



Florida Photonics Quarterly

The Florida Photonics Cluster Newsletter

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September 2010

FROM THE PRESIDENT - Alex Fong



Back when I was learning to pilot an airplane many years ago, I was introduced to an old flight instructor adage that goes: *"If you don't like the picture you are seeing: fix it!"*

To be sure, the picture for many of us, while positive overall, has been a bit cloudy for sometime. While the wax and wane of the economic crisis has been the overriding influence behind such precipitous declines and unexpected rallies witnessed in ours and many other high-tech sectors for the past year, as we start to extract ourselves from it, the image that emerges is one of a permanent game change. Even before the epic downturn, new entrants -- particularly from China -- posed threats to the competitiveness of our domestic enterprises. That is more a fact now than ever and in many industries, arguably, we have likely lost our seat at the table for good. However, the good news is that it is also true that photonics remains a field where we hold differentiating advantages on the international stage.

Over a decade ago when the National Academies published *"Harnessing Light"*, a study of the photonics industry and its broad economic impact, it painted a picture of the opportunities at that time and potential future of the domestic photonics industry and its place in the world. That spurred important programs and funding which resulted in the innovations and growth we see today in our field. It was a powerful tool for educating legislators and critical for those of us working to sustain and expand our funding and efforts in the field. Coupled with the raw talent, ambition, and technical excellence that many of our members brought to game, we have been able to continue take the lead from competitors even today.

While much of the original study continues to be relevant, updated figures, new technologies, and more applications introduced in the interim need to added. This is why Optical Society of America, SPIE and numerous other photonics organizations including the Florida Photonics Cluster

have pledged to support to the National Academies initiative: "*Harnessing Light II*". Over the next several months you or your organization may be approached to contribute data or time to this effort and I urge you to participate in this most worthy effort.

Together, let's get the picture right - the future depends upon it.

Interview with Jay Kumler Regarding JENOPTIK Optical Systems

We recently had an opportunity to spend some time with Jay Kumler, President of JENOPTIK Optical Systems in West Palm Beach, FL.

Jay, Tell us about your company.

JENOPTIK Optical Systems is one of the largest optical manufacturing companies in the United States. We have roughly 125 employees at three precision optical manufacturing locations. We are uniquely focused on design and manufacture of camera lenses and projection lenses for aerospace, semiconductor, life sciences, and the entertainment industry.



Our strength is being part of JENOPTIK AG. JENOPTIK is a world leader in photonics, with 3,000 employees and over \$640M in revenues. The JENOPTIK name is synonymous with engineering excellence and quality.

JENOPTIK Optical Systems began as Coastal Optical Systems in 1991, and was acquired by JENOPTIK in 2002. The company in the US has grown from \$3M in revenues to well over \$25M in revenues. Some studies suggest that 70% of mergers fail to achieve the intended financial goals which were the stated reasons for the business deal. Thanks to the hard work and professionalism of the management teams and the staff, our company is clearly one of the rare success stories.

What are some challenges you face today?

We compete in a world-wide market with increasing pressure from optical manufacturing around the world (Asia, Eastern Europe and Russia). We must overcome competitors who have much lower overhead and labor costs by providing innovative engineering, outstanding quality and superior service. Our delivery times for custom optical design and manufacturing must get faster and faster.

Our success depends on our ability to attract, recruit, and retain the top engineers in our industry. Just in the past six months, we have hired Tolis Deslis (optical engineer from NASA/JPL and Ball Aerospace), Dave Stephenson (previously optical engineering manager at Melles Griot, Tropol and Zygo

Corporation) and Zsolt Pomazi (operations manager from Omega Optical and Janos). We work hard to maintain a work environment that will attract the top innovators in our industry. We strive to provide a technically challenging workplace where engineers and technicians can have a direct impact on the success or failure of our projects.

What distinguishes your company/organization from your competitors or other, similar organizations?

No other optics company in the United States can offer optical design, mechanical design, classical optical fabrication, infrared optics, micro-optics, diffractive optics, polymer optics, complete assemblies and world class metrology from DDTC-registered US manufacturing facilities. We offer one-stop shopping for all of these products, and can integrate into sub-assemblies and modules. Customers like this.

We also sell JENOPTIK cameras and Variocam® Thermography Cameras. Having the imaging component packaged with the optics is a real game changer.

Do you seek to partner/collaborate with other organizations: universities, companies, other? If so, is it for research, marketing, manufacturing, other?

We depend on partnerships and collaborations with our customers and with other companies. In today's business environment, we need to build teams very quickly and bring on engineering resources we do not have in-house. These could include software engineers, controls engineers, finite element analysis and specialists on infrared testing. We are also looking for companies who are interested in commercializing new technologies for life sciences and biotechnology. JENOPTIK has the resources to help build and commercialize new instruments.

Do you have a memorable success story you'd like to share?

Part of what makes JENOPTIK Optical Systems such an interesting place to work is the tremendous variety of projects.

We have aspheric mirrors on three instruments on the Hubble Space Telescope. We take pride in our contributions to a number of instruments that are currently advancing our understanding of our planet and our universe. We continue to support activities in deep space and are delivering optics for the James Webb Space Telescope NIRCam Instrument.

We also build lenses that are used for drug discovery, cancer research and genome sequencing. It is very rewarding to know that we contribute to instruments that are so important to improving early diagnosis and treatment of debilitating diseases.

We also build projection lenses for the entertainment industry. JENOPTIK designed and built all of the optics for the Simpsons Ride and the Harry Potter Ride at Universal Studios in Orlando, FL. Our 3d lenses are installed in dozens of attractions around the world. Our employees take pride in our ability to design, build and install systems that are enjoyed by

millions of people each month.

Thanks so much for your time!

Jay: I enjoyed it!

Jay Kumler is president of JENOPTIK Optical Systems. He has published ten technical papers and several patent applications on optical design and fabrication, and authored a chapter for the book "Engineering a High-Tech Business". Jay serves on the board of directors of SPIE, and is the president elect of the American Precision Optics Manufacturing Association (APOMA). He is the technical conference co-chair for OPTIFAB 2011 in Rochester, NY. Jay is a graduate of the University of Rochester Institute of Optics.

Tending Florida's Economic Garden: GrowFL Program Provides Free Services to Second- Stage Companies



Florida's new entrepreneurial strategy of "economic gardening" is helping to find and nurture the idea-people who are leading homegrown second-stage companies with the potential to grow into the the state's economic powerhouses according to Dr. Tom O'Neal, executive director of the Florida Economic Gardening Institute.

Funded by the 2009 Florida Legislature and involving a host of partners committed to helping second-stage companies achieve their full potential, the Florida Economic Gardening Institute and its program, GrowFL, is applying lessons learned from the proven art of "economic gardening" to provide eligible companies with free tools and resources to help them grow their company.

GrowFL is on track to engage over 1000 companies this year, with 784 active engagements in the program so far inclusive of Technical Assistance, CEO Roundtables, and CEO Forums. "If we stay the course we can help Florida create a significant number of high-value jobs in our state." said Dr. O'Neal, executive director of the Florida Economic Gardening Institute.

The continuing job for the GrowFL team is to recruit from the 7,000 companies in Florida that fit the specific criteria of second-stage growth companies. These for-profit, privately held businesses employ between 10 and 50 people, generate \$1 million to \$25 million in annual revenue, demonstrate growth in number of employees and gross revenues during three of the past five years, and qualify for the tax refund program for qualified target industry businesses.

The program is seeking such companies for one-on-one technical assistance that includes access to information tools such as:

- Market Research / Competitive Intelligence Gathering
- Web Strategy / Search Engine Optimization
- Geographic Information Systems applied to Market Research
- Social Media Strategy
- Strategy Analysis, Management Team Temperament
- Capital and Labor Referrals
- As of July, 125 companies have been accepted into the technical assistance program.

These are the companies that economists estimate will create 40 percent of Florida's job growth over the next five years. "It is estimated that these companies have the potential to increase sales by \$200 million over the same 18 months. Those are incredible numbers when considered in the context of the relatively small investment needed to create and run this program," said O'Neal. For more information: info@Growfl.com or 407-823-6384 or www.growfl.com.

FPC General Meeting held June 23, 2010

Photonics and Medical City: An Innovation Conversation

The meeting was held at the Sanford-Burnham Institute in Lake Nona and was hosted by the Florida Photonics Cluster, Lake Nona, Sanford-Burnham Medical Research Institute, and Metro Orlando EDC/BioOrlando.

The event was designed to begin a partnership dialog about how we can build on our current R&D and commercial strengths in optics and photonics in Florida and accelerate innovation in clinical care and biomedical research in Central Florida. Attendees included members of the Florida Photonics Cluster (FPC) and others from the Florida photonics community, leaders from the Sanford-Burnham Medical Research Institute, UCF College of Medicine, VA Medical Center, and Nemours Children's Hospital. Presentations were made by each of these organizations highlighting their current activities and plans for further development. In addition, a presentation was made on the new GrowFL program at UCF. A tour of the Sanford-Burnham Institute facilities was also part of the program.

Discussions after the presentations and tour identified several opportunities and action items that will be addressed in the coming weeks:

(1) The College of Medicine, and possibly other Lake Nona hospital facilities, can provide opportunities for researchers to make rounds with physicians. This will help define the needs of the physicians and the hospitals that require new research and development work.

- (2) Create forums to promote collaborations where
- i. Researchers and practitioners define the limitations

of their current equipment, procedures, and materials so that companies can tailor their research and development work to overcome the limitations.

ii. Companies describe what they can do, and possibly also the things that may be unique to them and not yet commercially available.

(3) The FPC can be a "matchmaker" - a central point of contact - for issues, questions, etc. that need to be transmitted to industry.

(4) The Metro Orlando EDC will get invitations to BioFlorida meetings to the attendees of this meeting and all FPC members.

(5) The FPC will develop a database of contacts at the organizations attending this meeting, and others that were unable to attend.

(6) The FPC and the UCF Incubator will work together to build a collaboration database and network for proposals.

For additional information and to become a participant in this partnership dialog, please contact either Jim Pearson, FPC Executive Director, jpearson@mail.ucf.edu, or Thad Seymour, VP Life Sciences, Lake Nona, tseymour@lakenona.com, or Rob Adams, VP Marketing, Lake Nona, radams@lakenona.com.

SAVE THE DATES: FPC-MACF Joint Meeting - Sept 22

The next FPC meeting will be held Wednesday, September 22, 2:00pm-5:00pm followed by a networking reception, and no-host dinner for those interested. The meeting will be at Ocean Optics and will be held jointly with the Manufacturers Association of Central Florida (MACF). Space is very limited and filling up fast. To attend, contact Jim Pearson at jpearson@mail.ucf.edu or (407)451-2199 before 13 Sept.

WELCOME NEW FPC MEMBERS!



Diamond Level Service

Diamond Level Service (DLS) is a supplier of Event Design and Management services for trade shows, special events, conferences, and business presentations. Services and products include exhibit design, building, production, and transportation; audio visual visual equipment and services; and photography .

Discounts are provided to FPC members. For information, look for them on Facebook and Myspace under

DiamondLevelService, or contact:

386-527-3373 <http://www.diamondlevelservice.com/>

New Look for the FPC Website!



Thanks to the in-kind contribution of our one of our associates/partner members, On Target Web Solutions, the Florida Photonics Cluster website has a fantastic new look including many Web 2.0 features. If you haven't visited in a while, drop in to check out job and talent postings, events calendar, items on the Blog, or to renew your membership: www.floridaphotonicscluster.com. Let us know your thoughts about the revamped site or better yet 'Tweet' us'.



CHECK OUT THE NEW LOOK OF THE FPC BLOG-SITE!

[Ask Questions, share your thoughts and find out what's happening in Florida Photonics at www.floridaphotonicscluster.blogspot.com!](http://www.floridaphotonicscluster.blogspot.com)



JOIN FPC'S NETWORK ON LinkedIn!

[Don't miss out! Join the FPC network on LinkedIn!](#)



A Florida Photonics Cluster Group has been established on "LinkedIn." LinkedIn is a business-oriented social network service, mainly used for professional networking. As of December 2007, its site traffic was 3.2 million visitors per month, growing at an annual growth rate of about 485%. As of March 2008, it had more than 2 million registered users spanning 150 industries. There are other similar sites, but LinkedIn is by far the largest, best known, and most popular.

The way it works is that members post professional information

much like an online resume. The site will analyze the data and suggest people you might have met or worked with in the past and start compiling a network of contacts that it can keep you posted on. In turn, others on the network can invite you to join their network, which then connects you to other potential people in your industry that you can draw upon. It automates the networking process allowing you to efficiently make connections through those you know to people and companies/organizations you seek to further a relationship.

Creating a group for the FPC fulfills part of our charter to create opportunities for networking. Several individuals from FPC member companies have joined the LinkedIn FPC network.

[Join the FPC network on LinkedIn today!](#)

<http://www.linkedin.com/e/gis/89774/0F904052D5CC>

JOIN THE FPC TODAY!



[Enjoy the benefits of FPC membership!](#)

[Why Join FPC? To Make Money!](#)

Benefits of FPC Membership:

- Identify common needs and interests
- Leverage to develop opportunities through joint efforts, pooled resources and knowledge
- Regional, Statewide, National and International Reach Small, Medium, Large Corporations, Academe, and Government all Benefit!

FPC Membership Benefits Include:

- The strength of a unified industry voice providing a platform for local and state legislative support
- Visibility for your company through FPC's website, marketing literature, and trade show displays with member spotlight on companies and products and opportunities to participate in state and national sales and marketing efforts
- Liaison opportunity with other international photonics organization such as other photonics clusters (Arizona

Rochester, UK), scientific societies (OSA, SPIE) and industry trade organizations (OIDA).

- Networking opportunities through annual and regional membership meetings
- Discounts (10%) on exhibit space and other special benefits at SPIE and OSA conferences. Typical benefit per show start from over \$300 (10' X 10' booth) and \$600 (10' X 20' booth).
- Discount of \$300 to the membership rate with the Industrial Affiliates Program of the University of Central Florida's CREOL, The College of Optics and Photonics
- Admission to all Florida Photonics Cluster Events included in membership
- Access to service providers that can assist your company with the actions that are necessary for sustaining your business such as banks, suppliers, and professional marketing, communications and legal services organizations at preferred rates
- An expansive resource base that includes partnerships with Enterprise Florida, area economic development organizations, the Florida High Tech Corridor Council, and CREOL, to provide access to incentives and business development programs and research
- Assisted access to venture capital and opportunities to help develop Florida photonics companies into worldwide participants
- Opportunities to participate in the curriculum development in state universities and community colleges and advanced access to Florida's best and brightest students and the additional ability to recruit nationwide through the FPC website

**[Join FPC today and enjoy the benefits of membership!
For more information, visit floridaphotonicscluster.com.](http://www.floridaphotonicscluster.com)**



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**[The Florida Photonics Cluster \(FPC\) Website now
accepts donations, member dues, and other payments
through Card Systems, Inc.
\(http://www.cardsystems.com\)](http://www.cardsystems.com)**

Card Systems is a fast, convenient and safe way to make online purchases and transactions via credit card. Note that submission of a membership application is still required for new applicants joining the FPC, and for updating renewing memberships. A link is provided from the new FPC website.

Greetings FPC Members and Friends,

The Florida Photonics Cluster is designed to support the growth and profitability of the Florida photonics industry through the strength of a unified voice to make Florida the place to go for photonics solutions.

The FPC is dedicated to enhancing the industry through effective collaboration by bringing together the knowledge, expertise, and service that each of its members organizations has to offer.

FPC Goals

- Foster the expansion and growth of Florida's optics and photonics industry by partnering with economic development organizations, the state universities, and community colleges, and local and state governments.
- Market Florida's optics and photonics companies worldwide.
- Facilitate and provide a means of communication within the business community.
- Partner with the Florida education community to enhance and develop a competent statewide optics and photonics-based workforce.
- The FPC is a 501c(6) not-for-profit corporation, registered with the Florida State Division of Corporations.

[For more information, visit www.floridaphotonicscluster.com today!](http://www.floridaphotonicscluster.com)

Sincerely,

Alexandre Fong, President
Florida Photonics Cluster

Jim Pearson, Executive Director

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