⇒ Eric Rosenthal reports

Ohio State Hosts Big Dance with Industry, Hoping for Successful Research Partnerships

By Eric T. Rosenthal

COLUMBUS, Ohio—National rankings rank high as a priority at Ohio State University. In early December here as the University's Medical Center was hosting its first Industry Collaboration Symposium, its football and basketball teams were both ranked number one in the nation.

Fred Sanfilippo, MD, PhD, the Medical Center's CEO, as well as Senior Vice President, and Executive Dean for Health Sciences, opened the conference by informing the audience of more than 300 about OSU's accelerating place in several *US News & World Report* medical rankings.

He said he wanted the Medical Center's rankings to be the subject of pride for both its football and basketball teams, noting that the basketball reference had also been used extensively during his days at Duke.

The conference was a key part of the Medical Center's strategic game plan, and mixed show-and-tell with the dating game in an effort to forge future partnerships with industry.

Dr. Sanfilippo told *OT* that the symposium was the brainchild of Henry Zheng, PhD, MBA, Director for Technology Commercialization and Partnerships at the Medical Center.

"The conference was another step in our pathway of providing experience and education to our faculty about the opportunities with each other here in research as part of our strategic plan and signature programs, as well as with a wide range of industry."

The medical center had spent a lot of time on organizational culture and culture change during the last several years, Dr. Sanfilippo explained, and the symposium was a component of inculcating a spirit of collaborative approaches, innovation, and entrepreneurship.

Fred Sanfilippo, MD, PhD, CEO and Executive Dean for Health Services at OSU Medical Center, noted that the medical center had spent a lot of time on organizational culture and culture change during the last several years, and the symposium was a component of inculcating a spirit of collaborative approaches, innovation, and entrepreneurship.

"We'll have our athletic leadership come to our retreats involved in culture change to teach collaboration and teamwork, and you can't beat the athletic examples when it comes to team building," he said.

Another goal, though, he admitted, was to showcase OSU's recently opened Biomedical Research Tower, which was built to foster interaction among the medical center's six signature programs in cancer, critical care, heart, imaging, neurosciences, and transplantation.

Interaction of Cancer & Transplantation

Dr. Sanfilippo said that the presentation of Michael Caligirui, MD, during the conference was a good example of interaction between two otherwise disparate disciplines—cancer and transplantation—since the goal of one was to stimulate immunity and the other was to suppress it.

Dr. Caligiuri, Director of the OSU Comprehensive Cancer Center and Deputy Director of the James Cancer Hospital and Solove Research Institute, discussed his laboratory's current research on the development of a vaccine against the Epstein-Barr virus (EBV), which can lead to B-cell lymphoma in some post-transplant patients.

He is looking at how manipulation of various parts of the immune system can possibly contain the lymphoma.

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Eric T. Rosenthal is OT's Special Correspondent.

Other cancer center talks included:

■ Carlo Croce, MD, on evolving research that links specific microRNA signatures to various types of cancer.

■ Jeffrey Chalmers, PhD, on a prototype of a new cell-sorting technology that uses magnetized antibodies to tag and isolate cancer cells in peripheral blood.

■ Pravin Kaumaya, PhD, on novel peptide-based vaccines and immunotherapeutic approaches for breast cancer. At the conclusion of his talk, Dr. Kaumaya was not shy about incorporating a slide that said: "Need corporate partner to invest and accelerate development of Phase II $3-4 million"—a request that was certainly targeted to the right audience. Dr. Kaumaya seemed to be representative of what symposium organizer Dr. Zheng considers a small core of OSU faculty who see the value of getting intellectual property into the market.

Educational Exposure to Industry

During a follow-up call, Dr. Zheng said that the conference was largely created to provide the mainstream faculty with an educational exposure to industry.

"When our faculty members attend conferences they usually only meet

(continued on page 20)

Eye on Washington

continued from page 18

against drug companies if they or a loved one become seriously ill or die as the result of a particular drug. And in just the last few days, the FDA has approved numerous waivers for panelists on its advisory boards who have financial conflicts of interest with drugs and devices they are reviewing.

"The FDA is broken and is need of significant, comprehensive reform; not just to the laws that govern the agency, but also to the culture that pervades it. As a member of the House Appropriations Subcommittee that has jurisdiction over the FDA's budget, my colleagues and I will closely be following Dr. von Eschenbach's work as FDA Commissioner and will fully exercise our panel's oversight authority of the agency."

Study: Growth in Health Care Spending Much Faster than Growth in Ages

The growth in health care spending stayed high in 2005 as costs for Americans with private insurance rose 7.4%, the same rate as the previous two years, according to a study by the Center for Studying Health System Change in Washington, DC.

Health spending growth outpaced overall economic growth, despite a 5.4% increase in the overall US economy. After peaking at 10.4% in 2001, health care spending slowed to 7.8% in 2003, followed by 7.5% in 2004. Spending data for the first quarter of 2006 suggest continued stability, albeit at a relatively high rate of growth: 7.7%.

"Health care spending continues to grow at a much faster rate than workers' income, making health insurance less affordable to more and more people, especially low-to-moderate wage earners and their employers," said the Center's President and the first author of the report, Paul B. Ginsburg, PhD. "We're already seeing evidence of the growing health insurance affordability problem as more Americans become uninsured."

The slowdown in employer-sponsored health insurance continued in 2006 as the cost of premiums increased significantly. For the fifth year in a row, employers increased patient cost-sharing in 2006 through higher deductibles, copayments, and coinsurance. Without this benefit "buy down," the premium trend would have been even higher.

"Premium increases cannot be lower than underlying cost trends without further reducing benefits," Dr. Ginsburg said. "So major relief from the financial burden of rapidly rising premiums does not appear to be on the horizon."

The study found that trends in three categories of health services contribute to the problem:

■ Prescription drug spending increased at a slower pace, due to slower growth in utilization rather than slowing of drug price increases.

■ Spending on in-patient and outpatient hospital services increased. This included freestanding facilities such as surgery and imaging centers.

■ Spending on physician care, home health care, and ambulance services increased.

Collaboration

continued from page 19

with other scientists, and don't experience the trade-show side. Slightly more than half the attendees were from industry, and the rest were mostly researchers from OSU and a few other universities," he said, adding that a major objective was to promote an entrepreneurial culture.

Dr. Zheng said that the value of intellectual property was more of a policy issue because most universities don't really encourage or include that or invention in tenure or promotion decisions.

He said universities like Emory, MIT, and Stanford have best practices of encouraging faculty to move invention and innovation to the market, and said he agreed with the University of Michigan's point of view that institutions have a public service mission to translate tangible assets for economic development that benefits society.

"Many people here don't really understand the point that there's a certain social value involved with technology transfer. And some universities are now including technology as part of tenure decisions."

He said the Industry Collaboration Symposium was not a typical meeting and because of the expenses involved, the university had asked industry to help support it, making it a budget-neutral event.

"During the last 10 to 15 years," Dr. Zheng noted, "Ohio State has only had one invention—the feline leukemia vaccine—that has brought in substantial income—about $2 million a year. But when the patent expired, we stopped receiving that money and our annual licensing revenue dropped to only about $600,000, which was a huge blow.

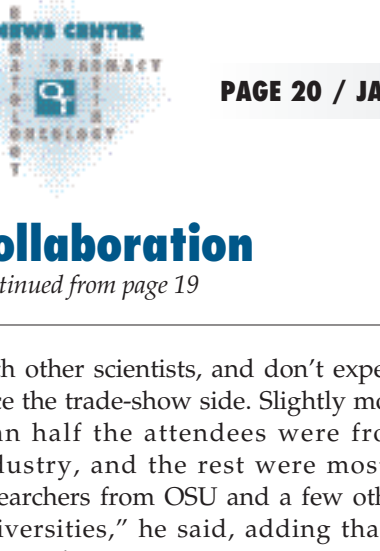
"We have to develop a line of technology that we can keep pushing to the market."

Dr. Zheng said that invited companies were chosen either because they had preexisting relationships with Ohio State or were viewed as potential partners.

The Johnson & Johnson Example

One potential partner was Johnson & Johnson's Corporate Office of Science and Technology (COSAT), which was created in 1978 to foster Johnson & Johnson's long-standing focus on innovation and entrepreneurship, according to its Web site.

Robert Zivin, PhD, Corporate Director for COSAT, asked to speak on a panel dealing with industry research and collaboration, said that academic centers ask questions that industry can't afford to ask, and noted that Johnson & Johnson's COSAT was targeting top universities to fund early research of relevance to health care without asking for rights.



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During a subsequent telephone interview, Dr. Zivin said that J & J operated more than 200 companies worldwide with more than 10,000 scientists and that, once acquired, companies maintained their independent identities.

He said that J & J was also guided by its corporate credo that stressed fulfilling the company's responsibilities to its customers, employees, the community, and its stockholders.

"I wasn't very familiar with the research programs at Ohio State when I went there, but I was happy to come, and once I was there I wondered why I wasn't there sooner," he said.

OSU's recently opened Biomedical Research Tower was built to foster interaction among the medical center's six signature programs in cancer, critical care, heart, imaging, neurosciences, and transplantation.

Dr. Zivin explained that a number of the university's research programs had recently broken into the top 10, and it was as if OSU had broken through the sound barrier, commanding attention for possible collaborative efforts.

"We believe the future of pharmaceuticals is in partnerships where company researchers and academic researchers act as collaborators more than as sellers and customers. We don't know what science will lead to in breakthroughs, and because no company can afford to secure every piece of intellectual property, our security is in working toward relationships with academic researchers."

Dr. Zivin said COSAT supports a broader view based on the science and on these relationships, adding that the appropriate time for formal contracts would be dictated by develop-

(continued on page 22)

Collaboration

continued from page 21

ment of the science.

He likened his office to sort of a "scientific social director," or a clearinghouse or introductory matchmaker, that fostered communication among the thousands of decentralized J & J scientists as well as with basic researchers at academic centers.

And he said he was looking forward to future discussions with university scientists.

Genentech & Innovation

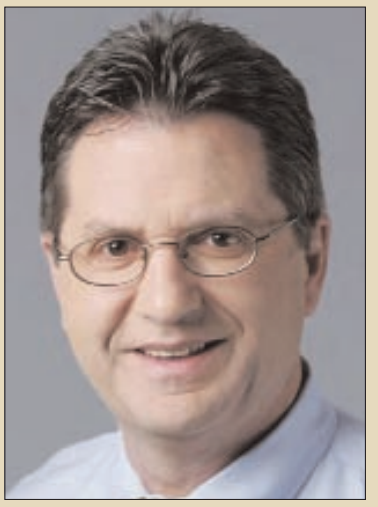
Another panelist during the research and collaboration session, Joseph S. McCracken, DVM, Genentech's Vice President of Business Development, said, "Real innovation is the key to success for all of us in the health care industry."

Noting the public's current poor perception of the pharmaceutical industry, he was critical about the motivations of some pharmaceutical companies, stating there were three types of innovation: exponential, incremental, and excremental.

He mentioned Clarinex and Nexium as examples of "taking old drugs and spending $250 million in direct-to-consumer advertising to convince the public it's the best drug without data."

He said cooperative efforts should follow the science and not the markets, explaining that it was commercially driven market plans that often got pharmaceutical companies into trouble.

In an interview Dr. McCracken said his purpose for attending the symposium was to tell Genentech's story and explain some areas of biology of



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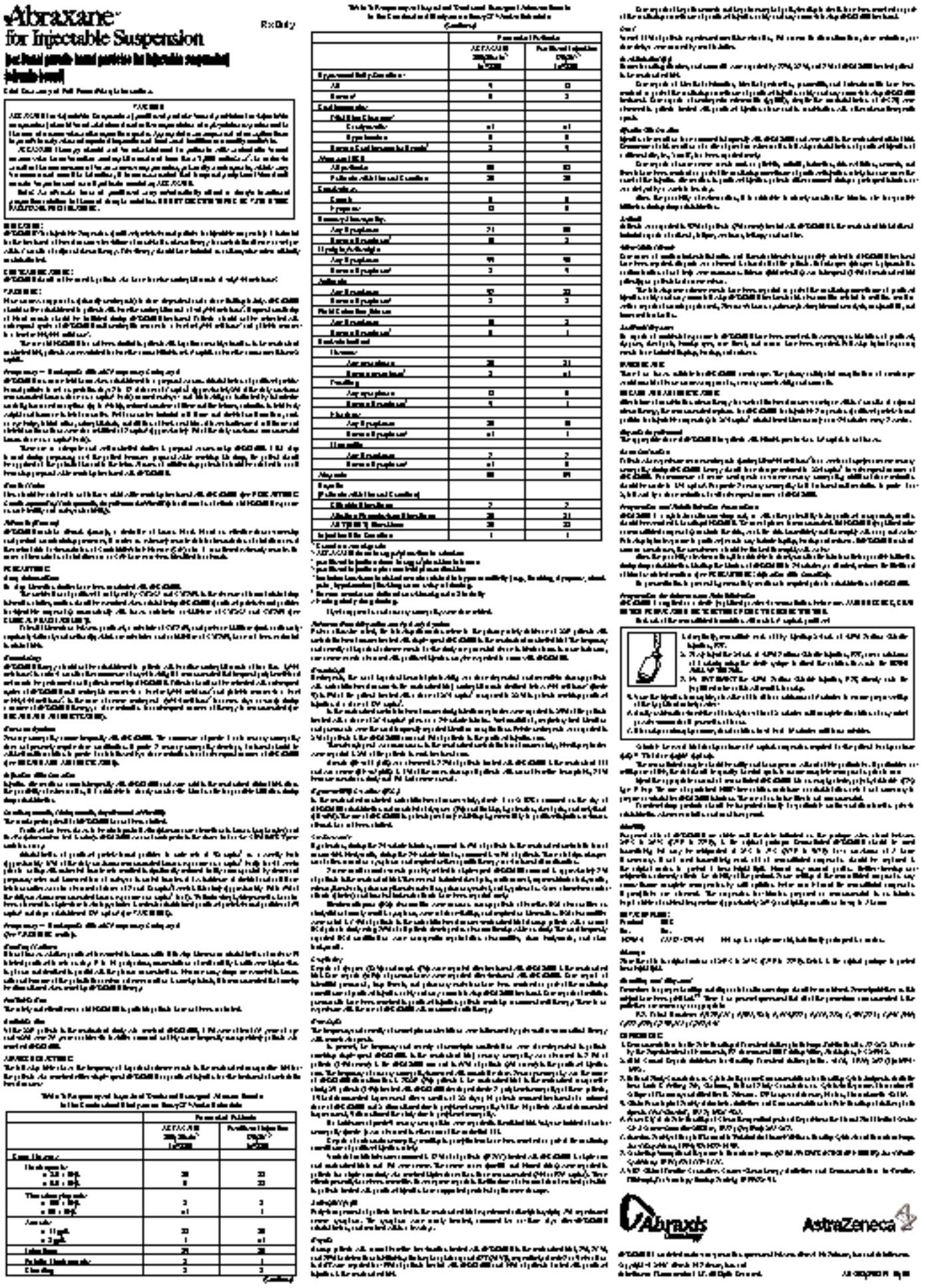
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interest to Genentech "to maybe flush someone out of the corners of the laboratory who might say, 'Oh, I didn't know you were interested in that and I happen to be working on this or something else, and I think it may be an answer to one of your problems.'"

He said he believed exponential innovation could be achieved through partnerships with academic institutions.

Speaking directly to academic institutions, he said his advice was to seek out companies that want to change medical practice, identify areas of biology that both the institution and the company believe are important in serious diseases, pursue translational research to test hypotheses, and find efficient ways to work with companies and investors.

And finally Dr. McCracken's thoughts for venture investors: "It's not that the situation today is so bad…but that yesterday was so good."

"Take a long-term view," he said, "and believe in the value of innovation."

During a post-conference call, Dr. Sanfilippo characterized the symposium as a "roaring success from all measures.

"I think we'll probably do it again, but I'd also like to do a debriefing, sort of a post-mortem," said the pathologist. "But certainly from reactions at the meeting, it looks pretty promising."

And time will tell if the event will lead to meaningful collaborations leading to potential advances in biomedicine benefiting the public.