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Jess Wells, for Picarro

Homepage

Tagline:
Ultra-Trace Gas Analyzers for Process Monitoring and Control

Copy:

Picarro's unique, ultra-trace gas analyzers delivers extreme sensitivity at high speed and accuracy, which is why Picarro's ESP-1000 is the product platform driving environmental, semi-conductor and automotive advancements. The Picarro advantage is our patented Cavity Ringdown Spectroscopy (CRDS) technology.

From flux measurements of greenhouse gases to process control optimization, precise gas analysis requires Picarro.

What's New at Picarro
Learn about "The Advantages of Cavity Ring-Down Spectroscopy in the Analysis of Diesel Engine Emissions" at CRC On-Road Vehicle Emissions Workshop in San Diego, 26-28 March
Learn about "An Ultra-sensitive, Multi-species Trace Gas Analyzer for Process Analysis" at ISA AD Symposium in Houston, 15-19 April
Come see us at Symposium on Air Quality Measurement Methods and Technology in San Francisco, 30 April – 3 May, booth #17
Learn about "Diesel Engine Emission Analysis to Support Development of Lean NOx Traps" at CLEERS Workshop in Dearborn, 1-3 May

Imagine the Possibilities
What do you need to measure? The unique combination of extreme selectivity, ppb sensitivity, high speed, ppb precision and accuracy, ease of use and reliability of the ESP-1000 allow you to take ultra-sensitive trace gas measurements to places you've never dreamed of. For a list of the gases we're already measuring, see Capabilities (make this word clickable and then go to Capabilities page). Click here to begin a conversation on how to meet your measurement challenge. (link to form in capabilities section under "Configurable Products")

Join our Mailing List for periodic updates and press releases... (have box to enter email address)

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Capabilities

Picarro's ultra-trace gas analyzers delivers ppb sensitivity at high speed and without interference, to meet the requirements of the most demanding applications. The ESP-1000 ultra-trace gas analyzer is a flexible product platform enabling a wide range of applications including atmospheric inversion and flux measurements of greenhouse gases, process control optimization and trace impurities monitoring in petrochemical plants, real-time emissions analysis, and trace impurities monitoring in ultra-high purity gases.
Picarro's ESP-1000 offers:

- extreme selectivity in which individual spectral features can be isolated
- ppb and even ppt sensitivity
- 1 Hz speed enables characterization of transients
- ppb precision and accuracy

The following is a chart of the most common applications of the Picarro product line in key industries, and a list of datasheets and resources that will highlight the technical foundation of the product in action.

Industry	Application	Info to link
Automotive	Analysis of diesel engine emissions	H2S in exhaust datasheet NH3 in exhaust datasheet
	Mobile Source Air Toxics (MSAT) monitoring	Trace gases datasheet
Environmental	Atmospheric inversion and flux measurements	CH4/CO2/H2O datasheet and applications note
	Multi-species ambient monitoring	Ambient monitoring datasheet Trace gases datasheet
Petrochemical	Process control optimization	Trace gases datasheet
	Trace impurities monitoring	Trace gases datasheet
	Monitoring stack emissions and flare gas	Trace gases datasheet
Semiconductor	Trace impurities in UHP gases	Trace moisture datasheet
	Real-time on-line monitoring of ammonia	Ammonia applications note

Gas Species	Product	Info to link
Ammonia	ESP1000.NH3.1Hz ESP1000.NH3	NH3 in exhaust datasheet Ammonia apps note
Carbon dioxide	ESP1000.CH4.CO2 ESP1000.CH4.F	CH4/CO2/H2O datasheet Applications note
Carbon monoxide	Configurable product	Ambient monitoring datasheet
Carbonyl sulfide	Configurable product	Trace gases datasheet
Ethylene	ESP1000.C2H4	Trace gases datasheet
Formaldehyde	ESP1000.H2CO	Trace gases datasheet
Hydrogen sulfide	ESP1000.H2S.1Hz ESP1000.H2S.HP ESP1000.H2S.HPM	H2S in exhaust datasheet Trace gases datasheet
Methane	ESP1000.CH4.CO2 ESP1000.CH4.F	CH4/CO2/H2O datasheet Applications note
Methanol	Configurable product	Trace gases datasheet
Nitrous oxide	Configurable product	Trace gases datasheet
Water	ESP1000.H2O	Trace moisture datasheet

Configurable Products

Tell Us About Your Application

What do you need to measure? The unique combination of extreme selectivity, ppb sensitivity, high speed, ppb precision and accuracy, ease of use and reliability of the ESP-1000 allow you to take ultra-sensitive trace gas measurements places you never dreamed of…
Fill out the form below to begin the conversation on how Picarro can help you meet your measurement challenge. We'll get back to you promptly.

Name:

Company Name:

Email:

Phone:

Application Description:

Target gas species

Sensitivity required

Range expected

Precision needed

Measurement interval

Background gas matrix (include concentrations expected for each species)

Temperature of gas stream

Special requirements/additional details

Send It >

About Picarro

Picarro produces ultra-trace gas analyzers for environmental monitoring, automotive emission testing and high-tech manufacturing. Picarro's Cavity Ring-Down Spectroscopy (CRDS) instruments are setting new standards for sensitivity, speed, selectivity and ease-of-use in trace gas detection for monitoring greenhouse gases, reducing diesel emissions, advancing semiconductor manufacturing, and improving petrochemical processing. All Picarro products are produced through a world-class manufacturing process that ensures rock-solid reliability.

Picarro was founded in 1998 by scientists whose vision, focus, and commitment to reliability were born out of their deep experience in the telecom world. As a mature company, management of Picarro is in the hands of seasoned executives who have leadership experience growing businesses.

Picarro is headquartered in Sunnyvale, California.

Reliability Commitment

"Reliability is a core imperative at Picarro. It's part of our heritage, coming from the telecom industry where reliability is a given. We design and build for reliability at every step -- as we proceed with product development, and then move the new device from prototyping, through field trials, pilot manufacturing and into full-scale production. Detailed failure mode effects analysis (FMEA) is woven in as a key part of this overall effort. Our devotion to reliability yields superior products for our customers, and is our pledge to you."

-- Bill Gignac, President and CEO

Picarro's comprehensive reliability program consists of four stages with specific elements defined for each stage.

1. Components and Materials
   Component Qualification (Life/Stress Testing)
   Supplier Qualification
   Incoming Inspection

2. Assembly Process
   Design for Manufacturability
   Process Validation
   Process Monitoring/Control (SPC)

3. Assembled Systems
   Design Validation
   Physical Integrity Testing
   Compliance Testing

4. Controlled System
   Environmental and Stress Testing
   Life Testing (including Production Surveillance)
   Field Performance Monitoring and Surveillance

Management

Picarro was founded by world-class photonics experts, bringing together years of experience in fiber-optic telecommunications and successful corporate management. Picarro has continued to build its world class management team.

Bill Gignac
President and CEO

Eric Crosson, Ph.D.
Chief Technical Officer

Kathleen Hartnett
Director of Marketing and Sales

Tim Richard
Director of Manufacturing Operations

Bill Gignac
President and CEO
Bill came to Picarro from JDS Uniphase, where he served as Vice President and General Manager of Operations for the Optical Pump business unit. He was previously Director of Wafer Fab Manufacturing at SDL, Inc., and a member of the technical staff at Hughes Aircraft Corporation. He received his B.S. in Chemistry from the University of Michigan in 1978, and his Ph.D. in Physical Chemistry from UCLA in 1984.

Eric Crosson
Chief Technical Officer
Prior to joining Picarro in 1999, Eric held research positions at Stanford University, including Senior Research Associate at the High Energy Physics Laboratory (HEPL) where he directed research in the areas of medical applications, accelerator science, solid-state/surface science, molecular materials/chemistry, biophysics and free electron laser science. At Stanford, he developed a number of key cavity ring-down spectroscopy techniques. Eric has been a Project Manager at the Triangle Universities Nuclear Laboratory at Duke University where he helped lead the design and construction of an atomic beam polarized ion source. Eric received his Ph.D. in Nuclear Physics from the University of North Carolina, Chapel Hill.

Kathleen Hartnett
Director of Marketing and Sales

Kathleen brings nearly 20 years experience in market and product development, and product management to Picarro. She was previously a Senior Product Marketing Manager at Spectra-Physics where she led the product management team for cw and quasi-cw lasers. Before joining Spectra-Physics in 1997, Kathleen was responsible for business development for DuPont Process Instruments and two other technology driven business units with DuPont's Development Division. Kathleen received her BA in Physics from Bowdoin College, and her MS in Applied Physics from Oregon Graduate Institute. While at DuPont she received her MBA from University of Delaware.

Tim Richard

Director of Manufacturing Operations
Prior to joining Picarro in 2006, Tim served as Director of Manufacturing Engineering and Test Engineering Manager at JDS Uniphase for the Active Components Business Unit. Previously, he held the position of Product Engineering Manager at SDL, Inc. focusing on the management of their 980nm pump laser product line. He received his B.S. and Ph.D. in Electrical Engineering from the University of Illinois in 1990 and 1994 respectively.

Board of Directors

Alex Balkanski, Partner, Benchmark Capital
Prior to joining Benchmark, Alex led C-Cube and DiviCom, two pioneering companies that drove the MPEG standard to dominance in consumer electronics and broadcasting. Alex founded C-Cube in 1988. In 1994, he took the company public, and in 1998 he orchestrated C-Cube's acquisition of DiviCom. By 2000, C-Cube was generating a half-billion dollars in annual revenue with 1,200 employees worldwide. Widely recognized as industry leaders, C-Cube and DiviCom were the recipients of several prestigious awards, including an Emmy—the first ever awarded to a semiconductor company. C-Cube was also voted the Most Respected Public Company as well as the Best Financially Managed Company by the Fabless Semiconductor Association. Alex serves on the Boards of Ambarella, Aspendos, Decru (acquired by Network Appliance), Entrisphere, Infinera, Mu Security, Newport Media, Picarro and Xoomsys.

John J. Cadeddu, Partner, Duff Ackerman & Goodrich

Prior to joining DAG in 1999, John was a Managing Director at Amsterdam Pacific, an investment bank specializing in media and telecommunications. While at Amsterdam Pacific Corporation, John worked with BBU Mezzanine Fund I and BBU Mezzanine Fund II, where he sourced, supported and exited mezzanine investments across a number of industries. Previously, John worked at Octel Communications (now Lucent Technologies) and Tandem Computers (now H-P) in Marketing and Strategic Planning roles. He also worked at JP Morgan in both capital markets and corporate finance. John received a BA from Harvard College and an MBA from the Stanford Graduate School of Business. John led DAG II's investments into Raza Microelectronics, Agami, Tropos Networks, Qlusters, Centrata, Kovio, Pedestal Networks, Trapeze Networks, Topspin Communications, and Entrisphere. He also serves on the board at Trapeze Networks, Qlusters, Pedestal Networks and Entrisphere

Roger Evans, General Partner, Greylock
Roger joined Greylock after a successful career as the CEO of Micom Systems, a Greylock-sponsored company that he and a partner started in 1976. He is on the board of Cash-U, Copper Mountain (CMTN), Enuvis, Openwave (OPWV), Photuris, Picarro, PrairieComm, RightNow Technologies, and Syndesis. Roger also served on the boards of and led Greylock's investment in such companies as Ascend (acquired by Lucent), Argon Networks (acquired by Siemens), Crosscomm (acquired by Olicom), Maker Communications (acquired by Conexant), Sahara Networks (acquired by Cascade), Sirocco Systems (acquired by Sycamore), Whitetree (acquired by Ascend), Xircom (acquired by Intel) and Zeitnet (acquired by Cabletron). Roger is a graduate of Cambridge University.

Greg Dougherty, Senior Advisor and Director
Greg Dougherty was most recently the chief operating officer (COO) of JDS Uniphase, after having served as COO of the company's amplification and transmission business group. Greg joined JDS Uniphase through its merger with SDL in February 2001. He was appointed COO of SDL Inc. in 1998, and held this position concurrently with that of president, SDL Optics. He had previously been appointed vice president, components group, and vice president, communications and information products, after joining the company as vice president of corporate marketing and sales and vice president of the communications business unit. Prior to joining SDL, Greg was director of product management and marketing at Lucent Technologies microelectronics in the optoelectronics strategic business unit, and he earlier held marketing and sales positions at Laser Diode, Inc. Greg received a B.Sc. degree in optics from Rochester University in 1983

Contact Us

Call +1 (408) 962-3900 or info@picarro.com

To contact us online, please enter the following and we'll get back to you promptly:

Name: (Required)

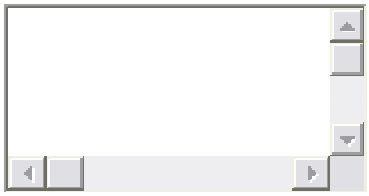
Company Name:

Phone:

Email: (Required)

Regarding:

Questions/Comments:



Send >

Mailing Address
480 Oakmead Parkway
Sunnyvale
California 94085
USA
Phone: (408) 962-3900
Fax: (408) 962-3200

Map

Gas Analyzers

Picarro's ESP-1000 trace gas analyzer is designed to meet the demanding requirements of industrial process applications. Based on a revolutionary technology known as Cavity Ring-Down Spectroscopy (CRDS), these analyzers deliver world-class detection sensitivity and selectivity with exceptional measurement speed. Picarro's ESP-1000 family of innovative ultra-trace gas analyzers are based on our proprietary and patented CRDS technology, and have been designed for reliability at every step. The result is a process-worthy trace gas analyzer—advanced technology that works.

CRDS uses narrow-frequency, telecommunications-grade, tunable laser diodes with an ultra-high finesse optical cell which delivers unmatched spectral resolution -- (0.0001 cm-1) ~-1000 times better than an FTIR. The high finesse optical cell results in an effective path length of ~20 km from a physical cell length of ~20 cm. These two important attributes of the CRDS technique result in extraordinary spectral separation between a target chemical species and any background species, plus (or, as well as) extreme sensitivity to ultra-low concentrations of the target species.

The ESP-1000 family of trace gas analyzers is simplifying previously difficult measurements, as well as enabling completely new measurements in application areas as diverse as semiconductor manufacturing, diesel emissions analysis, environmental monitoring and petrochemical process control.

Click here for technical specifications

ESP-1000 Trace Gas Analyzer

Picarro's ESP-1000 is a process trace gas analyzer that maximizes the inherent performance advantages of CRDS. That vision has guided the development process and is supported by Picarro's commitment to reliability. For example,

the innovative and proprietary wavelength monitor developed by Picarro's engineering team allows the ESP-1000 to measure isolated, single-absorption features, which enable high selectivity, even in a very complex gas matrix.

Picarro's technical expertise in the design and manufacturing of high finesse optical resonators is the foundation for the ESP -1000 family of ultra-trace gas analyzers. By combining the latest advances in high reflectivity, hard dielectric coated mirrors, high reliability optical assembly techniques, telecommunications-grade semiconductor lasers and a unique control system, the ESP-1000 delivers an unprecedented combination of performance and ease-of-use with the reliability required from a process analyzer. The ESP-1000 features sensitivity, selectivity and speed to enable entirely new applications or to substantially improve measurements in traditional applications that use FTIR, gas chromatography, or mass spectrometry.

The Picarro ESP-1000 provides the following essential advantages:

High sensitivity
High sensitivity translates into an extremely low lower detection limit (LDL). The LDL for NH3 in ambient air is 300 parts-per-trillion (PPT).

High selectivity
High selectivity makes the analyzer insensitive to contaminants.

High speed
High speed analysis provides insight into transient behavior of a process and can be critical in enabling a process control application.

Absolute accuracy
Applications such as atmospheric monitoring require high absolute accuracy so that data from different locations, taken with different instruments, can be meaningfully compared and analyzed.

Linearity
CRDS is inherently very linear with the ringdown time directly related to concentration via Beer's Law. A high degree of linearity enables a wide dynamic range without requiring calibration.

Insensitivity to ambient temperature changes
Sample temperature and pressure control enable operation of the ESP-1000 over changing ambient temperatures without effecting performance.

CRDS Technology

Cavity Ring-down Spectroscopy (CRDS) is an optical absorption technology that utilizes a laser, optical cavity, and photo-detector to measure trace concentrations of chemical species with high sensitivity, selectivity, and speed.

Light is absorbed by a molecule at wavelengths unique to that molecule.

Absorption of light by molecules Absorption spectra

In CRDS, a tunable laser delivers light into an optical cavity formed by three high-reflectivity mirrors. When the laser wavelength matches the primary mode of the cavity, the cavity fills with light.

Ringdown

When light in the cavity reaches a sufficient level, the laser is shut off and the intensity of light inside the cavity decreases exponentially and is measured using a photo-detector. The rate of decay depends on the reflectivity of the mirrors, length of the cavity, and concentration of the gases absorbing light in the cavity.

Ringdown Decay Rate

Advantages over other techniques

* Long effective path length > 20 km
* Insensitive to laser noise (laser is off when measuring decay rate)
* Wavelength resolution 1000 times better than FTIR (0.0001 cm-1)
*

By incrementing the wavelength of the laser, measuring the ringdown decay rate at each wavelength, and analyzing the resulting absorption spectra, a CRDS analyzer can determine with extreme sensitivity the concentration of the molecules of interest.

By repetitively measuring absorption spectra as gas flows through the cavity, the concentration of a gas species can be continuously monitored.

Applications (move to landing page for Applications)

Excelling at the most demanding trace gas measurements, Picarro's ESP-1000 achieves a spectral resolution of 0.0005 cm-1 enabling part-per-billion sensitivity within seconds, which makes it ideal for process control applications. The unique combination of high sensitivity, selectivity and speed enables a range of trace gas applications, including:

Emissions Analysis

Tighter emissions standards impact engine and catalyst developers, automotive manufacturers, and stationary power generation plants. The specificity of the ESP-1000 is enabling optimization of diesel engine design and catalyst development by providing accurate, real-time exhaust analysis of non-traditional combustion gases such as hydrogen sulfide, ammonia and formaldehyde. Click here for more detail (bring up the next 2 paragraphs as the "detail" page)

With the drive toward reduced levels of NOx emissions from diesel vehicles, the need to measure non-traditional combustion gases such as hydrogen sulfide, ammonia and formaldehyde has emerged. To meet the emissions regulations for 2007 and 2010, development of exhaust gas after-treatment systems and advanced combustion strategies requires a better understanding of the combustion and emission reduction processes. The ability to monitor these non-traditional gas species is critical to the optimization of these processes and difficult for established technology to measure in real-time and without interference.

The ability of the ESP-1000 to measure hydrogen sulfide, without interference, at 1 Hz with a 50 ppbv lower detection limit enables the optimization of Lean NOx Traps. Measurement of ammonia at the ppb level permits dilute exhaust gas measurements from a vehicle with an emission reduction approach based on Selective Catalytic Reduction. To support development of advanced combustion strategies such as low temperature modes (homogeneous charge compression ignition or HCCI) the ESP-1000's ability to measure formaldehyde at 1 Hz provides needed insight into combustion dynamics. Ambient monitoring of formaldehyde is also possible with a lower detection limit of < 10 ppbv in a 5 minute measurement enabling, for the first time, field measurements with temporal resolution of this mobile source air toxic.

Environmental Monitoring

Atmospheric monitoring of greenhouse gases requires high absolute accuracy and precision, while being insensitive to contaminants and changing environmental conditions. The ESP-1000 provides the accuracy and precision required in a field-deployable instrument that is designed to operate unattended.

Semiconductor Manufacturing

Process gases and ambient clean-room air must be ultra-pure to maintain process integrity. The parts-per-trillion sensitivity of the ESP-1000 coupled with its unprecedented, long-term stability has enabled it to be an effective, real-time monitor for advanced lithography processes, while also providing insight into the dynamics of ammonia exposure.

Petrochemical Process Control

Cost-effective petrochemical refining requires real-time analysis and control at critical process steps. The ESP-1000 provides the speed and sensitivity needed to optimize catalytic processes and downstream distribution.

Product Literature

Discover the advantages of Picarro's ESP-1000 trace gas analyzer based on CRDS. Download the following:
Document Title Type Format

H2S in exhaust datasheet NH3 in exhaust datasheet formaldehyde datasheet (future)
Application note - formaldehyde study in El Paso? (future)
CH4/CO2/H2O for atmospheric datasheet and apps note
Ambient monitoring datasheet trace gases datasheet
Trace moisture datasheet
Ammonia apps note

CRDS References

"Moving beyond Traditional UV – visible Absorption Detection: Cavity Ring-Down Spectroscopy for HPLC"
Bechtel, et.al., Analytical Chemistry, Vol. 77, No. 4, February 15, 2005.

"CRDS measures atmospheric CO2"
Richman, et al., Laser Focus World, November 2004.

"CRDS makes the leap out of the laboratory"
Optics and Lasers Europe, October 2004.

"Through the Looking Glass and What Cavity Ringdown Found There"
Tan, et. al., Photonics Spectra, October 2004

"Bananas, Explosives and the Future of Cavity Ring-Down Spectroscopy"
Fidric, et.al., Optics and Photonics News, July 2003.

"Spectroscopic Techniques: Cavity-enhanced methods"
Paldus, et.al., Handbook of Atomic, Molecular, and Optical Physics, 2nd edition.

CRDS FAQ

Q: How does Cavity Ring Down Spectroscopy (CRDS) compare to FTIR, NDIR, and TDLAS?
Q: How is the wavelength chosen for measuring a specific gas?
Q: How many gases can be detected simultaneously?
Q: Can the instrument be re-configured in the field for a different target gas?
Q: Can you measure liquids?
Q: Is CRDS really calibration-free?

Q: How does Cavity Ring Down Spectroscopy (CRDS) compare to FTIR, NDIR, and TDLAS?
A: All of these techniques, including CRDS, are optical absorption spectroscopy techniques that use the Beer-Lambert Law to quantify the composition of a gas. The "optical path length" of the measurement cell is the primary theoretical determinant of sensitivity for all these techniques. Differences for each technique relate to photon source, measurement cell, and detection method, each having a unique price/performance trade-off.

* FTIR and NDIR instruments use an incoherent light source to generate photons. The properties of incoherent light limit the optical path length, and therefore sensitivity, of these instruments.
* FTIR is able to acquire broad spectra for analysis of a wide variety of compounds.
* Both CRDS and TDLAS use a coherent light source, namely a laser, to generate photons.
* Traditional TDLAS approaches may achieve a modest increase in optical path length, using a White Cell or Herriott Cell, and are practically limited by mirror manufacture and alignment.
* CRDS achieves a dramatically longer optical path length than TDLAS due to the use of a stable optical cavity instead of a multi-pass cell.
* Because TDLAS instruments measure the ratio of the absorbed-to-incident light, sensitivity can also be impacted by noise from the light source, mirrors, and detector.
* CRDS measures the time for photon energy to dissipate from inside the cavity and is relatively insensitive to noise from the light source, mirrors, and detector.
* Both CRDS and TDLAS acquire relatively narrow spectra due to the narrow tuning range of currently available diode lasers.

Q: How is the wavelength chosen for measuring a specific gas?
A: Our focus is on producing a stable, reliable instrument that can be operated and maintained with minimal effort. With the laser being a key component, we select NIR DFB lasers to take advantage of years of reliability effort in the telecom industry. It is possible for us to use other spectral regions, when appropriate. Please contact us to discuss the possibility for your application.

Q: How many gases can be detected simultaneously?
A: It depends on the target gases, background gases, and performance requirements. If there are multiple absorption peaks of interest within the tuning range of our laser, our analysis algorithms can be adapted to measure each peak of interest. Our experience to date is that the current tuning range of NIR DFB lasers generally allows measurement of a single target gas with high sensitivity.

We are working on ways to predictably extend our technology to more than one gas.
Please contact us to discuss the requirements for your application.

Q: Can the instrument be re-configured in the field for a different target gas?
A: Measuring a different gas generally involves switching the laser and wavelength monitor. These items are not currently field replaceable.

Q: Can you measure liquids?
A: We believe common vaporization techniques used by other instrumentation, such as mass spectrometers, can be applied to the ESP-1000. Please contact us to discuss the specific needs of your application.

Q: Is CRDS really calibration-free?
A: Contrary to some claims, CRDS does need some calibration.

* Referencing the Beer-Lambert Law, at the very least ε, the molar absorptivity or extinction coefficient, must be measured and calibrated for each target gas.
* Depending on the application, periodic measurement of a known standard may be required for verification purposes, in accordance with standard practice.

Imagine the Possibilities
Discover how CRDS and Picarro's ESP-1000 trace gas analyzer can help solve your unique gas measurement challenge.

Picarro's ESP-1000 offers a unique combination of performance attributes-- sensitivity, selectivity, and speed -- that enable new measurements and completely new insights into the dynamics of a process.

Need a process trace gas analyzer? Contact Picarro today to discuss how the ESP-1000 can solve your trace gas measurement challenge. Click here to send an email to info@picarro.com or call +1 (408) 962-3900

Press Kit

Media Contact
info@picarro.com
+1 (408) 962-3900

Careers

Picarro welcomes highly motivated individuals with expertise in the field of optics, electronics, marketing, manufacturing or administration. We have a diverse talent pool of employees from all over the world, and a strong future with leading-edge technology, a superior product line, innovative thinkers and a commitment to our employees. We empower every employee to be an influencer, a creative thinker, and a valued member of the team. We take pride in the fact that our products have a direct impact on the commercial, medical and environmental issues facing the world.

Picarro offers positions in Sunnyvale, California. In addition to a great working environment that is dynamic and rewarding, we offer a competitive and comprehensive compensation and benefits package.

Please send your resume to recruiting@picarro.com.
Phone: (408) 962-3900
Fax: (408) 962-3200

Attention Recruiting Agencies: At this time we are not accepting unsolicited resumes from outside agencies. All unsolicited resumes sent to Picarro will be considered our property.

Culture/Benefits

Picarro provides highly competitive benefits packages. On your first day of hire, all full-time, regular employees and eligible dependents may participate in the following:

* Medical/dental/vision programs
* Life/Disability/AD&D insurance
* Short and Long Term Disability Plans
* Flexible Spending Accounts
* 401(k) Retirement Program
* Employee Assistance Program
* Holiday/Vacation/Sick pay programs

Open Positions

Picarro is always looking for quality-minded innovators in the fields of engineering, marketing and manufacturing.

CRDS Applications Engineer / Scientist

Location: Sunnyvale, CA

Description:

The CRDS applications engineer will play a significant role in the development and sales of a new generation of ultra-sensitive, field-deployable, real time, gas analyzers that have parts-per-billion sensitivity and that are based on an all-optical technique called Cavity Ringdown Spectroscopy (CRDS). The CRDS applications engineer will be the primary technical contact with new customers and as such this individual will be responsible for understanding new applications, defining customer requirements, working with R&D to facilitate required CRDS product development, setting up and overseeing customer field trials, and leading the effort to insure customer satisfaction with the product after sale. In addition, this individual will be directly involved with giving technical presentations at conferences, generating journal publications, writing product related materials such as data sheets and applications notes, as well as participating in identification of new applications, customers, and market segments. Relevant market segments include industrial process control, environmental monitoring, vehicle emissions monitoring, ultra-pure gas certification, and medical diagnostics. We're seeking an individual who is excited about working in a start-up environment and adept at working across traditional job boundaries. This position will need to work from product development to applications engineering and into sales. A strong technical background is required with some background in lasers, spectroscopy or analytical chemistry. A track record of effective leadership and the ability to act as a motivating force for successful product development is essential.

Key Responsibilities:

* Customer Applications:
    - o Based on input from customers and marketing, assist in defining product specifications and configuration requirements for application-specific, prototype analyzers.
    - o Lead customer field trials.
    - o Manage customer satisfaction after sale and identify the potential for additional sales.
* Product Development:
    - o Facilitate CRDS product development based on customer and R&D inputs.
    - o Manage R&D and manufacturing customer support activities.
    - o Oversee performance validation of application specific prototype instruments.
* Conferences and Workshops:
    - o Present at technical conferences and generate journal publications.

Qualifications:

* >5 years experience in Engineering or R&D related to developing instrumentation or systems based on analytical chemistry, spectroscopy, lasers, optics, or related technologies
* >3 years experience in applications engineering and work with new customers on product introduction
* Good administrative, presentation and interpersonal skills

* Strong communications skills are essential- both written and oral
* Ability to work across functional boundaries and organizational levels both inside and outside the company
* Minimum education is a B.S. in engineering or physical science. A M.Sc. technical degree is desirable.
* Must be willing and able to travel both domestically and internationally.

Salary will be commensurate with education and experience.

Please send your resume to recruiting@picarro.com.
Phone: (408) 962-3900
Fax: (408) 962-3200

Right side bars

Discover
Picarro's Reliability Commitment

Learn More

Learn more about Picarro CRDS instruments

Imagine the Possibilities
What do you need to measure?

Product Data Sheets
PDF ESP-1000 for Ultra-Sensitive Trace Gas Measurement

PDF Ultra-Sensitive Ammonia Measurement

Legal Notice