

OKLAHOMA MEDICAL RESEARCH FOUNDATION



Providing Your Lab With the Tools to Succeed



SUPPORTING SCIENCE AT OMRF



At the Oklahoma Medical Research Foundation, we're committed to supporting our investigators. That means a full array of core scientific facilities, a robust administrative infrastructure, and substantial ongoing laboratory funding once researchers have completed their start-up periods. On the pages that follow, you can read about the many different resources we offer our faculty members to catalyze scientific success. And as an independent research institute, OMRF prides itself in being lithe and responsive. In other words, if there is not a way, we will work with you to make one.

SCIENTIFIC CORE FACILITIES

ANIMAL CARE/COMPARATIVE MEDICINE

BIACORE

BIOREPOSITORY

CLINICAL IMMUNOLOGY

EXPERIMENTAL ZEBRAFISH FUNCTIONAL GENOMICS

FLOW CYTOMETRY

HUMAN ANTIBODY

IMAGING

NEXT-GENERATION DNA SEQUENCING

NUCLEAR MAGNETIC RESONANCE

PATIENT-DERIVED XENOGRAFT AND PRECLINICAL THERAPEUTICS

QUANTITATIVE ANALYSIS

ADMINISTRATIVE SUPPORT

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FACILITIES SERVICES

INFORMATION TECHNOLOGY

SPONSORED RESEARCH

TECHNOLOGY VENTURES

ONGOING RESEARCH SUPPORT

ANIMAL CARE/COMPARATIVE MEDICINE

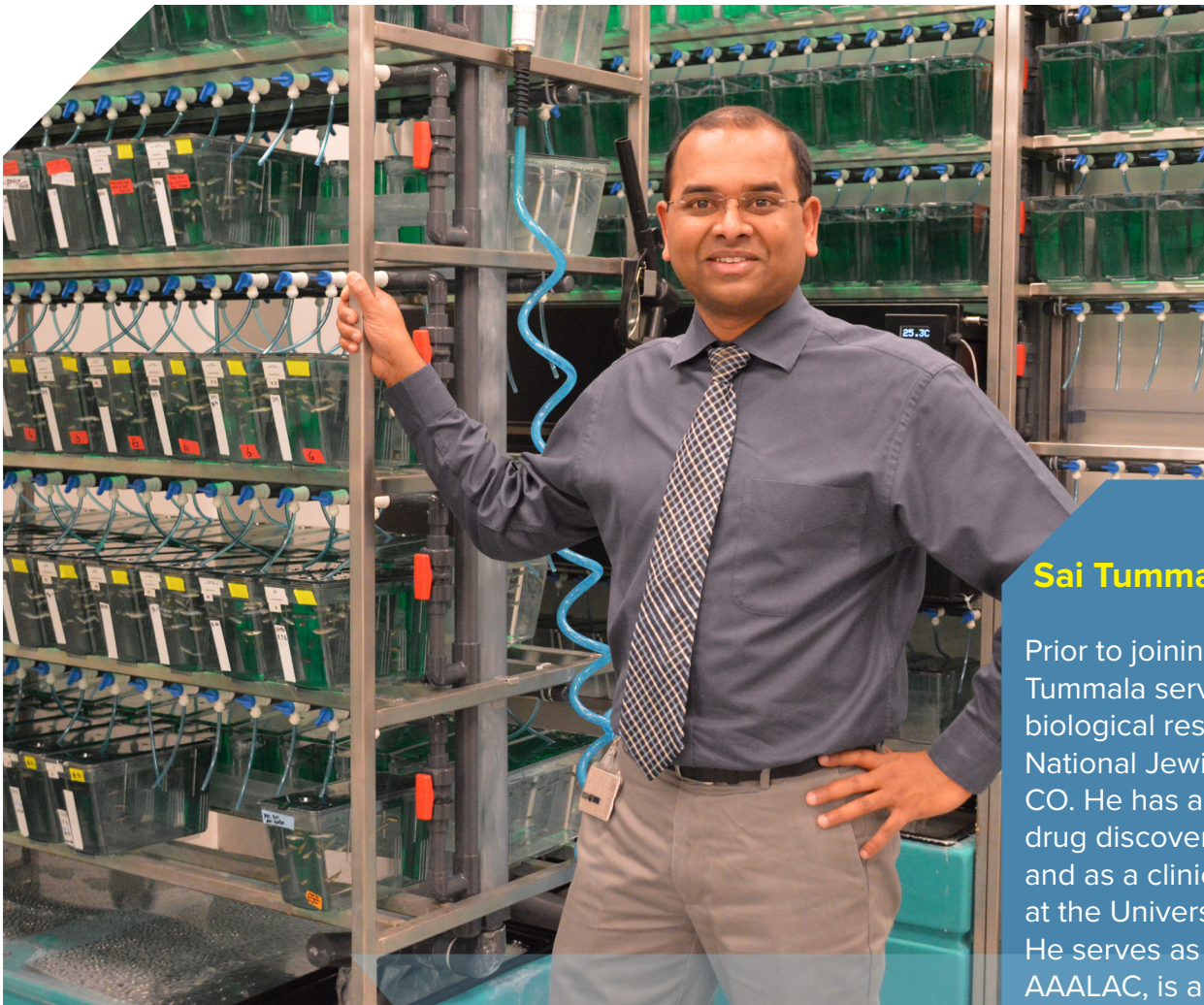
The department of comparative medicine manages OMRF's animal care program, which has three separate facilities. It has been accredited by AAALAC International since 1971 and is a member of the Vivarium Operational Excellence Network.

The department manages an average of approximately 5,000 cages of mice and 1,200 tanks of fish. Our cage rates rank among the lowest in the country, and we are capable of housing and maintaining rats, frogs, guinea pigs, hamsters, chinchillas, rabbits and other species as needed. For all rodents, the quality of housing is barrier-level with sterile caging and bedding, irradiated feed and chlorinated RO water. Comparative medicine offers the capability of ABSL-2 containment for different projects and can accommodate ABSL-3 housing in collaboration with Oklahoma State University.



The attending veterinarian is involved at the protocol development stage, provides day-to-day (including weekends) clinical and operational oversight, and also conducts post-approval monitoring of animals at cage-side. In addition to offering barrier-quality services, comparative medicine also provides breeding and colony management, tail snips, injections, blood and sample collection, euthanasia, treatments, import/export, osmotic pump implants and customized services as needed. Staff also conducts no-cost training for lab personnel in areas ranging from basic animal handling to anesthesia and invasive procedures.





Director
Sai Tummala, D.V.M., M.B.A.

Prior to joining OMRF in 2012, Dr. Tummala served as director of the biological resource center at the National Jewish Health in Denver, CO. He has also worked as a drug discovery scientist at Pfizer and as a clinical veterinarian at the University of Pittsburgh. He serves as site visitor for AAALAC, is a Diplomate of the American College of Laboratory Animal Medicine, and is founding member of the Vivarium Operational Excellence Network, where he coaches his peers on vivarium management concepts.

Available imaging and in vivo modalities include:

- Micro-CT
- Dexa scanner
- Echo MRI (Rodents)
- Visual Sonics (Vevo 2100) ultrasound
- IVIS Lumina in vivo imaging
- Gamma irradiator
- Rodent treadmill and metabolic caging
- Small-animal MRI (7T magnet; for more details, see Nuclear Magnetic Resonance Imaging core)

Rates

Cage rate: \$0.50/day

Full pricing details
available from

sai-tummala@omrf.org



The core employs a biomolecular interaction analysis (BIA) instrument, which uses surface plasmon resonance SPR to enable molecular interaction analysis. Coupled with a microfluidic system, the Biacore allows real-time monitoring of binding interactions between molecules on a sensor surface.

Applications include:

- Comparison of affinity and kinetic parameters of protein-ligand interactions
- Secondary screening to confirm the identity and measure affinities of oligosaccharide ligands identified in glycan array screens
- Screening to identify clones expressing monoclonal antibodies or recombinant proteins
- Measuring binding kinetics and absolute and/or relative affinities of monoclonal antibodies for their protein epitopes
- Measuring protein-protein and protein-DNA interactions in a variety of systems

Rates

\$200/day for usage
Consumables and other
supplies provided at cost



Director
Rodger McEver, M.D.

After earning his M.D. degree at the University of Chicago and completing his medical residency, Dr. McEver was a post-doctoral fellow in hematology and oncology at Washington University, St. Louis. He is recognized for his research on how selectins and integrins mediate platelet and leukocyte adhesion to vascular surfaces during physiological hemostasis and inflammation and during pathological thrombotic and inflammatory diseases. He discovered P-selectin, which plays a key role in bringing leukocytes to the site of an injury during inflammation, and PSGL-1, which is the major ligand on leukocytes for P-selectin and L-selectin and which also binds to E-selectin.



BIOREPOSITORY

OMRF's biorepository provides investigators with access to unique patient collections and new recruitment opportunities to aid research. This core serves as a centralized facility for patient/control identification, patient/control recruitment, sample processing, and access to large collections of patient/control samples with associated clinical, demographic, therapeutic and disease activity measures.

With 2,500 cubic feet of -80 Celsius space, 7,000 cu. ft. of -20 space, and a 150,000-vial liquid nitrogen suite, the biorepository can store tissue/biopsy samples, CSF, saliva, plasma, serum, PBMC, DNA and RNA.

It also offers the following services:

- Receiving and shipping samples
- Sample processing
- Sample quality control
- Sample collection maintenance
- 24/7 monitoring for sample security and integrity
- Three levels of redundancy in refrigeration systems with LN2 backup
- Multiple electrical generators





Director Joel Guthridge, Ph.D.

Dr. Guthridge earned his Ph.D. in microbiology and immunology at the University of Kentucky, then completed a pair of post-doctoral fellowships: the first in microbiology and immunology at the University of Kentucky and a second in rheumatology and immunology at the University of Colorado Health Sciences Center. At OMRF, he focuses on understanding the etiology and pathogenesis of systemic autoimmune diseases by combining clinical characterization data with genetic, genomic, serum biomarker and cellular proteomic data.

Rates

Determined on a project-specific basis; please contact joel-guthridge@omrf.org

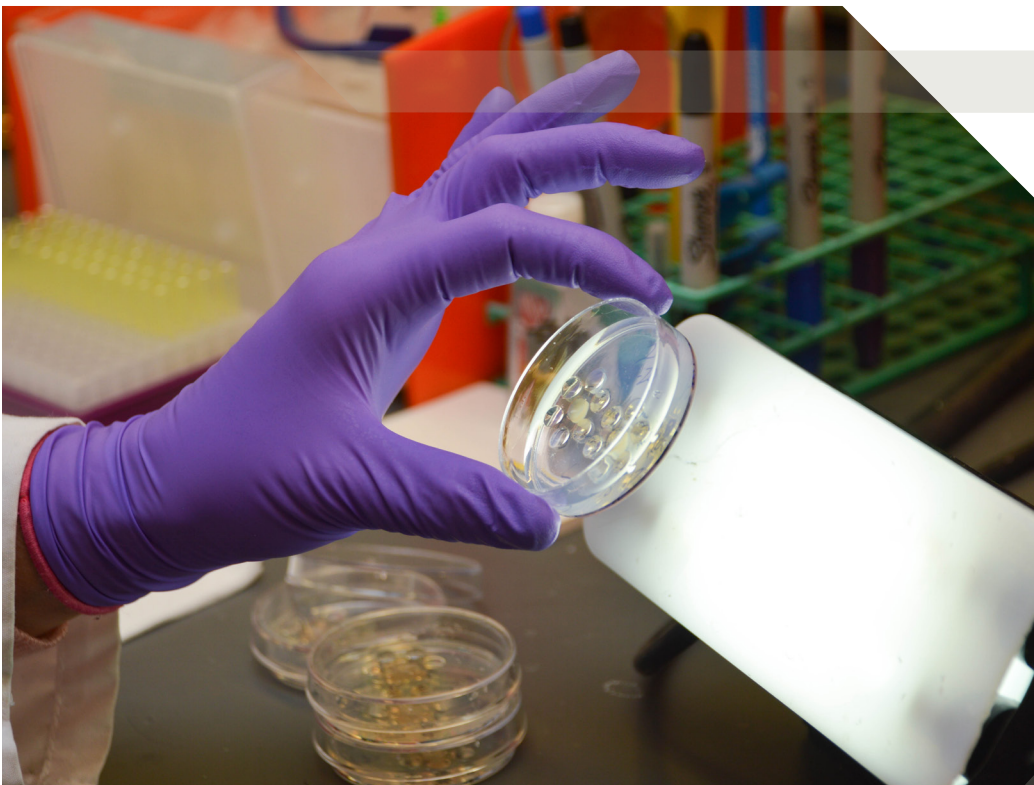


Director

Judith James, M.D., Ph.D.

Dr. James earned her M.D. and Ph.D. degrees at the University of Oklahoma Health Sciences Center, where she also completed her medical residency. Following her post-doctoral training at OMRF, she joined the faculty, where she has become a leader in autoimmune disease research. Using systemic lupus erythematosus as a prototype, her group was the first to show that autoantibodies occur before clinical disease onset or associated clinical symptoms. Her group has also characterized the sequential humoral epitopes for a dozen lupus autoantigens, identified the initial targets of key lupus autoantibodies, and initially described and established the concept of humoral epitope spreading in human disease.





This core lab performs a variety of tests to identify autoantibodies for the diagnosis and treatment of autoimmune and other diseases. Its most highly utilized test is the Reichlin Profile, also known as the Lupus Profile, which is the definitive test for this autoimmune disease and consists of the following sub-tests:

- **ANA – Antinuclear antibodies**
- **dsDNA – Anti-double strand DNA**
- **ENA – Extractable nuclear antibodies (precipitating antibodies)**

Rates

Reichlin Profile: \$155

[Click here for full pricing list](#)

The lab also performs multiple additional tests, including:

- **ANCA – Anti-neutrophil cytoplasm antibody**, which detects autoantibodies against neutrophil-specific antigens
- **aPL – Antibodies to phospholipid**, a measure associated with recurrent fetal loss, thromboses and strokes in patients with lupus and other diseases
- **CCP – Cyclic citrullinated peptides**, a new test for the early detection of rheumatoid arthritis
- **CH-50 and Cryoglobulins** – these results may indicate or be used to monitor autoimmune disease activity
- **Myositis profile** – Tests for 12 antibodies specific to or associated with polymyositis and dermatomyositis

EXPERIMENTAL ZEBRAFISH FUNCTIONAL GENOMICS

The zebrafish is an established vertebrate model system that is widely used to investigate basic biological processes involved in vertebrate development and human disease. OMRF's eZFG core enables scientists to characterize genes in the zebrafish vertebrate model system using high-throughput methods in a parallel workflow to establish the RNA expression level, tissue localization, and knockout phenotype of the target gene. After preliminary background research on the target gene, our team of scientists concurrently performs high-throughput in situ hybridization, high-throughput microinjection, and qRT-PCR analyses, while also furnishing essential molecular biology and phenotypic services.



For laboratories needing targeted mutagenesis of their favorite gene/s in an in vivo model system, the eZFG core is capable of quickly designing and generating single or multiple gene knockout zebrafish models using the highly efficient type II prokaryotic CRISPR/Cas9 system. We offer all these individual services with the goal of fostering a collaborative relationship that can potentially lead to future funded research work and thus, we only assess charges to cover labor, material expenses, and overhead.





Director
David Jones, Ph.D.

Dr. Jones received his Ph.D. in pharmacology from the University of Colorado and completed post-doctoral training in the program for human molecular biology and genetics at the University of Utah. His lab pioneered using zebrafish to understand molecular mechanisms resulting from mutations that underlie the development of cancer.

Rates

High-throughput microinjection of morpholinos, DNA and RNA into zebrafish embryos: \$1,000/1,000 embryos plus injected material production cost

High-throughput RNA in situ hybridization of whole mount zebrafish embryos: \$50/sample (cost and design of probes extra)

Full pricing list available from david-jones@omrf.org

FLOW CYTOMETRY

Researchers utilize this core primarily to analyze particular cell phenotypes and to sort mixed cell populations. Our Beckman Coulter Moflo XDP1 sorter is equipped with a Sapphire 4884 laser and a Coherent Cube 640 laser and is capable of detecting 11 parameters. It is routinely used for two- and four-way sorts at speeds of up to 30,000 cells/second and for single-cell deposition sorts. The facility is also home to a BD Biosciences FACSAria IIIu2,5 desktop cell sorter, an instrument with unparalleled capabilities and ease of use. The facility is also home to a pair of cytometers: a BD LSRII3 analyzer equipped with 405 nm, 488 nm, 561 nm and 633 nm lasers that can detect up to 19 parameters; and a BD Biosciences FACSCalibur cytometer capable of four-color fluorescence analysis.



Director Linda Thompson, Ph.D.

Dr. Thompson earned her Ph.D. in biological chemistry at the University of Michigan. She has been studying the roles of purine metabolizing enzymes (adenosine deaminase, or ADA, and ecto-5'-nucleotidase, or CD73) on lymphocyte development since her post-doctoral fellowship at the University of California at San Diego nearly four decades ago. At OMRF, her lab was the first to make monoclonal antibodies to human and mouse CD73 and to study its expression pattern on lymphocytes.

Rates

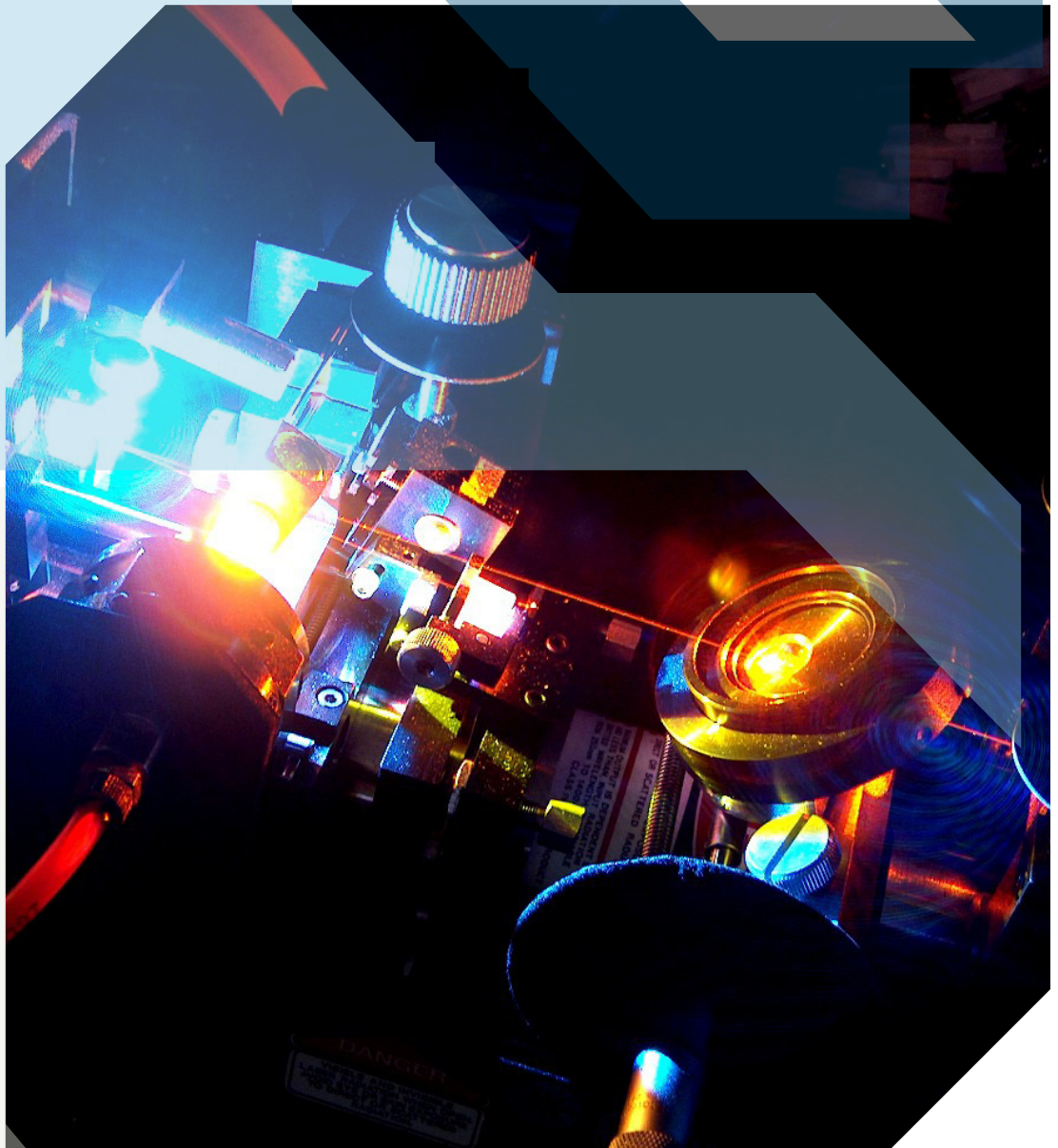
Flow cytometry analysis –
FACSCalibur and LSRII

Operator-assisted:
\$40/hour

Independent user:
\$20/hour

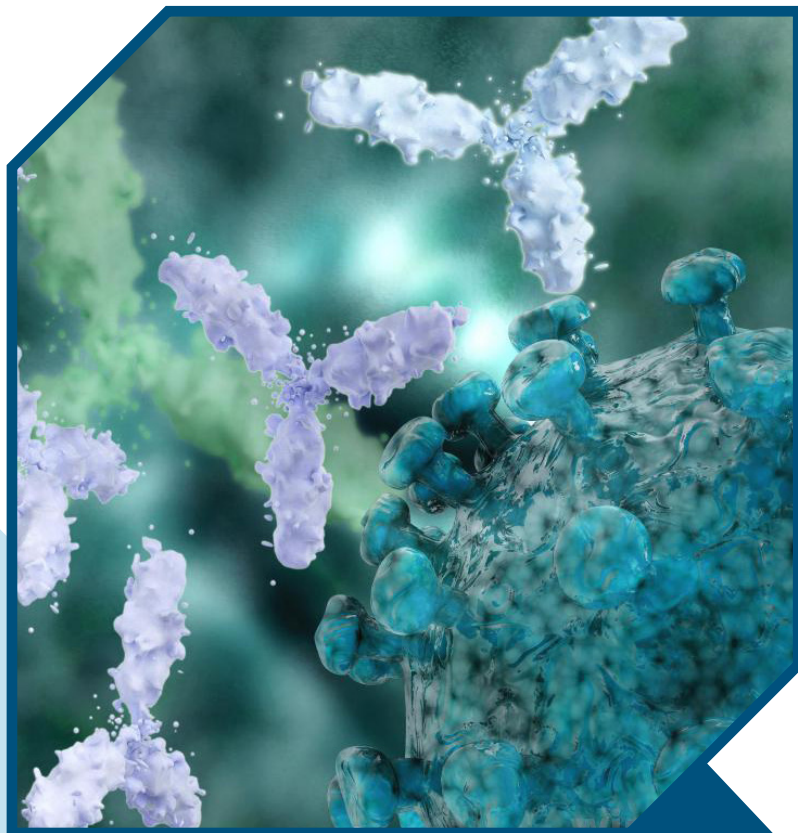
Cell sorting – MoFlo and
FACSAria

\$92/hour plus a
\$13 set-up fee



HUMAN ANTIBODY

This core is one of the few laboratories in the world that produces fully human, full-length, antigen-specific antibodies for use in studying human immune responses. The core has achieved breakthroughs in antibody technology and has produced hundreds of high-affinity protective antibodies to influenza, anthrax lethal toxin, and various *S. pneumonia* polysaccharides. The core aims to support investigators by helping quantify the antibody secreting cell responses after vaccination and by generating human monoclonal antibodies to be characterized. Pathogen-specific human monoclonal antibodies are also available for licensing agreements and other forms of commercial development.



Director

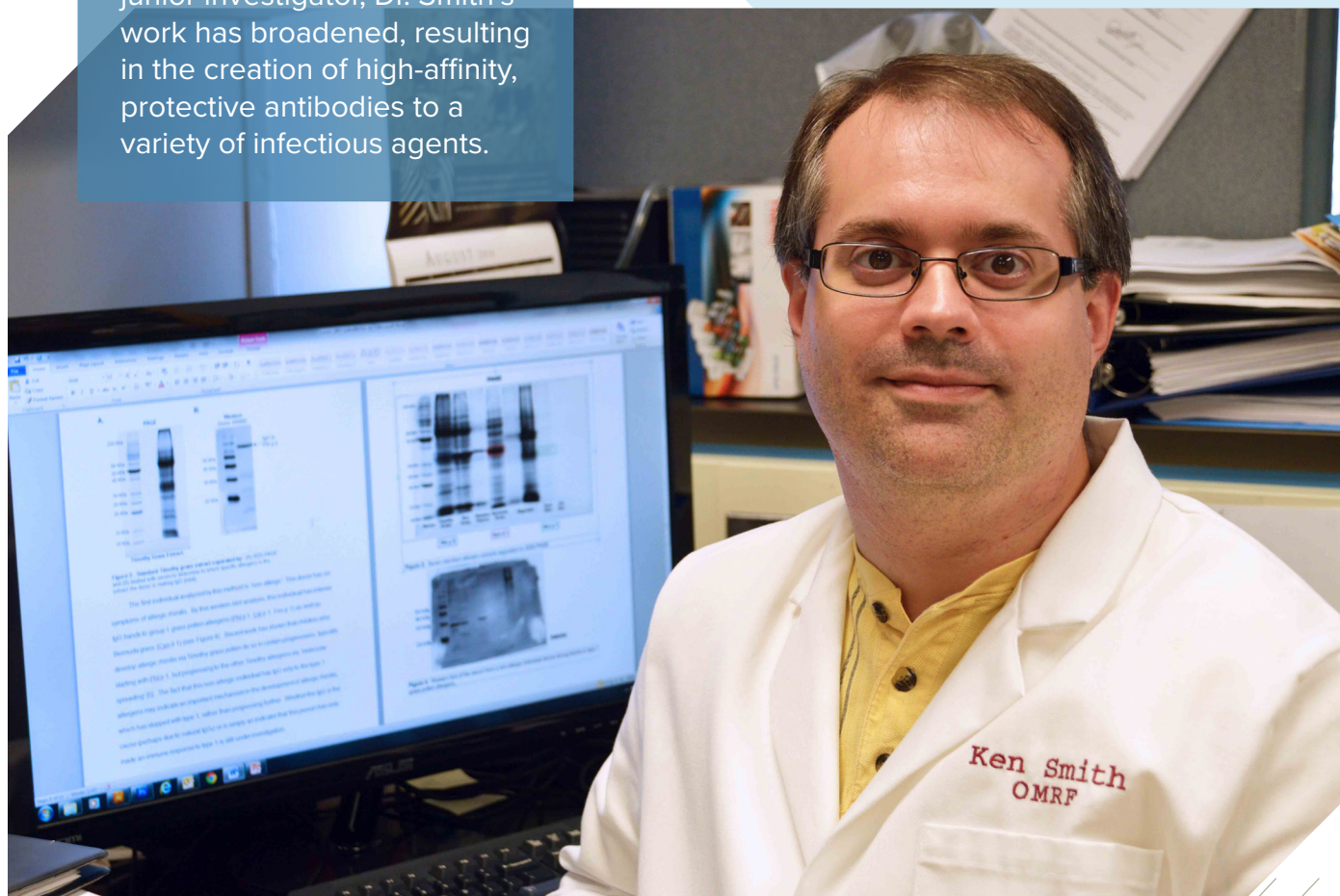
Kenneth Smith, Ph.D.

Dr. Smith came to OMRF as a post-doctoral fellow after earning a Ph.D. in inorganic chemistry at the University of Tennessee. At OMRF, he was part of a team that created a novel method of rapidly generating influenza-specific fully human monoclonal antibodies after natural infection. Since becoming a junior investigator, Dr. Smith's work has broadened, resulting in the creation of high-affinity, protective antibodies to a variety of infectious agents.

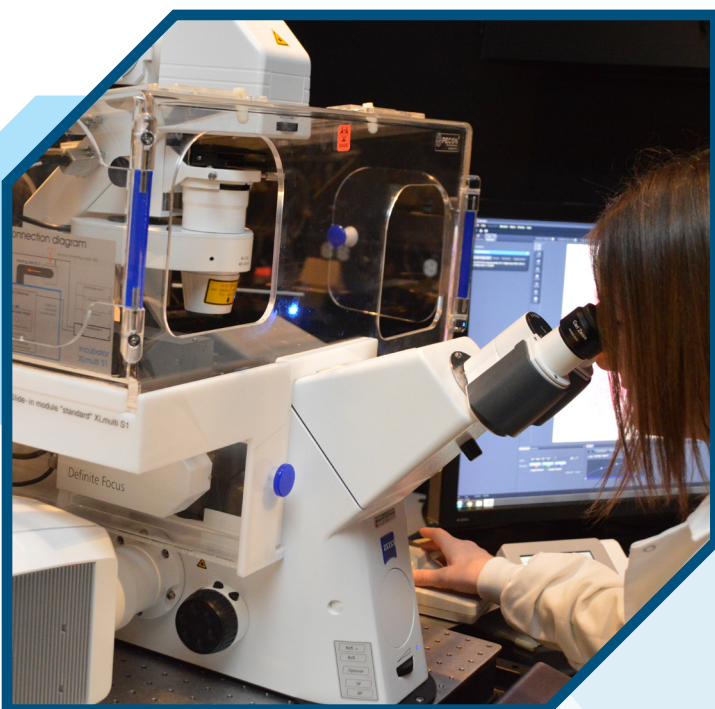
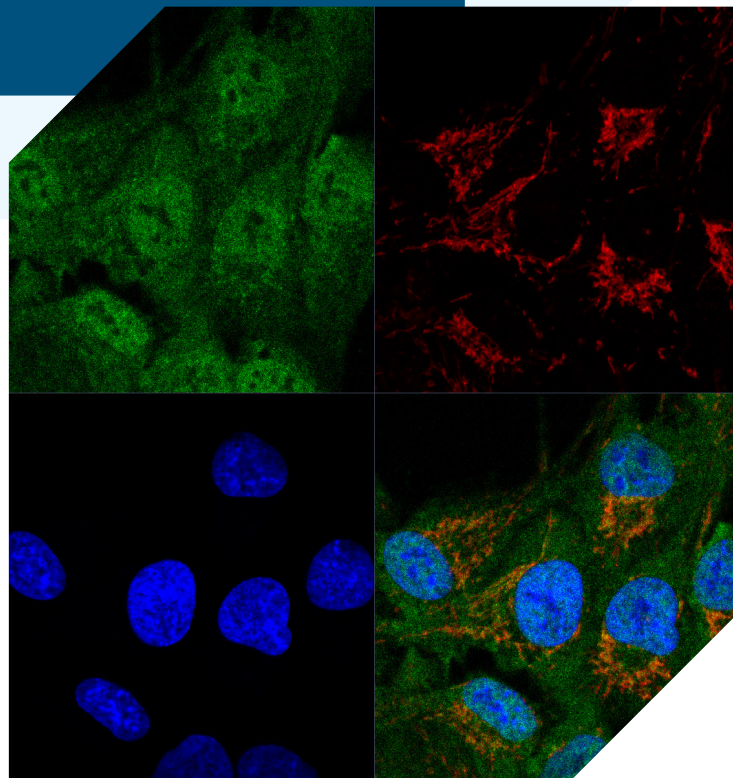
Rates

Rates

Determined on a project-specific basis; please contact ken-smith@omrf.org



OMRF's imaging core facility assists researchers with imaging needs ranging from basic histology, immunofluorescence and electron microscopy to digital image processing and analysis. The facility helps investigators with all aspects of high-profile microscopy research, from project inception and sample preparation through imaging and post-acquisition data analysis. In addition to preparing histological and immunological samples and serving as a technology resource, the imaging core serves as a training facility for investigators in the experimental uses of its equipment, current methods for sample preparation, and techniques for optimizing imaging results.



Available imaging equipment includes:

- Zeiss LSM-510META and 710 Laser Scanning Confocal Microscopes
- Olympus FV1000 Confocal Microscope
- Zeiss Laser TIRF Imaging Microscope System
- Multiple Zeiss Upright and Inverted Epifluorescent Microscopes
- Olympus SZX12 Dissecting Fluorescent Microscope
- Hitachi H-7600 Transmission Electron Microscope
- Molecular Devices MetaXpress High-Throughput Imaging System
- GE Deltavision OMX SR Super-Resolution Microscope



Director
Ben Fowler, M.S.

Mr. Fowler holds masters degrees in microbiology (Georgia College and State University) and in cellular, molecular and developmental biology (University of Tennessee). An expert in microscopy, he oversees an average of 2,000 projects each year at OMRF, where his role for the past 17 years—since the inception of OMRF's imaging core—has been to manage the operation of the facility and ensure investigators have the resources necessary to complete their project goals.

Rates

[For pricing information,](#)
[click here.](#)

NEXT-GENERATION DNA SEQUENCING

The OMRF genomics facility is a universally accessible resource able to provide investigators with massive amounts of sequencing, genotyping or gene expression data in a relatively short period of time. Our Hiseq 3000, NextSeq 500, and Miseq instruments combine to provide researchers extreme flexibility in a cost-efficient manner. The facility is capable of processing and analyzing all forms of sequencing projects, including whole genome sequencing, custom targeted resequencing including exome capture, RNA-seq, ChIP-seq, and MethylCap-Seq.



Study sizes can range from singletons to more than 1,000 samples. Our iScan system with Autoloader is capable of processing thousands of genotyping samples per week with arrays targeting hundreds to millions of variants per sample. Microarray gene-expression studies may also be performed on either human or mouse samples. The facility's ABI 3730 capillary sequencer also offers low-cost sequencing using purified plasmid or PCR-amplified DNA.

Rates

| | |
|-----------------------|---------|
| Hiseq 3000 PE150: | \$2,049 |
| NextSeq v2 High SR75: | \$1,669 |
| Miseq 50v2: | \$929 |

[Click here for full pricing list.](#)

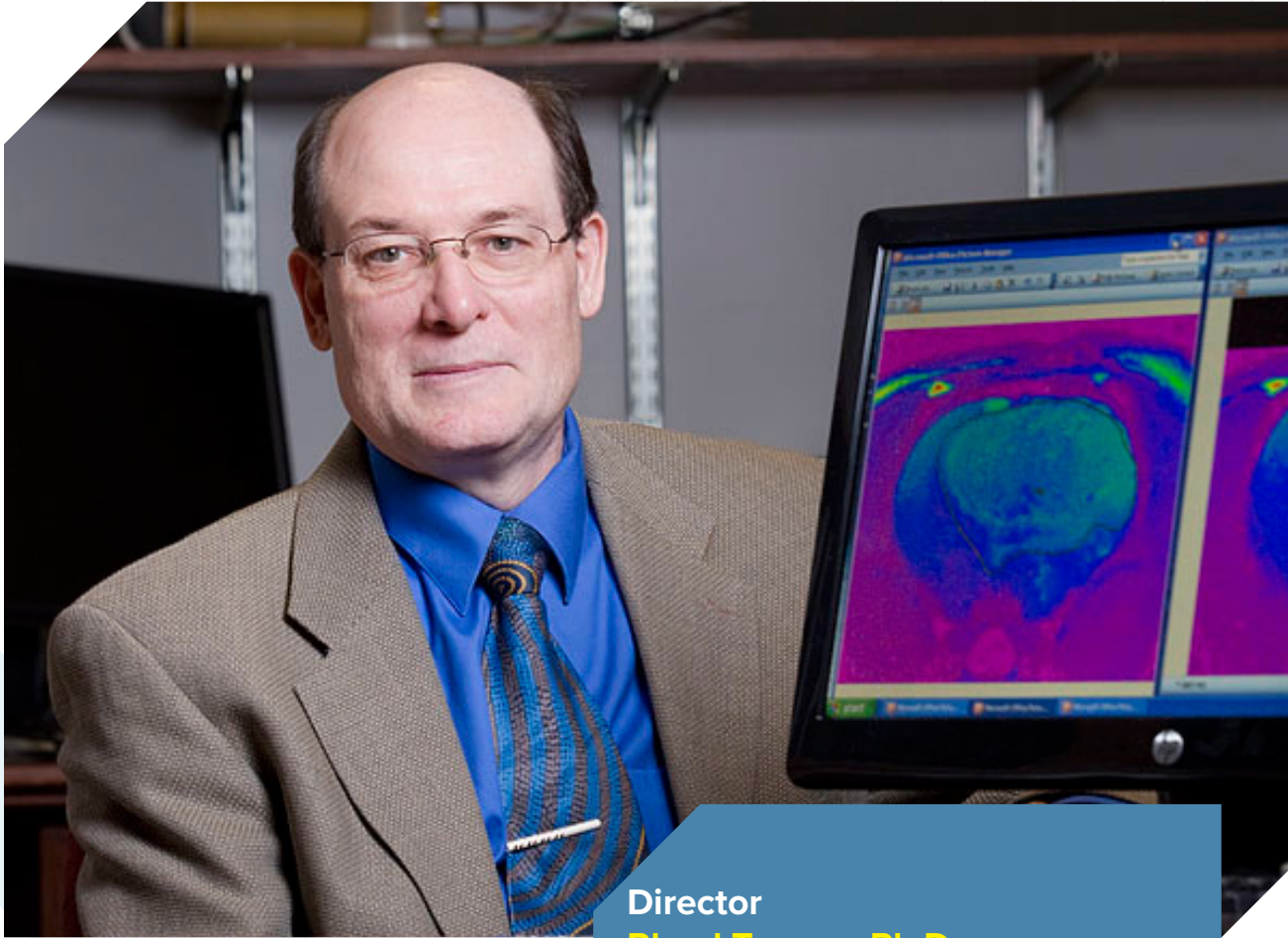
Director

Patrick Gaffney, M.D.

Dr. Gaffney holds an M.D. degree from the University of Minnesota, where he also completed his medical residency and post-doctoral training. He has made significant contributions to the field of lupus genetics, including the first series of genome-wide linkage scans in human lupus, performing some of the early expression array experiments that led to the discovery of the interferon signature in lupus, and performing a genome-wide association study (GWAS) that led to the discovery of TNFAIP3 as a lupus risk gene. In the post-GWAS era, his work has centered on the functional characterization of lupus risk variants in genes involved in ubiquitin-mediated immune signaling and applying large-scale next-generation sequencing to develop a systems level datasets of lupus pathophysiology.

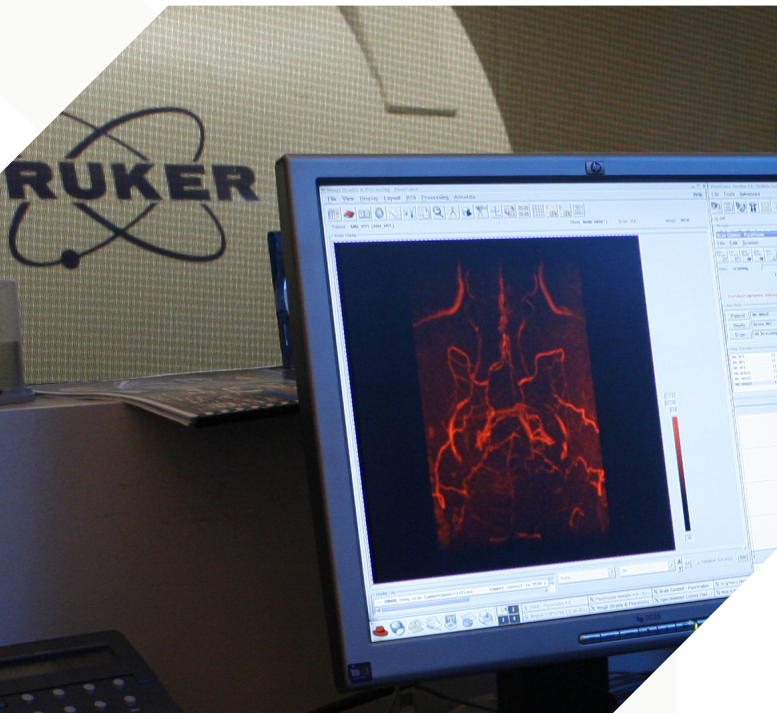


NUCLEAR MAGNETIC RESONANCE



Director **Rheal Towner, Ph.D.**

Dr. Towner earned his Ph.D. in biochemistry from the University of Guelph in Ontario, Canada. With a career that spans nearly 30 years and includes more than 120 refereed publications, he has extensive experience in the use of magnetic resonance techniques to assess pathophysiological processes in animal models for cancer, tissue injury, inflammation, obesity, diabetes and bladder disorders. His research has used and assessed various orthotopic, xenograft and transgenic models for tumor development for almost two decades and has incorporated MR imaging and spectroscopy methods to detect morphological, biophysical, functional and metabolic alterations associated with tumor growth, neurological diseases and the assessment of therapeutic responses.



This core houses a Bruker Biospin Biospec 730 USR imaging spectrometer for in vivo small animal magnetic resonance imaging and spectroscopy. The Bruker system is equipped with a 7 Tesla, 30 cm horizontal-bore superconducting magnet, which has microscopic magnet gradient systems capable of greater than 50 μ m image resolution in mice and 80 μ m in rats. Non-invasive monitoring of transgenic (or non-transgenic) disease progress, or other trans-genetic outcomes such as tissue, organ, or organ system development, improves data quality while drastically reducing experimental costs inherent in the sacrifice of large numbers of valuable animals. Areas of expertise include neurological morphology and function, neurological angiography, cardiac functional imaging, abdominal imaging, tumor morphology and function, image-guided magnetic resonance spectroscopy in brain and liver, and contrast-enhanced imaging.

Techniques include:

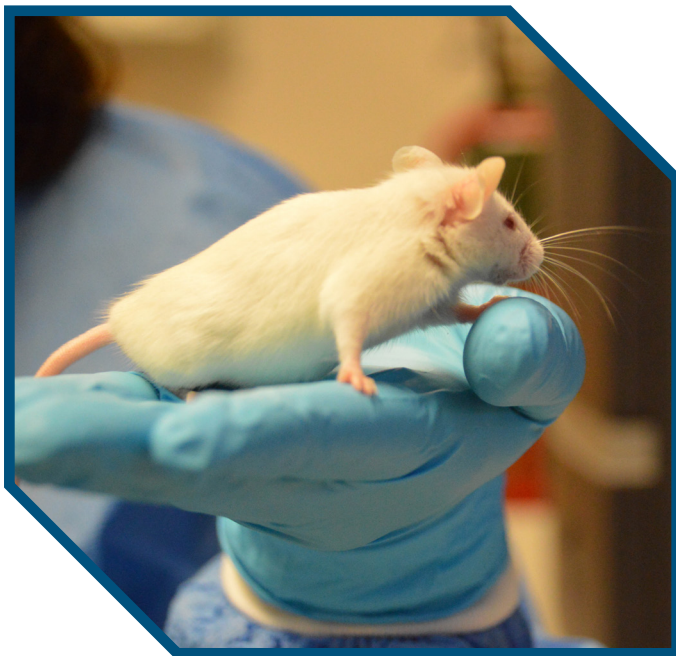
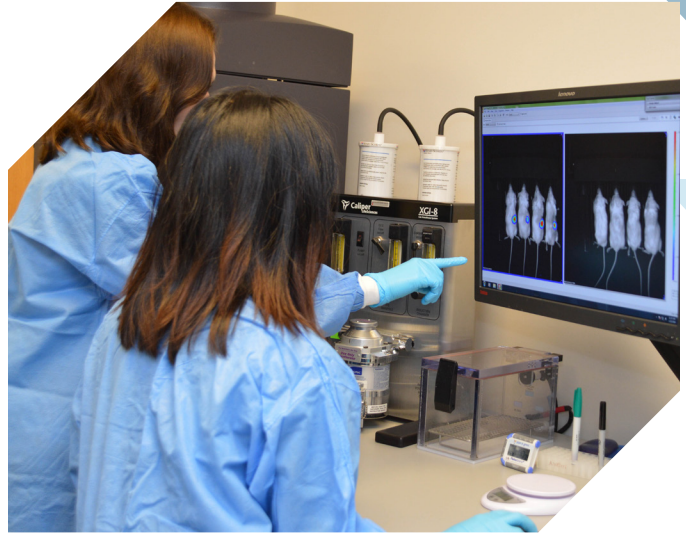
- Basic morphological MRI (e.g. T1, T2 imaging)
- Dynamic contrast-enhanced MRI to establish location and extent of pathological lesions
- Magnetic resonance angiography to visualize vascularization
- Functional MRI to monitor tissue/organ response given a challenge function
- Magnetic resonance spectroscopy to follow metabolic changes during disease processes

Rates

Determined on a project-specific basis; please contact debra-saunders@omrf.org

PATIENT-DERIVED XENOGRAFT AND PRECLINICAL THERAPEUTICS

The PDX-PCT core provides high-quality services for basic and translational cancer research, drug discovery and personalized cancer therapy. Our aims are three-fold. We generate the most current and sophisticated patient-derived in vivo cancer models, helping to bridge the gap between basic scientists and clinicians. By improving pre-clinical drug efficacy evaluation and examining personalized chemotherapy with patient-derived xenografts, we can facilitate a more seamless bench-to-bedside research process.



Services include:

- **Cell lines and tumor tissues:** We maintain a large repository of commonly used murine and human cell lines and tumor tissues.
- **Xenografts:** We establish xenograft models from cell lines or tumor samples provided by the investigator or supplied through our repository.
- **Patient-derived xenografts (PDX):** We establish xenograft models and cell lines directly from patient tumor samples obtained during surgery/biopsy.
- **Efficacy studies:** We evaluate in vivo efficacy of agents either alone or in combination with standard chemotherapy regimens.
- **Compound formulation/delivery:** Compounds are formulated for in vivo delivery and are administered by a number of routes.
 - Rodent toxicology
 - Tumor monitoring and imaging
 - Tissue collection
 - PK/PD studies



Director
Magdalena Bieniasz, Ph.D.

Dr. Bieniasz received her Ph.D. in medical biology from the University of Lodz, Poland, then completed two post-doctoral fellowships: one in the department of immunology at the Roswell Park Cancer Institute, Buffalo, NY, and the second in the department of oncological sciences at the Huntsman Cancer Institute, Salt Lake City, UT. Her lab investigates oncogenic drivers of tumor progression and molecular changes leading to resistance to therapy in breast and ovarian cancer.

Rates

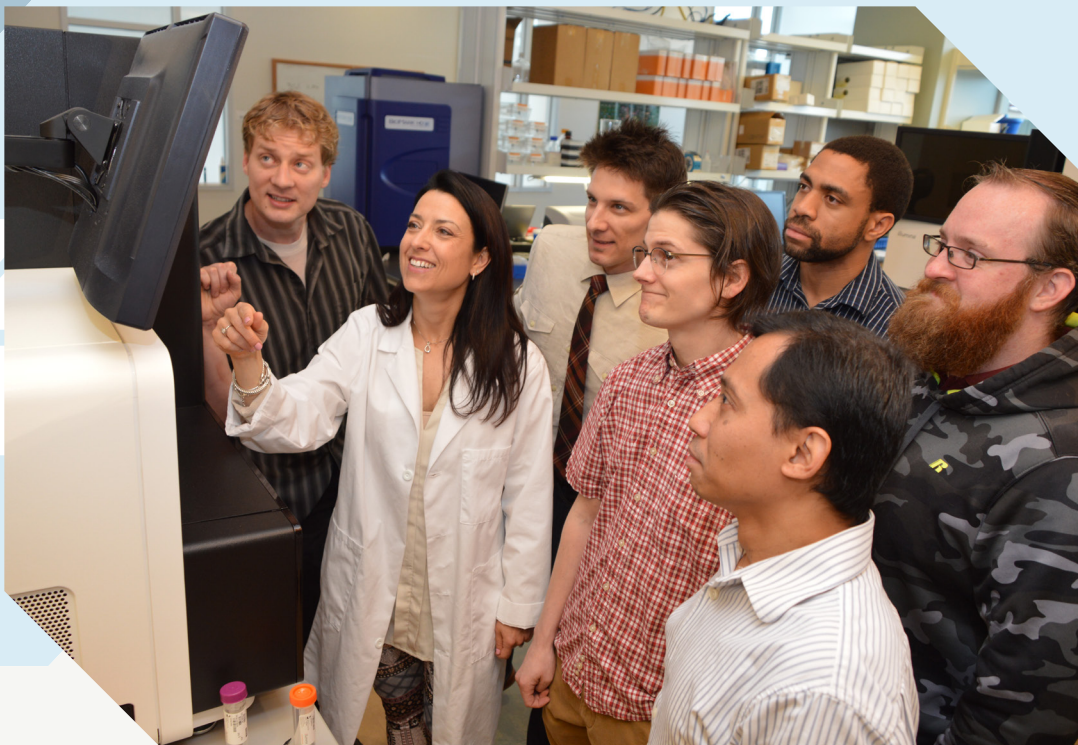
Determined on a project-specific basis; please contact Magdalena-bieniasz@omrf.org

QUANTITATIVE ANALYSIS

The OMRF quantitative analysis core offers expertise in a number of fields related to the analysis of clinical, serological, molecular and genomic data. We have participated in studies in the fields of autoimmunity, cancer and inflammation.

Our areas of expertise include:

- Genetics
- Qualitative Data Modeling
- Bioinformatics
- Genomics
- Information Technology
- Programming
- Biostatistics
- Statistical Modeling
- We are also partnered with OMRF's next-generation DNA sequencing core to provide bioinformatics support for users.





Director Courtney Montgomery, Ph.D.

Dr. Montgomery earned her Ph.D. in genetics and molecular epidemiology, biostatistics track, at Case Western Reserve University, where she also did her post-doctoral training. For more than 15 years, she has been engaged in biostatistics and computational analysis and research, including projects on metabolic syndrome, energetics and cancer, autoimmunity and inflammatory disorders. Her current applied research centers on the analysis of large genetic datasets including exome, whole-genome, RNA and chromatin immunoprecipitation sequencing, while her methodological work focuses on the analysis of large-scale, high-dimension data, particularly imputation and complex network development.

Rates

\$50/sample

- Alignment of sequence data to reference genome and generate BAM file

\$250/sample

- Alignment of exome data to the human reference genome and generate raw variant calls (vcf file)
- Alignment of RNA-seq data to reference genome and generate differential expression table (cuffdiff output)

Analysis of raw variant calls, RNA-seq data and other genomic data is available on an hourly basis.

ADMINISTRATIVE SUPPORT



Biomedical Department

Biomed installs, maintains and repairs OMRF laboratory instruments, including overseeing work performed under service contracts or warranties. Biomed's four experienced, skilled technicians routinely work with balances, biosafety cabinets, centrifuges, CO2 incubators, freezers, freeze dry systems, large shakers, PCR hoods, power supplies, refrigerators, ultra-low freezers, vacuum pumps and water purification systems. Employing a comprehensive maintenance management software system, the department performs an average of almost 2,000 corrective and preventive maintenance tasks each year.

It also provides:

- **More than 1,000 monitoring points for OMRF freezers and incubators**
- **24-hour emergency assistance and temperature alarm-monitoring services**

Facility Services

Facility services provides professional support for the design, construction, operation and maintenance for all OMRF facilities, which consist of more than 500,000 square feet of laboratory, administrative, support and clinical space. With a staff of 12 licensed and certified technicians, facility services maintains, operates and repairs critical building systems (air conditioning, electrical, gas, heat, plumbing, ventilation, water) and all campus facilities. The department performs an average of more than 3,000 preventive and repair jobs a year, and it uses a comprehensive software system to monitor more than 3,000 air handlers, chill water pumps, phoenix valves and humidity and temperature points throughout OMRF.

Information Technology

A team of 13 professionals that includes four applications/web developers, three systems administrators and three staff members dedicated to full-time help desk support of users, OMRF IT provides the following services to investigators:

Application and Web Development

- Application development and support
- Design and maintenance of departmental, investigator and lab web pages

Graphic Resource Services

- Design, preparation and printing of scientific posters, charts, figures, manuscripts and images

Information Security

- Secure file sharing for collaboration, VPN, encryption, backups, anti-virus and spam filters, firewall protection

Infrastructure

- Data storage
- Server hosting and support (virtual or physical; Windows or Linux)
- Technical consulting services
- Infrastructure: network, security, servers, large file transfer, collaboration tools

IT Support

- Technical support for all desktop computers, networked applications and smartphones
- Audio/visual services, including videoconferencing



Sponsored Research

The office of sponsored research assists OMRF faculty in the pursuit of external funding opportunities, providing support services throughout the life (pre-award, post-award and closeout) of all sponsored projects. They also work to ensure compliance with applicable regulations and requirements.

Three full-time staff members provide the following services:

- Assistance in proposal preparation
- Proposal submission
- Project administration, including:
 - Grant award set-up
 - Execution of sub-contracts
 - Budget monitoring and compliance
 - Reporting
- Administrative training for grant and grant-related activities

Technology Ventures

Since the passage of the Bayh-Dole Act in 1980, OMRF has established a long track record of successful partnerships with industry to support and enhance our investigators' research efforts. With a staff of five, including three Ph.D. scientists, the technology ventures office works closely with individual investigators to advance their technologies through the research and development pipeline. This group focuses on three distinct areas.

First, we work closely with OMRF's faculty to identify and develop promising technologies with potential translational applications. Second, through a strong network of industry contacts, we promote collaborations with biotech and pharmaceutical companies to help fund and advance research in OMRF investigators' labs. As part of this research support function, we provide legal and administrative assistance for collaborations with industry and academic partners, including the processing and management of material transfer, confidentiality and other agreements. On average, we process several hundred MTAs each year, with a turnaround of three to five days.

Finally, we facilitate technology commercialization through out-licensing and the creation of start-up companies. Discoveries incubated by OMRF's technology ventures office have resulted in three FDA-approved drugs and a diagnostic test currently available on the market.



ONGOING RESEARCH SUPPORT



Once investigators complete their start-up periods, OMRF provides ongoing research support to all investigators through annual institutional contributions to their research accounts. The amount of that contribution is determined annually through a three-part computation that consists of:

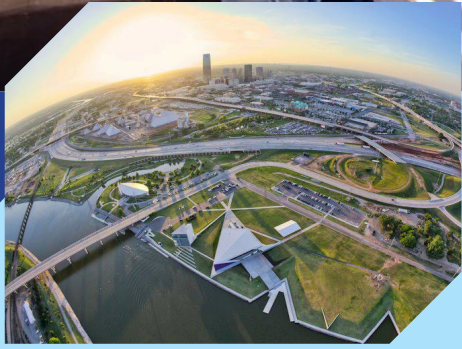
1. A fixed component;
2. An amount based on indirect costs generated by the investigator; and
3. A performance score based on the investigator's overall scientific productivity.

Additional contributions are also made for faculty members with endowed chairs or administrative leadership positions and for those who obtain equipment grants or lead large, multi-PI grants.

On average, OMRF contributes \$186,000 per year to each investigator's account. These funds provide a flexible resource that can be used for a wide variety of expenses, including salary and fringe benefits, salaries and fringes for lab personnel, equipment purchases, supplies, travel, conference attendance and other legitimate research expenses.

Upon promotion to the rank of associate member, investigators become eligible for three-year rolling appointments. Rolling appointments are awarded to investigators who demonstrate consistent contributions to the original, peer-reviewed scientific literature, a national reputation clearly separate from that of other senior scientists, and sustained extramural funding sufficient to support a competitive research program.

[Find out more about Oklahoma City. Click here.](#)



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Research Foundation