

GAIA Laboratory of Environmental Engineering (A023, A064, A052)

Analytical Equipment and Reactors
Ultra-Performance Liquid Chromatography - tandem mass spectrometry (UPLC-MS/MS) <i>Waters Acquity UPLC System</i>
High Performance Liquid Chromatography with UV-Vis detector (HPLC) <i>HPLC system, Waters e2695, 2489 Alliance</i>
Ion Chromatography <i>Metrohm 881, Compact ICpro</i>
Gas Chromatography - FID/TCD <i>Agilent Technologies, 6890N (G1530N)</i>
Gas Chromatography-Mass Spectrometry <i>Perkin Elmer - Clarus 500</i>
TOC Analyzer <i>Aurora Model 1030</i>
Accelerated Extraction System <i>ASE350</i>
Solid-Phase Extraction System (2) <i>Waters</i>
Rotary Evaporator System <i>Stuart RE 301</i>
Evaporator System with Nitrogen (N₂) <i>Reacti-VAP III, Therm Scientific</i>
Atomic Absorption Spectrometer <i>Perkin Elmer - AAnalyst 200</i>
UV-Vis Spectrophotometer <i>JASCO V-530 PC</i>
Spectrophotometer <i>Spectroquant Pharo 100</i>
Photometer <i>Photolab S6A</i>
Ozonation System <i>Triogen Lab2B</i>
Biochemical Oxygen Demand (BOD) Measurement System <i>444406 OxiDirect, WTW OxiTop IS6, Lovibond</i>
Thermoreactor <i>WTW CR 3200</i>
Analytical Balances (4 decimal points) (3) <i>OAHUS Adventurer, Shimadzu-AUW320, ADAM AAA 250LE</i>
Analytical Balance (3 decimal points) <i>Shimadzu, UW620H</i>
Electronic Balances (2 decimal points) (2) <i>BJ 410C, Precisa</i>
Multi-Parameter Instrument for the Measurement of Dissolved Oxygen, Conductivity, Temperature, pH <i>WTW InoLab Multilevel 3</i>
pH meters (5) <i>2x Ezodo, 3x PL-600</i>
Turbidimeter <i>2100N Hach</i>
Conductivity/TDS/Salt/Temp Meter <i>CTS 406</i>
Hydrogen Generator <i>ChromGas 9150, Parker Balston</i>
Aspiration Bath <i>Integra Model 158300, Vacusafe</i>
Shaking Water Bath

<i>Jeiotech BS-2, Medline</i>
Refrigerated Water Bath Model 13 R
Vortex Mixers (4) <i>Heidolph, Vortex-Genie® 2</i>
Nessleriser 2150 with Daylight 2000 Lighting Unit and Nessler cylinders <i>Lovibond</i>
Centrifuge <i>Sigma 2-5</i>
Laboratory Furnace (50-1100 °C) <i>SNOL E5CC</i>
Laboratory Furnace (30-3000 °C) <i>L3/11/P320, Nabertherm</i>
Laboratory Oven (250 °C) <i>BMT Venticell 55</i>
Ceramic top hotplate <i>Ceramicplac 30, J.P. Selecta</i>
Heating Magnetic Stirrers (2) <i>Velp Scientifica</i>
Magnetic Stirrers (4) <i>Stuart UC151</i>
Vacuum Pumps (4) <i>J.P. Selecta, Sartorius, Laboport</i>
Peristaltic Pump <i>Flex Pro</i>
Sonicator <i>Selecta P</i>
Digital Sonifier <i>Branson</i>
Desiccator <i>Duran</i>
Shakers and Rockers (3) <i>2x Stuart SSL1, Selecta Rotabit</i>
Heating Mantles (2) <i>Bibby</i>
Electrothermal Mantles (2) <i>Barnstead Electrothermal</i>
Solar Simulator <i>Newport 91193</i>
UV-C Lamps (2) <i>Radium UV-C, LPS 9 CCG</i>
Collimated beam apparatus <i>TrojanUV, BA-ICE-S Electronic ICE controller, VIQUA</i>
Radiometers (3) <i>Ophir, ACC-CAL 50, NEWPORT 1918-R optical power meter</i>
Jar Tester <i>Phipps and Bird</i>
Water Purification System <i>Milli-Q & Elix</i>
Glass Reactors (2) <i>Ace-Glass Vineland, NJ, USA</i>
Double-walled Glass Reactors (7) <i>4x 500 mL, 1x 1 L, 2x 300 mL</i>
Safety Cabinets (3) <i>Aura 750E, 2x Vicus Labco</i>
Microbiological and Toxicological Equipment

Microscope <i>Axiovert 200, ZEISS</i>
Biological Safety Cabinets Class II (2) <i>Esco Class II BSC</i>
Microfil Filtration System <i>Millipore</i>
Incubators (2) <i>INB 200 Memmert, Aqualytic AL185 Liebherr</i>
Low Temperature Precision Incubator <i>Prebatem 36L J.P. SELECTA</i>
Mini Incubation Chamber <i>Abratox LLC-CRYO SAFE</i>
Shaking Orbital Incubator <i>SI50, Stuart</i>
ToxKit Incubator <i>Covatutto 24, Novital</i>
Luminometer <i>Testo 545</i>
Microcentrifuges (3) <i>Eppendorf – MiniSpin, FastGene Mini NG002R</i>
Electric Pressure Steam Sterilizer <i>All American, Model 25x</i>
Sterilization Autoclave Miniclave <i>RAYPA - AES-8</i>
Vertical floor-standing autoclave <i>Systec V-75</i>
Lightbox <i>ULB-150, Grande</i>
Absorbance Reader <i>Tecan Sunrise</i>
Microplate Shaker <i>Mikura 1.175 Orbis +</i>
Microwave oven <i>Samsung MC28H5015AS</i>
Molecular Biology Equipment
Thermal Cycler – Polymerase Chain Reaction (PCR) System <i>Bio-Rad T100 Thermal Cycler (96-well)</i>
Real-time PCR-quantitative PCR System <i>Bio-Rad CFX96 Touch Real-Time PCR System</i>
Vortex for real-time PCR microplates <i>Grant MPS-1 High Speed Shaker/Vortex Mixer</i>
Centrifuge for real-time PCR microplates <i>Grant LMC-3000 General purpose benchtop centrifuge Low Speed Benchtop</i>
Gel electrophoresis System <i>Bio-Rad Mini-Sub Cell GT Horizontal electrophoresis system</i>
Gel Documentation System <i>Bio-Rad GelDoc XR+ Documentation System</i>
Other
Laboratory Glassware Washer <i>Miele Professional, G 7883 CD</i>
Refrigerators (5) / Freezers (2) <i>2x Malber, TemLow L, J.P.Selecta, Liebherr, FAGOR, Westpoint</i>
Ultra-Low Temperature Freezer <i>Lexicon II, UUS-363A-1-SS</i>
Pilot-Scale Reactors
Solar Pilot Plant (Compound Parabolic Collectors)

<i>Capacity : 250 L</i>
Solar Photocatalytic Prototype Reactor (Compound Parabolic Collectors) <i>Capacity: 100 L</i>
Membrane Bioreactor (MBR) <i>Capacity: 10 m³/day</i>
Moving Bed Biofilm Reactor (MBBR) <i>Capacity: 60 L</i>
Microfiltration (MF) Pilot Unit (0.2 µm) <i>Capacity: 160 L</i>
Ultrafiltration (UF) Pilot Unit (0.03 µm) <i>Capacity: 200 L</i>
Coagulation/Flocculation System <i>Capacity: 90 L</i>