

**WE'VE**  
**SIMPLIFIED THE TOOL**  
**SO YOU CAN**  
**FOCUS ON YOUR**  
**RESEARCH.**



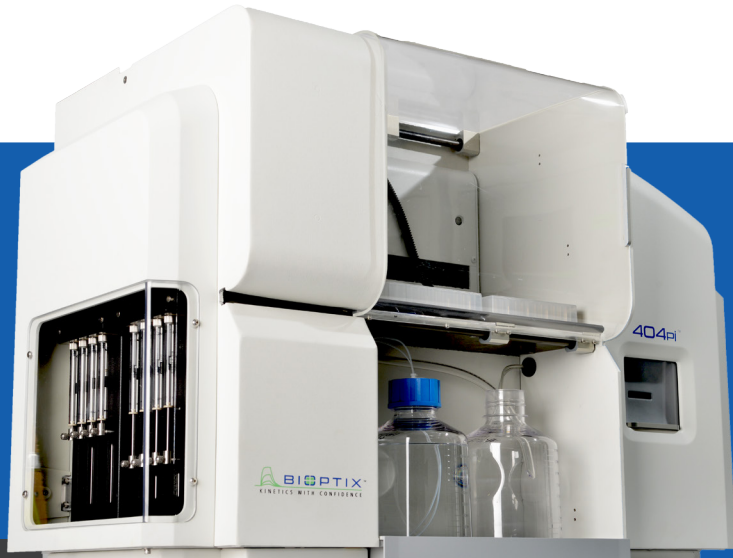
**+ MEDIA KIT**

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KINETICS WITH CONFIDENCE

# AT BIOPTIX BIOSENSORS ARE ALL WE DO.



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404pi™

## COMPANY OVERVIEW

BiOptix offers an affordable and powerful solution for drug discovery scientists that require label-free real-time detection of biomolecular interactions. The unique SPR-enhanced instrumentation offers precise measurement of kinetics, affinity constants and concentration, proprietary easy-to-use analytical software, and two operating modes for higher throughput and experimental flexibility.

Based in Boulder, Colorado, BiOptix was founded in 2008 with the mission of making SPR instrumentation more accessible to drug discovery scientists. BiOptix partners with biotechnology, pharmaceutical, contract research organizations and academic research institutions to make their drug development process more effective and productive.

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With more than 30 years combined expertise in the field of SPR, the BiOptix team is totally focused on the success and research productivity of our customers with an affordable alternative to traditional SPR instruments.

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# ENHANCING THE POWER OF SPR.



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404pi™

## PRODUCT OVERVIEW

### What is Enhanced Surface Plasmon Resonance?

Surface Plasmon Resonance is an advanced and highly sensitive optical technology that can measure refractive index changes on a sensor chip's gold surface due to a change in mass that occurs during a binding event. This change can be used to monitor biological interactions such as the concentration of molecules, kinetic rates and affinity constants. BiOptix has developed an innovative ultra-sensitive detection platform known as Enhanced Surface Plasmon Resonance (E-SPR).

E-SPR or phase-based SPR differs from standard surface plasmon resonance detection methods because it combines the high sensitivity of SPR with the increased stability and lower noise levels of common path interferometry.

# INCREASED THROUGHPUT FASTER, DATA-RICH RESULTS

## PRODUCT OVERVIEW

The BiOptix 404pi™ is an affordable SPR instrument capable of performing high-sensitivity molecular interaction analysis in a high-throughput manner. The 404pi combines the sensitivity and performance of our proprietary technology with an advanced, multi-injector fluidics system.

### Unique Four Injector Design:

- Four needle auto sampler and four parallel flow cells
- Allows operation in a mode that provides 4x the throughput of an ordinary SPR instrument
- Can also be operated in a traditional mode for a more detailed analysis but with twice the throughput of comparable systems
- Capable of using 96 well plates

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404pi™

### Features:

- Phase-based SPR for high sensitivity
- 4 injector / 4 flow cell design for high-throughput allowing for multiplexed kinetic measurements
- Advanced automated fluidic system for fast kinetic measurements
- Multiple surface chemistries
- Compatible with industry standard Scrubber2 software
- Cost-effective and simple to operate

### Biological Applications:

- Protein-small molecule interactions
- Protein-protein interactions
- Antibody-antigen interactions
  - Kinetics & affinities
  - Affinity maturation
  - Epitope binning
- Nucleic acid-protein interactions
- Biomolecule concentration measurements

### Performance:

- Optical Sensitivity: 2.0 RU
- Drift: < 0.5 RU/min
- Mass on Biosensing Feature: 2.0 pg/mm<sup>2</sup>
- Dynamic Range: 40,000 RUs
- Association Rate (k<sub>a</sub>): 10<sup>1</sup>-10<sup>7</sup> M<sup>-1</sup>s<sup>-1</sup>
- Dissociation Rate (k<sub>d</sub>): 10<sup>-5</sup> -0.1 s<sup>-1</sup>

# LEADERSHIP TEAM



## RICHARD WHITCOMB

### PRESIDENT AND CEO

Rick's background is in operations, services and finance. Prior to joining BiOptix, Rick was Senior Manager of the On Site Services business for Agilent Technologies Electronic Measurement Group. His background also includes several years of Corporate Development experience for Agilent and Hewlett-Packard Co., and he was formerly Operational CFO for the Communications Network Solutions business unit at Agilent. Rick brings substantial international experience, having spent five years living and working in Europe for Agilent and Hewlett-Packard Co. During his career, he has worked with scientists in Agilent Labs and HP Labs to move promising new technologies from the lab into commercialization, and ultimately into the hands of customers. Rick holds a Master of Science in finance and econometrics from the University of Colorado and a Bachelor of Science in economics from the University of Minnesota.



## BRIAN WILLIAMS

### CHIEF FINANCIAL OFFICER

Brian brings 15+ years of CFO and Board experience working with venture backed, early stage and growth oriented businesses in the Technology, Life Science and Clean Technology markets. Prior to joining BiOptix, Brian ran a successful consulting practice providing strategic and capital formation advisory services to growth-driven businesses. Previously, Brian spent 10 years in senior financial roles with Baxter International, including four years in Europe leading much of their international Corporate Development efforts. In addition to his work with BiOptix, Brian actively serves as a mentor to new entrepreneurs, was twice selected Mentor of the Year, and has worked with numerous founders of Galvanize, Tech Stars, Founder Institute and other accelerator companies. Brian has a Bachelor of Science in Accounting from the University of Illinois and is a Certified Public Accountant.



## DR. SCOTT KLAKAMP

### VICE PRESIDENT OF CHEMISTRY & BIOCHEMISTRY

Scott is one of the leading scientists in utilizing Surface Plasmon Resonance, KinExA<sup>®</sup> and FACS techniques to measure the binding kinetics and equilibrium constants of human monoclonal antibody/antigen complexes and biosensor technology in general. Prior to joining BiOptix, Scott was a Senior Research Fellow leading the Biophysical Chemistry and Research Informatics Groups at Takeda San Francisco. He also led biophysical groups at AstraZeneca R&D Hayward (merged with MedImmune), and Abgenix (acquired by Amgen). Scott previously held scientific positions at Chiron and GeneMedicine. Dr. Klakamp has extensive experience in R&D involving the biophysical and analytical characterization of biologics and specifically monoclonal antibodies. He has been an author on over 30 research and review papers, book chapters, and patents, and has been an invited speaker at numerous scientific meetings. He received his Bachelor of Arts in Chemistry from Houghton College and his PhD in Chemistry at Pennsylvania State University. Scott completed a postdoctoral fellowship (funded by a National Research Service Award from the NIH) at the California Institute of Technology in bioinorganic chemistry.

# LEADERSHIP TEAM



## SLAVA PETROPAVLOVSKIKH

**DIRECTOR OF NEW PRODUCT DEVELOPMENT, CO-FOUNDER**

Slava is a dual degree graduate in applied mathematics (Master of Science, Military Academy) and applied physics (Master of Science, Moscow Institute of Physics and Technology, Moscow, Russia, Aerospace Department). He is a published expert and patent holder in applied physics, optical effects and signal manipulation and a former Science and Technology Manager at Ionics Sievers.



## KEN DICKERSON

**VICE PRESIDENT OF SALES**

Ken comes to BiOptix having been in the real-time, label-free technologies spanning molecular to cellular analysis for over 15 years. Prior to leaving ACEA Biosciences as National Sales Director and joining BiOptix, Ken held key leadership roles with several biosensor companies which included Biacore, Axela and Silicon Kinetics. Ken obtained his strong scientific background having spent many years in basic research at the Burnham Institute (formerly La Jolla Cancer Research Institute) and the American Red Cross Jerome Holland Labs. Ken brings sales and marketing experience in both the North American and international markets. He holds a Bachelor of Science in cell biology and biochemistry from the University of California San Diego. Ken holds several patents and is co-author of multiple peer-reviewed journal articles.



## DR. OYVIND NILSEN

**DIRECTOR OF ORDER FULFILLMENT**

Oyvind received a B.S., M.S., and Ph.D. in Mechanical Engineering from University of Colorado at Boulder. Prior to that he earned an engineering degree (Høgskoleingeniør) from Vestfold College, Norway and was a Chief Petty Officer and an engineer with the Norwegian Navy. He has expertise in mechanical and optoelectronic-design, development and manufacturing.



## KEVIN RYAN

**DIRECTOR OF ENGINEERING**

Kevin brings over 13 years of engineering experience to BiOptix. His expertise is in mechanical design, modeling, simulation and product development. Prior to joining BiOptix, Kevin focused on testing for aerospace applications with an emphasis on cryogenic temperatures. He has published papers on topics ranging from microcrack fracture toughness to bioaerosol inactivation using irradiation. Kevin holds both a Master of Science and a Bachelor of Science in mechanical engineering from the University of Colorado.