested in the development of (1) glucose-responsive hybrid nanoparticles (NPs) for glucose sensing and self-regulated insulin delivery; (2) multifunctional nanomaterials from the combination of optically active NPs with responsive polymers for sensing, imaging, and therapy; and (3) composite nanomaterials from the complex assembly of carbon-based NPs, inorganic NPs, and other amphiphilic in the confinement of (bio)polymers and colloids for sensing, catalysis, and environmental remediation.