Fast Analytical NEWS

No more tall tales from the Bayou . . .

ASI's *microFAST™ GC* is in production.

That news may send the big GCs diving for cover.

No longer just a Baton Rouge legend, the mini-sized, Mercury-fast GC developed by LSU's Dr. Ed Overton is making some real history – and ASI has built an alliance of experienced partners to ensure that its ***microFAST™ GC*** will be a success of heroic proportions.

Dr. Overton's patented design has always boasted the kind of super-powers that legends are made of . . .

Small – really small – the *microFAST™ GC* is actually about the size of a shoebox with a footprint of approximately **one square foot**.

Fast – really, really fast – speed of analysis is typically 10 times faster than competing technologies. We're talking **seconds not minutes**.

Lightweight – approximately **12 pounds** – this is a truly transportable gas chromatograph.

Tough – this little GC is no pussycat – more like a tiger. The *microFAST™ GC* is built rugged enough for **on-line, at-line, lab,** and **field** use.

Economical – the *microFAST™ GC* was born with *the eye of the tiger*, but this bantamweight fighter isn't hungry. Power consumption is less than **300 watts** even at start-up. That saves on AC and makes field use with batteries or automobile AC inverters just an ordinary workout.

Easy to Use – installation and operation are simple and easy. A desktop or laptop PC is the primary user interface (see figure 2). Chromatograms are accessed in real time and viewed on the PC monitor.

A very impressive list of benefits and features. If not a tall tale, certainly a tall order, and delays in bringing the powerful micro GC to production did cause some concern. Louisiana State University and Dr. Overton patented the analyzer in 1997. Potential users have been awaiting its production release since then, with growing anticipation and perhaps a little skepticism.

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(Figure 1) Dr. Ed Overton of ASI poses with the microFAST™ GC.

(Figure 2) ASI's microFAST™ GC shown here in tandem with a laptop PC.

ASI Introduces New Identity

In preparation for the commercial launch of the *microFAST™* GC, ASI has developed a whole new look for corporate and product branding. Primarily to symbolize the exceptional qualities of its analyzer, ASI adapted the profile of a Royal Bengal Tiger and employed distinctive, bold colors, to create an aggressive, forward-moving image to represent the speed, agility, power and efficiency of the *microFAST™* GC.

(Figure 3)

The microFAST™ GC Back Panel.

RS232 Connector is on the right. Autosampler Connector is below it.

microFAST™ GC installation is simple and easy. Windows™ compatible software on CD enables simple point-and-click PC to analyzer setup (see figure 2 – page 1). Computers connect to the analyzer through a standard RS232 port on the analyzer's back panel.

(Figure 4)

The microFAST™ GC Front Panel.

Injection sampling port is shown at the top of the photo. Instrument status display is lower left. Column temperature LEDS are lower right.

The *microFAST™* GC's own front panel provides an instrument status display and column temperature status LEDS. All analyzer operation, monitoring and trouble-shooting can be performed via PC. Desktop PCs are recommended for stationary applications; laptops, of course, for portable use (see figure 2 – page 1).

microFAST™ GC . . . continued from page 1.

Now, Analytical Specialists Inc. (ASI), the company founded by Dr. Overton to bring the *microFAST™ GC* to market, has recruited and fully-integrated all the experienced resources it needs for manufacturing, applications technology, marketing, sales and support. ASI is a very real company. A solid, coordinated enterprise that is ready to move as quickly and effectively as its *microFAST™ GC*.

Appalachian Electronic Instruments Inc., of Lewisburg, West Virginia, will house the ASI Sales and Service Center and provide engineering support, proprietary component fabrication, final assembly, test services, after market service and product support. AEI is a 50-year-plus veteran of instrument design and manufacture, located in one of the hotbeds of analytical technology, the Greenbrier Valley of West Virginia.

Executive offices and the primary facility for ASI will remain at Baton Rouge, Louisiana. There Dr. Overton and his staff will provide applications engineering services for the *microFAST™ GC,* as well as research and development services for all ASI products.

Dr. Overton has devoted over 25 years to the study of chromatography, and the development of chromatography technologies and methods. He holds three U.S. patents in gas chromatography technology, all of which contribute to the *microFAST™ GC* design. Dr. Overton has also served the academic community for nearly 18 years and continues to do so as a professor of Environmental Technology at Louisiana State University.

John Crandall, an analytical chemist and a 30-year veteran of analytical technology marketing, will head up ASI's marketing and sales division. Sales and distribution of the *microFAST™ GC* will be via highly qualified and carefully selected contract representatives and distributors.

Crandall has already secured the services of an outstanding list of representatives and their firms, including: Devon Clausing ChE and Drysdale & Associates Inc.; Tim Felder and his associates at Felder Analytical; Greg Gargus and the Prochem Scientific team; Harold Gilbert and Scogil Scientific; Jack Hanson and HMC Analytical; Rachel Kohn and Bob Sandor of Tovatech LLC; John Mackow and BetaTech Scientific; and Abe Sanoja, along with his colleagues at MLS Technologies.

Crandall's experience includes long stands with ABB Process Analytics and Applied Automation. Crandall served 10 years as General Manager, Vice President - Sales, and Vice President - Marketing at Process Analytics before joining the ASI team. ASI has stationed Crandall at the Sales and Service Center in Lewisburg, so that marketing will have intimate access to the functions that most affect customer relations: product delivery, service and support.

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microFAST™ GC . . . continued from page 2.

The ASI Sales and Service Center at Lewisburg will also be providing maintenance and repair services. The *microFAST™ GC*'s diminutive size and light weight will help make these functions more manageable. A quick, economical shipment to the ASI facility in West Virginia will enable factory maintenance and repair in most cases.

Where the *microFAST™ GC* is applied in fixed positions, ASI has the staff and expertise to deliver maintenance and repair services quickly and economically in the field.

The *microFAST™ GC* shouldn't require much more than regular maintenance, however. Brisk sales, inspired by the *microFAST™ GC*'s many outstanding, competitive features are more likely to dominate activity.

The *microFAST™ GC* is a highly selective and sensitive specialty gas chromatograph. In the hands of a qualified user it is capable of performing very fast, low level hydrocarbon measurements in laboratory or field environments. With its lightning speed of analysis, small size and light weight, the *microFAST™ GC* offers significant cost and productivity advantages over more traditional GC designs.

The *microFAST™ GC*'s speed of analysis is 10 times faster than competing GC designs. That means very quick turnarounds. In many applications fewer instruments will be required to do the same work. Capital costs can be reduced. Production and revenue can be increased.

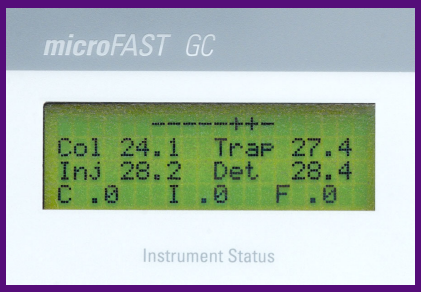
The small size of the *microFAST™ GC* will result in increased lab bench density and reduced space requirements for GC instrumentation in any application. The *microFAST™ GC*'s footprint is only about one square foot. The instrument's small size, combined with its 12-lb weight will also enable field application transportability. These benefits translate into even more capital cost reduction and more opportunities to apply this efficient technology everywhere it is needed or desired.

The *microFAST™ GC*'s power consumption is less than 300 watts even at start-up. That results in significant energy savings on AC power and enables field use with batteries or automobile AC inverters. Operating cost is reduced and, once again, application range and versatility are expanded.

So the *microFAST™ GC* is fast, small, light, highly versatile and easy to use. It doesn't take up much space. Doesn't eat up much energy. Boosts productivity. Reduces costs. And it's friendly to the user.

Sounds great . . . but what's it got under the hood?

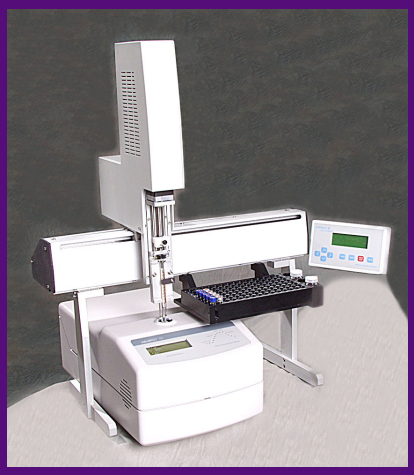
continued . . . see ***microFAST™ GC*** on page 4.



(Figure 5)

Close up of microFAST™ GC's Instrument Status Display.

Top two lines display temperatures in ^{0}C for Columns, Trap, Injection Port and Detector. Bottom line indicates pressure of Columns (C), Injector (I) and the Detector (F).



(Figure 6)

microFAST™ GC with Autosampler.

A proprietary, liquid Autosampler system is available for applications requiring high throughput. The Autosampler, manufactured by Central Development Company, is simple, self-contained and connects to the *microFAST™ GC* using a ready port on the analyzer's back panel (see figure 3 – page 2). Injection sampling is easily accomplished using a handy port at the front of the *microFAST™ GC* (see figure 4- page 2).

microFAST™ GC . . . continued from page 3.

The *microFAST™ GC* is a programmed temperature gas chromatograph. Sample acquisition is achieved using a syringe or valve inlets, leading to a flash evaporator. Sample is delivered to an adsorbent trap for concentration. The concentrated sample is simultaneously delivered to dual capillary columns and dual flame ionization detectors (FID).

Gas phase hydrocarbon samples containing measurement targets from high parts per million down to sub part per billion can be measured. Liquid hydrocarbons diluted in a volatile liquid solvent can be measured in the same concentration ranges. Configurations of trap, column and analytical method can be made for virtually any hydrocarbon from ethane to C_{24}. Of course, headspace, liquid extract and SP/ME samples will fit within the measurement range.

Target users for the *microFAST™ GC* include hydrocarbon and other chemical processing industries, pipeline transportation services for hydrocarbon products, pharmaceutical production, food and beverage processors, environmental testing services, regulatory compliance testing operations, analytical research and development operations for these user-industries, and other support laboratories. Application targets include solvent extraction methods, soil or ambient air gas methods and highly reactive volatile organic carbon (HRVOC) sensing methods.

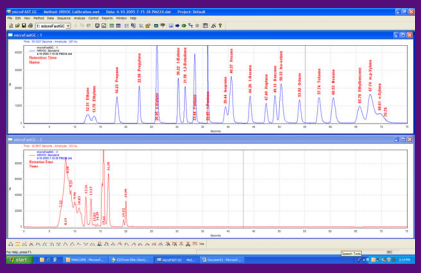
Current users of the *microFAST™ GC* include Rohm & Haas, Plantation Pipeline Company and the Louisiana Department of Environmental Quality.

Dr. Nathan Reed of the Rohm & Haas AgroFresh division describes the *microFAST™ GC* as the ***"fastest, easiest GC I've ever used."*** Nate Reed's analyzers will be employed in a product diagnostic application at tech support centers. Many of the AgroFresh operators are GC novices. Reed believes the simplicity, speed, precision and accuracy of the *microFAST™ GC* will really pay off in applications where staff is new to GC technology.

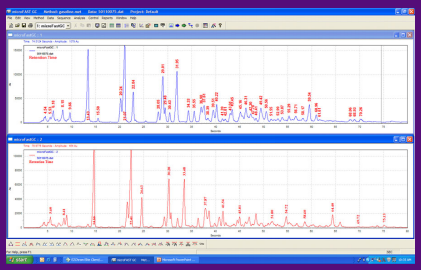
Other buyers are using the *microFAST™ GC* for fixed base, fence line monitoring; others are deploying the *microFAST™ GC* in mobile laboratories for ozone precursors in air. ASI's wider vision for the *microFAST™ GC* includes many applications. Soil gas, soil solvent extractions and ambient air sampling, field-based spill and leak detection, environmental applications, Homeland Security applications, even medical breath analysis applications are on the list of potentials.

The speedy *microFAST™ GC* will also allow expert chromatographers to achieve more, sooner as they pursue their own proprietary methods development.

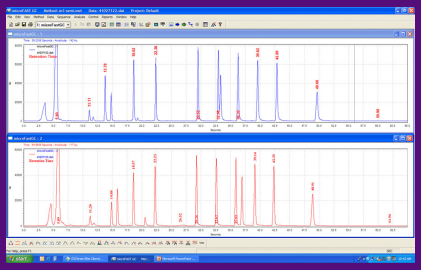
The *microFAST™ GC* is certainly no longer a *tall tale* from the Bayou. Now this new GC represents a significant technical **and** commercial achievement. The *microFAST™ GC* and ASI are ready to write a living legend in chromatography. ASI customers can only benefit as the story grows.



(Figure 7)
Highly Reactive Volatile Organic Carbon Standard
Analysis Time: 78 Seconds
(C_2 through C_9 at~1ppm each)



(Figure 8)
Gasoline
Analysis Time: 80 Seconds
(Direct Liquid Injection)



(Figure 9)
C_8 to C_{19} Hydrocarbon Standard
Analysis Time: 65 Seconds
(at~1ppm each)

For further information about the *microFAST™ GC* and ASI, contact:

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