



NEW JERSEY
MEDICAL SCHOOL

University of Medicine & Dentistry of New Jersey

OFFICE OF THE SENIOR ASSOCIATE DEAN FOR RESEARCH

Research Resources

UMDNJ Newark Campus



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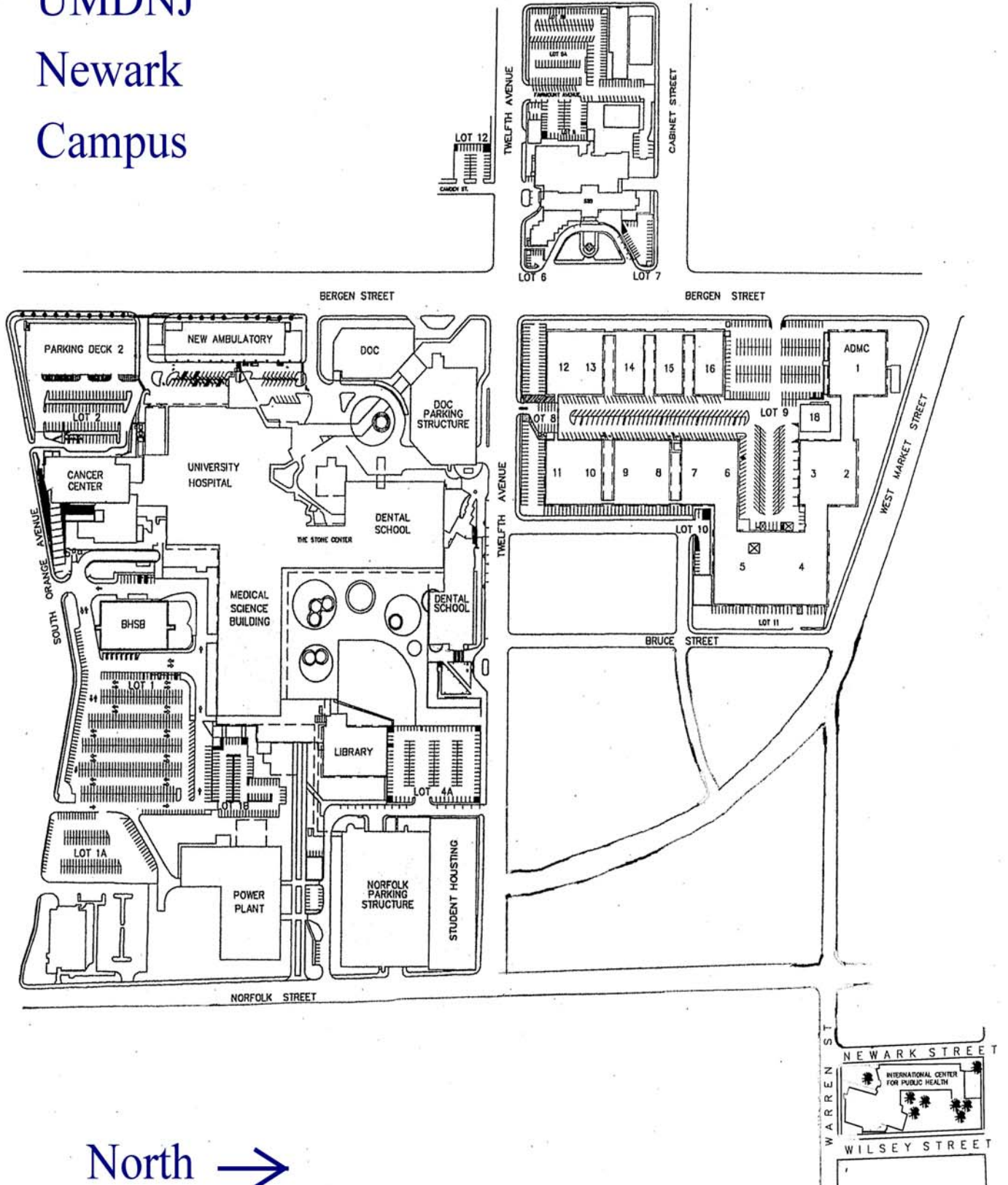
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UMDNJ Newark Campus



North →

Animal BSL3 Facility

Director, ICPH RAF	David S. Perlin, PhD Director, Northeast Biodefense Center RCE II SAC Interim Director, Research Biocontainment Lab. (RBL) 973-854-3200 perlinds@umdnj.edu Location: ICPH W210A
Operations Director, ICPH RAF	Steven Park Liaison, Northeast Biodefense Center RCE II SAC 973-854-3203 parkst@umdnj.edu Location: ICPH E220J
Location	ICPH
Website	www.phri.org/

The International Center for Public Health (ICPH) Research Animal Facility (RAF) is a unique research component of the NJMS overseen by the Office of the Dean under the direction of Dr. David S. Perlin. The ICPH RAF is the combined operational facility of the original PHRI RAF Animal Biosafety Level ABSL3/ABSL2 and Regional Biocontainment Laboratory (RBL) ABSL3, and is located in the International Center for Public Health Building. As a Core Facility, it supports basic research focused on infectious diseases, toxin and immunologic/drug target studies in animal model systems under BSL2 and BSL3 biocontainment conditions. It operates under high security conditions with limited access, and in compliance with regulations specified by US CDC, USDA, the US Department of Justice and UMDNJ.

Currently, BSL3 studies in mice and rabbits are conducted using drug-susceptible and MDR-forms of tuberculosis. In addition, BSL3 infectious disease and immune-based host-pathogen interactions research programs in small animal models are conducted in the ICPH

The ICPH RAF is the sole site for BSL3 animal studies at UMDNJ-New Jersey Medical School and on the UMDNJ Newark campus.

RAF for investigators supported by the NIH-NIAID Northeast Biodefense Center Regional Center of Excellence (Region II: New Jersey, New York, Connecticut, Puerto Rico and US Virgin Islands). We currently study diseases caused by NIH/HHS/USDA-designated Select Agents, including pneumonic and bubonic plague,

anthrax, tularemia and glanders in mouse and hamster models. New programs to study

Select Agent avian influenza H5N1 in mice and other emerging pathogens including influenza A H1N1 in mice and ferrets are under development.

The ICPH RAF Animal Specialist Team conducts studies in the ICPH RAF under the guidance of Dr. David S. Perlin (Director) and Steven Park (Operations Director). The team specializes in BSL3 respiratory pathogen studies, and can perform various types of infection and post-procedural techniques and analysis of mice, rats, guinea pigs, ferrets, hamsters and rabbits.

BSL2 animal studies including diseases caused by *Staphylococcus*, *Pseudomonas*, *Plasmodium*, *Candida*, SHIV, *Streptococcus*, vaccinia virus, canine distemper virus and *Aspergillus* species are conducted in the ICPH RAF by UMDNJ-NJMS and other UMDNJ investigators, the Animal Specialist Team, and by collaborators from biotech partners and pharmaceutical companies.

The ICPH RAF is home to one ABSL3 Core [Animal Models Systems], and has three additional ABSL3 Cores under development [Live Animal Imaging Core, Immunology Core and Molecular Analysis of drugs (PK/PD) Core] to serve the needs of researchers who conduct their studies under ABSL3 biocontainment.

The ICPH RAF serves UMDNJ research investigators with approved NJMS IACUC, and other UMDNJ-IACUC protocols; with approved UMDNJ-NJMS IBC protocols; with UMDNJ-NJMS safety (EOHSS) and animal training (CMR/ICPH) certifications, with health evaluation/TB surveillance by UMDNJ-NJMS OMS/SHS; and with ICPH BSL3 Standard Operating Procedures (SOP) Committee approvals. The activities of the animal caretaker staff and the day-to-day operations of the ICPH RAF are supervised by Juanita Vakerich, BS, LATg.

If you would like to either perform animal research studies in the ICPH RAF or have the Animal Specialist Team members perform Select Agent BSL3 or other studies for you on a fee-for-services basis, please use the contact information above to obtain details specific to your research needs.



Biostatistics Core

Director	Amy L. Davidow, PhD 973-972-4587 davidoyal@umdnj.edu	
Location	MSB-F-596A	
Website	www.njms.umdnj.edu/departments/preventive_medicine/biostats.cfm	

The Biostatistics Core provides statistical consulting services such as data management and analysis, grant preparation and protocol development to faculty. The core's staff has expertise in a wide array of clinical and translational research, protocol design and large scale epidemiologic studies and have served on NIH peer review panels. The lab is equipped with hardware and software necessary for biostatistical analyses, statistical design development and analysis of complex data sets. Members of the core also offer educational training in Biostatistical methods both at the undergraduate and graduate level.

Biostatistics Core Facility services are available to faculty at schools of the Newark campus of UMDNJ, including the New Jersey Medical School, School of Public Health, School of Nursing and New Jersey Dental School. The Core also provides consultation to external researchers as appropriate.

The Biostatistics Core faculty consists of Amy Davidow, PhD (Director), Bart Holland, PhD, MPH, Soyeon Kim, ScD, and Marian Passannante, PhD.

Services include:

- Data management and basic statistical services (data analysis, basic statistical modeling, research paper revisions etc.), typically offered by a MS trained biostatistician
- Grant development, detailed statistical modeling including statistical designs for epidemiologic, clinical and basic science research studies, typically offered by a PhD trained biostatistician

Center for Advanced Proteomics Research



Director	Hong Li, PhD 973-972-8396 (Office) / 973-972-5340 (Lab) liho2@umdnj.edu		
Lab Members	Tong Liu, PhD Mohit Jain, PhD	Changgong Wu, PhD Wei Chen, MS	Qing Li, MD, PhD
Location	CC-F-1105		
Website	www.njms.umdnj.edu/proweb		

Established in 2000, the Center for Advanced Proteomics Research (CAPR) of the NJMS is equipped with state-of-the-art proteomics instruments and bioinformatics systems specializing in protein identification and protein quantitative analysis. Services include:

Large Scale Protein Expression Profiling

- Quantification of differentially expressed proteins is performed using either iTRAQ (I_sobaric T_ag for R_elative and A_bsolute Q_uantitation), SILAC (S_table i_sotope l_abeling with a_mino acids in c_ell culture) or ICAT (I_sotope C_oded A_ffinity T_ag) labeling technologies.
- iTRAQ technology can analyze protein expression profile in up to eight different samples simultaneously.
- SILAC technology can monitor quantitative differences at the protein level between 2-3 different cell culture conditions.
- ICAT technology allows one to compare two different samples in a single experiment.
- Advanced bioinformatics tools are used to obtain a list of differentially expressed proteins.
- Protein function classification and clustering analysis may also be provided per request.

Protein-Identification

- SDS-PAGE protein bands and/or 2D Gel protein spots:
 - Investigators provide the CAPR with the entire SDS gel, gel bands and/or spots.
 - In gel trypsin digestions is performed using the automated TECAN ProTeam System.
 - Protein ID is performed through Applied Biosystem 4800 MALDI TOF/TOF tandem mass spectrometer.
- Protein mixture identification:
 - Protein mixture is digested into peptides either in solution or in gel.

- The peptide mixtures are first separated through Dionex Ultimate 3000 HPLC and then sequenced on a Thermo Electron LTQ Orbitrap Velos mass spectrometer.
- The minimum recommended amount of protein for the LC/MS/MS approaches is about 10-20 fmoles.
- This method is especially effective for identifying proteins present in partially resolved gel bands.

Post translational modification (PTM) identification

- Identifications of post translational modifications including acetylation, phosphorylation, and nitrosylation are performed using Applied Biosystems 4800 Proteomic Analyzer and Thermo Electron LTQ Orbitrap Velos systems.
- Proteins are first digested into peptides, and the peptides containing PTMs are enriched and analyzed using tandem mass spectrometry.

Two Dimension Gel Electrophoresis

- Effective protein separation and comparative expression analysis is offered using simple 2D Gel Electrophoresis.
 - By using BioRad PROTEAN IEF Cell and BioRad Criterion Dodeca cell, a total of twelve 2-D gels can be run simultaneously.
 - 2DE results are analyzed using Biorad PDquest software.

References:

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2. Wu, C., Parrott, A. M., Fu, C., Liu, T., Marino, S. M., Gladyshev, V. N., Jain, M. R., Baykal, A. T., Li, Q., Oka, S., Sadoshima, J., Beuve, A., Simmons, W. J. & Li, H. (2011) Thioredoxin-mediated post-translational modifications: Reduction, transnitrosylation, denitrosylation and related proteomics methodologies. *Antioxid Redox Signal*. 15(9):2565-604.
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10. Baykal, A. T., Jain, M. R., Li, H. (2008). Aberrant regulation of choline metabolism by mitochondrial electron transport system inhibition in neuroblastoma cells. *Metabolomics*, 4, 347-356

Center for Applied Genomics

Director	Patricia Soteropoulos, PhD 973-854-3452 soteropa@umdnj.edu ICPH W410M
Manager	Saleena Ghanny 973-854-3454 ghannysa@umdnj.edu ICPH W420M
Location	ICPH W420M
Website	www.cag.icph.org

Research, Development and Applications of Microarray Technology

The Center for Applied Genomics (CAG), at the Public Health Research Institute is a leading academic medical center laboratory focused on research, development and application of DNA and protein microarrays. The CAG is one of the longest operating microarray facilities in the country and provides microarray and bioinformatics resources to the academic and industrial research communities.

The CAG features the most widely used microarray platforms currently available including a complete spotted microarray system for producing, processing and scanning DNA and protein microarrays and the Affymetrix GeneChip™ Instrument System for processing Affymetrix GeneChips™. The Center also supports a variety of academic and commercial spotted microarray systems including Agilent arrays.

Experimental Design, Protocols and Training

The Center provides the technical expertise to ensure the success of any microarray-based experiment. The CAG professional staff works directly with researchers, providing the protocols and training for array processing and making recommendations on experimental design strategies to optimize the statistical confidence of the acquired data.

Bioinformatics

The CAG technical team provides comprehensive data analysis support. The Center incorporates the latest methods of data analysis and utilizes the best public and commercial software packages.

Service, Support and Collaboration

The CAG is an experienced and proven facility and has provided full support for more than 250 collaborators and service customers over the past 12 years. Thousands of microarrays have been processed at the CAG and distributed to researchers around the world.

Resources and Services Available at the CAG

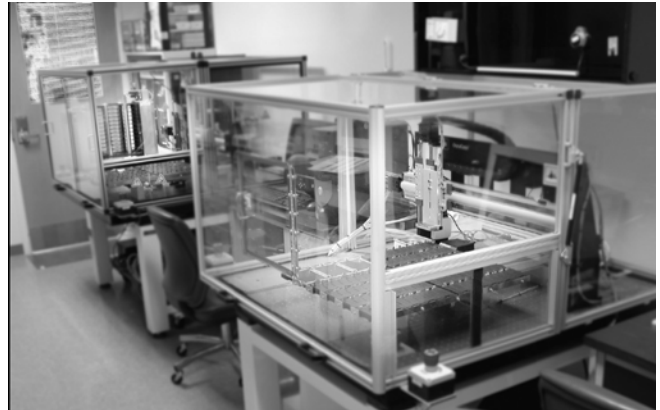
- Affordable DNA microarrays
- Custom chip printing services
- Affymetrix GeneChips™ processing

- Agilent array processing
- Data analysis
- Collaborative research initiatives
- Microarray methods and data analysis training

Spotted Oligonucleotide Arrays Produced and Distributed by the CAG

- *Mycobacterium tuberculosis* genome
- *Bacillus subtilis* genome
- Human Cytomegalovirus genome
- Kaposi's sarcoma-associated herpesvirus (KSHV) genome
- *Varicella zoster* genome
- Custom spotted arrays

For the latest information on our research programs, details of our arrays and a list of publications, visit our website at www.cag.icph.org.



Center for Clinical and Translational Science

Director	Tracie Saunders RN, OCN, CCRC 973-972-1026 saundetk@umdnj.edu CC A-1150
Locations	OCRA - CC CRU - UH-D-Green-410
Website	http://njms.umdnj.edu/research/clinical_research_admin.cfm

The Center for Clinical & Translational Science (CCTS) was established in August 2009 by the New Jersey Medical School (NJMS) and University Hospital (UH) to meet the current and future needs of NJMS/UH and other stakeholders in the broader University Community. The goal of the CCTS is to enable and enhance clinical and translation research by providing faculty with centralized resources, information and expertise in clinical research. The Center is comprised of two components, an operations unit, the Office of Clinical Research Administration (OCRA) and a revenue generating core -- the Clinical Research Unit (CRU). This Center is the newest Core Facility of the Research Office.

Clinical Research Unit

The mission of the NJMS-UH Clinical Research Unit (CRU) is to provide leadership for clinical trials operations and offer new and experienced investigators with staff resources to maximize NJMS's ability to conduct innovative clinical research. For a reasonable cost, investigators and their staff can utilize the CRU for business, clinical and/or regulatory functions. Fees vary depending upon duration and intensity of services rendered. Hours are flexible to suit the needs of Investigators and subjects.

The CRU provides assistance to investigators and support staff in all aspects of clinical trial management:

- Contract and budget negotiation
- Federal regulatory compliance in human subject research
- Recruitment of potential subjects
- Clinical care of subjects
- Consent discussion and documentation
- Data management and conduct of site monitoring visits
- Regulatory coordination of IRB submissions.



The CRU has space in two separate locations to accommodate inpatient and outpatient

pediatric and adult clinical trials.

The *inpatient unit* is located within University Hospital, and consists of:

- 2 Single bed inpatient rooms
- Sample processing & shipping
- -70 Freezer for sample storage

The *outpatient unit* is located within the NJMS-Cancer Center, and consists of:

- Accessible and comfortable waiting space for subjects
- Five infusion rooms with comfortable recliners for lengthy visits
- Two exam rooms for study conduct
- Conference room for start-up meeting, sponsor visits and research staff use
- Administrative swing space for researchers, support staff, and external monitors
- Laboratory equipped with centrifuge and -70 freezer space

Office of Clinical Research Administration (OCRA)



The mission of the OCRA is to provide oversight, education, and ongoing support to all areas of NJMS involved in clinical research billing in order to facilitate compliance with all relevant laws, regulations and policies. Services are available to all departments at no fee. It was established to do the following:


- Develop internal policies, procedures and processes related to clinical research billing at NJMS and UH
- Provide ongoing education, tools and support to all areas of NJMS involved in clinical research billing
- Provide oversight and monitoring for compliance with policies and procedures related to clinical research billing
- Perform prospective reimbursement analysis for all clinical research studies
- Serve as a central resources for research issues within the UH system revenue cycle.

CCTS Staff

The CCTS employs experienced staff to assist the PI through all stages of the research process. Most staff are bilingual (Spanish, French, Portuguese) and direct patient care is provided by professional registered nurses. All nurses are IV, venous access device and chemotherapy /biotherapy certified.



Center for Genome Informatics

Director	Bin Tian, PhD 973-972-3615 btian@umdnj.edu MSB-E501	
Senior Bioinformatics Specialist	Li Hao, PhD 973-972-1059 MSB-E679	
Location	MSB	
Website	www.njms.umdnj.edu/research/resources/genomics/bioinformatics/services/	

The Center for Genome Informatics (CGI) aims to apply cutting-edge bioinformatic approaches to enable and enhance genome-based biomedical and clinical studies for researchers at the UMDNJ-New Jersey Medical School.

Affiliated with the Department of Biochemistry and Molecular Biology, the CGI has access to state-of-the-art gene expression analysis programs, sequence analysis tools, genomic databases, and computational hardware facilities (supported by NJMS-TSS). We help researchers use off-the-shelf bioinformatics tools as well as develop custom software and databases to meet specific needs. We also provide individual hands-on training sessions on major public databases and bioinformatics applications. Services include:

- Microarray data analysis, e.g. data QC, gene significance, gene pathway analysis, etc.
- Deep sequencing data analysis, e.g. mRNA-seq, ChIP-seq, etc.
- Genome sequence analysis, e.g. motif search, phylogenetics, etc.
- Population genomics
- Bioinformatics/genomics tool tutoring and general consultation

► ***Anyone interested in initiating a new project involving genomic sequencing*** is encouraged to contact Robert Donnelly, PhD, to schedule a project planning consult with the Next Generation Sequencing Team (NGS), which includes representatives from the Molecular Resource Facility, the Center for Genome Informatics, the Institute for Genomic Medicine and the High Performance & Research Computing Division of IST. Dr. Donnelly can be contacted at 973-972-2625 or Donnelly@umdnj.edu.

Comparative Medicine Resources

Director	Bruce Scharf, DVM
Contact	Cynthia Kirby 973-972-4669 Kirbycj@umdnj.edu
Location	MSB, CC and ICPH
Website	www.njms.umdnj.edu/research/cmr/index.cfm

CMR provides all services necessary to support and facilitate biomedical research that requires vertebrate models. CMR is administered at the A-level of the Medical Science Building (MSB) and is structured in three separate components. These are the Central (CF) and Transgenic facilities (TgF) located at the A-level of the MSB and the Cancer Center facility (CCF) located at the I-level of the Cancer Center. CMR also provides veterinary oversight of the International Center Public Health animal facility (ICPHAF).

The CF covers 30,245 total gross square feet (sq ft). The CF is a conventional facility, separated into two areas, the A500 area and the A600 area that houses multiple species. The A500 area is divided into several sections as follows: large animal quarantine, mouse quarantine, rodent biohazard rooms accommodating ABSL-2 studies, and modified mice barrier rooms. The A600 section is structured to house all mammalian species including modified mice barrier rooms. Procedure rooms include a large sterile surgery suite with two operating rooms, three recovery rooms, an X-ray suite/recovery room, a conventional rodent surgery/procedure room and a laboratory/pharmacy. In addition, a complete sterile surgery suite is located on MSB G-level. The CF is currently undergoing renovation of the A-600 area with the A-500 area scheduled for subsequent renovation. The entire CF renovation is scheduled for completion by January 2013.

The TgF is a separate 5,760 sq ft 18-room Mouse Barrier and Transgenic Microinjection Facility with Animal Care System (ACS) individually ventilated cages accommodating approximately 7,000 mice.

The CCF boasts a state of the art rodent barrier facility covering 19,545 sq ft which utilizes ACS individually ventilated cages housing roughly 28,000 mice. Rats may also be barrier housed in the CCF. Research equipment include high and low level irradiator, three major procedure rooms housing shared equipment, multiple smaller procedure rooms fitted with BSC-2 cabinets, an ABSL-2 area for biohazard studies, and an optical live animal imaging system.

ICPHAF bio-containment facility features Animal Biosafety Level (ABSL) 2 and ABSL3 procedure and housing for both rodents and large animals. The ICPH is home to the Regional Bio-containment Laboratory and to the Northeast Bio-defense regional Center of excellence.

CMR has a total of 32 staff members. The Director is board certified by the American

College of Laboratory Animal Medicine (ACLAM). In addition, the departmental staff includes two full-time veterinarians, the Associate Director and the Chief Clinical veterinarian, four veterinary technicians, the Assistant Director of Operations and Finance, the Training Coordinator, three supervisors, eleven animal caretakers, seven cagewashers and three administrative office staff. ICPHAF includes one supervisor, five animal caretakers and departmental financial oversight.

Electron Microscopy Suite of the NJ Dental School

Contacts	Daniel Fine, DMD 973-972-3728 finedh@umdnj.edu MSB-C-636 Kabilan Velliyagounder, PhD 973-972-5051, 4779 velliyka@umdnj.edu MSB-C636
Location	NJDS-C-862, 864, 866
Website	http://dentalschool.umdnj.edu/research/em/equipment.htm

The Microscopic Imaging Suite (MIS) for the Life Sciences is a core technology laboratory supported by the New Jersey Dental School for use by all members of the University. The facility serves as a training and service core for members of UMDNJ and the surrounding research community. The facility provides expertise and instrumentation for the state-of-the-art practice of Electron Microscopy and Light Microscopy. Specific techniques provided are: Transmission Electron Microscopy (TEM), Scanning Electron Microscopy (SEM), Laser Capture Microscopy (LCM), and Fluorescence Microscopy (FM). Full service histological and immunochemical procedure are provided and include cryogenic sample preparation, immunogold and cytochemical staining, digitized and high-resolution imaging. In addition, the facility serves as an educational unit by providing students with hands-on training in microscopy.

The MIS is located on the C-level at the Dental School. It is a 1500 sq ft suite with 12 work areas for sample preparation, electron microscopy, optical light microscopy, ultramicrotomy, paraffin microtomy, digital imaging, darkroom procedures, and office space.

Services include:

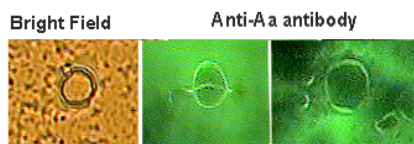
Light and Fluorescence Microscope (LM)

- Consultation on planning and design of experiments
- Advice on sample preparation and staining
- Technical assistance during use of the facility
- Advice on downstream processing and availability of commercial kits suitable for Individual needs
- Advice on immunohistochemical procedure

Scanning Electron Microscope (SEM) - Coating System, Hitachi SEM S2500, Amray SEM 1200

- Sample processing include fixation and dehydration

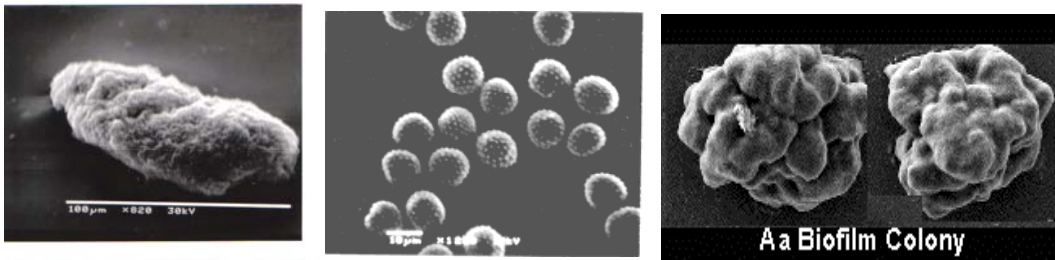
Aggregatibacter sp. (Aa)



Buccal Epithelial cells

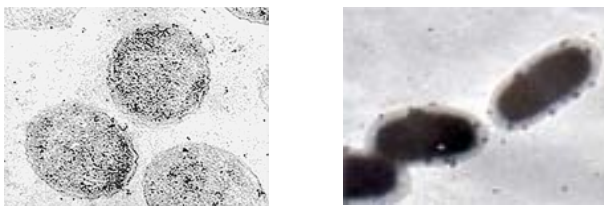


- Critical point drying and gold coating and observation
- Advice on downstream processing and availability of commercial kits suitable for individual needs



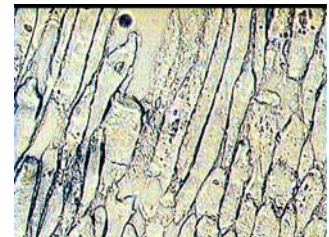
Transmission Electron Microscope (TEM) - Philips EM 300

- Sample preparation including, fixation, dehydration embedding, sectioning and staining
- Immuno-Electron Microscopy
- Advice on downstream processing and availability of commercial kits suitable for Individual needs



Laser Capture Microdissection Microscope (LCM) - PixCell LCM II

- Consultation on planning and design of experiments
- Advice on sample preparation and staining prior to microdissection
- One-on-one training on the use of the microscope
- Technical assistance during use of the facility
- Advice on downstream processing and availability of commercial kits suitable for individual needs

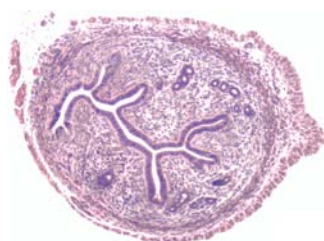


Experimental Histology & Confocal Imaging Core

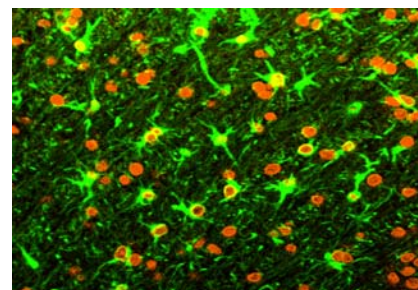
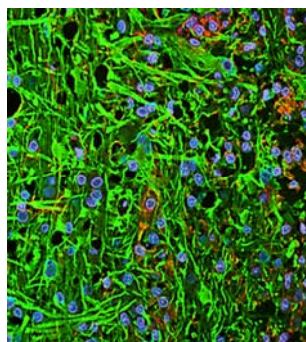
Director	David Lagunoff, MD 973-972-1511 lagunoda@umdnj.edu CC-F-1220
Manager	Luke Fritzkly, MS 973-972-8101 fritzklf@umdnj.edu CC-G-1105
Location	CC-G-1105
Websites	www.njms.umdnj.edu/research/resources/histology/index.cfm www.njms.umdnj.edu/research/resources/cell_and_molecular_core/confocal_imaging_facility/index.cfm

The Imaging Core integrates the preparation of research tissue for microscopic examination with imaging capabilities for bright field and confocal fluorescence microscopy. The director and the lab manager are available to NJMS and other researchers for services, assistance with imaging modalities and advice on the selection and implementation of imaging protocols from tissue preparation to morphometric analysis of images. Staff is also available for consultation on experimental pathology protocols and histopathologic diagnoses for animal research projects. Charges are competitive with regional academic centers and commercial laboratories.

Histology Services: The lab processes both paraffin embedded and frozen tissues and can provide a full range of tissue stains for light and fluorescent microscopy, including histochemical procedures, fluorescent lectins and immunofluorescent techniques. Paraffin infiltration is automated, and an embedding station is used for the final steps of tissue preparation for microtomy. For most cryosectioning, it is recommended that tissues be quenched in methylbutane chilled in liquid nitrogen. A programmed pressure cooker is available for heat-induced retrieval of antigens prior to immunofluorescent staining. Digital photo-micrography is available for recording images of stained bright field microscopic preparations.

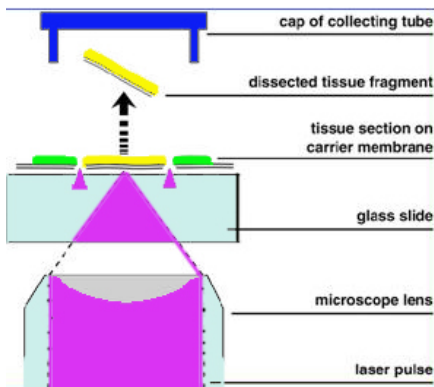
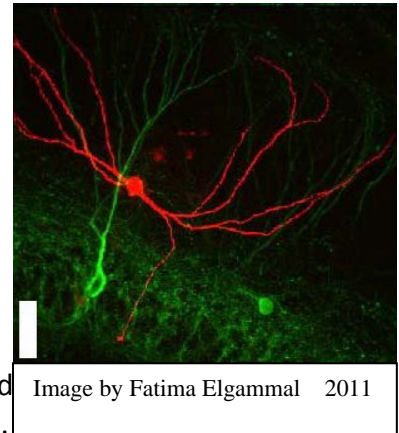


Confocal Fluorescent Imaging: Two laser scanning confocal instruments provide high resolution digital images of fluorescently labeled cells and sectioned tissues in 2 and 3 dimensions. A Nikon A1Rsi instrument has 4 lasers (405, 488, 565 and 650) and 4 standard acquisition channels. In alternative acquisition modes the A1R is capable of spectral analysis in 32 channels with a resolution of 2.5nm or construction of user determined



virtual filters. In addition to collection of Z stacks for 3 dimensional reconstructions the A1R is equipped for real time and time lapse recording under controlled conditions of temperature, CO₂, and humidity. A powerful stitching program allows the acquisition of images of large samples at high resolution. DIC imaging is also available. An LSM 510 operates with two lasers, an Argon laser with wavelengths of 458, 488 and 514 nm and a Helium-Neon laser with a wavelength of 543 and can acquire images of several fluorophores sequentially or two fluorophores simultaneously in separate channels. The confocal microscopes can be utilized in two modes. For the occasional user, the staff will operate the microscope with the user to assure desired images. Alternatively the staff will train users with more extensive needs to allow those users to operate the microscopes independently.

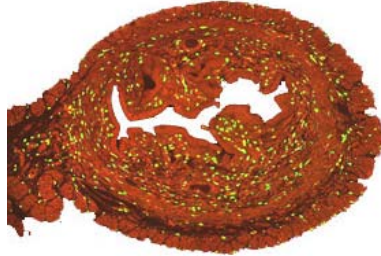
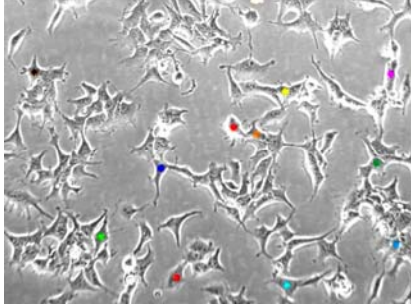
Image Enhancement and Analysis: Each of the confocal microscopes interfaces with an extensive package of software for image enhancement and quantitative measurements including colocalization and FRET. Software is available in the core facility as well as online for porting to users' work stations. The digital image files from both microscopes are downloadable on USB flash drives. The software is capable of rendering three dimensional images and videos of rotating 3-D objects. Processed images can be converted to jpeg or tiff formats for manipulation in Photoshop or PowerPoint. The facility also has experience with ImageProPlus for morphometry. For repetitive analytic procedures, ImageProPlus offers powerful macro capability, and writing macros tailored to the requirements of individual projects. Deconvolution is also available for confocal images.



Laser Microdissection and Capture: The Cancer Center houses its Zeiss PALM microdissection system in the core facility and offers it for use by both cancer center non-cancer center researchers through the core facility. The PALM instrument utilizes a UV laser to dissect microscopic units from tissue sections or tissue cultures and to capture the dissected cells in microtubes using a catapult mechanism activated by a pulse of laser energy. The groups of captured units from single cells to 100s of cells can be processed for DNA by PCR or mRNA by RT-

PCR. Automation allows the user to interactively select multiple sites to be captured in the same tube. Dissection and capture are facilitated by the use of specially coated slides and culture dishes. Unstained or stained cells can be selected under bright field or fluorescent illumination. Protein analysis typically requires a greater mass of tissue for analysis than DNA or RNA. As with the confocal microscopes, the PALM can be operated by the core staff, or the staff can train users to operate the instrument independently

Live Cell, Time Lapse Video Recording: A Nikon inverted phase microscope with a temperature controlled cabinet for digital time-lapse recording is available in the facility. Sequences can be analyzed for quantitative measurements of shape changes, mitosis, apoptosis, cell-cell interactions and cell motility.

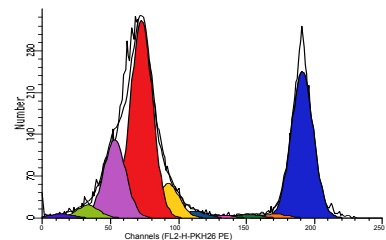


Flow Cytometry and Immunology Core Laboratory

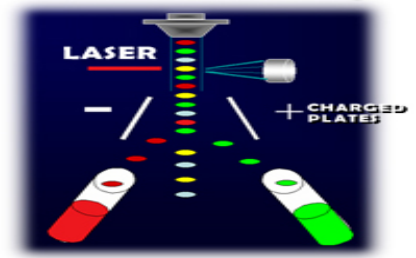
Scientific Director	Patricia Fitzgerald-Bocarsly, PhD 973-972-5233 bocarsly@umdnj.edu MSB-C-567
Medical Director	James M. Oleske, MPH, MD 973-972-5066 oleskej@umdnj.edu MSB-F-572
Technical Director	Sukhwinder Singh, PhD 973-972-7502 singhs1@umdnj.edu MSB-F-522
Location	MSB-F-522, CC G-Level, and MSB A900 (BSL3 facility)
Website	http://njms.umdnj.edu/research/resources/flow_cytometry_cell_sorting New website under construction www.njms.umdnj.edu/floweb

The Flow Cytometry and Immunology Core Laboratory (FCICL) provides state-of-the-art flow cytometry services and cell sorting as well as immunology support services for clinical studies.

Flow Analyzers: The FCICL is equipped with three *BD Biosciences FACSCalibur Instruments* each having dual laser capacity, (including an air-cooled 488 nm argon laser and a 635 nm red diode laser) with capabilities to do up to four color analysis, and a high-throughput sampler (HTS) for multiwell sampling. Additionally, the facility also has a *BD Accuri C6* flow cytometry that is also capable of 4-color analysis. In addition to the 4-color analyzers, FCICL has a *BD Biosciences LSR II* air-cooled four-laser benchtop flow cytometer with the ability to acquire 12 colors. BD digital software (FACSDiva) provides both online and offline compensation running in a Windows-based environment. It includes a solid-state 488nm laser (5 colors), a 633 laser (3 colors), a 405nm violet laser (2 colors) and a 355nm UV laser (2 colors).



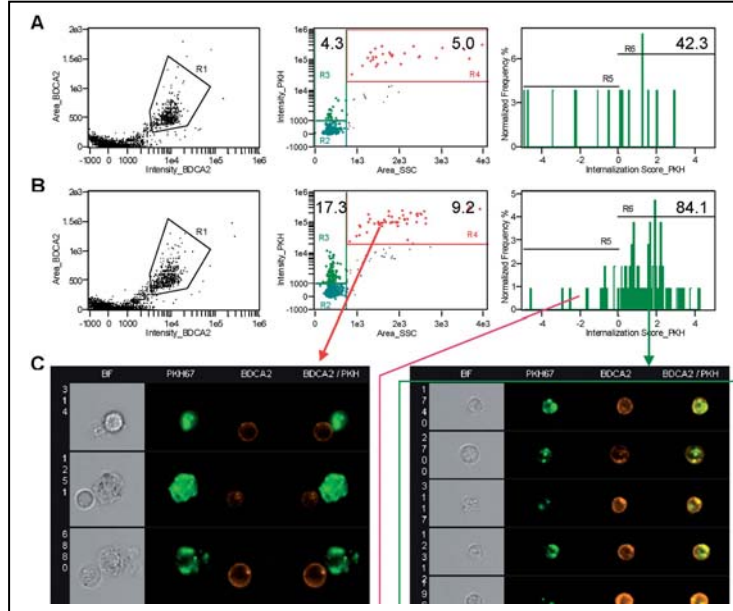
Cell Sorters: The laboratory currently operates two *BD FACSAria II cell sorters*. The main Flow-FACSAria II is located in the Flow Facility and is capable of high-performance, high-speed, multi-color (up to 12 markers) cell sorting, and capability for single cell sorting into multi-well trays for clonal expansion. The FACSAria II is equipped with 4 lasers: 488nm (2 colors), 561nm (5 colors), 641nm (3 colors) and a 355 nm UV (2 colors). It is housed in a Baker biosafety cabinet and in addition has an aerosol containment unit built-in, which allows for the sorting of BSL2 agents and virus-infected cells. The facility also operates a FACSAria II in the NJMS-CERP BSL3 facility for the sorting of select



agents such as TB. It is equipped with 2 lasers, a 488nm (5 colors) and a 633 nm (3 colors). It is also housed in a Baker biosafety cabinet and is equipped with an Aerosol Containment Unit.

Imaging Flow Cytometry: The FCICL also has an *Amnis ImageStream* (Amnis Corp.) imaging

flow cytometer equipped with 488 nm and 658 nm lasers and an extended depth of field module. This instrument, which operates in a Windows-based environment, introduces a new technology platform that captures high resolution digital images of cells in flow at rates of approximately 100 cells/per sec. It simultaneously acquires up to six different images of each cell, including four colors of sensitive fluorescence imagery, side scatter and brightfield imagery. The ImageStream combines the quantification and analysis of cellular morphology with the ability to perform all the fluorescence intensity measurements of conventional flow cytometry, allowing for rapid analysis and classification of thousands of cells using the ImageStream IDEAS software. The IDEAS software calculates over 100 parameters per cell, including all the standard intensity-based parameters and statistics employed in flow cytometry as well as numerous morphological parameters such as cell area, perimeter, aspect ratio, texture, spot counts and internalization ratios. The ImageStream is ideally suited for quantitative investigations of nuclear translocation, phagocytosis, intracellular colocalization, apoptosis, cell:cell interactions and fluorescent in situ hybridization in suspension.



Software: Additional software available for use in multiparameter studies includes BD Bioscience CellQuest for the Caliburs, Verity Modfit LT software for DNA and cell proliferation analysis for the Caliburs and the LSR II, HTS software for the HTS sampler, and BD Bioscience FACSDiva software and De Novo FCS EXPRESS software for the LSR II and the Cell sorter. In addition, the Core Laboratory administers a university site license for *TreeStar FlowJo* software available for core investigators for a yearly fee.

Clinical Services: FCICL is an accredited laboratory with a New Jersey Clinical Laboratory License as well as CAP certification for flow cytometry and hematology through the UMDNJ-New Jersey Medical School Institute of Genomic Medicine. The laboratory is also a member of the ACTG and IMPAACT groups as a sample processing laboratory. As such, FCICL undergoes quarterly assessment by Immunology Quality Assessment (IQA) for sample processing as well as lymphocyte enumeration. The FCICL routinely gets patient samples for

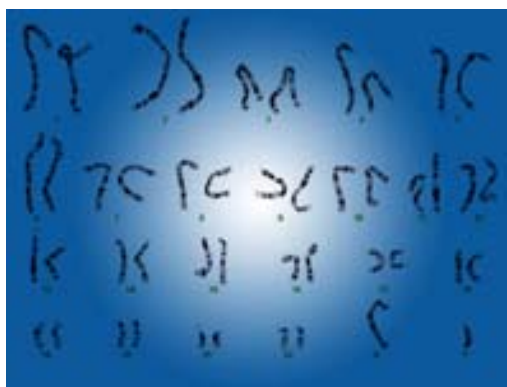
these studies as well as pharmaceutical studies for processing, retention and shipping. Services ranging from the flow cytometric analysis of whole blood to processing and isolation of serum, plasma, and cells as well as the processing of other types of samples is provided.

Equipment time and services at the FCICL are available on an hourly-based fee schedule.

Institute of Genomic Medicine

Acting Director	Marvin Schwalb, PhD 973-972-4425 schwalma@umdnj.edu
Location	MSB and DOC
Website	www.umdnj.edu/genesweb

With a faculty of six MDs and PhDs and a total staff of over 25, the Institute of Genomic Medicine (IGM) at the UMDNJ-New Jersey Medical School is New Jersey's focal point for translational research and development and the enablement of *personalized medicine*. In addition to internal programs, the IGM offers *biomarker discovery* and *clinical development services* to faculty at UMDNJ and other universities as well as to biotechnology, diagnostic and pharmaceutical companies. Activities at the IGM include biomarker discovery and *assay development, diagnostic laboratory testing* and *genetic counseling services* and initiatives in *medical education*, research and *new technology development*. We are committed to discovery and clinical development of biomarkers and new technologies and their integration into diagnostic and therapeutic practice.



In early 2008 the IGM was the first academic medical center to introduce rapid (30 min) multiplex diagnostic testing on a novel clinical proteomic mass spectroscopy immunoassay platform (MSIA) that couples automated antibody-based affinity-capture to mass spectrometry. MSIA technology quantitates and distinguishes changes in proteins arising from RNA splice variants, posttranslational modifications and proteolytic processing. This technology is well established in clinical trials for rapidly capturing and monitoring levels and states of biotherapeutic

proteins and surrogate-end markers. Biomarkers are validated, developed and offered as clinical tests in our CLIA-certified, diagnostic laboratories (biochemical/protein, molecular diagnostics, cytogenetics, clinical genomics). These tests are used by physicians and hospitals and are offered to biotech and pharmaceutical companies to support pharmacogenomic-based drug trials.

The IGM clinical team includes three board-certified clinical geneticists, board-certified genetic counselors, a health educator and a social worker. All New Jersey residents have access to our clinical genetic counseling services and, to this end, we provide multilingual patient education materials, counseling and support.

► *Anyone interested in initiating a new project involving genomic sequencing* is encouraged to contact Robert Donnelly, PhD, to schedule a project planning consult with the Next Generation Sequencing Team (NGS), which includes representatives from the Molecular Resource Facility, the Center for Genome Informatics, the Institute for Genomic Medicine and the High Performance & Research Computing Division of IST. Dr. Donnelly can be contacted at 973-972-2625 or Donnelly@umdnj.edu.

Office of Radiation Safety Services

Radiation Safety Officer	Venkata "Prasad" Neti, PhD
Health Physicists	Lowell Thelin, MS; Venugopal Reddy, MBBS; Jinsy Babu
Radiation Safety Technologists	Donald Varga; Sabyasachi Ganguly,, Sivakumar Munisamy, PhD
Administrator	Brendan McCluskey
Chair, Radiation Safety Committee	Roger Howell
Phone / Fax	973-972-5305 / 973-972-6498
Email	netipv@umdnj.edu or ORSS@umdnj.edu
Website	http://ready.umdnj.edu
Location	MSB A-534

The primary goal of the University's Radiation Safety Program is to support UMDNJ's mission areas by protecting and enabling a safe, healthful, and well-prepared environment for the University and its community, and to promote compliance with applicable laws, regulations, standards, practices, and local policies. ORSS accomplishes this by providing and coordinating leadership, education, and technical services related to radiation safety, including programs in the safe handling and use of radioactive material (RAM) and radiation producing equipment for research, diagnostic, and therapeutic purposes. In addition, ORSS manages different mandatory services such as: isotope delivery and proper disposition of RAM; calibration of survey instruments at the required frequencies; regular inspections and audits of RAM locations; personal monitoring program of exposure levels of radiation, including bioanalysis testing, and establishment of action levels; investigation of all incidents involving RAM, including accidental releases and medical events, and implementation of corrective actions as necessary; provision of radiation safety training sessions; and, dissemination of newsletters and other informational material of relevance to the program.

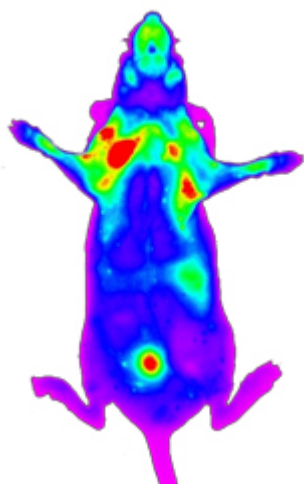
Shared Resources: Various types of radiation detection instruments and equipment are possessed and used by ORSS, authorized users of RAM, and radiation workers. The equipment includes G.M. survey meters, ionization chambers, a sodium iodide well counter, a high-purity germanium detector, liquid scintillation counters, a gamma counter, thyroid probes, dose calibrators, x-ray machines (such as cabinet x-ray, diagnostic, therapeutic, and dental x-ray machines), electron microscopes, x-ray diffraction, and other. For additional details on available equipment, contact ORSS for assistance.

In addition, the university also possesses different strengths of Cesium-137 irradiators (gamma) that are used extensively for biomedical research for acute (high dose or short time) and chronic (low dose or longer time) irradiation purposes. These irradiators offer a wide range of

dose rates, collimation, and a controlled environment, both for in-vivo and in-vitro models. Specific advantages in the irradiator facilities enable irradiations in a controlled environment, such as in a temperature-controlled, humidified, or dry atmosphere of air and gases. Partial body irradiations are possible using a split-type collimator to study radiation effects at the organ level, rather than conventional whole body irradiations. A low dose irradiator has the capability of varying the attenuation dynamically using a mercury reservoir. There is also a multi-port alpha particle irradiator (one of its kind), designed to facilitate the study of the effects of low fluencies of alpha particles on monolayer cultures. For details, please contact ORSS.

Live Animal Imaging (IVIS 50 and 200)

IVIS 50	Scott Kachlany, PhD 973-972-3057 kachlasc@umdnj.edu MSB A level RAF (Conventional Housing, luminescence detection only)	
IVIS 200	Lizhao Wu, PhD 973-972-3161 woli@umdnj.edu Cancer Center RAF (Barrier housing, fluorescence and luminescence detection)	
Websites	www.caliperls.com/products/preclinical-imaging/ www.caliperls.com/products/preclinical-imaging/ivis-imaging-system-200-series.htm	



Director	Robert Donnelly, PhD 973-972-2625 donnelly@umdnj.edu
Research Associates	Sunil Kuppasani, MS 973-972-2625 mrfadm@umdnj.edu Kopal Dhawan, MS 973-972-2625 mrfadm@umdnj.edu
Location/ Website	MSB-F-503 http://njms.umdnj.edu/research/mfrweb/index.htm

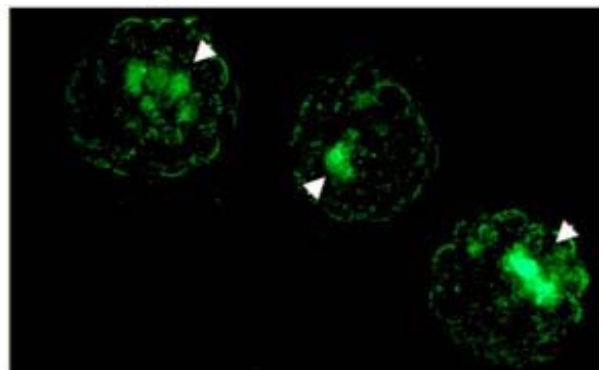
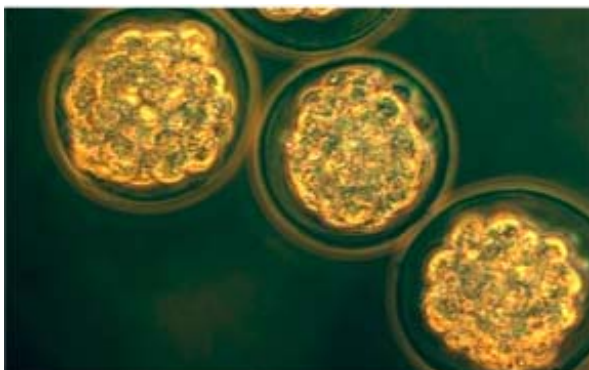
The NJMS Molecular Resource Facility was established in April 1995 to enhance the resources available to the research community within the medical school. It provides services and is a source of information on molecular techniques and research strategies involving molecular biology. Resources available are:

- **DNA Sequencing:** The Applied Biosystems model 3130xl capillary sequencer yields high quality DNA sequence, typically 750-850 bases of accurate sequence and fragment analysis.
 - **High Throughput DNA Sequencing:** The Applied Biosystems SOLiD® DNA Sequencing System utilizes ligation based sequencing to produce over 60 gigabases of DNA sequence from a single run. Libraries are generated from DNA or RNA samples, bound to magnetic beads, deposited on the sequencing slides and processed by the instrument. Sequences are then aligned to a reference sequence and exported for further analysis. Applications for this technology include whole genome resequencing, whole transcriptome analysis, small RNA analysis, methylome analysis, ChIP sequencing and targeted resequencing.
 - **Oligonucleotide Synthesis:** Applied Biosystems model 394 DNA/RNA synthesizers. Synthesize RNA and DNA oligonucleotides up to 100 bases in length.
 - **Peptide Synthesis:** Applied Biosystems model 433 peptide synthesizer. Peptides are synthesized by Fmoc chemistry and purified by HPLC.
 - **Protein Sequencing:** Applied Biosystems Procise Protein Sequencer.
 - **HPLC purification and analysis:** Dionex DX500 HPLC system.
 - **Imaging:** Two Typhoon imagers (Molecular Dynamics) for scanning radioactively and fluorescently labeled materials in gels or filters.
 - **Amaya Biosystems: Nucleofector Device for transfection of difficult cell lines.**
 - **Luminex:** Multiplex xMAP® and MagPix® technology for measuring analyte levels in many sample types including serum, saliva, culture media, and others.
 - **Real Time PCR:** Two Applied Biosystems 7500 Real Time PCR Systems
 - **Plate Reader:** The Perkin Elmer Victor3V plate reader for measuring absorbance and multiple fluorescent modes includes the liquid dispenser module
 - **Supply Center:** Applied Biosystems, Amaya Biosystems, Ambion, Bio-Rad, Denville Scientific, GE Healthcare, J&H Berge, New England Biolabs, Qiagen, Roche, Invitrogen, Stratagene, USA Scientific and VWR.
- **Anyone interested in initiating a new project involving genomic sequencing** is encouraged to contact Robert Donnelly, PhD, to schedule a project planning consult with the Next Generation Sequencing Team (NGS), which includes representatives from the Molecular Resource Facility, the Center for Genome Informatics, the Institute for Genomic Medicine and the High Performance & Research Computing Division of IST. Dr. Donnelly can be contacted at 973-972-2625 or Donnelly@umdnj.edu.

Transgenic Core Services

Director	Ghassan Yehia, PhD	973-972-4472	ghassayk@umdnj.edu
Location	MSB-A-683		
Website	www.njms.umdnj.edu/research/resources/animal_core/transgenic_mouse_facility/index.cfm		

The mission of the TCS is to provide expertise and assistance in the development and production of genetically modified mice. ***The TCS generates transgenic or gene knock-out mice for in-vivo models.*** Services are provided at all stages of the procedure including consultation in the designing of transgenic constructs and targeting vectors. In addition, we provide embryo cryopreservation for long term storage and embryo rederivation services as management tool for disease control/eradication. This facility follows strict guidelines and procedures to ensure a pathogen free murine housing environment.



X-Ray Crystallography Core Facility

Director	Min Lu, PhD 973-854-3460 lum1@umdnj.edu ICPH- W450P
Location	ICPH

The X-ray Crystallography Core Facility at the NJMS PHRI Center is a state-of-the-art facility used to determine the three-dimensional structures of macromolecules. This structural information is invaluable for understanding the role of proteins and nucleic acids in biological processes at the atomic level, and it is a fundamental starting point for rational drug design. The Facility contains all equipment necessary to solve a macromolecular structure from a crystal, including an Art Robbins Phoenix liquid dispenser for automated crystallization, and a Rigaku Americas HighFlux HomeLab for data collection and analysis.



The HighFlux HomeLab consists of a MicroMax-007 HF microfocus rotating anode X-ray generator, VariMax-HR optics to focus and align the X-ray beam, an R-Axis IV++ imaging plate detector system to collect X-ray diffraction data, an X-stream 2000 nitrogen gas cooling to preserve crystals at cryogenic temperatures, and a Linux computer system to control data collection, analyze collected data, solve and visualize graphically macromolecular structures.

The Facility is available to all research groups on campus for X-ray data collection and structure determination.



THE PUBLIC HEALTH RESEARCH INSTITUTE CENTER
at the International Center for Public Health
New Jersey Medical School - UMDNJ



Office of the Senior Associate Dean for Research

Senior Associate Dean for Research	William C. Gause, PhD 973-972-7698 gausewc@umdnj.edu
Assist. Dean for Research Administration; Director, Office of Research & Sponsored Programs	Deborah Lazzarino, PhD lazzarda@umdnj.edu
Assistant Dean for Clinical Research	David Alland, MD allandda@umdnj.edu
Director, Center for Clinical and Translational Science	Tracie Saunders, RN, MS, CCRC, OCN saundetk@umdnj.edu
Co-Medical Director, Center for Clinical and Translational Science	Robert Wieder, PhD, MD wiederro@umdnj.edu
Medical Director, Center for Clinical and Translational Science	Sally L. Hodder, MD hoddersa@umdnj.edu
Director of Research Policy	Patricia Dalton, Esq. daltonpm@umdnj.edu
Program Administrator	Theresa Policastro policatl@umdnj.edu
Principal Management Assistant	Sayeeda Suber subersa@umdnj.edu
Website	www.njms.umdnj.edu/research/index.cfm

The goal of the Senior Associate Dean for Research is to enhance the NJMS research environment. In this capacity, the office is committed to:

- Overseeing the core facilities and ensuring that they continue to provide outstanding service and remain at the cutting edge in technology and expertise.
- Fostering interdisciplinary collaborative research, with an emphasis on research that includes both basic and clinical components.
- Participating in the recruitment of outstanding basic and clinical scientists.
- Strengthening the graduate and postgraduate research programs as this is really the backbone of a strong research environment.



<i>Cores and Facilities</i>		
Biostatistics	Amy Davidow, PhD	davidoa@umdnj.edu
Center for Advanced Proteomics Research	Hong Li, PhD	liho2@umdnj.edu
Center for Genome Informatics	Bin Tian, PhD	btian@umdnj.edu
Comparative Medicine Resources	Bruce Scharf, DVM	scharfba@umdnj.edu
Confocal Imaging and Histology	David Lagunoff, MD	lagunoda@umdnj.edu
Flow Cytometry and Immunology	Patricia Fitzgerald-Bocarsly, PhD	bocarsly@umdnj.edu
Molecular Resource Facility	Robert Donnelly, PhD	donnelly@umdnj.edu
Research Grant Support Core	Theresa Policastro	policatl@umdnj.edu
Transgenic Core Services	Ghassan Yehia, PhD	ghassayk@umdnj.edu
<i>Oversight</i>		
Institutional Animal Care & Use Committee	Albert Moscioni, PhD	moscioad@umdnj.edu
Institutional Biosafety Committee	Marta Figueroa, MS	figuerma@umdnj.edu
<i>Training</i>		
Faculty Mentoring Program	Ellen Townes-Anderson, PhD	andersel@umdnj.edu
Graduate Medical Research Program	Padmini Salgame, PhD	salgampa@umdnj.edu

Office of Research and Sponsored Programs

Director and NJMS Signing Official	Deborah A. Lazzarino, PhD Assistant Dean for Research Administration P: 973-972-1591 F: 973-972-3585 njms-research@umdnj.edu
Assistant Director	Letitia Dean 973-972-0283 deanle@umdnj.edu
Assistant to Director	Giovanna Comer 973-972-7090 comergi@umdnj.edu
Location	MSB-C-609
Website	www.njms.umdnj.edu/research/orsp/index.cfm

ORSP Mission Statement

Research is an integral component of the New Jersey Medical School (NJMS) mission. The Office of Research and Sponsored Programs (ORSP) is charged with providing pre-award administration to all faculty and staff. ORSP is responsible for providing assistance, guidance and support in identifying funding opportunities, application preparation and tracking. Responsibility and oversight for the medical student research program also resides in the ORSP.

The Office of Research and Sponsored Programs is dedicated to facilitating the research and research-related programs of our faculty, administration, students and staff. The office continuously seeks to improve the quality of the service it provides. If you have any suggestions, feel free to pass them along. We appreciate your comments and feedback!

ORSP Responsibilities

- To support investigators at the NJMS by pre-submission review of their applications for extramural funding (pre-award process)
- To ensure that final documents supplied to Legal Management are complete and in compliance with the UMDNJ policies and guidelines
- To keep the NJMS faculty current with new policies and guidelines which could potentially impact their applications for funding support
- To serve as an interface between the NJMS faculty and offices supporting the research enterprise (e.g. IRB, BioSafety and Legal Management)
- To administer research-related programs (e.g. Summer Student Research, NJMS Junior Faculty Mentoring, Internal Research Grants Programs.)

For assistance with pre-award submissions, please contact the appropriate ORSP Grant Administrator:

<i>Grant Administrator</i>	<i>Contact Information</i>	<i>Department Assignments</i>
Letitia Dean, MPA	973-972-0283 deanle@umdnj.edu	Pre-award administration for Academic Administration Review of contracts and subaward agreements for ALL NJMS departments.
Sharon McFarlane	973-972-0281 mcfarlsb@umdnj.edu	Pre-award administration for: Biochemistry & Molecular Biology Cell Biology & Molecular Medicine Family Medicine Neurological Surgery Neurology & Neurosciences, Ophthalmology & Visual Science Psychiatry Radiology Surgery
Cecilia Arceo	973-972-4569 arceoce@umdnj.edu	Pre-award administration for: Medicine Microbiology & Molecular Genetics Pediatrics Physical Medicine & Rehabilitation
Cecilia Carrington	973-972-8649 carrince@umdnj.edu	Pre-award administration for: Anesthesiology Obstetrics, Gynecology & Women's Health Orthopaedics Pathology & Laboratory Medicine Pharmacology & Physiology PHRI Preventive Medicine & Community Health

Junior Faculty Mentoring Program

Director	Ellen Townes-Anderson, PhD 973- 972-7392 andersel @umdnj.edu MSB H582	
Program Coordinator	Letitia Dean, MPA 973-972-0283 deanle @umdnj.edu MSB C690	
Website	www.njms.umdnj.edu/research/orsp/fac_mentor_prog.cfm	

The **UMDNJ-NJMS Faculty Mentoring Program** assists junior faculty in basic and clinical science departments in the planning of their professional careers through the guidance of more experienced faculty. The Program addresses specific aspects of faculty development, such as acquisition of teaching skills, publishing senior-authored papers and preparation of extramural funding applications. Mentors advise and guide junior faculty member in collaboration with the department chair, in areas of professional development necessary for establishing an independent academic career.

Eligibility: Assistant professors in basic or clinical departments, tenure track, non-tenure track, or coterminous, who are doing biomedical research are expected to enroll in this program. The program is also available to Associate Professors and Instructors, as appropriate.

Choice of Mentors: Within three weeks of hire, new Assistant Professors should meet with their Department Chairs and the Senior Associate Dean for Research. At the first meeting, junior faculty will receive a list of possible faculty mentors at NJMS with a description of their research and/or teaching expertise. In consultation with the Department Chair the proposed Mentee will meet with the Senior Associate Dean for Research and suggest two or three possible mentors. Eligible candidates can then take up to three months to identify an appropriate mentor. Mentees should base their selection of a mentor on factors including: area of research expertise, scientific achievement, success in procuring research grants, teaching experience and past record as a mentor. It is not necessary that the mentor's area of research expertise completely overlaps with the mentee's proposed research project. In fact, it would be more appropriate if the research fields did not overlap as the mentee progresses to independence. It is possible that more than one mentor may be selected for different activities within the career development program.




Mentor Responsibilities are to:

- Meet with the mentee on a regular basis.
- Provide advice on issues relating to academic career development, such as research and teaching activities, importance of serving on internal/external grant review committees and time management, (particularly in the case of junior faculty with clinical responsibilities).
- Assist the mentee in establishing short- and long-term career goals.
- Assist the mentee in identifying developmental areas where improvement is needed.
- Provide guidance in identifying extramural funding opportunities, preparing grant applications and publishing senior author papers.
- In cases where the mentor's area of research does not overlap with that of the mentee, encourage the mentee to have future grant proposals reviewed by experts in the field within and/or outside of the university.
- Be willing to discuss ongoing research efforts including research focus, experimental design, methodology and interpretation of results.
- Provide guidance in fine tuning teaching skills, such as preparation of formal lectures, laboratory exercises, and group discussions.

Mentee Responsibilities are to:

- Assume primary responsibility for their professional development, including being familiar with faculty career tracks, teaching, publishing papers in professional journals, presenting at professional society meetings, seeking funding opportunities and initiating funding applications.
- Be actively engaged in establishing and maintaining the mentor/mentee arrangement.
- Develop specific career goals and objectives in conjunction with the mentor and department chair.
- Complete a faculty development plan.

Graduate Medical Research Program

Director	Padmini Salgame, PhD 973-972-8647 salgampa@umdnj.edu Location:MSB-A-902	
Coordinator	Sayeeda Suber 973-972-7698 subersa@umdnj.edu Location: MSB-F-607D	
Location	MSB-C-690	
Website	www.njms.umdnj.edu/research/md.cfm	

The NJMS Office of the Senior Associate Dean for Research, in conjunction with the NJMS Office of Education, offers the MD with Thesis research program for NJMS medical students.

The program is directed by Dr. Padmini Salgame, Department of Medicine and The Centre for Emerging Pathogens. The MD with Thesis Program offers a unique opportunity for NJMS medical students to conduct original research during their medical school training. After admission to the program, the student is expected to devote one year exclusively to independent research that is Laboratory, Clinical or Population based. During the research year, the student will enroll in a NJMS Scholars Program. Students will undertake the research year between the 2nd and 3rd year of Medical School. By exception, the research year can also be scheduled for other times after consultation with the Program Director and the Associate Dean for Student Affairs. The student may receive a stipend during the research year (subject to available funding). Upon successful completion of the doctor of medicine requirements, thesis and satisfactory defense, the student will graduate with an MD degree with Distinction in Research.

Students interested in the program should contact the Coordinator.

Faculty interested in participating in the program as mentors may contact the Director.

Institutional Animal Care & Use Committee

Administrator	Albert Moscioni, PhD 973-972-3727 moscioad@umdnj.edu
Assistant Administrator	Lauren Danridge 973-972-2486 danridlm@umdnj.edu
IACUC Coordinator	Natalie Bell 973-972-3079 bellnr@umdnj.edu
Location / Fax	ADMC-1422 / 973-972-0917
Website	www.njms.umdnj.edu/research/iacuc/index.cfm

New Jersey Medical School (NJMS) is the sole administrative unit for animal care and use at the University of Medicine and Dentistry of New Jersey (UMDNJ) campus in Newark.

Accreditation History

- **AAALAC Accreditation:** *The Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC International)* granted Continued Full Accreditation on December 20, 2010 following our most recent site visit on May 24-26, 2010. The original date of Full Accreditation was November 16, 1981. NJMS is unit number **000534**.
- **Animal Welfare Assurance:** NJMS is in compliance with the PHS Policy on Humane Care and Use of Laboratory Animals through November 30, 2015. The NJMS ID is **A3158-01**.
- **Animal Welfare Act Registration:** The institution is registered with the United States Department of Agriculture as a Class R research facility through July 20, 2014. The NJMS certificate number is **22-R-0020**.

Summary of Facilities

Cancer Center RAF. Opened in 2006, the 19,545 ft² facility exclusively houses barrier rodents and features procedure rooms for each rodent housing room, IVIS ® imaging, surgery, irradiation facilities and ABSL2 suites. Completed in 1976, the 30,245 ft² **Central RAF** is home of the administrative unit, conference room, conventional and barrier rodent rooms, large-animal housing, aquatic animals, ABSL2 housing suites, imaging, operating suites and a hibernaculum. The facility is partially open during the 2011-2013 renovation. Adjacent the Central RAF is **Transgenic RAF** that opened in 2004. This is another exclusive mice barrier facility (5,760 ft²) that is the home of the Transgenic Core service. Opened in 2003, the 11,224 ft² conventional **International Center for Public Health (ICPH) RAF** biocontainment facility features ABSL2 and ABSL3 procedure and housing for both rodents and large animals. The ICPH is home to the Regional Biocontainment Laboratory and is the Northeast Biodefense Regional Center of Excellence.

Operations

Comparative Medicine Resources (CMR) provides direct oversight of the Cancer Center, Central and Transgenic Research Animal Facilities (RAFs), and indirect oversight of ICPH RAF. A cumulative staff of approximately 40 persons directed by a board certified laboratory animal veterinarian provides for the daily care of animals as well as support of the animal care and use program.

Newark Campus Institutional Biosafety Committee

Acting Director	Marta Figueroa, MS 973-972-5901 figuerma@umdnj.edu
Senior Biosafety Officer	Jessica McCormick, PhD 973-972-8424 Jessica.mccormick@umdnj.edu
IBC Chair	Nancy Connell, PhD 973-972-3759 connell@umdnj.edu
Biosafety Officer	Tamara McNair 973-972-8419 mcnairta@umdnj.edu
Location	SSB-443
Website	www.umdnj.edu/eohssweb/nsp/nsp_registry.htm

The UMDNJ Department of Emergency Management and Occupational Health and Safety (EMOHS), on behalf of the Newark Campus Institutional Biosafety Committee (IBC), maintains a registry of all laboratories and personnel working with pathogens; potentially infectious materials; human and non-human primate blood, fluids, and tissues; human cell lines; select agents and toxins; and recombinant DNA.

The IBC is responsible for reviewing recombinant DNA research to ensure compliance with National Institute of Health (NIH) guidelines. The IBC is also responsible for ensuring that bio-containment practices, facilities and training are compliant with applicable regulations and appropriate to protect the health and safety of the University community and environment. Environmental and Occupational Health and Safety Services (EOHSS), a division within EMOHS, serves as the IBC Administrator and provides technical and administrative support to the Newark Campus IBC.

Principal investigators are responsible for completing the "Registration Form for Pathogen, Select Agents and Human Cells/Tissues," submitting it to the IBC Administrator (EOHSS), and obtaining approval prior to beginning work. Registrations must be renewed annually, and amended when there is a change in experimental protocol, personnel, or work location. If a protocol is no longer in use, the investigator(s) must notify the IBC Administrator.

IBC review and approval is required for all research and/or clinical laboratories that:

- Administer rDNA to animals or humans
- Create a new transgenic animal
- Breed a transgenic animal at BSL2 and higher
- Work with human or non-human primate blood, tissues, or other materials
- Work with human cell lines
- Grow, process or handle pathogenic microorganisms (BSL2 and higher as classified in the latest edition of the CDC/ NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL) or the NIH's Guidelines for Research Involving Recombinant DNA molecules)
- Grow, handle or possess select biological agents and/ or toxins

Research Grant Support Core

Director	Theresa Policastro 973-972-9521 policatl@umdnj.edu
Location	MSB-F-611
Website	www.njms.umdnj.edu/research/resources/research_resources/index.cfm

The purpose of this core is to provide administrative support to Principal Investigators with the grant submission process and/or some post award administrative processes on a fee-for-service basis.

Pre-Award Services:

- Organization of meetings to discuss proposals
- Collection, formatting, and collation of grant components
- Budget preparation
- Routing of documents for signatures
- Interfacing with the NJMS pre-award Office of Research and Sponsored Programs for final submission



Post-Award Services:

- Assistance with establishment of Banner index
- Interpretation of monthly banner updates with projection of expenses
- Assistance with progress reports
- Assistance with Appointments and Terminations (Training Grants)
- Grant closeouts

UMDNJ Grants & Contracts Office

Acting Associate Controller	Frank Cangelosi 973-972-6456 cangelfl@umdnj.edu
Secretary	Carol Dunne 973-972-5768 dunnecl@umdnj.edu
Location	SSB-550
Website	www.umdnj.edu/cntrlweb/grants/index.htm

The Office of Grants and Contracts provides comprehensive post award accounting services to the University community. This includes the development and dissemination of policies and procedures to ensure compliance with the rules and regulations of the University and funding agencies, the preparation and submission of related financial reports and invoices, cash collections, expenditure compliance review, cost transfers, maintenance of accounts receivable and project closeouts. Assisting faculty and staff with managing their sponsored awards is the primary focus of this office. The table below lists departments and Analysts assigned to them:

<i>Grant Analyst</i>	<i>Departments</i>	
Jose Ambazhachalil 973-972-6496 ambazhjp@umdnj.edu	Student Aids Office NJMS Dean's Office GSBS SHRP Cancer Institute Continuing Education	Student Affairs Central Administration NJMS Preventive Medicine NJMS Ophthalmology NJMS Anesthesia Pathology NJMS Neurosciences
Jessica Andrade 973-972-0306 andradj1@umdnj.edu	Family Medicine School of Nursing	Radiology Physical Med. & Rehab (Temp)
Donna Graziano 973-972-0830 graziadm@umdnj.edu	Genetics Pediatrics Pharmacology/Phys.	Microbiology Biochemistry
Stella Braholli 973-972-4747 braholst@umdnj.edu	Dental School Surgery	Neurosurgery
Alex George 973-972-4476 georgea@umdnj.edu	University Hospital OB/GYN	Orthopedics TB Institute (Temp)
W. Scott McBride 973-972-4342 mcbriidws@umdnj.edu	Medicine	Psychiatry
Al Berges 973-972-5485 bergesah@umdnj.edu	Cell Biology & Molecular Medicine	PHRI

Technology Transfer & Business Development

Director	Vince Smeraglia, Esq. 732-235-9356 smeragva@umdnj.edu
Main office	One World's Fair Drive, Suite 2100, Somerset, NJ, 08873 732-235-9350
Satellite Office	Stanley Bergen Building, Room 516, Newark, NJ 07107 973-972-3369
Website	http://www.umdnj.edu/resrhweb/patents/index.html

It is the Mission of the Office of Technology Transfer & Business Development at UMDNJ to provide a simple and effective means of protecting the valuable Intellectual Property of the University and to develop that property commercially by forming appropriate relationships between the University, its faculty/inventors and the private sector. ***You need to interact with the office if:***

- You have research results that might have commercial significance.
- You would like to protect a manuscript or computer program that you have written with a copyright.
- You have a logo or distinctive message that deserves trademark protection.
- You are thinking about seeking research support from a commercial firm.
- You plan to develop outside business interactions or form your own business.
- You plan to bring materials to, or transfer materials from, the University.

Contacts

Vince Smeraglia, Esq. 732-235-9356 smeragva@umdnj.edu	Director	<i>Oversees all patent and licensing matters for UMDNJ</i>
Tatiana Litvin-Vechnyak, PhD 732-235-5355 litvinta@umdnj.edu	Associate Director	<i>Administrator of marketing and licensing of UMDNJ inventions</i>
Christopher Izzo, Esq. 732-235-9353 izzocg@umdnj.edu	Director, Legal Management	<i>Specializes in intellectual property matters</i>
Laura Schepps 732-235-9350 schemplm@umdnj.edu	Director, Finance & Administration	<i>Administrator of patent royalties</i>
Robert Bzdek 732-743-3619 bzdekre@umdnj.edu	Financial Analyst	<i>Responsible for invoicing and financial reporting</i>
Tejal Talati 732-235-9354 talatite@umdnj.edu	Business Manager	<i>Responsible for all financial activities related to the office</i>

Susan Dolci 732-235-3521 dolcisu@umdnj.edu	Patents and Licensing Assistant	<i>Assists in the management of intellectual property issues</i>
Lillian M. Cohen 732-235-9355 cohenlm@umdnj.edu	Research Contract Administrator	<i>Executive Assistant to the Director; processor of MTA's</i>
Norell Hadzimichalis, PhD 732-235-5319 Norell.Hadzimichalis@umdnj.edu	Licensing Associate	<i>Responsible for invention assessment, marketing and licensing</i>
Mona Daniels 732-235-5027 danielml@umdnj.edu	Patent Legal Secretary	<i>Docket Administrator</i>
Susan Rae 732-235-5673 raesu@umdnj.edu	Licensing & Special Projects Administrator	<i>Provides management support for licensing activities and special projects</i>

Technology Support Services - IT@NJMS

Director	Jim Boyce boyceja@umdnj.edu
Administrator	Noreen Gomez gomeznm@umdnj.edu
Main contact	973-972-1211 or njmsts@umdnj.edu
Trouble tickets	732-743-3200 or isthelp@umdnj.edu
AVC	973-972-4340 or njmsavc@umdnj.edu
Academic Systems Location: A550	Courtney Terry terryce@umdnj.edu Joanne Garcenila garcenjv@umdnj.edu
Application and Web Services Location: A550	Audrey McNeil mcneilae@umdnj.edu Po Hu hupo@umdnj.edu Bryan Klucharits kluchabt@umdnj.edu Yongmin Shen shenyo@umdnj.edu
Audio Visual Center Location: B555	Rajendradas Arumugam arumugra@umdnj.edu Keston Harewood harewokw@umdnj.edu Trevor St. Hill sthilltm@umdnj.edu
User and Network Services Location: A550	Arnaldo Rodriguez rodrigar@umdnj.edu Elaine Hughes hughesel@umdnj.edu Nelson Pared paredne@umdnj.edu Juan Rodriguez rodrigj8@umdnj.edu Barry Wise wiseba@umdnj.edu Yihua Ye yeyi@umdnj.edu
Website	www.njms.umdnj.edu/it@njms/
Location	MSB - A550

NJMS Technology Support Services (TSS) provides primary technology support for the NJMS community, in the areas of Academic Systems, Application/Web Services, the Audio/Visual Center, and User/Network Services, across the NJMS mission areas of Education, Research, Patient Care, and Community Outreach.

Products & Services

Programming Support: TSS programmers can work with researchers to spec and cost out application development or answer questions about existing programs or the purchase of off-the-shelf software. The skill set includes Cold Fusion, Java, Java Scripts, MySQL, .NET, Oracle, PHP, and SQL. In addition, TSS can host your application.

Web Support: TSS staff can work with researchers to spec and cost out website development for labs, etc. The skill set includes Adobe Products, Dreamweaver, Flash, HTML, Graphic Design, Photoshop, Video Editing, Storage, and Streaming. In addition, TSS can host your website.

High Performance Computing: See next section.

Large File Transfer: An appliance is available for the transfer of files larger than 10 MB, which is the current file size limit through university email, at (<http://lift.umdj.edu>).

News and Events: Keep current with what's happening at NJMS regarding Research Seminars and other events through our News and Events section on the main NJMS web site at: <http://njms.umdj.edu/> or with a desktop widget (also at <http://njms.umdj.edu/> .) If you would like to post a news or event item, you can do so through the NJMS Intranet (<https://njmsintra.umdj.edu/mbm/myprofile/index.cfm>).

Software: In addition to the software available on the HPC appliances, scientific software and statistical programs available through CA IST are listed at www.umdj.edu/istweb/research/sci_apps.shtml

Date Storage: Data storage is available to researchers in 100 GB allotments on the NJMS, Cancer Center, and RBL data storage clusters. Beyond 100 GB, additional storage is available at a nominal cost of \$100/100 GB. Please contact njmsts@umdj.edu for more information.

Room/Equipment: Reserve rooms, space, or research equipment through (<http://njmsres.umdj.edu>.)

Remote Access: For VPN access go to http://njms.umdj.edu/tss/faculty_staff/vpn_connect.htm

Wireless: For wireless access, go to <http://njms.umdj.edu/tss/wireless.htm>

Divisions

Audio Visual Center (njmsavc@umdj.edu) Audrey McNeil

- A/V loaner equipment and services
- A/V services in select lecture halls, seminar rooms, and PBL rooms, Clinical Skills Center
- NJMS on iTunes, including audio and video capture, post-production, and streaming
- Video conferencing (available in MSB B610, B609, and B617.)

Application and Web Services Audrey McNeil

- Application/database creation; Application and Web site hosting
- Clinical and Research data mining; Technical support on Grant projects.
- Web site creation, including forms, surveys and electronic submissions
- Web site graphic design; Web site management, training and support

- Computer equipment, software and licensing
- Desktop services
- Servers (account management, backup, data storage, shared folders)
- Student Lab
- Wireless access points and remote access (VPN)

Staff Certifications

A+ Certified in general Hardware/OS Support
Adobe Certified Expert (ACE)
Apple Certified Support Professional (ACSP)
Cisco Certified Network Associate (CCNA)
CompTIA Security+ Certified Professional
ColdFusion Web Application Development
Contribute
Dreamweaver
Flash
HTML
Graphic Design
Java
JavaScript
Microsoft Certified Professional (MCP)
Microsoft Certified System Administrator (MCSA)
Microsoft Certified System Engineer (MCSE)
Microsoft Certified Technology Specialist (MCTS) in MS Vista
Microsoft Certified Technology Specialist (MCTS) in MS Windows7
Photoshop
Video Production

Contact njmsts@umdnj.edu to

- ***find out how to update your online faculty profile,***
- ***obtain administrative rights to your local computer,***
- ***obtain information about IT infrastructure to include in grant applications.***

Information about UMDNJ Central Administration IST Resources can be found at
<http://istweb.umdnj.edu/research/index.cfm>.

High Performance Computing

Director	Les Michelson, PhD michelso@umdnj.edu
Location	MSB-C-631

Mission: To support computationally demanding problems to advance scientific research at UMDNJ.

Strategy: Develop advanced computational platforms and support them with scientists who combine extensive computational expertise with backgrounds in molecular simulation and structure, genomics, chemistry, machine performance and other relevant disciplines.

Who do we support? Faculty, their students and research cores.

How do we participate? Workshops, casual consultation, full collaboration.

Must a collaboration exist to use our machine resources? In general, no, but we are always available to participate at any level. Our involvement may be particularly helpful in effectively utilizing our more advanced equipment.

What do our services cost? Scientific and technical staff and machine resources are not charged back. We ask for acknowledgement or opportunity to participate in research publications and grant proposals as appropriate to our role and contribution. Scientific cores that rely heavily on our resources may wish to invest in our infrastructure in ways that help to support a broader community of interest.

Major Hardware Platforms

IBM iDataPlex Linux Compute Cluster:

- 62 Compute nodes, 496 cores
- 912GB total memory
- Dual rate Infiniband interconnect and GiGE service switches
- 60TB internal distributed file system (GlusterFS)
- RedHat 5.7 Enterprise Cluster Linux

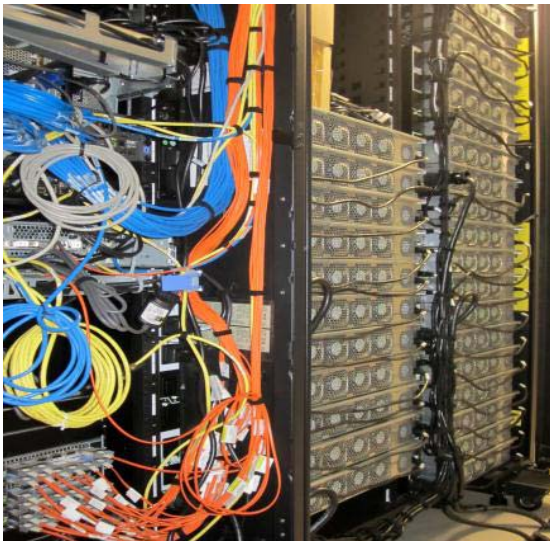
IBM 3850M2 Linux SMP Bioinformatics Server

- 24 compute cores
- 128GB total memory
- 6TB project storage
- RedHat 5.7 Enterprise Linux

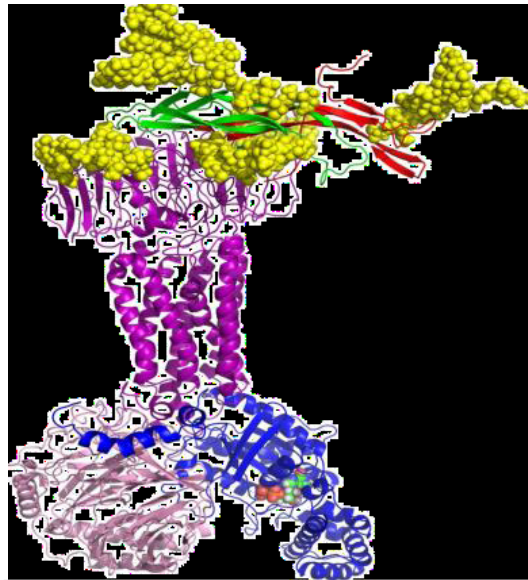
Bioserver Linux Cluster

CLC Genomics Server mpiBlast
Bowtie, BFAST, Mmseq Samtools,

Bedtools,GATK, MACS, novoAlign
Bowtie, BFAST, Mmseq Samtools,
Bedtools,GATK, MACS, novoAlign
Tophat,Cufflinks, PLINK, MASCOT Tophat, Cufflinks, arrayExpressHTS
Sybyl, MOE, VMD, Pymol VMD, Pymol
Autodock, Dock, Gold Autodock, Dock
Amber, CHARMM, gromacs Amber, CHARMM, NAMD, gromacs
Rosetta, Modeller Rosetta
Phenix, Coot
MOPAC
Lead-like molecules, PDB,
Kinase database
KNIME
R/Bioconductor, SAS, Matlab R
EMBOSS
FORT, C, C++, python FORT, C, C++, python
Intel Math Kernel Lib, openmp, fftw Intel Math Kernel Lib, openmp, fftw
Molecular Docking
Molecular Dynamics
Molecular viewers and general purpose molecular packages
Protein folding/structure prediction
MOLECULAR MODELING
NEXT GENERATION SEQUENCING



iDataPlex Linux cluster showing compute nodes, support nodes and Infiniband and Ethernet switches



MD run for ~1ns on a biological time scale for 750,000 atoms water box model (water not shown) on 64-96 cores is typically achieved in 24 hours (AMBER 11/PMEMD)

Office of the UMDNJ Vice President for Research

Vice President for Research	Kathleen W. Scotto, PhD scottoka@umdnj.edu	
Associate VP for Research Regulatory Affairs	Judith A. Neubauer, PhD neubauer@umdnj.edu	
Director of Special Projects	Neil J. Grant, MS, MBA grantne@umdnj.edu	
Management Assistant	Nancy Frazier frazienm@umdnj.edu	
Location/Contact information	Stanley S. Bergen Building, Suite 1414 (973) 972-5455 (Newark) (732) 235-4812 (New Brunswick) Research@umdnj.edu	
Website	www.umdnj.edu/research/index.htm	

The Office of the Vice President for Research is responsible for promoting and ensuring research excellence across all UMDNJ schools. The primary objectives of the Office are:

- To create a research-friendly environment at UMDNJ.
- To assist faculty in identifying internal and external sources of support for research.
- To market UMDNJ's clinical and basic research capabilities to appropriate partners in the healthcare industry.
- To support Deans across the University to create competitive new research programs and initiatives across departments and schools.

See the Research Website for links to the following:

The *Community of Science*, an internet-based program that allows faculty to:

1. Search for funding opportunities
2. Receive e-mail announcements of targeted opportunities based on saved search criteria.
3. Identify and contact others for potential collaborations based on faculty profiles on the Scholar Universe system.

The *Illumina program*, a search tool (no password required on campus) for which allows:

1. Searching for 'papers invited' at conferences
2. Searching for publications based on medical terms.

Research Guidelines, a document summarizing institutional guidelines regarding:

1. The Preceptors/Trainee Relationship and supervision of other Research Personnel
2. Scientific Records, Research Data, Research-Related Biological Materials
3. Authorship and Publication Practices
4. Financial & Legal Management
5. Conflict of Interest in Research
6. Human Subjects Research
7. Animal Research
8. Compliance
9. Patents & Licensing

Human Subjects Protection Program and Institutional Review Boards, which ensure the protection of individuals who participate in research, compliance with all pertinent federal and state laws and regulations, and ethical conduct of human subjects research; and provide education and other services to the University's researchers regarding regulatory requirements and best practices.

Human Subjects Protection Program and Institutional Review Board (IRB)

Institutional Official, Associate VP for Research	Judith A Neubauer, PhD 973-972-5455 neubauer@umdnj.edu
Executive Director, Human Subjects Protection Program	Paula Bistak, DMH, RN, MS, CIP, CHRC 973-972-8573 732-235-8578 908-304-3908 bistakpa@umdnj.edu
WIRB Administrator	Shelia G. Evans 973-972-1149 973-972-2630 evanssg@umdnj.edu
Program Development Specialist	Christine Lee Asmann-Finch, DMH, MS 201-826-6413 asmanncl@umdnj.edu
User Support Specialist	Jesus Cortes, Jr , BFA, MCTS, ACSP 732-235-8030 973-972-9595 cortesje@umdnj.edu
Senior Technologist	Pedro Cortez, MSISM, MCSA 973-972-9595 732-235-8683 cortezpe@umdnj.edu
Senior HSPP Analyst	Cheryl A Forst, RN, BSN, CCRP 973-972-2171 732-235-8682 forstca@umdnj.edu
Senior HSPP Analyst	Kathleen Villapiano, BA, CCRP 973-972-1149 732-235-8682 smithk6@umdnj.edu
HSSP Location/Main No.	SSB-507 973-972-1149
IRB Location/Main No.	SSB-511 973-972-3608.
Website	www.umdnj.edu/hsweb/

Human Subject Protection Program (HSPP)

The mission of UMDNJ's Human Subject Protection Program (HSPP) is to support the University's research enterprise by ensuring the protection of individuals who participate in research; ensuring compliance with all pertinent federal and state laws and regulations; fostering the ethical conduct of human subjects research; and providing education and other services to the University's researchers regarding regulatory requirements and best practices. HSPP reports to the University's Associate Vice President for Research Regulatory Affairs, who is UMDNJ's Institutional Official and Research Integrity Officer.

HSPP assures that UMDNJ fulfills its institutional responsibilities for the conduct of research involving human participants through its University Institutional Review Board (IRB) Campus Systems, in Newark, New Brunswick/Piscataway and Stratford/Camden; a contractual relationship with Western IRB (WIRB) for review of industry-sponsored protocols conducted by UMDNJ faculty at UMDNJ performance sites; CITI, the Collaborative Institutional Training Initiative (a program of education for faculty and other researchers); and an audit/review program for oversight of studies in progress.

Newark Institutional Review Board (IRB)

The UMDNJ Newark IRB committees are comprised of physicians, nurses, pharmacists, physical and social scientists, non-scientists, and unaffiliated community members. The IRB reviews research studies involving human subjects (or materials of human origin) according to federal, state, and institutional regulations and policies to ensure the safe and ethical conduct of the research. The Newark IRB office staff is available to assist researchers with their submissions to the IRB committees.

The ***HSPP/IRB website*** provides pertinent information for researchers, such as:

- Access to the university's electronic IRB submission program - eIRB
- Announcements of IRB training opportunities, and slides from past sessions
- Topic specific regulatory guidance
- Links to other pertinent research websites.

Office of Emergency Management & Occupational Health & Safety Services



Executive Director	Brendan McCluskey 973-972-6164 brendan.mccluskey@umdnj.edu
Assist. to the Executive Director	Corisa Mobley 973-972-0861 mobleyco@umdnj.edu
OEM	ADMC 304 973-972-6144 emergencymangement@umdnj.edu
EOHSS	SSB 443 973-972-4812 EOHSShelp@umdnj.edu
ORSS	MSB A679 973-972-5305 orss@umdnj.edu
Main Website(s)	http://ready.umdnj.edu

Emergency Management and Occupational Health and Safety (EMOHS) supports UMDNJ's mission by protecting and enabling a safe, healthful, and well-prepared environment for the University and its community, and by promoting compliance with applicable laws, regulations, standards, and practices through leadership, education, and technical services in the areas of environmental and occupational health, safety, and emergency management. EMOHS is responsible for institution-wide development and implementation of emergency preparedness initiatives, coordination of resources during disasters and other incidents, and the overall health and safety of the University community and environment. EMOHS includes the Office of Emergency Management (OEM), Environmental and Occupational Health and Safety Services (EOHSS), and the Office of Radiation Safety Services (ORSS).

Contact EMOHS to request emergency response flip charts, emergency telephone stickers, and other emergency preparedness, occupational, environmental and radiation safety assistance.

The Office of Emergency Management (OEM) promotes and supports the University's disaster awareness, prevention, mitigation, planning, response, and recovery programs. OEM is available to assist with the development and implementation of Department-specific Disaster Plans (DSDPs) that will identify actions to be taken by each department's faculty/staff/students /volunteers in the event of an emergency or disaster. A DSDP template is available at: <http://www.umdnj.edu/emgweb/DSDP.shtml>.

OEM also coordinates University-wide emergency notifications and situational awareness information during emergencies and other events.

Environmental and Occupational Health and Safety Services (EOHSS) provides a full range of general and laboratory safety services, including biosafety, chemical safety, management and disposal, emergency response, indoor air quality assessments, laboratory audits, chemical hood inspections, research protocol review and health and safety training.

EOHSS also serves as the IBC Administrator and provides technical and administrative support to the Institutional Biosafety Committee (IBC). The IBC is responsible for reviewing recombinant DNA research to ensure compliance with National Institute of Health (NIH) guidelines. The IBC is also responsible for ensuring that bio-containment practices, facilities and training are compliant with applicable regulations and adequate to protect the safety of the University community and environment.

Laboratory safety training is required for all personnel who work in a UMDNJ laboratory and/or who handle or have potential exposure to recombinant DNA or biosafety level 2 (BSL2) or higher materials (including human cell lines and other potentially infectious materials). Initial classroom Laboratory and Biological Safety Training is offered monthly and additional sessions can be scheduled on an as-needed basis. Refresher training is required and is available online at the EOHSS website for some courses. Additional training is also available for those who:

- Ship, prepare packages, and/or complete paperwork for shipments of biological, infectious materials, dry ice and other hazardous materials.
- Manage hazardous waste.
- Wear respirators.
- Are interested in or need to learn how to use a fire extinguisher.
- Serve as fire wardens or require special fire safety training
- Require hazard specific training (e.g. ergonomics, noise, etc.)

Online registration and additional information regarding laboratory safety training is available at: http://www.umdnj.edu/eohssweb/nsp/nsp_trainlaboratory.htm.

The Office of Radiation Safety Services (ORSS) manages the radiation safety program for the Newark and Scotch Plains campuses. ORSS' programs and procedures are aimed at preserving the radiological health and welfare of the University and the general public, as well as to ensure compliance with local policies and State and federal regulations. ORSS ensures the safe handling and use of radioactive material and radiation producing equipment for research, diagnostic and therapeutic purposes. Additionally, ORSS provides monthly radiation safety training, refresher and emergency training to all Newark campus University personnel who may come in contact with radiation or radiation producing equipment. Online registration for radiation safety training is available at: <http://www.umdnj.edu/orssweb/>.