

COM-P RESEARCH OFFICE

The mission of the Research Office is to support the research enterprise of the College of Medicine – Phoenix, stimulating all types of research and growing the sponsored projects portfolio by providing all forms of research infrastructure and resources. The Research Office supports laboratory operations for shared resources and provides oversight over shared instrumentation, organizes workshops, research conferences and related events. The Research Office also provides support for pilot funding and other needed resources to promote research at College of Medicine – Phoenix.

WHAT RESOURCES DOES THE RESEARCH OFFICE PROVIDE?

- Pilot Funding
- Valley Research Partnership
- Research Infrastructure Support
- Compliance/IRB support
- Grant Writing Workshops
- Annual Research Conference (ABRC, Flinn Foundation)
- Red Cap
- IRB workshops
- Lecture Series Support
- Annual Research Symposium

The COM-P Research Office organizes a variety of conferences and workshops to disseminate scientific knowledge and to provide researchrelated faculty development. Research at the College of Medicine – Phoenix is performed by faculty across various departments, centers and hospitals.



CONTACT

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KARINA ENRIQUEZ ADMINISTRATIVE ASSOCIATE (602) 827-2006 KARINAE@EMAIL.ARIZONA.EDU





THE UNIVERSITY OF ARIZONA College of Medicine Phoenix

PROPOSAL DEVELOPMENT

- Offers guidance in appropriate construction of proposals to address NIH or other sponsor guidelines.
- Routinely works closely with PIs to provide scientific editing and experienced advice.
- Develops cohesive and consistent documents by integrating all sections of research grant applications.
- Interfaces with COM-P Department Administrators and UAHS Research Administrators to prepare proposals for submission through UA Sponsored Projects in Tucson.



BRIEF BIO

Carol served for 30 years as a Research Scientist at the University of Arizona Colleges of Medicine in Tucson and Phoenix. She has a scholarly record of 80 full-length publications, an *h*-index of 37, and is a successful coauthor and administrator of several NIH research and small business grants. In 2010 Carol transitioned to Research Administration as Manager, Research Grants and Contracts where she has supported UA COM-Phoenix faculty in the pre-award area with development, preparation and submission of proposals including the NIH CO6 vivarium construction grant. Having managed a large research lab, and consulted in the areas of cell biology, cell culture, and experimental design, Carol has developed a special interest in scientific editing and enjoys working one-on-one with faculty to develop all aspects of research proposals to ensure that each investigator submits their best effort for success in research funding.

PREPARE YOUR BEST PROPOSAL

- Select the appropriate funding opportunity
- Allow plenty of time; the NIH recommends two months or more to prepare an R01 application.
- Write a descriptive and compelling title
- Outline your hypothesis and specific aims
- If NIH, generate preliminary data to support your research plan
- Develop an appropriate budget to support the proposed work
- Prepare a strong biosketch that highlights your experience and successes
- If a resubmission, prepare a confident rebuttal application that is respectful of the reviewers' comments
- Publish your work in a timely manner to be in the best position for future funding

CONTACT

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GRADUATE TRAINING OFFICE

The Graduate Training Office develops and directs various graduate degree programs affiliated with the University of Arizona College of Medicine – Phoenix, as well as several ASU graduate programs. The office also provides assistance with learning skills, professional and career development for preand postdoctoral trainees.

PhD students in College of Medicine – Phoenix graduate programs are employed in laboratories or clinics as Research Interns, while MS students often volunteer as DCCs during their degree period. Some of our MS or Certificate programs provide online training for ease of access by students based among our clinical partners and across the nation.

Graduate programs currently supported by GTO:

- Clinical Translational Science CTS (MS & PhD)
- Cardiovascular Translational Science & Medicine CVSM (Certificate, with MS planned)
- Master of Medical Studies Pathways Program
- COM-Phoenix MD/PhD Program

Graduate programs in planning stages:

- Clinical Research (MS)
- Precision Medicine (online MS)

Research Mentoring Programs:

- Academy of Research Mentors
- Support of Outstanding Mentoring Award(s)

RESOURCES FOR GRADUATE STUDENTS, POST DOCTORAL RESEARCHERS, AND FELLOWS

The Graduate Training Office offers Career and Professional Development training, customized Individual Development Plan (IDP) forms for pre- and postdoctoral trainees, Responsible Conduct of Research training, Research Resources sessions for trainees, UA Research, Discovery & Innovation training sessions, UA Graduate Center and Postdoctoral Affairs training sessions, Graduate Student Travel Awards, and support for the Academy of Research Mentors and the new COM-Phoenix Mentoring Awards.

Graduate Training Resources

Cardiovascular Translational Science & Medicine Certificate:

http://phoenixmed.arizona.edu/intro-cvs

Clinical Translational Sciences Graduate Programs: <u>https://cts.uahs.arizona.edu</u>

COM-Phoenix Research Opportunities: http://phoenixmed.arizona.edu/mdphd /research-opps

COM-Phoenix Research Internships: http://phoenixmed.arizona.edu/educatio n/graduate-programs/graduate-trainingoffice/graduate-training-office-researchinternships

COM-Phoenix trainee IDPs: http://phoenixmed.arizona.edu/gto/idp

Graduate Training Travel Award: http://phoenixmed.arizona.edu/gto/travelaward

Pathway Scholars Program (MMS): http://phoenixmed.arizona.edu/pathway

UA Graduate Center: https://gradcenter.arizona.edu

UA Graduate Center Resources: https://gradcenter.arizona.edu/resources

UA Postdoctoral Affairs Office: https://postdoc.arizona.edu

CONTACT

KATHARINE GONZALES, M.ED. PROGRAM COORDINATOR (602) 827-2677 KATHY.GONZALES@ARIZONA.EDU





THE UNIVERSITY OF ARIZONA HEALTH SCIENCES Research Administration

OUR SUPPORT TEAM – College of Medicine Phoenix https://research.uahs.arizona.edu



LAUREN ZAJAC, CRA

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CHRISTINE GAUL, MBA (520) 626-1542 Assistant Director, Clinical Trials Administration cagaul@email.arizona.edu

RESEARCH ADMINISTRATION

JOSIE VALLADEE (Primary)

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LIZETTE ROMERO (Backup) Coordinator LIZETTE@email.arizona.edu

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PROPOSAL DEVELOPMENT

Find grant opportunities, coordinate internal grant competitions, maintain description of core facilities services, develop and maintain trainee tracking database (T32s).

PRE-AWARD

Prepare grant administrative sections, budget development, securing institutional endorsements, provide institutional support letters, route for internal approvals, submissions to external sponsor.

POST-AWARD

Progress reports, public access compliance, consulting agreements and subawards, grant close-outs & no- cost extensions, departing investigator transitions, data reports and metrics.

CLINICAL TRIALS & CONTRACTING

Budget development and negotiation, cost and coverage analysis, CMS coverage determination guidance, tracking of CTAs, MTAs, CDAs, research intake system.

MARY NIELSEN (Primary)

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ELISHA JOHNSON (Backup)

Manager elishajohnson@email.arizona.edu (520) 626-7822



REGULATORY

Protocol and informed consent review & development, submissions and maintenance, sponsor start-up documents, and ClinicalTrials.gov assistance.

ELENA YOUNG (Primary) Coordinator

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KERRY-ANN SUCKRA (Backup) Coordinator kerryanns@email.arizona.edu (520) 621-2029





	OUR UNIVERSITY PARTNERS	
CRSP: CONTRACT & RESEARCH SUPPORT PROGRAM	SPS: SPONSORED PROJECTS SERVICES	AZICATS: ARIZONA INSTITUTE FOR CLINICAL & TRANSLATIONAL SCIENCE
RDS: RESEARCH DEVELOPMENT SERVICES	TLA: TECH LAUNCH ARIZONA	HSPP/IRB: HUMAN SUBJECTS PROTECTION PROGRAM





Proposal Development

- Find grant opportunities
- Coordinate internal grant competitions
 - Maintain description of core facilities services
- Develop and maintain trainee tracking database (T32s)



Pre-Award

- Budget development
- Prepare grant administrative sections
 - Provide institutional support letters
 - Secure institutional Endorsements
 - Route for internal approvals
- Submit grant to external

sponsor



Post-Award

- Progress reports
 - Public Access
 Compliance
- Consulting agreements,
 - Subawards
 Grant close-outs &
 - Grant close-outs & no-cost extensions
- Data reports and metrics
 Departing DI transitions
 - Departing PI transitions

THE STREET

Regulatory CI

- IRB/IACUC application
- preparation and submission
 Start-up documents for sponsors
- Protocol & informed consent development and review
 - Regulatory file maintenance
 Clinicaltrials.gov
 - Irics Research intake system ns

- Clinical Trials
- Budget development,
- negotiation
 Secure institutional endorsement for CTAs, CDAs, MTAs, amendments
- Visit earning reconciliation, invoicing Cash collection,
 - deposits
 Regulatory support



THE UNIVERSITY OF ARIZONA HEALTH SCIENCES Research Administration

What to do if you have a new Clinical Trial?

Our office provides clinical trials support to investigators, research nurses, and study staff at the Colleges of Medicine (Tucson & Phoenix), Pharmacy, Nursing, Public Health and the Cancer Center. Our team of experienced and knowledgeable research administrators and coordinators can assist you with all aspects of clinical trials from feasibility through closure.

Research Intake Form & Banner Feasibility Review

All submissions involving patients, facilities, services, health records, or resources of a clinical provider (e.g., Banner University Medical Center and Dignity Health) must be submitted via the online Research Intake Form (RIF) prior to submission to the University of Arizona Institutional Review Board (IRB).

Coverage Analysis

UAHS & Banner policy requires source documentation that shows details for all required study procedures and a determination of whom is paying for activities, upfront and before the clinical trial starts. The basis for this requirement is to complete a CA and use the designation of procedures to ensure that the informed consent, external budget, billing grid, and clinical care expenses related to an active study are congruent.

Regulatory & IRB

We provide regulatory support to investigators within University of Arizona Health Sciences. We have dedicated staff with many years of experience available to guide and assist with the IRB and regulatory processes including: protocol and informed consent development, support, review, and expertise; and assistance with ClinicalTrials.gov submissions.

Budget Development

Our team of experienced research administrators can negotiate your study budgets directly with sponsors, review existing budgets, and obtain current BUMG research pricing to ensure that your department receives appropriate compensation for the study.

Contract Support

UAHS Research Administration works directly with UA Contract & Research Support (CRS) to monitor the execution of these time-sensitive documents including Confidential Disclosure Agreements (CDAs), Clinical Trial Agreements (CTAs), and Accelerated Clinical Trial Agreements (ACTAs).

Post-Award Account Set-up

As requested, our office can help departments with account reconciliation (including account financial reports on a bimonthly basis and meeting with departments or programs on a regular basis to discuss financial health), Sponsor payment requests and follow- up on outstanding invoices, budget forecasting and accounts payable functions.

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University Animal Care

Advancements in biomedical research depend on the use of animal models. Humane animal care and use is a societal expectation and a legal requirement. University Animal Care (UAC), facilitates the former, and ensures the latter by providing humane and appropriate care for research animals and ensuring that the highest standards and regulations are consistently met.

UAC provides a variety of sophisticated services to support innovative biomedical research. Our amenities range from full scientific collaboration in study design and implementation, to animal model selection and design, to the provision of technical assistance for study activities. We are a service organization, caring for animals and curing disease. Our faculty and staff are experts in the care and use of animals in research, and we strongly encourage utilization of our collective expertise and the services we provide.

UAC is devoted to maintaining a safe environment for animals, staff and users that minimizes the risk of disease or injury; sharing our specialized knowledge of comparative medicine with UA investigators; and maintaining the University's AAALAC (formally the Association for the Assessment and Accreditation of Laboratory Animal Care) accreditation, the gold standard for animal care and use programs.

UAC staff provide daily husbandry to animals in our centralized facilities (such as clean, safe housing and access to fresh food and water), veterinary care, animal use monitoring, and training and support in laboratory animal care and technical procedures to personnel, students, and faculty. We also work to enhance the understanding and support for the use of animals in research and teaching at the University of Arizona and communities throughout Arizona.

UAC faculty and staff support and collaborate with roughly 200 principal investigators from multiple Colleges and Centers within the UA system as well as external entities that have affiliations with the UA and/or UA investigators, such as TGen and the VA Health Systems in Tucson and Phoenix.

Services Offered

- Rodent breeding and colony management
- Rodent technical support and training
- Germ free and gnotobiotic
 mice
- Import and export of unique rodent strains
- Aquatic model support
- Large animal imaging and surgery support
- Comparative pathology



CONTACT

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Jniversity Animal Care





Core Facilities Fair brought to you by & Innovation Research, Discovery

OVERVIEW

staff are experts in the care and use of animals in research, and investigators are encouraged to UAC utilize our collective expertise and the services we provide, a few of which are highlighted below. support for study activities to collaboration in study design and implementation. UAC faculty and utilized to advance biomedical and scientific research. Services range from provision of technical UAC provides a wide variety of services applicable to small and large animal models that are is a service organization that focuses on ensuring animal welfare and facilitating research



Contact University Animal Care

uac@email.arizona.edu Contact uac.arizona.edu

Germ-free and gnotobiotic mice

and performance of research with germ-free and flora-defined mice. Currently germ-free inbred weeks. This caging should reduce per diem costs for the performance of microbiome studies individually ventilated caging, which has been shown to maintain GF/GN status for up to 12 germ-free status can also be performed. The service is in the process of adding Tecniplast C57BL/6J and outbred Swiss Webster mice are available. Rederivation of transgenic mice to microbiome research. Services include bubble isolator housing, breeding colony management. Germ-free and gnotobiotic mice are maintained within the Keating/BIO5 vivarium to support



Rodent technical support and training

euthanasia and tissue harvest. Rodent technical models is provided to investigators. Live rodent training Experimental support and training in the use of rodent survival surgery (many common specific surgeries will and tissue collection, gavage, injection techniques, support and training includes: rodent handling, blood animal facility, as are procedure rooms for rodent rodent survival surgeries are available within each UAC surgery rooms with gas anesthetic capabilities for animal well-being and to facilitate research productivity opportunities are currently being expanded to ensure be taught), and management of complex post-operative via improved technical proficiency. A number of rodent

Rodent breeding colony management

culling, ear tag identification, tail biopsy, blood collection, colony database management, fostering, genotyping (in collaboration with UAGC), and for service basis: breeding pair/trio setups, timed pregnant mating, weaning the investigator. The following services are provided upon request, on a fee cage checks and documentation for new litters, are provided at no charge to their rodent breeding colonies. Consultation with research teams determines UAC provides a variety of services to assist PIs in starting and maintaining rederivation to SPF status (in collaboration with BIO5 GEMM Core). research and breeding colony production needs. Basic services, such as

Import and export of unique rodent strains

UAC Procurement coordinates all shipments of live vertebrate animals between states and internationally. completion of all customs and regulatory documents required to transport rodents in sanitized shipping crates with feed/water/bedding, and health status (pathogen) assessment, coordination of shipping, set up of (primarily rodents) between the UA and other institutions. This entails

Comparative pathology

chemistry, necropsy, and histopathology analyses are routinely performed primarily on laboratory rodent species. Diagnostic pathology support is Anatomic and clinical pathology support is available. Hematology, blood unexpectedly, at no cost to the investigator. routinely provided for research animals that become moribund or die

Aquatic model support

zebrafish via CRISPR are being developed. Equipment and procedures to genetically modify and provides embryos to PIs to perform larval studies. available. UAC maintains AB strain (wildtype) zebrafish facility. Additional tank housing for these species is (Xenopus laevis) are maintained at the UAHS animal Zebrafish (Danio rerio) and African Clawed Frogs

Large animal imaging and surgery support

care. State-of-the-art (and newly renovated) large MRI (in collaboration with Medical Imaging) staff provide training, anesthesia, analgesia, surgical transplantation, and neuroscience models. Veterinary array of studies, with a current focus on cardiology, maintained at the UAHS facility to support a diverse animal housing, surgical facilities, and equipment are pre-procedural planning to intra- and post-procedural all aspects of experimentation with these models, from Veterinarians collaborate closely with investigators on arm fluoroscopy, ultrasound, digital radiography, and Multiple imaging modalities are available and include Cand can perform a variety of surgical procedures. support, post-operative monitoring and intensive care, models, with an emphasis on primates, pigs, and sheep Veterinary support is provided for large animal surgical



MYNCBI

With MyNCBI:

- Save your searches and results from PubMed and other NCBI databases
- Set up automatic updates and receive e-mail search results from your saved searches on a daily, weekly, or monthly basis
- Save your citations and manage peer review article compliance with the NIH Public Access Policy in My Bibliography
- Create an online professional profile in SciENcv

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Sutherland JM. Sobinoff AP, Fraser EA, Redgrove KA, Skidail NA, Koopman P, Hime GR, McLauphin EA, <u>RNA binding protein Mussathi's resultationes PWVL1 and TBX1 in mouse</u> <u>spermatopeness</u> . J Cell Physiol. 2018 Apr;233(4):3282-3273. doi: 10.1002/pp.28168. Epub 2017 Cet 4. PubMed PMID: 2884620.			Ŀ	anage Collections a
Yu P. Shen X. Yang W. Zhang Y. Liu C. Huang T. ZESI stimulates breast cancer growth	Filters			•
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adenocate/incoma incidence, Findings from the Singatery Chinese Health Study (n.) Cancer, 2018 Jan 10, doi: 10.1002/jc.31251. [Epub ahead of print] PubMed PMID: 29318005.				Manage Filters »
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PIVOT

Pivot is a power tool that:

- Provides access to the most comprehensive global source of funding opportunities—totaling billions of dollars and growing
- Identifies researcher expertise from within or outside of your organization from millions of profiles from leading research organizations worldwide
- Fosters collaboration by cultivating essential partnerships and alliances
- Enhances communication, monitoring, and tracking individual faculty, teams, or researchers and the Research Development office
- Allows the focus to be on winning the necessary awards and grants
- Builds strong network connections for future opportunities

Get to know these useful research tools:

MyNCBI retains user information and database preferences to provide customized services for many NCBI databases including PubMed. Go to www.ncbi.nlm.nih.gov and click on MyNCBI.

Pivot provides research administrators, research development professionals, and individual faculty members the edge - by bringing together the right research opportunities, funding, and people quickly and easily. It provides global and local connections that strengthen research by exploring new avenues for funding and collaboration for faculty, staff researchers, and graduate students. To create a Pivot account, go to https://pivot.cos.com

Direct links to both resources will work on campus. Off campus access may require login with NetID and password. Tips for remote access at http://ahsl.arizona.edu

CONTACT

David Bickford Director AHSL Library at PBC 602-827-2407 dbickford@email.arizona.edu



BIOSTATISTICS AND STUDY DESIGN SERVICES

Biostatistics applies statistical reasoning to every stage of a research project, from study design to publication. We help research teams ask their research questions and collect, manage & analyze and interpret the data. We also develop statistical methods or modify existing methods to address your study's goals, if standard approaches do not apply.



SCOPE OF WORK

For each research project, the initial consultation will consist of 1-2 meetings, and our involvement in the project will be determined at that time. We provide statistical support at all stages of a research project. The following list provides typical services provided to researchers.

- 1. Study Design
 - Review the research protocol to make sure that the aims and hypotheses are feasible from a biostatistical point of view and the proposed ourcome measures are appropriate in addressing the specific aims.
 - Participate in the identification of a proper experimental design.
 - Determine the sample size and perform power analysis.
 - Develop a monitoring plan(interim analysis schedule, stopping rule for toxicity, etc.).
 - Develop a statistical analysis plan.
 - Develop and implement a randomization procedure
 - Advise on database design.
 - Review the data collection forms.
 - * For grant proposals, IRB submissions or Scholarly Project prospectuses, draft the
 - sections on statistical considerations outlined above.

Sec. 4.

ONLINE CONTACT – IN PERSON SUPPORT

Find us!

Find our Resources fast on the RESEARCH tab of the College of Medicine – Phoenix home page

Select the Biostat/Study design quick link

- Link for available services
- Link for contact form
- **Education** for helpful, brief modules



CONTACT

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SERVICES

Education

Availability

Available Services

User Responsibilities

Staff, Location and

Initial Contact Procedures

COM-P RESEARCH OFFICE



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FLOW CYTOMETRY CORE FOR THE RESEARCH COMMUNITY DESIGN/TESTING/ANALYSIS

http://phoenixmed.arizona.edu/flow-cytometry

- Located on the <u>Phoenix Biomedical Campus</u> Downtown Phoenix.
- Approved for Biosafety Level 2 work
- Includes shared cell and tissue culture facilities for cell processing and cryogenic storage

EXPERTISE

The Flow Cytometry Core provides expertise in services and collaboration across the spectrum of translational research, from basic medical science to clinical trials. These include conceptual development, experimental design, sample preparation, project specific new assay development, Identifying new biomarkers/developing assays for new biomarkers and transitioning to the clinical diagnosis. Infrastructure development of cores, designing assays, panels up to 10 colors, data analysis, consultation, training, marketing, business management.

RESEARCH SERVICES

- Immunophenotyping.
- Cell Cycle Analysis.
- Cell Proliferation.
- Cell Sorting (single cell, in-tubes, multi-well plating, slides).
- Complement Assay.
- Peripheral Blood Mononuclear Cell (PBMC) Isolation and Cryopreservation.
- BrdU Assay.
- Apoptosis.
- Intracellular Cytokine.
- Project specific/new assay development.
- Identifying new biomarkers/developing assays for new biomarkers and transitioning to the clinical diagnosis.



Important Links

Forms: http://phoenixmed.arizona.edu/research/reso urces/flow-cytometry/services/forms

Instrumentations:



RedBlueViolet 3 laser cell sorter, 4 way sorting in slides, muicrowell plates and tubes.



RedBlueViolet 3 laser cell analyzer. Analyze up to 8 colors/markers in single tube. HTS with carousal run of upto 30 tubes. Automated and manual run.



RedBlue 2 laser cell analyzer. Analyze up to 6 colors/markers single tube. Single tube run.



RedBlue 2 laser cell analyzer. Analyze up to 6 colors/markers single tube. HTS multiwell plates and tubes.

For more details visit:

http://phoenixmed.arizona.edu/research/reso urces/flow-cytometry/instrumentation

Rates: <u>http://phoenixmed.arizona.edu/flow-cytometry/rates</u>

Facility and Location:

http://phoenixmed.arizona.edu/research/reso urces/flow-cytometry/contact/facility

CONTACT

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Phoenix, AZ 85004



BIOMEDICAL IMAGING CORE INSTRUMENTATION



Zeiss M2 Imager, automated stage



Zeiss 710 Confocal

OLYMPUS FV MPE RS APOLLO TWO PHOTON MICROSCOPE



Biomedical Imaging Core@COM-PHX

The Biomedical Imaging Core offers leading edge instrumentation to meet the increasing needs of researchers in the Valley. Currently, the core has multiple microscopes that address a variety of needs of researchers. Core instrumentation includes a ZEISS M2 Imager epifluorescent microscope with filters for FITC, Rhodamine, DAPI, far red dyes. The microscope is capable of automated x-y-z scanning and titling.

There is also a ZEISS LSM710 confocal microscope that offers multiple laser lines that meet the needs for imaging multi-color fluorophores. The microscope is also equipped with a temperature control chamber and CO₂ supply for time-lapse imaging.

The demanding needs of in vivo imaging is met by our recent addition of an Olympus FV MPE RS Apollo system. This microscope is equipped with dual two photon laser lines (690-1300 nm tunable and 1040 nm fixed), allowing simultaneous imaging of multiple fluorophores *in vivo*. The microscope is equipped with high resolution galvo scanner, a resonant scanner for fast dynamics imaging, and a stim scanner.

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