



# We Provide Laboratory Services & Training To Empower your Lab

ALLab Alliance

Our mission is to provide industry-leading, high quality sample testing and training services to prepare technology users for the field of analytical and material characterization.

To achieve this, we ensure analysis is done meticulously at our fully functional laboratories. Our instruments are maintained & serviced regularly by our team of engineers to ensure its optimum functionality.

For training & workshop, classroom discussion and hands-on experience is provided using the instruments distributed and serviced by us.

Our approach is based on understanding our customer's need, personalize each encounter, being responsive and flexible in delivering our services to ensure a satisfactory experience.

Our desired outcome is to facilitate a positive and stimulating learning experience so that user can be further equipped to optimize their lab productivity.



### Sample Testing Services

- BET or Langmuir Surface Area (ISO 9277)
- Chemisorption
- Density
- Particle Size/Zeta Potential
- Static Contact Angle/ Dynamic Contact Angle and Interfacial Surface Tension
- 3MCPD/ 2MCPD/ GE (AOCS Cd 29a-13 or 29c-13)
- MOSH MOAH (CEN-16995-2017)
- Sulfur Content
- Chlorine Content
- Wax Content
- · and others



### **Training/Workshop**

We provide training and workshop tailored to customer's requirement. Customized training or workshop covering scientific theory and hands-on instrument operations are provided for Analytical & Material Characterization technology.

Continual training courses for laboratory personnel are designed to improve user confidence, performance, reduce instruments downtime due to misuse, and increase lab productivity. The knowledge and understanding gained by those attending will help optimized lab operations.

Charges for the training and workshop services depend on duration and extent of training content. Please request quotation with our Lab Manager.











Gerstel's passion for highquality and reliable complete solutions drives their spirit of innovation

Precision and automation, at your fingertips! Choose the sample prep & analysis techniques for your testing:



**Thermal Desorption** 



**Stir Bar Sorptive** Extraction (SBSE)



Solid Phase Extraction



Evaporation



**Dynamic Headspace** 



**Pyrolysis** 



Centrifuge



Headspace



Solid Phase Micro Extraction (SPME)



Olfactory detection GC-O

Streamline your sample preparation & Sample Introduction with Gerstel's cutting-edge Automation Robotics eliminate errors and standardize diverse techniques!



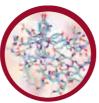
**Environment** 



**Material Emission** 



Gerstel's automation robotics are the leading solution for sample preparation and introduction, widely recognized and utilized across various application areas and markets



Metabolomics



Food & Agriculture





Flavor & Fragrance



Standalone Multi-Functional Sample **Preparation Bench** 





**Olfactory Fractionation** Detection Port ODP 4, the precise, convenient system solution for determining

aromas, fragrances and off-odors.



Forensic & Toxicology



**Chemistry & Polymer** 



www.gerstel.com



Surface Area and Porosity are physical properties that impact the quality and character of solid phase materials.











ASAP 2460 & 2425 Gemini VII

**Tristar Plus** 

3 Flex

Chemisorption is used to quantitatively measure the number of surface active sites which are used to promote a specified catalytic reaction.









AutoChem III



ASAP 2020 Plus



Chemisorb HTP



Density specifies how much of a substance occupies a defined volume at a stated temperature and pressure.







Geopyc II



AutoPore VI

**Micromeritics Instruments Corporation** is a global provider of solutions for material characterization with best-in-class instrumentation and application expertise in these core areas:



Surface Area & Porosity



Chemisorption



Particle Density & Volume



Particle Size and Shape



**Catalyst Screening** 



**Powder Flow** 

Latest tech tips, do you know? Micromeritics is your one-stop shop for all Li-ion battery analytical equipment needs to improve your lithium-ion battery's safety, energy & power density, and cycle life

www.micromeritics.com



Micromeritics
worldwide leader in
material characterization
solutions, offering
unmatched
instrumentation and
specialized application
knowledge across these
fundamental domains:

















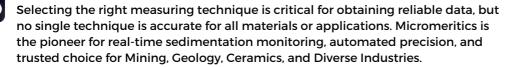
**Particle Size and Shape** 

POROSITY

DENSITY

PARTICLE INTERACTIONS





- Particle size determined using Stokes' Law.
- Monitor particle settling in real-time and view particle size results reported during size analysis.
- Fully automated and controlled by modern software interface
- High throughput with optional MasterTech autosampler.



Sedigraph III Plus



#### **Catalyst Screening**

Reaction selectivity and conversion define the performance of catalytic materials and the knowledge required to develop and optimize process conditions.

The Micromeritics FR-50, FR-100 and FR-200 have been developed to help save time and resources during catalyst development and screening.

Each model accommodates a wide variety of reactions including but not limited to hydrocracking, hydrotreating, isomerization, hydrogenation, hydrodesulphurization (HDS), oxidation, hydrodenitrogenation (HDN), reforming (aromatization), GTL (Fischer-Tropsch), and steam reforming. These benchtop reactors are also ideal for research studies on topics such as biofuels, methane activation or sustainable reactions.



FR/MR Reactors



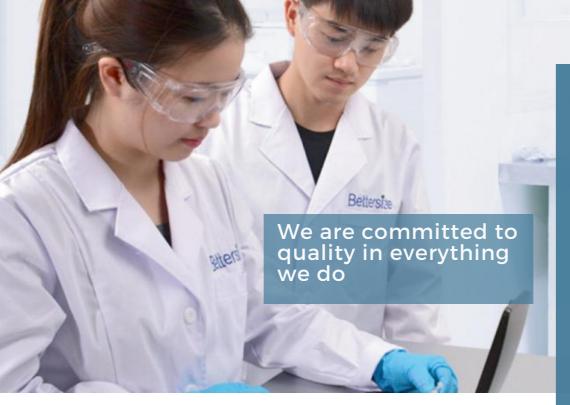
#### **Powder Flow**

Powder rheology is used to measure the dynamic flow and shear properties of powders as well as quantifying bulk properties such as density, compressibility and permeability.

- Simulate powder processing conditions to ensure process relevant data
- Multi-faceted powder characterization assess dynamic flow, bulk and shear properties
- Unparalleled sensitivity
- Fully automated test programs and data analysis



FT 4 Rheometer

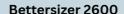


#### we are all about providing better particle size solutions



#### **Bettersizer S3 Plus**

0.01 - 3500µm (Laser System) 2 - 3500µm (Image System)



Particle size (wet): 0.02 - 2600 µm Particle size (dry): 0.1 - 2600 µm



BeNano 180 Zeta Pro

DLS, ELS & SLS





PowderPro A1

50 - 300 taps/min (Auto)



0.3nm - 15µm



#### **BeVision W1**

Particle shape & Size 4 - 400µm



## Bettersize

Bettersize offers a comprehensive selection of instruments that are utilized in leading industrial and research laboratories for analyzing particle size distribution, particle shape, zeta potential, and powder characteristics. Their state-ofthe-art equipment is renowned for its exceptional accuracy and precision, making it the go-to choice for professionals worldwide.

#### **Industries & Markets:**

- Pharmaceuticals
- Chemicals
- **Electronics & Semiconductor**
- Food & Drink Analysis
- **Metal Powders**
- **Mining & Minerals**
- **Nanomaterials**
- Oil & Petrochemicals
- **Abrasives**
- Additive Manufacturing
- Battery & Energy
- **Building Material**
- Ceramics
- Paint ink, Pigment/Coating
- Polymer & Plastics
- **Environmental Analysis**
- Lifesciences

Do you know? There are more than 15000 organizations around the world using Bettersize's Technology since it started in 1995



**Total solution for Surface Chemistry** 

Science on surfaces - discover how it matters with SEO innovations



**Environment** 



Energy



Biotechnology & Pharma



Food & Beverage



**Electronics** 



Cleaning & Detergent



**Chemical & Coating** 

Unlock the Secrets of Surfaces with SEO Surface Electro Optics Corporation - From surface tension to contact angle, thermal conductivity to moisture content, their cutting-edge instruments are the ultimate solution. Trusted by industries spanning semiconductors, coatings, pharmaceuticals, food and beverage, and textiles, SEO's products are renowned for their accuracy, precision, and ease of use.



**DST 30** Surface Tension Analyzer (manual) Wilhelmy Plate / Du Nouy Ring



**DST 60** Surface Tension Analyzer (Auto) Wilhelmy Plate / Du Nouy Ring



DCA200 Dynamic Contact Angle/Surface Tension



Phoenix MT (M.A.T) -Contact Angle/Surface Tension Analyzer - choose from Manual, Auto or Touch



**Phoenix Smart Static Contact** Angle/Surface Tension by pendant drop



Phoenix i (Portable) Static Contact Angle/Surface Tension by pendant drop



Phoenix Alpha Static Contact Angle/Surface Tension by pendant drop

SEO, **PUSHING THE** 



**Conductivity Analyzer**measuring thermal transmission properties according to ASTM D5470

**LIMITS OF** SURFACE **TCM 100V Thermal CHEMISTRY** ANALYSIS www.s-eo.com



The Fourier 80: High-Performance Benchtop NMR for Precision Analysis. Compact and cost-effective, it simplifies complex molecular analysis in routine labs.



Automation for Fourier 80 - The Fourier 80 CTC PAL RSI,

#### Bruker F80 Benchtop NMR features:

- small foot print
- cryogen-free
- versatile
- low cost of ownership





The minispec mq-one analyzer offers a compact, all-in-one design for industrial quality control. Key applications include **Solid Fat Content (SFC)** analysis, **Spin Finish** analysis, **Hydrogen** analysis, and **Polymer** analysis.



#### The Bruker Minispec mg20

The minispec mq20 series offers multi-application support and a wide range of upgrade features, like tool-free exchangeable probes, variable temperature NMR probes and pulsed field gradient systems.

- Multinuclear NMR and variable frequency 5 60 MHz
- Wide range of magnet fields plus a unique 60 MHz system
- Wide range of probe heads (absolute, ratio, combined, temperature controlled, gradients), temperature range: -100 to +200 °C



#### The Bruker Minispec Sample Automation

This new easy to use, cost-effective system brings sample automation to routine minispec applications, including:

- Complex Solid Fat Content (SFC) analysis
- Food Total oil / fat content in homogenous/small amounts of samples, like chocolate, Oil and moisture content in single/small amounts of seeds
- Polymer Xylene solubles in polypropylene, Density in polyethylene, Rubber contact in ABS, polystyrene, Cross linking in elastomers



#### **Bruker's Minispec LF-series**

Whole Body Composition Analyzer based on TD-NMR provides a precise method for measurement of lean tissue, fat and fluid in living mice and rats. This Magnetic Resonance technology provides researchers with the opportunity to make multiple measurements during the life of the animal with the following benefits:

- Rapid analysis: measurement takes less than 2 minutes, no sample preparation
- Mice and rats analyzes animals up to approximately 60g up to 1 kg
- Reduced animal stress: no need for anesthetics; animals are measured "as-is"
- Allows more frequent testing, due to reduction of risks to animal health
- Better accuracy and precision compared to DEXA (X-ray) method



EPR spectroscopy is the only technique that unambiguously detects and quantifies species with unpaired electrons. These species include free radicals, transition metals and defects in materials. Application field related:-

- Environmental Soil, Water and Air Pollution Treatment. (EPRFs, ROS & RNS, transition metals, AOPs)
- Dosimetry Alanine Dosimetry. (Radiation does for e-beam, gamma and X-ray processing facilities; non-regulated research-based radiation processing)
- Food & Beverage Food Safety / Food Irradiation Control. (Irradiated food with gamma rays, electrons or X-rays for permitted dose value and type)
- Health Care & Personal Care (Antioxidant content in cosmetic to determine shelf life)







For Quick & Reliable Analysis, Turn to FT-NIR: the swift, non-destructive solution.

Bruker's TANGO, MPA II, MATRIX-F empower precise raw material identification, multicomponent quantification, and real-time process insights for confident measurement.

www.bruker.com

FT-NIR offers a practical alternative to the time-consuming, wet chemical methods and chromatographic techniques. It is non-destructive, requiring no sample preparation or hazardous chemicals, making it quick and reliable for quantitative and qualitative analysis. FT-NIR is ideal for rapid raw material identification and is also a powerful analysis tool capable of accurate multi-component quantitative analysis. Its online capabilities based on fibre optic probe technologies allow a deep look into the process. Bruker's FT-NIR product line includes both, TANGO and MPA II spectrometers for lab and atline applications as well as the MATRIX-F series for process control.



#### **MPA II: The FT-NIR Multi Purpose Analyzer**

The MPA II is a powerful tool for developing sophisticated calibration methods for your laboratory or process needs, yet an easy to use QA/QC instrument for routine work.



The MPA II is available in different configurations to match your application needs.



#### **TANGO FT-NIR**

Faster, simpler, more secure - with **TANGO** your NIR analysis speeds up. **TANGO** has exactly what users require of an FT-NIR spectrometer suitable for industrial use: robustness, high precision and straightforward operator guidance. Bruker's proven technology was combined with an easy-to-use touch screen operation and a small footprint, perfect for those laboratories with limited space.



#### **MATRIX-F II Process Spectrometer**

**The MATRIX-F II FT-NIR** spectrometer allows the direct measurement in process reactors and pipelines, leading to a better understanding and control of the process. Its innovative technology provides consistent high quality results, less downtime characterized by robustness, long term stability and low maintenance cost.





Count on SHINE's advanced Ion Chromatography solutions for precise and efficient Ion Chromatography analysis

Qingdao Shenghan Chromatograph Technology Co., Ltd. (SHINE) was founded in 2002 and specializes in the development, production, sales, and after-sales service of ion chromatograph and related components.

The company currently offers four series of ion chromatographs: desktop IC, portable IC, online IC, and customized IC, which are widely used in various industries such as environmental protection, food and drug, hydro-geology, petrochemical, health and epidemic prevention, electronic and electrical, and scientific research.

SHINE's Ion Chromatography solutions have been exported to over 70 countries, with >5000+ successful installation worldwide. It currently holds >100 IP rights, patent software copy rights.

#### Do you Know?

Shine's is the leading producer of IC consumables that are compatible with various other IC brands, including Dionex and Metrohm, allowing for convenient interchangeability at a fraction of the cost?



www.en.sheng-han.com

Customers have the flexibility to select from a wide range of models that best fit their application & budget.

Available features include pressure alarm, liquid leakage alarm and eluent alarm, gas-liquid separator, consumable maintenance log, auto startup, autosampler, conductivity detector auto range, built-in degasser, budget-friendly IC columns & suppressors.



CIC D160+ Ion Chromatograph



CIC D500+ Multi-functional Ion Chromatograph



Autosampler



Portable IC



Shine's Ion chromatograph Model D180

Wyatt Technology is the recognized leader in light scattering instrumentation and field-flow fractionation systems for determining the absolute molar mass, size, charge and interactions of macromolecules and nanoparticles in solution





The world's most advanced **Multi-angle Light Scattering Detector (MALS)** instrument for characterization of macromolecules and nanoparticles in solution to determine absolute molar mass and size. Choose from 18-angles (DAWN), 3 angles (miniDAWN & microDAWN) & 3-angles (ultraDAWN), for analytical HPLC, UHPLC & Process.



The **Optilab Refractive Index Detector** provides both exquisite sensitivity and 50 times the dynamic range of every other RI detector available



The **ViscoStar**, a highly sensitive, on-line differential viscometer used in conjunction with SEC-MALS-IV to determine the size and conformation of all types of biopolymers, synthetic polymers and even proteins and peotides.







ELEMEN+ CLS6000

ELEMEN+ CLS 6000 Coulometric Chlorine Analyzer

The ELEMEN+ CLS6000 features reliability, robustness and stability in one compact footprint. It is widely use to analyze Cl content in liquid and solid samples such as fuels, oils, minerals, used solvents, edible oil, waste water, chlorinated PVC, plastics, etc.

The system conforms to the following methods for **chlorine** testing:

- ASTM D5808-18
- ASTM D5808-09a
- ASTM 4929-2017
- ASTM D5194-96
- UOP779-08
- SY/T7508-1997
- SH/T1757-2006
- GB/T 18612-2001
- GB23971-2009 (appendix B)



**ELEMEN+ SUVF 3000** 

The ELEMEN+ SUVF 3000 Total Sulfur Analyzer utilizes proven UV Fluorescent technology combined with its user-friendly software to detect sulfur present in the sample to sub ppm level. It is widely use in petroleum, chemical, biofuel, food, environment protection, coal & other application fields.

The system conforms to the following methods for **sulfur** testing:

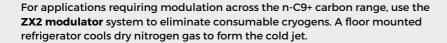
- ASTM D5453-2006
- EN ISO 20846:2004
- and others



## Empowering Quality of Life: **Zoex** Revolutionizes Analytical Labs Worldwide with World-Class **Two-Dimensional Gas Chromatography (GCxGC)** Technology.

The ZX1 loop modulator has long held the world record for the number of organic molecular species separated in a single chromatographic analysis. The ZX1 retrofits onto several commercially available GC systems, including Agilent models 7890 A or B and 8890 gas chromatographs. A bench dewar assembly holds a charge of liquid nitrogen, which cools a stream of house supplied dry nitrogen gas to a temperature of about -196C, cold enough to modulate C6 and larger organic molecules.

Capable of modulating all organic compounds amenable to gas chromatography, the ZX1 remains the unchallenged performance product in the GCxGC field.



- Accommodates Two Parallel Column Sets ("two modulators for the price of one").
- Compatible with most commercially available GC systems.
- No moving parts. High reliability.
- Open in-oven construction. No modulation chamber.
- · Effortless Modulator Tube Mounting.
- May be supplied turnkey with GC or retrofitted onto user's GC.
- Users can self-install the system in as little as 2 hours.



**ZX1 Thermal Modulator** 



**ZX2 Thermal Modulator** 

#### 岩征仪器 YanZheng Instruments

#### **Customizable solutions for all your reaction needs**



**YanZheng Instruments** specializes in a range of cutting-edge fields, including multi-channel fixed bed reactors, high-throughput catalyst evaluation systems, laboratory reaction equipment, microreactors, and high-pressure laboratory reaction vessels.

It serves a wide spectrum of industries, including chemicals, scientific research, environmental protection, pharmaceuticals, and the medical sector.

Feature below is a single-channel, 24/7 unmanned, highly chemical compatible, high-stability electrical control, excellent safety, and calibrated fixed-bed reactor system



Multifunctional, high & low temperature reactors







#### Let OI Analytical's selective GC detectors enhance your chromatographic performance



OI Analytical offers various sensor detector technologies including Pulsed Flame Photometric Detector (PFPD), Halogen Specific Detector (XSD), and Electrolytic Conductivity Detector (ELCD).

#### OI Analytical 5383 Pulsed Flame Photometric Detector (PFPD)

The OI Analytical 5383 Pulsed Flame Photometric Detector (PFPD) uses superior sensitivity and increased selectivity to easily and accurately analyze sulfur, phosphorus, and 26 other elements.



#### **OI Analytical 5350 Tandem PID/ELCD**

Increase efficiency and save counter space with the OI Analytical 5350 Tandem Photoionization Detector/Electrolytic Conductivity Detector (PID/ELCD), a smartly designed instrument for dual



## **Heal Force** - Leading Water Purification Evolution with First-in-Class

HealForce supplies the industry's most complete water purification solution for highly regulated applications.

When your application requires the ultimate in water purity, Smart Plus NE series provides the perfect solution. Consistently delivering water purity of 18.2MΩ.cm and underpinned by the advanced technologies, the Smart Plus enables you to focus on attaining accurate results while ensuring an uninterrupted work flow.

Typical scientific applications:

- ICPOES & ICP-MS (Inductively Coupled Plasma Mass Spectrometry)
- · Molecular biology techniques
- Ultra trace analysis
- Electrochemistry
- Electrophoresis
- GFAAS (Graphite Furnace Atomic Absorption Spectrophotometry)
- IC (Ion Chromatography)
- Others





Smart Plus NE (T)



#### Eurping: Cleaning the Path to Lab Success - Brighter Glassware, Better Science



glassware washer

glassware washer

Eurping, a manufacturer of lab cleaning equipment, boasts a global user base exceeding 3000 for their lab glassware washers

Technical parameter

- Microcomputer control system
- 7 inch full color touch screen
- Chamber material: 316 stainless steel
- Pipe material: 316 stainless steel+pharmaceutical silicone
- Circulating water volume:800L/min
- Hot air heating over temperature protection
- Fan over temperature protection Monitoring water leakage Flowmeter to measure water

- Pipeline pressure monitor
- Multi-layer filtration system
- HEPA drying system

