Facilities and Other Resources:

The MacManes lab currently has several distinct spaces within which research is conducted. PI MacManes has a private office located adjacent to his graduate student offices on the 1st floor of Rudman Hall. This office space is equipped with a desktop computer, printer, telephone and hard-wired internet. Also on the 1st floor is MacManes's molecular lab, which is a 6 bay fully functional space in which graduate student, postdocs and research staff may conduct experiments. This lab is equipped with pipettes, centrifuges, vortexers, heat blocks, refrigerator, freezer, -80 freezer, etc. In addition to these things, there are several conference rooms on each level of the building for conducting meetings and interacting with students. The MacManes lab also owns a large Linux workstation that is equipped with a 64 processors, 512 GB RAM, and a 40Tb Raid5 disk array.

PI MacManes has dedicated animal care space, in which exists the desert chamber, measuring 14ft * 8ft. The temperature in this space can be programmed to reach a maximum of 110F at 10% RH. The controls allow temperature, humidity and lighting to cycle through a typical diurnal cycle. The mouse colony house in this facility consists of 35 mice, a size which can be easily augmented to meet experimental requirements.

A rich collegial culture that exists at UNH and in particular in the department of Molecular, Cellular, and Biomedical Sciences, to which I am a member, that allows me to interact both formally and informally with more experiences colleagues. Further, the college has implemented a plan to limit my teaching and service commitments pre-tenure, which allows me to focus efforts on developing an active and vibrant research program. Beyond the college, I have formed, and will continue to develop relationships with faculty in the department of Computer Science (e.g. Phil Hatcher and Dan Bergeron). At an institutional level, there are numerous systems that aim to support early stage investigators including the Research and Engagement Academy, Up-2-NIH, the Writing Academy, editing services coordinated through the office of the Vice Provost Nisbet. Taken together, these resources provide for an extremely stimulating academic environment.

SHARED RESOURCES

Hubbard Center for Genome Studies (HCGS)
W. Kelley Thomas-Director

The HCGS, located on the 4th floor of Gregg Hall, currently has three research groups which focus on Genomics, Proteomics, and Glycomics. Available bench space will accommodate 28 scientists with additional areas for equipment. The laboratory also incorporates 3 fume hoods, two biosafety cabinets, two environmental rooms and an autoclave. Eight faculty/postdoc offices and cubicles for 13 graduate students are located adjacent to the lab. A penthouse space wired with emergency power will accommodate up to 25 ultracold freezers. All other equipment is located on the same floor of Gregg Hall as the laboratory space. A wide variety of services are provided by the HCGS including sample preparation, Sanger sequencing, and high-throughput sequencing using the HiSeq2500 and associated quality control assays are provided on a recharge basis.

Research Computing and Instrumentation Core Facility (RCI/UNH)
Patrick Messer-Director

RCI's research computing facilities are housed in UNH's Morse Hall, also a designated 10Gbps Science DMZ node, and staffed by sixteen IT professionals specializing in systems and network administration, security, database administration and software/applications engineering.

The facilities include the 2,000 square foot, energy efficient Lenharth Data Center, offering High-Performance Computing (HPC) and networking in support of the UNH research enterprise. The Lenharth Data Center was renovated in 2011 to provide state-of-the art security, power and cooling for over 350 physical computers, networking hardware and over 750 Terabytes of storage. The Lenharth Data Center hosts compute and storage hardware supporting the science performed on the Illumina 2500 High-Throughput DNA Sequencer purchased and installed in 2012 (NSF MRI# DBI-1229361) and located in Gregg Hall. The Lenharth Data Center also houses a Cray XE6m Supercomputer installed in 2013 (NSF MRI# PHY-1229408).

The University Instrumentation Center operates and supports numerous instruments for Nuclear Resonance Spectroscopy, Ultraviolet-Visible-Near-Infrared Spectrophotometry, Infrared Spectrometry, X-ray Photoelectron Spectroscopy, Scanning Electron Microscopy, Transmission Electron Microscopy, Confocal Microscopy, and Energy Dispersive Spectroscopy. The RCI works closely with the Hubbard Center for Genome Studies for managing and disseminating the large datasets generated by next-generation sequencing platforms. These services are provided on a recharge basis.

Rudman Hall Bioinformatics Core Facility

The Rudman Hall Bioinformatics Core Facility is a newly developed facility located on the 3rd floor of Rudman Hall, specifically designed to aid researchers (including ESI researchers and their lab members) in developing analytical pipelines for the analysis of genomic data. The facility has work space for 6 researchers and is equipped with a large genomics workstation, as well as several terminals for the remote access of on- and off-campus computer resources. The facility is staffed 50% of the time by a PhD bioinformatician employed by the HCGS.

Institutional Investment

The PI is considered an Early Stage Investigator. UNH offers several support programs to assistant professors, and the PI's research team has taken part in many.

- **Faculty Mentoring Program, a program of the Provost's Office,** is designed to assist junior faculty in their academic career development through the guidance and support of experienced faculty members who serve as role models, advisors, and mentors. Interactive group mentoring sessions provide opportunities for pre-tenured faculty to discuss issues with senior faculty, administrators, and peers, and to exchange ideas, pose questions, and to address concerns about navigating the UNH promotion and tenure process.
- **Faculty Development Grants support professional development of faculty by providing funding for the acquisition of new skills. These funds are intended to support travel or training fees associated with training courses or specialized conferences to advance the careers of junior faculty members.**
- Office of the Senior Vice Provost for Research provides programs throughout the year for new faculty to support advancement of their research and scholarship and introduce them to potential collaborators at UNH. This Office provides research initiation funding and contributes to start-up packages for new faculty.
- UNH Research and Engagement Academy is a faculty development learning community designed to enhance faculty members' scholarly careers by strengthening the quality and quantity of proposals submitted to external funders and increase the diversity of faculty who are awarded grant funding. Each participating scholar works with a scholarly coach, an experienced UNH faculty member. The co-PI participated in this Academy in 2014, working with Prof. Kelley Thomas as a scholarly coach.