

About Us

The GSAF is a full service sequencing core that provides both Sanger and Next Generation Sequencing services, in addition to a library prep and quality check services, open access to equipment and training. The GSAF works directly with the bioinformatics core who can provide assist in any of your analysis needs to data storage solutions.

We are housed in approximately 2,000 square feet of controlled-access laboratory space and are an experienced NGS facility. Launched in 2008, the GSAF currently processes over 10,000 NGS samples per year.

Instruments in our lab:

- Illumina NovaSeq 6000 (one)
- Illumina MiSeq sequencers (three)
- Illumina NextSeq 500 sequencer (two)
- Covaris S220 and E220 Adaptive Focused Acoustic shearing devices
- Agilent BioAnalyzer 2100
- Invitrogen Qubit fluorimeter and ThermoScientific Fluoroskan
- Tecan Evo and Hamilton Nimbus
- 10x Chromium system

Lab protocols we are experienced with:

- Creation of fragment DNA sequencing libraries for all Illumina next-gen sequencers
- Creation of RNA-seq libraries from total RNA, small RNA, and immuno-precipitated RNA for Illumina next-gen sequencers
- Creation of amplicon libraries (particularly 16s and ITS regions) for the Illumina next-gen sequencers
- Human exome and custom capture with the Agilent SureSelect, Illumina TruSeq, and Nimblegen SeqCap EZ kits
- Sample and library QC using the Agilent BioAnalyzer, Picogreen and Ribogreen fluorimetry, qPCR, and spectrophotometry

Computational and software resources:

- The bioinformatics group maintains a wide range of [tools for NGS analysis and assembly](#) and can assist with all of your analysis needs, please [visit them here](#).
- Need your own server or access to one of ours, here is an explanation of the Biomedical Research Computing services with instructions for [getting an account](#).
- In addition, the GSAF uses and works with the [TACC](#) bioinformatics group, supporting tools and applications suitable to the TACC environment.
- Want to get started? [Contact us](#)
- New to Unix? Check out some [Unix and Perl resources for beginners](#).

Our Mission and Vision

Mission: The Genomic Sequencing and Analysis Facility mission is to provide the community with a level of technical expertise and experience that will support ongoing research projects. We aim to provide the highest quality data, develop strong customer relationships through individualized support, and provide educational opportunities that focus on the rapidly evolving field of genomics.

Vision: Support state of the art equipment and expand our services supporting research by incorporating new methodologies and techniques into the core to advance research.

Values: Our core facility is dedicated to the researchers we serve and the staff members that make the facility a success. We promote strong collaborations with researchers always welcoming the experienced and novice scientist, focus on education opportunities for the customers we support and continuing education for our staff and operate at the highest level of integrity with full transparency.

Our People



Jessica Wheeler Podnar
Director
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Jessica is a graduate of Southwest Texas State University and began her career in cell and molecular biology over 17 years ago starting at a biotech company in Reno, NV focused on telomere biology. Her next endeavor led to the Genomic Sequencing Facility where she began as the Lab Manager in June 2010, as her role continued to grow and expand so did her responsibilities which eventually lead to the opportunity to serve as the Director. Her years of experience covers a wide range of applications, from protocol development and optimization, the many transitions in NGS platforms and preps, lab and personnel management, establishing pricing structures and policies for the facility, all the way to setting up COVID testing laboratory for the university. She is also an active member of the Association for Biomolecular Resource Facilities and serves as the chair for the DNA Sequencing Research Group.



Gabriella Huerta
Program Manager
(512) 475-9725

Gabriella manages the Illumina sequencing operations and contributes to all aspects of the genomic sequencing enterprise. Every library barcode, concentration and quality control metric is carefully scrutinized by Gabriella, as she performs the complex task of setting up the sequencing runs to assure the highest quality results. With prior experience running NGS operations at Perlegen Sciences and Pfizer, Gabriella has the depth of experience to get the jobs done right.



Holly Stevenson
Research Engineering Scientist
Associate IV

Holly is a PhD scientist with prior experience applying and tailoring molecular protocols to cancer genetics research during her time as a graduate student and postdoc. Her interests expanded to include genomics and she subsequently served as a Biologist in a core facility for 5 years at the National Cancer Institute, preparing NGS libraries and implementing microarrays for both research and clinical studies. Since joining GSAF in 2017, she has assisted in testing and expanding new services, including TagSeq and 10X Genomics single-cell technologies. She currently operates the Illumina Novaseq sequencer, manages and performs runs for single-cell studies, and aids customers in project planning and troubleshooting.



Andrew Villarreal
Administrative Associate

Andrew is a University of Texas at Austin alumnus who joined the CBRS team in 2015. He has over 15 years of experience in business operations, shipping, and receiving. He provides support by processing invoices, internal vouchers, and purchasing for Computational Biology and Bioinformatics, Biomedical Imaging Center, DNA Sequencing Facility, and Genomic Sequencing and Analysis Facility



Aditi Karmakar
Research Engineering Scientist
Associate III

Aditi has a master's degree in Genetic Engineering from India and has over 11 years of experience in molecular biology techniques. She has been under UT community for 5 years, and previously she has extensive experience in understanding and handling DNA and RNA for various Research purposes both in and outside UT. She was looking at how different environmental factors like; diet and alcohol can affect CNS inflammatory disorders like Multiple sclerosis in Melamed lab in UT and that experience gave her an immense knowledge on various molecular mechanisms as well as the variety of techniques that are used to study them. She has also worked as one of the technicians in Sanger core and processed samples for sequencing and Fragment analysis. She is currently involved in a variety of DNA/RNA library preparations and operating our Illumina Miseq sequencers.



María Jose Gomez
Research Engineering Scientist
Associate II
(512) 475-9725

María attended the Universidad de los Andes in Colombia where she completed her studies on Biology with a minor in Bioinformatics. Before joining the GSAF her work included a variety of molecular techniques on systems such as rodents, frogs, bacteria, viruses and plants. As part of the GSAF her focus is on NGS library preparation, including DNA libraries, RNA-Seq, TagSeq and quality control of said libraries.



John Ludes-Meyers
Research Engineering Scientist
Associate IV

John joined the GSAF after over 25 years of academic research focusing on molecular mechanisms of carcinogenesis. John's passion for molecular genetics began while studying RNA tumor viruses as an undergraduate at the University of Minnesota. He continued studying viruses as a graduate student at Texas A&M University working on papillomavirus replication. His post-doctoral work started a long stint of cancer biology research leading to a decade of work as a Research Scientist at MD Anderson Cancer Center-Science Park studying the novel tumor suppressor, WWOX. After a short break from science to experience the world of software development at National Instruments, John came back to scientific research at UT. John has a wide spectrum of technical experience in molecular and cellular biology. As a member of GSAF John will apply his expertise to NGS library construction, single-cell gene expression and DNA methylation array services.



Zachary Carver
Research Engineering Scientist
Associate II
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