

Medicinal Chemistry Symposium

Biographies and Abstracts:

SESSION I. CHEMISTRY & MEDICINAL CHEMISTRY OUTSOURCING

Aravind Y Merwade, Ph.D. Director, process development, Wockhardt Ltd, Aurangabad, India

MICHAEL SONG, Ph.D., CEO, Beijing PharmaScience, China

[michaelsong1982\(at\)gmail.com](mailto:michaelsong1982(at)gmail.com)

Michael Song received a bachelor's degree in chemistry in 1986 from Shandong University. In 1992, he received a Ph.D. from the University of Wisconsin-Madison, where he worked with Steven D. Burke. He joined Parke-Davis in 1992, and worked in pharmaceutical industry (Parke-Davis/Warner-Lambert/Pfizer) for 15 years. In 2007, he returned to Beijing China and co-founded Beijing PharmaSciences. He serves as President & CEO of Beijing PharmaSciences.



Bringing Value to Its Customers: a Chinese Startup CRO's Approach

With the advantages of excellent human resources, cost-effective and improved IP protection, China has demonstrated to be one of the ideal R&D outsourcing countries. In China, there is a trend to offer from pure customer cost-effective synthetic capabilities and process development to an integrated pharmaceutical service including chemistry, biology and preclinical service. This will be a good opportunity but there will be a big challenge to CRO companies in China for providing such integrated service.

XIAODONG WANG, Ph.D., CEO & President, PharmaAdvance, China

[xwang\(at\)pharmaadvance.com](mailto:xwang(at)pharmaadvance.com)

Founder, CEO and President: Don (Xiaodong) Wang, Ph. D.

- Ph. D. 1994, synthetic organic chemistry, Ohio State University under Professor Leo Paquette
- Senior Research Scientist, Procter & Gamble Pharma, 1994-2000,
 - Involved in programs of Antiarrhythmic, Cardiac Protection, Nasal Congestants, and Migraine Pain
 - Phase III compound, a potassium channel blocker, azimilide, for antiarrhythmia
 - A Phase II compound, alpha-2-adrenergic agonist for nasal congestion and migraine pain
- Chief Scientist and Team Leader, Icagen Inc., 2000-2006
 - Managing and leading programs in CNS disorders, Pain, Inflammation, and Glaucoma



- Pre-clinical compounds for Learning and Memory Disorder, and Dementia, and for AD/HD
- Advanced Leads for chronic, inflammatory, and neuropathic pain
- Helped discover the current phase III compound for sickle cell disease
- **Founder, CEO and President, PharmaAdvance Inc. June 1996-present**

Inventor of 13 patents and co-author of 12 publications and presentations

The Next Wave of Outsourcing in Pharmaceutical Industry and How to Prepare for the Paradigm Shift

Many companies have comfortably enjoyed the cost saving of outsourcing the early stage of chemistry in Asia, but found that it was not powerful enough to accelerate the whole process of the drug discovery. While an increasing number of compounds are being synthesized in Asia, the demands for efficiently transforming these compounds into a clinical candidate or a drug become stronger. To meet these demands, the fully integrated CROs for drug discovery in China are emerging. However, there are certain psychological and technical barriers to be overcome for many companies to fully take advantage of these services. It is essential to ready for this paradigm shift!

KEYNOTE PRESENTATION:

GE LI, Ph.D., Chairman & CEO, Wuxi PharmaTech., Shanghai, China

SESSION II. INTEGRATED DISCOVERY OUTSOURCING (ADME)

CSN MURTHY, Ph.D., CEO, Aurigene discovery technologies, Bangalore, India

JOHN OYLER, MBA, CEO, Bioduro, China, US
[John.oyler\(at\)bioduro.com](mailto:John.oyler(at)bioduro.com)

John is a serial entrepreneur with a track record of success who has started and managed 8 companies and has raised over \$US225 million in capital. During his career, Mr. Oyler has been responsible for a wide array of activities including: organization building, partnering with multi-national companies, instigating clinical trials at Sloan Kettering, Sidney Kimmel, and Mass General, licensing and managing intellectual property, building software database statistical capabilities to handle extremely large-scale data, and, most importantly, building highly functional, world-class organizations. In the biotech field John has started



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Medicinal Chemistry Symposium

Cost, Speed, and Quality; Emerging Opportunities for Drug Discovery in Asia

Organized by the Medicinal Chemistry Group of the Northeastern Section, American Chemical Society



Wednesday - May 14, 2008 **Holiday Inn**, 15 Middlesex Canal Park Road, Woburn, MA

8:15 am **Opening** (Liming Shao, Ph.D.)

12:30 pm **Lunch**

8:20 am **Chemistry & Medicinal Chemistry Outsourcing**, (Chair: Raj Rajur, Ph.D.)

1:40 pm **Biology & DMPK**, (Chair: Open)

Title TBD

Aravind Y Merwade, Ph.D. Director, process development, Wockhardt Ltd, Aurangabad, India

Discovery Biologics: Outsourcing Principles and Considerations

Vincent Ling, Ph.D., VP, Dragonfly Sciences

Bring Value to Its Customers: a Chinese Startup CRO's Approach

Michael Song, Ph.D., CEO, Beijing Pharmaceutical Science

Current status of integrated pharmaceutical services beyond chemistry services in China

Chunlin Chen, Ph.D., CEO, GLP MPI-Medicilon Research, Shanghai, China

The Next Wave of Outsourcing in Pharmaceutical Industry and How to Prepare for the Paradigm Shift

Xiaodong Wang, Ph.D. CEO & President, PharmaAdvance

TBD

3:10 pm **Break**

9:50 am **Break**

3:20 pm **Managing from Distance, Case Study**, (Chair: Kerry Spear, Ph.D., Executive Director, Drug Discovery, Sepracor Inc.)

10:00 am **Keynote Presentation**

Title TBD

Ge Li, Ph.D. Chairman & CEO, Wuxi Pharmatech., Shanghai, China

The Role of China in Drug Discovery in the 21st Century: A View from the Starting Gate

Kerry Spear, Ph.D.

Creating Value in Drug Discovery through Integrated Chemical Operations

Roger Xie, Ph.D., Associate Director, Sirtris Pharmaceuticals

10:50 am **Integrated Discovery Outsourcing (ADME)**, (Chair: Steve Tam, Ph.D., Director of Medicinal Chemistry, Wyeth)

Title TBD

CSN Murthy, Ph.D. CEO, Aurigene discovery technologies, Bangalore, India

Long distance marriage of disease biology and systems biology platform for discovery of novel therapeutics

Uday Saxena, Ph.D., CEO and Managing Director, Kareus Therapeutics, Georgia, US

Suri Venkatachalam, Ph.D., Connexios Life Sciences, Bangalore, India

Creating world-class capabilities for integrated drug discovery in China

John Oyler, MBA, CEO, Bioduro

Title TBD

Rashmi Barabaya, Ph.D., CEO and Managing Director, Advinus Therapeutics Pvt Ltd

4:55 pm **Panel Discussion**, (Chair: Kerry Spear Ph.D.)

Reservations should be made no later than 12:00 noon on Wednesday, May 7, 2008. Please contact Marilou Cashman at (800)872-2054 or (508)653-6329 or mcash0953(at)aol.com Due to the limited space available, the reservation fee must be paid in advance. The fees for the symposia are: Members, \$50 (Industry), \$28(Academic); Non-members, \$60 (Industry), \$30(Academic); Retirees, \$15; Students, \$10. Anyone who needs handicapped services/transportation, please call a few days in advance so that suitable arrangements can be made.

THE PUBLIC IS INVITED

Directions to Holiday Inn Hotel

(<http://www.ichotelsgroup.com/h/d/hi/1/en/home>)

A. From Boston-Cambridge-Points North: Take Route I-93 to Route 95/128 West. After one mile, take Exit 35 South to Route 38 (Main Street) *After about 500 feet at the traffic light, turn right into Middlesex Canal Street to the hotel entrance.

B. From the West: Take Route 95/128 North to Exit 35 South (Route 38-Main Street). Follow the directions from * above. ◇

Symposium Speakers

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(or re-started, in the case of Genta) several companies including: Galenea (private), Genta (Nasdaq-GNTA), Walden Laboratories (merged into Indeveis -IDEV), Oasis Biosciences (sold to Genprobe -GPRO). Outside of the biotech field John has been involved in starting several companies including: Telephia (sold to Nielsen), Verdisoft (sold to Yahoo). In addition, Mr. Oyler was involved for several years in performance improvement and strategic growth initiatives at McKinsey & Co., the international consulting firm where he spent 1992-3 working in China.

Creating world-class capabilities for integrated drug discovery in China. This presentation will discuss the ability to perform truly integrated drug discovery in China today at high speed and low cost and will share the successes, challenges, and key to success from BioDuro's experiences running these type of programs in 2007 and 2008.

RASHMI BARABAYA, Ph.D., CEO and Managing Director, Advinus Therapeutics Pvt Ltd., India

SESSION III. BIOLOGY & DMPK

VINCENT LING, Ph.D., VP, Dragonfly Sciences, China, US
[vling\(at\)dragonflysci.com](mailto:vling(at)dragonflysci.com)

- Genetics Institute / Wyeth - 10 years led laboratory research teams in Discovery Research related to embryonic stem cell development, molecular immunology, and genomic screening.
- Director of Molecular Biology at Compound Therapeutics (now Adnexus / BMS) establishing DNA discovery pipeline.
- Vice President of Dragonfly Sciences responsible for US and China operations, including scientific and business development.



Discovery Biologics: Outsourcing Principles and Considerations

Recent trends suggest that biologics-based therapeutics and reagents are increasing in importance in Drug Discovery. In many occasions, pharmaceutical companies and biotech companies are faced with resourcing issues when confronted with biologics research programs that exceed internal capacity. Because of the myriad of experiments involved with early stage discovery biology, oftentimes it may be easier to outsource biology services to accelerate projects internally. This presentation will outline service-based principles and standards to evaluate the compatibility of outsourcing firms to internal research needs.

CHUNLIN CHEN, Ph.D., CEO, GLP MPI-Medicilon Research, Shanghai, China
[clchen\(at\)medicilon.com](mailto:clchen(at)medicilon.com)

Dr. Chunlin Chen received his B.S. and M.S. from China Pharmaceutical University in 1983 and 1986. During 1986-1991, Chun-Lin Chen worked as Assistant Professor in China Pharmaceutical University. In 1994, Dr. Chen received Ph.D. in Pharmacology and Toxicology from Oklahoma State University and then he had post-doctoral training in Pharmaceutical Department of St. Jude Children's Research Hospital. During 1997-2002, Dr. Chen served as Director of Pharmaceutical Department at Parker Hughes Cancer Center, Parker Hughes Institute, St. Paul, USA. In 2002, Dr. Chen joined Vertex Pharmaceuticals as a Staff Investigator at Department of Pharmacokinetics and Metabolism, Non-clinical Drug Evaluation Division, Vertex Pharmaceuticals Incorporated, Cambridge, USA. Dr. Chen was co-founder of Medicilon Inc. is a pharmaceutical research and development company located at Zhanjiang High-Tech Park, Shanghai, China. Dr. Chen served as CEO of Medicilon/MPI Preclinical Research (Shanghai)



LLC, a JV between Medicilon and MPI Research.

Current status of integrated pharmaceutical services beyond chemistry services in China

With the advantages of excellent human resources, cost-effective and improved IP protection, China has come to be one of the ideal R&D outsourcing countries. In China, there is trend to offer from pure customer cost-effective synthetic capabilities and process development to an integrated pharmaceutical service including chemistry, biology and preclinical service. This will be a good opportunity but there will be a big challenge to CRO companies in China for providing such integrated service.

TBD

SESSION IV. MANAGING FROM DISTANCE, CASE STUDY

KERRY SPEAR, Ph.D., Executive Director, Drug Discovery, Sepracor Inc., MA, US
[kerry.spear\(at\)sepracor.com](mailto:kerry.spear(at)sepracor.com)

Dr. Spear is Executive Director of Medicinal Chemistry at Sepracor, a pharmaceutical company headquartered in Marlborough, MA, USA. He is currently in charge of all medicinal chemistry efforts within Sepracor's Discovery Research Department. Trained in natural products synthesis, he has over 25 years of experience as a medicinal chemist in both the pharmaceutical (e.g., G.D. Searle) and the biotechnology (e.g., Chiron) industries. He has participated in or led programs that cover a broad range of drug discovery research and which have resulted in the acceptance by the FDA of 7 IND applications. Dr. Spear completed a postdoctoral fellowship at the University of California, Berkeley. He received a Ph.D. degree in organic chemistry from the University of Wisconsin, Madison and a B.S. degree in chemistry from Juniata College.



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Symposium Speakers

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The Role of China in Drug Discovery in the 21st Century: A View from the Starting Gate

In less than a decade, outsourcing of some aspects of pharmaceutical research to Asia has emerged as an integral part of Pharma's drug discovery strategy. While these efforts initially focused on compound synthesis, recently CROs in China have begun adding *in vitro* and *in vivo* biology proficiencies to complement their core strengths in chemistry. Additionally, by building a deeper leadership pool, these CROs are now poised to contribute drug discovery expertise and knowledge, as well as fundamental chemistry and biology skills. These additional capabilities offer new and broader opportunities for partnering with Chinese CROs in order to accelerate drug discovery efforts and control costs. Efforts to integrate chemistry and biology resources within Chinese CROs with ongoing drug discovery efforts at Sepracor will be discussed.

ROGER XIE, Ph.D., Associate Director, Sirtris Pharmaceuticals, MA, US
[rxie\(at\)sirtrispharma.com](mailto:rxie(at)sirtrispharma.com)

Dr. Roger Xie is Associate Director at Sirtris, which he joined in 2005. He currently oversees the Chemical Operations focusing on outsourcing activities. Prior to Sirtris, Dr. Xie held various discovery and Medchem research and program management positions at Daiamed, UCB research, and Sepracor, Inc. Dr. Xie received his B.S. degree from University of Science and Technology of China (USTC) and his Ph.D. degree from Boston College. Dr. Xie has over



20 patents and publications in the areas of organic syntheses, medicinal chemistry and drug discovery.

Creating Value in Drug Discovery through Integrated Chemical Operations

The costs for drug research and development are high. As the demand for contained R&D costs continues to grow, the necessity of outsourcing and off-shoring is becoming of increasing importance. Besides reducing the cost of research, outsourcing in the pharmaceutical sector is a result of Pharma and Biotech companies rationing the internal existing facilities and capabilities. At Sirtris, we are exploring a variety of ways utilizing contract research organizations in Asia and other global territories to create an integrated outsourcing platform that lowers the cost, internal critical mass and time required to discover and develop new therapeutics.

UDAY SAXENA, Ph.D., CEO and Managing Director, Kareus Therapeutics, Georgia, US

Uday Saxena is the co-founder and CEO of Kareus Therapeutics, an emerging US based company engaged in discovery of new therapeutics for Alzheimer's and other age-related CNS diseases. He has been in the Pharma industry for the last 16 years with executive and leadership positions at Dr.Reddy's Laboratories (Hyderabad, India), a NYSE-listed pharma company, AtheroGenics Inc (Atlanta, Georgia), a NASDAQ listed Biotech Company and Pfizer (Ann Arbor, Michigan). Dr. Saxena has more than 50 peer-reviewed publications and 20 patents to his credit. His expertise is in the therapeutic areas of cholesterol/lipid metabolism, atherosclerosis and inflammation. He obtained his PhD from Memorial University of Newfoundland in Canada and completed his post-doctoral training at

Columbia University, New York.

SURI VENKATACHALAM, Ph.D., Connexios Life Sciences, Bangalore, India

Suri Venkatachalam is the founder and CEO of Connexios Life Sciences, a Bangalore, India-based integrated systems biology driven Discovery Company. Connexios is using this discovery platform to work on several drug and biomarker discovery and development programs in the area of metabolic disorders. Before founding Connexios, Suri was part of the founding team of Metahelix Life Sciences, a Bangalore-based Agri-Biotechnology company. His expertise is in the area of systems modeling and complex systems. He obtained a Ph.D. in condensed matter physics from the Indian Institute of Science, Bangalore, and was a Burroughs-Wellcome post-doctoral research associate in Systems Neuroscience at the University of California, San Diego.

Long distance marriage of disease biology and systems biology platform for discovery of novel therapeutics

Kareus Therapeutics, an emerging US based drug discovery company, and Connexios Life Sciences, an India-based systems biology driven drug discovery company, recently inked a collaboration for discovery of new therapeutics for Alzheimer's disease. This is an unusual collaboration, in that Kareus will provide virtual disease expertise, whereas Connexios will bring to the table its systems platform and perform all the wet biology and chemistry in its labs in Bangalore, India. By doing so, this combination allows the power of using cutting-edge scientific principles in a cost-efficient environment. The collaboration brings together two biology-based skills that are under used in tandem by the industry today. This presentation will describe strategy used in target selection and validation, screen selection and risk-mitigation tactics by combining these two skills. Real-life examples of how this long-distance marriage is working beyond the honeymoon period will be discussed. ◇

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