Facilities, Equipment, and other resources at TAMUG

Analytical instruments:
Three Canberra Gamma 100 Counting Systems with 3 HPGe Low Level Gamma Detectors, Canberra Alpha Counting System with 12 Detectors, Canberra Low Background Beta Counting System, Canberra Field portable gamma counting system, Solon Technologies sodium iodide well-type crystal detector, Beckman LS6500 Scintillation Counters, Dionex HPLC system (ICS 2500) equipped with a temperature controlled oven and eluent generator, Dionex BIO-LC Ion Chromatography, Waters Millennium 32 High Performance Liquid Chromatograph equipped with 626 pump, 717 plus autosampler, dual absorbance wavelength detector, 474 scanning fluorescence detector, and 426 pulsed electrochemical detector, Thermo-Fisher LA-ICPMS, Varian 3800/4000 GC/MS-MS, Bruker 420/300 GC-TQ-MS-MS, Thermo-Finnigan GC-MS, Costech 4010 CHN/S Elemental Analyzer, Varian AA 240FS, Beckman GS-6 Ultracentrifuge, Labconco LYPH-LOCK 12 Freeze Dryer, SPEX 8000 mixer/mill, Fisher 550-126 high temperature furnace, Buchan Rotavapor R-114 concentrator, IEC Micromax RF micro-ultracentrifuge, Precision mechanical convection incubator, Branson 3510 ultrasonic bath, Perkin-Elmer AD-4 Microbalance, CuO oxidation system (24 reaction vessels), Labconco solvent extractors, Dionex Accelerated Solvent extraction system (ASE200–36 extraction cells), Micromeritic Sedigraph 5100 for silt and clay fraction analyses, Rotap Sieve tower and Rapid Sediment Analyzer for sand size fractionation, Marathon 3200 Centrifuge, Sartorius CP2P microbalance, drying ovens, muffle furnace, Shimadzu UV-1800 UV-Vis Spectrophotometer, Shimadzu HPLC with photodiode array detector, and Wiley mill. IEC Micromax RF micro-ultracentrifuge, Precision 818 low temperature incubator, Precision mechanical convection incubator, thin layer chromatography plates and developing tank, Branson 5200 ultrasonic bath, MetOne laser particle counter, Perkin-Elmer AD-4 Microbalance, (10) Class-100 laminar flow clean-air benches, Quartz sub-boiling distillation unit, UV-irradiation unit, 2 Barnstead NanoPure 1 B-PURE and 1 Millipore Milli-Q50 Ultra-Pure Water System with Reverse Osmosis system, thermal cycler (Eppendorf Mastercycler thermal gradient), quantitative PCR thermal cycler (BioRad I-Cycler), ABI-Prism310 Genetic Analyzer/Sequencer, BioRad Decode Universal Mutation Detection system, BioRad Chef Mapper and PFGE system, BioRad Midi-subcell Horizontal Electrophoresis system, BioRad Gel Documentation and Analysis system; BioRad Pulse Field Gel Electrophoresis System, SDS-PAGE system; Primus Autoclave/Sterilizer, UniSense PA2000 picoammeter, Zeiss AxioImager epifluorescence microscope equipped with an Apotome accessory for confocal-like imaging and with b/w & color ccd cameras and imaging software, biosafety level 2 cabinet, temperature and CO2 controlled incubator, rotary shakers, precision temperature hybridization ovens, waterbaths, and an Eppendorf refrigerated multipurpose centrifuge 5810 R with interchangeable swing-bucket and high-speed fixed-angle rotors.

Field equipment and associated software:
A large volume (1000-10,000 L) deep sea in-situ filtration and extraction system (multiple in situ pumping system, MIPS) for radionuclide and SPM field work, two large volume (1-100 L) deep sea in-situ filtration and extraction systems (Seastar) for trace metals, two large area (0.5 m²) time series swimmer-repellent sediment traps, two large volume (100-1000 L) ultrafiltration systems with 10,000 and 1,000 Dalton cut-offs (Amicon DC-10 and DC-30) used for organic and radionuclide field work, three ultra-clean large volume (5-60 L) ultrafiltration system with 0.1µm, 10kDa and 1kDa cutoffs with all Teflon assemblages for trace metal speciation field work, three ultra-clean small volume (100-2000 mL) modified Amicon Miniplate ultrafiltration systems (100 kDa, 30kDa, 10 kDa and 3 KDa cutoff), with
all Teflon assemblages for trace metal speciation field work, two Amicon stirred cell ultrafiltration systems, SeaBird CTD with dissolved oxygen sensor, two transmissometers and an optical backscatter sensor YSI model 55 dissolved oxygen meter, Orion 140 temperature/conductivity/salinity meter, Honda EX1000 3,000 watt portable generator, 12 portable Masterflex peristaltic pumps, bathymetry and sub bottom profiler data, access to Triton Isis Side scan and bathymetric processing software, access to CARIS bathymetric processing software, Surfer software, ARC GIS work station, spade corer, gravity coring system, two ponar grab samplers, an Eijkelkamp hand auger and little Beaver Power auger, Li-Cor pulse amplitude modulated photosynthesis yield analyzer, and Li-Cor LI-6400XTR Fluorescence and Gas Exchange Analyzer.