

**Anton Paar #115**

Founded in 1922, Anton Paar has 1000 employees worldwide, providing a dense customer support network. The company is a market leader for non-ambient attachments for X-ray diffraction and a major supplier of small-angle X-ray scattering (SAXS) equipment. Anton Paar offers a comprehensive range of sample stages for non-ambient XRD for almost all types of diffractometers, covering the temperature range from –190 to 2300 °C and various atmospheric conditions. The SAXSess instrument is the most versatile small-and-wide-angle X-ray scattering set-up on the market, featuring transmission and reflection geometry, line and point-collimation mode, automated sample handling and software packages for routine data analysis.

**Area Detector Systems Corporation #309,311**

Develops and manufactures at its Poway California facility state of the art large area CCD array detector x-ray systems for protein crystallography applications. Over 72 Quantum systems have been successfully installed to-date at synchrotrons worldwide and has set an industry high quality standard coupled with an unblemished on-time delivery record. These systems are competitively priced and critical spare parts are provided with each system without added cost including applicable custom user-friendly software. Also, ADSC is now manufacturing an advanced large area highly sensitive CCD system, namely, the Q270 that is three times more sensitive than the Q210r and Q315r systems.

**Art Robbins Instruments #100,102**

Exhibiting The Phoenix automated liquid handling system for preparing 96 well protein crystallization plates using sitting drop or hanging drop methods. Also on display will be the Cryscam, a low cost automated imaging system and a variety of new Intelliplates and accessories.

**Axygen Biosciences #201**

A global leader in discovering protein structures. We create platforms that limit and miniaturize the use of proteins while providing ultimate precision, accuracy, ease of use and integration, speed, and cost efficiencies. By developing unique consumables, reagents, software, and high throughput robotics, we address challenges faced in all protein crystallography laboratories. Axygen Biosciences is presenting the following line of crystallography products: Reagents: Initial Crystallization Screens, Custom-Made Optimization and Follow Up Screens, and Crystallography Reagents. Consumables: The AxyGem™ Sitting Drop plate, the AxyPearl™ hanging drop lid, and the 24 or 48-well crystallography plates Equipments: The AxyScanner™ and the Semi-Automated Protein Crystallography Plate and Microplate Sealer™

**Blake Industries, Inc. #214**

A leader in supplying high precision x-ray and neutron instrumentation to research labs, university and synchrotron beam lines worldwide. We are the exclusive distributors for Huber instruments in the U.S., Mexico and Canada with

multiple installations at all the North American Synchrotrons and have been supplying x-ray users for over 40 years.

**BRANDEL #407**

Proudly introduces its newest product: The BRANDEL RS-3000, automated/manual PLATE SEALER; and the CS-2000 manual PLATE SEALER. Both machines use a pressure designed system for applying tape seals, including a clear non-adhesive seal for Protein Crystallography studies and a foil seal for PCR studies. The RS-3000, with RS232 interface, and the CS-2000 eliminates the heat application process for applying various seals to any well plate configuration. Visit our web site at [www.brandel.com](http://www.brandel.com) or call at 800-948-6506 for any inquiries that you may have.

**Bruker AXS Inc. #301**

Provider of advanced X-ray solutions in life sciences, chemical and materials science. Our biological systems include the R&D100 award-winning MICROSTAR ULTRA rotating anode generator and the most sensitive PT135 CCD and AXIOM 200 microgap detectors. Crystal Farms image crystal growth plates. The X8 PROSPECTOR ULTRA features a low maintenance, air-cooled tube for diffraction screening and absolute structures. The industry-leading APEX II small molecule CCD systems offer highest sensitivity for micro crystals and weak diffractors, with powerful AutoStructure software. The APEXII ULTRA features the brightest Mo source and optics for cutting edge research in charge density and other studies. Stop by booth #301 to see our new APEX II DUO - the most versatile system available for small molecule crystallography, and our award-winning SMART X2S - the world's first fully automated benchtop single crystal diffractometer!

**CCP4 #502**

The Collaborative Computational Project No. 4 (CCP4) provides a software suite for macromolecular structure determination by X-ray crystallography used by academic institutions and commercial organizations around the world. Income from the project supports maintenance, distribution and development of the software, and funds additional activities including sponsorship of educational workshops, an annual Study Weekend, hosting e-mail discussion lists, and producing a bi-annual newsletter. CCP4 staff will be available to discuss any aspect of the project, including the latest release (6.0.2), new features in the upcoming release (6.1), the CCP4 molecular graphics program, the graphical user interface (CCP4i), and the data processing package MOSFLM

**Digilab Genomic Solutions #104,106**

Miniaturization of Protein Crystallization - The Honeybee benchtop protein crystallization systems provide rapid and consistent dispensing of protein and screening reagents onto any protein crystallization plate for vapor diffusion and microbatch techniques. The systems utilize our proprietary synQUAD non-contact dispensing technology for deposition of protein and screening reagents.

Our honeybee 961/963 systems utilize a combination of a 96 channel low volume dispense head, and dedicated synquad protein dispenser to allow for rapid processing of crystallization plates, whereas our Honeybee 81 and 161 systems allow for complete non-contact dispensing of protein and screening reagents, as well the freedom of being able to generate combinatorial screening libraries.

**Douglas Instruments Ltd #513**

Designs and manufactures the Oryx range of robots for automatic protein crystallization. These are very versatile with routines for microseeding ("MMS" experiments), additives, and grids where protein is varied against e.g. an additive. All systems can dispense sitting drops from 100 + 100nl to 2 + 2µl. The large volumes are essential for automating optimization. Oryx8 also offers comprehensive optimization with up to 7-dimensional experiments. Systems are much cheaper than many other robots, starting with the OryxNano at £24,000 before discounts. See <http://www.douglas.co.uk/mms.htm> for theory and case studies of microseeding.

**Emerald Biosystems #403**

Emerald BioSystems provides sophisticated laboratory automation, bioinformatics software, reagent kits and plasticware products to structural biologists. Emerald's research tools accelerate the gene-to-protein-structure determination process through advanced computer aided gene design, automated cell-free protein expression and protein purification. A high level of efficiency for protein crystal generation can be achieved using Emerald's reliable system of database application controlled instrumentation to support production, storage and monitoring of crystallization experiments. Visit the Emerald BioSystems booth to learn about the new DETECT-X microscope which displays colorless protein crystals in vivid color, the Microfluidic Protein Crystallization System, and the new Matrix Maker. Stop by and receive your free low birefringent Clover 384 protein crystallization plate and other great sample tools.

**ESRF-ILL #108,110**

The Institute Laue Langevin (ILL) is an international research centre specialising in neutron science. It operates the most intense neutron source in the world, together with a suite of 40 high-performance instruments. The ILL is host to 2000 visiting scientists, performing a total of 750 experiments each year. Located on the same campus, the European Synchrotron Radiation Facility (ESRF) produces the world's most brilliant X-Ray beams for scientific and industrial research. 43 world-class beamlines cover the entire spectrum of X-ray photon science and attract more than 5000 visiting scientists every year.

**Fluidigm Corporation #208,210**

Fluidigm has set the new standard for efficiency in protein crystallization through its innovative TOPAZ® system. TOPAZ screening chips process up to 768 experiments in parallel, using only 1 microliter of sample per 96 conditions. The AutoInspeX® II Workstation automates imaging and scoring of crystals within

chips. TOPAZ CrystalVision™ software and the Database Suite of software sort results by highest ranked activity for a single chip run, provide the most accurate crystal calls, and allow the analysis of data across many chip runs. No other system allows you to manage easily the vast amount of data you generate.

**Formulatrix, Inc. #300,302**

The Formulator is a next-generation liquid handler that uses patent-pending microfluidic technology to dispense screens and optimizations up to ten times faster than any other liquid handler available today. Rock Imager is an automated imaging system for protein crystallization. This robust, easy-to-use solution incubates and captures superior quality images of up to 1000 microplates on a user-defined schedule. Rock Maker is an easy to use software solution that automates the entire protein crystallization process including experiment design, liquid dispensing, and imaging. Rock Maker is designed to be platform independent and can be integrated with any liquid dispensing or imaging system.

**GN Biosystems, Inc. #511**

XZT microfluidic protein crystallization plate: The XZT plate is a dialysis based microfluidic protein device that uses patent pending microfluidic technology to load protein samples into isolated dialysis chambers at as few as 15nl per chamber. The nanoliter sample loading is very easy to carry out without the use of expensive or dedicated equipment, a 96 dialysis chamber plate can be loaded in as little as 2 minutes, and the reagent loading is robot compatible. The XZT plate is compatible with all common crystallization reagents, the conditions are directly scalable. Furthermore, the crystals can be easily harvested from the microfluidic dialysis plate.

**Greiner Bio-One #408**

Integrating expertise in HTC, microfluidics and injection-molding, Greiner Bio-One features new platforms for emerging technologies in protein crystallization. Introducing CrystalSlide, a new 12 microchannel platform for counter-diffusion crystallography in microscope slide format suitable for in situ x-ray and crystal analysis with polarized and UV-light. CrystalQuick Plates enable up to 288 sitting-drop crystals in 96-well format, with low-birefringent versions for polarized-light. Expedite microbatch crystallization with 96 or 1536-well IMP@CT Plates. Perform vapor-drop diffusions in 24-well ComboPlate.

**Hampton Research #315**

First in crystallization since 1991. Hampton Research develops and delivers solutions for crystal growth and crystallization research tools. Recent developments include the Silver Bullets screens, alternative strategies for the crystallization of biological macromolecules, as well as the new Detergent Screen HT. The CrystalCap HT system is now expanded to three, ready to use styles; the popular copper magnetic, ALS copper magnetic and SPINE formats. Making manual set ups faster are the new cover slide dispensers and keeping reagent

formulation clear and simple are a complete offering of Optimize and StockOptions reagents.

**Incoatec GmbH #405**

Develops and manufactures sophisticated X-ray optics for in-house crystallography and synchrotron applications in the fields of life science and materials research, such as small molecule and protein crystallography, high-resolution X-ray diffraction, wavelength dispersive X-ray fluorescence, micro-beam diffraction and small angle X-ray scattering. We will be presenting our 2-dim focussing and collimating multilayer optics for crystallography and our latest product  $\mu$ S.  $\mu$ S stands for "Incoatec Microfocus Source", and contains a 30 W microfocus sealed tube with high brilliance. It has a performance beyond traditional 5.4kW rotating anode sources, with the ease of handling of sealed tube systems.

**Korima Inc #203**

The revolutionary Korima Protein Review Station PRS-1000 simultaneously provides visible and UV fluorescent images on two side-by-side screens for rapid, yet accurate comparison. Under UV excitation, protein crystals containing tryptophan fluoresce, while salt crystals do not. Any and all protein crystals clearly light up, leading to no more hidden or lost proteins. The Korima PRS-1000 HT, equipped with a high throughput auto-stepping stage system, can scan 96 well plates in less than 4 minutes. Positive protein fluorescence is detected and recorded by well location. Its easy read map allows for quick retrieval of results and evaluation of sites of interest. An optional nano-chamber unit, which maintains a constant 4 degrees Celsius working environment suitable for protein crystals, can be used to house the PRS-1000/PRS-1000 HT. By encasing the entire Protein Review Station in the nano-chamber, users can work efficiently with protein crystals while remaining in comfortable room temperature conditions

**Malvern Instruments #501**

Malvern Instruments provides a range of complementary materials characterization tools that deliver inter-related measurements reflecting the complexities of particulates and disperse systems, nanomaterials and macromolecules. Particle size distribution, particle shape information, zeta potential, molecular weight, chemical composition, and bulk materials properties can all be determined using instruments from the Malvern range.

**Marresearch GmbH #504**

Develops and markets the well known mar345 Image Plate detector for X-ray crystallography. Coupled with the fully automated mardtb goniostat this combination has established itself as the true workhorse in many protein crystallography lab. Two powerful add-ons to the mardtb are available: a cryogenic sample-changer (marcsc) and an automatic mounting system (easymount). The mar345/mardtb/csc can be combined with the brand-new marmux micro-focus generator. The extremely affordable setup is the ideal

crystal screening system - even for very small crystals - with unbeatable cost-of-ownership. Recently, a large format (420 x 350 mm) solid state detector for synchrotron applications became available: the mar555 detector is based on an amorphous Selenium coated TFT array which offers high-speed readout coupled with an unprecedented point-spread function.

**Micro Photonics Inc #412**

Micro Photonics and STOE present the extensive range of STOE X-ray Diffractometer systems. STOE develops and manufactures Single Crystal and Powder Diffractometer systems with excellent precision. In addition we supply highly efficient control / evaluation software for crystallographers, solid state chemists and pharmacists all over the world.

**Mitegen, LLC #205**

Designs, manufactures and distributes innovative products for microsample manipulation, crystallization and crystallography. These include MicroMount and MicroMesh crystal holders for small molecule and protein crystallography, the MicroRT system for room temperature crystallography and dehydration, and MicroTools for common sample manipulations and measurements. Mitegen also distributes Jena Bioscience products for protein screening, crystallization, optimization and phasing. Jena offers several unique screens including screens for specific protein classes such as kinases and phosphatases. Screens are determined by data mining and validation, and conditions are ordered by chemical similarity to allow rapid optimization. Jena's Ta cluster derivitization kit is one of the most powerful and convenient tools for phasing.

**Molecular Dimensions Inc #515**

Introduces leading products for crystal growth. The MRC Crystallization Plates™ - are now clearly recognized as the best 96 well plate available. Crystal growth imaging systems are now available with UV illumination to differentiate between protein and salt, and dynamic light scattering in the drop to monitor nucleation and other events. For cryocrystallography, LithoLoops™ - including elliptical and mesh sizes offer reliability with magnetic caps and vials manufactured to exacting specifications, accessories, including stocking CX 100 CryoExpress dry shippers all give you a complete service range. Visit us at ACA 2008 booth 515.

**Oak Ridge National Laboratory #114**

Oak Ridge National Laboratory, managed by UT-Battelle, LLC, for the U.S. Department of Energy, is home to two of the world's most advanced neutron scattering scientific research facilities. The Spallation Neutron Source is an accelerator-based pulsed neutron source; at full power, it will provide the most intense pulsed neutron beams in the world for basic and applied research. The High Flux isotope Reactor provides one of the highest steady-state neutron fluxes of any of the world's research reactors. ORNL's research areas include energy, high-performance computing, systems biology, nanoscale materials science, and national security. Nearby Knoxville is the host for this event.

**Oxford Cryosystems #509**

Manufacturer of the 700 Series Cryostream (80-400K) and the Cryostream Plus (80-00K) liquid nitrogen systems, the COBRA non-liquid nitrogen Cryostream (80-400K) – any of which will cool down from room temperature to 100K in less than 40 minutes. The company also produces the N-HeliX, an open flow nitrogen and helium cryostat and the Phenix, a revolutionary 11K helium cryostat for powder diffraction. Other products include our line of cryoaccessories and a software suite, Crystallographica, incorporating Crystallographica Search Match (CSM), both of which can be downloaded for free trial periods at [www.crystallographica.com](http://www.crystallographica.com) Remember, if it isn't made by Oxford Cryosystems, it isn't a Cryostream.

**Oxford Diffraction Inc. #211**

Oxford Diffraction's award winning X-ray systems provide superior data quality for both protein and small molecule studies. Our dual wavelength Gemini A Ultra has co-mounted molybdenum and copper X-ray sources and features the new Atlas CCD, which is up to 3.5x faster than its competitors.

This will be accompanied by the PX Scanner which is unique as a combined optical and X-ray imager which provides in situ X-ray screening of protein crystals in a multi-well crystallisation plate; both of these systems will be on display alongside a range of new CCD detectors at booth # 211.

**PANalytical #111**

PANalytical is a leading supplier of X-ray diffraction and X-ray fluorescence instrumentation and software. Our philosophy is to provide a total solution to customers applications. For combinatorial screening, variable temperature/humidity analysis, protein powder diffraction or small angle X-ray scattering PANalytical has the solution for you with industry proven PreFIX optics and stages for alignment free configurations that optimize your experimental results. Our systems work with your LIMS for 21CFR part 11 compliancy.

**QIAGEN, Inc. #109**

Offering over 500 products, is a worldwide leader of sample and assay technologies for research in life sciences, applied testing and molecular diagnostics

**Rayonix, L.L.C. #411**

Rayonix, L.L.C. (formerly Mar USA) has a long history of developing state-of-the-art area detectors for X-ray diffraction applications. The current products of Rayonix include a single-chip CCD detector – the SX165 with a new ultra-stable background option and the frameshift option to facilitate time resolved experiments. Furthermore, various sizes and configurations of multi-chip mosaic CCD detectors – the MX225, MX300, and MX325, and a new HE series of High Efficiency mosaic CCD detectors are available. Rayonix also distributes, in North America, the mar345 (image plate detector), mardtb (goniostat) and marcsc

(cryogenic sample changer), products of Marresearch GmbH. Rayonix has the flexibility to design detectors for various applications. The high efficiency MX225-HE, the first mosaic detector to be built with thinned back-illuminated CCD chips, is especially suited to SAXS and micro-diffraction applications. Visit our booth where you can talk to our scientists and engineers – not to salespeople – about your specific application.

### **RCSB Protein Data Bank #500**

The RCSB PDB provides tools and resources for researchers and students studying the structures of biological macromolecules and their relationships to sequence, function, and disease. The RCSB PDB is a portal to the PDB archive, which includes the three-dimensional coordinates for these biological structures that have been determined experimentally.

### **Rigaku #101**

Rigaku, the world's leading resource for analytical X-ray instrumentation, components, software and contract services, offers fully integrated crystallography solutions, including microfocus generators; imaging plate and CCD detectors; integrated X-ray optics; and cryo-cooling and humidity control devices. Our benchtop instruments bring affordable, high-performance X-ray fluorescence, diffraction and small molecule crystallography to teaching labs, academia and industry. Our crystal inspection, storage and analysis products integrate every aspect of protein crystallization into an automated and seamless package. Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial community. Highlighting the ACA this year, Rigaku is proud to be showing the NEW, award-winning Desktop Minstrel UV. Visit booth #101 to see how Rigaku can make your valuable research time more productive.

### **Southeast Regional Collaborative Access Team (SER-CAT) #506**

SER-CAT, a consortium consisting of 26 member institutions, began in 1997 to provide third generation x-ray capabilities to macromolecular crystallographers and structural biologists in the southeastern United States. The SER-CAT consortium operates an ID and BM beamline, with automated and mail-in capabilities for remote access, and is located at Sector 22 of the Advanced Photon Source of the Argonne National Laboratory. In 2007 SER-CAT maintained the highest publication record at the APS with a total of 147 publications, and its members posted 212 entries into the PDB. General Users are currently being accepted at SER-CAT by application through the APS.

### **TTP LabTech Ltd #304**

Mosquito for crystallography - TTP LabTech's mosquito® is a compact nanolitre pipettor for automating protein crystallography screening set-ups. It aspirates and dispenses nanolitre drops (25nL-1200nL range) so precious protein goes further; and its extremely accurate positioning ensures repeatable, successful set-ups; while disposable, positive displacement pipettes handle a variety of viscosities



and ensure zero cross-contamination.

**Wyatt Technology Corporation #401**

Light Scattering for the Masses! The DAWN family of multi-angle light scattering (MALS) instruments for absolute macromolecular characterization. The DAWN, miniDAWN, and WyattQELS for determining absolute molecular weights and sizes down to 1 nm for polymers, proteins, nanoparticles and colloids. The company will also show its DynaPro Plate Reader for automated Dynamic Light Scattering (DLS) of protein solutions for crystallography and general oligomerization characterization.

**XENOCS SA #414**

Xenocs supplies advanced X-ray optics and X-ray beam generation systems. Distributed in the USA by Micro Photonics, our products are suited for applications such as XRD, XRR, SAXS/WAXS, WD-XRF or EPMA. Xenocs is proud to introduce the new Fox 3D optics. This family of single reflection optics represents the brightest optics on the market, delivering unprecedented flux in a high quality beam, leading to very significant improvements in data quality. Combined with Xenocs' GeniX beam generator (used by many renowned equipment makers), the result is equivalent to a traditional rotating anode solution, but in an economical, low-maintenance, and user-friendly package.