

# ARIZONA STATE SENATE

## 46TH LEGISLATURE FIRST REGULAR SESSION

### MINUTES OF JOINT SENATE AND HOUSE OF REPRESENTATIVES COMMITTEE ON HEALTH

**DATE:** February 20, 2003      **TIME:** 8:30 a.m.      **ROOM:** SHR 1

**CHAIRMAN:** Senator Allen      **VICE CHAIRMAN:** Senator Binder

**ANALYST:** Julie Keane      **INTERN:** Kimberly Coleman

**ASSISTANT ANALYST:** Brandy Martin      **COMMITTEE SECRETARY:** Carol Dager

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#### ATTENDANCE

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<u>Committee Members</u>	<u>Pr</u>	<u>Ab</u>	<u>Ex</u>	<u>Committee Members</u>	<u>Pr</u>	<u>Ab</u>	<u>Ex</u>
Senator Cannell	X			Representative Arnold	X		
Senator Garcia	X			Representative Bradley	X		
Senator Harper	X			Representative Chase	X		
Senator Hellon	X			Representative Hanson		X	
Senator Jackson	X			Representative Konopnicki		X	
Senator Leff	X			Representative Lopes	X		
Senator Miranda	X			Representative Lopez	X		
Senator Binder, Vice Chairman	X			Representative Nichols	X		
Senator Allen, Chairman	X			Representative Rosati	X		
				Representative Thompson	X		
				Representative Stump, Vice Chairman	X		
				Representative Gullett, Chairman	X		

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#### GOVERNOR'S APPOINTMENTS

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<u>Name</u>	<u>Position</u>	<u>Recommendation</u>
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#### PRESENTATIONS

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Dr. Jeff Trent, Translational Genomics Research Institute  
Dr. Joan Shapiro, Biosciences Roadmap, Flinn Foundation

Chairman Allen called the meeting to order at 8:37 a.m., and attendance was taken.

## **PRESENTATIONS**

**Representative Gullett, Chairman of the House of Representatives Health Committee,** introduced Dr. Jeff Trent, who is the President and Chief Scientific Officer of the newly formed Translational Genomics Research Institute (TGen). He has been invited to brief the Committee members on his efforts to build a world-class research institute in Arizona that will focus on applying the science of Genomics to finding cures for diseases such as cancer, diabetes, and heart disease. Dr. Trent is the former scientific director of the National Genomic Research Institute at the National Institutes of Health (NIH). Accolades and awards that have been bestowed upon him over his distinguished career would fill volumes. Dr. Trent is an Arizona native, a graduate of the University of Arizona (UA) and formerly on the staff of the UA Cancer Research Institute.

**Dr. Jeff Trent, President and Chief Scientific Officer, TGen,** provided information on the progress of the launching of the Arizona Genomics research initiative, which is attributable to the Legislature's willingness to see the importance of the project. This initiative has three major vision points: 1) to establish a world-class research institute in genomics in Arizona; 2) to commit to statewide and national partnerships; and 3) to leverage and maximize resources. He stressed that at the heart of their research is the individual patient, which must always be kept in the equation. This research institute will focus specifically on moving advances from the human genome into human health, translating the genome and not just discovering it. It is important to move information from the laboratory to the bedside and to be able to take information from the bedside back to the laboratory.

Dr. Trent noted that he is a native Arizonan, born at Good Samaritan Hospital and attending Arcadia High School before going to Indiana University for undergraduate school. He received his doctoral degree from UA where he met his wife of 27 years. He noted that although he met his wife at UA, they were married in the chapel on the Arizona State University (ASU) campus. He was a professor at the University of Michigan at Ann Arbor and served as the director of their basic research program in cancer. Along with Dr. Francis Collins, the current director of the Human Genome Project at the NIH, he established a research institute, the first new intramural research institute on the NIH campus in the last 25 years.

Dr. Trent next discussed why genomics is so important to society and the economy and provided some comments on the progress associated with the development of TGen. He mentioned that a year ago, the Governor established the first taskforce to study the launching of a genomics project in Arizona. He pointed out that that Arizona has numerous areas of excellence which will assist in making the TGen project a world-class success: 1) UA's medical school program, especially their cancer research program; 2) the developing programs at ASU in biotechnology and bioengineering; 3) Dr. Paul Keim at Northern Arizona University, the leading expert in bioterrorism; 4) Barrow's Neurological Institute; 5) Mayo Clinic; and 6) support from the presidents of the three major universities.

Dr. Trent related information regarding a specific research project, specifically in the area of melanoma, which is one of the most costly diseases in terms of loss of life. A treatment (interlukin therapy) had been discovered that appeared to cure 10% of the patients with the advanced disease. Approximately 1,800 patients a year ask to be part of the study; however, only 100 patients can participate. Out of 100 patients receiving this incredibly toxic therapy delivered in the intensive care unit at the NIH with bad toxic side effects, 90 patients will experience no affect towards a cure.

However, 10 patients will probably receive a new lease on life. For the last 15 years, the researcher has been unable to determine which patients will respond to the therapy to spare those who would not benefit and to maximize and understand the patients who do respond. He added that TGen worked with this researcher using genomic tools and was able to identify for the first time this past year, a set of genetic markers that would allow them to predict with remarkable accuracy which patients would respond to the therapy. They are looking forward to working at NIH to see if their prediction will work for the next 100 patients.

Dr. Trent referred to a study conducted for breast cancer using similar technology. Researchers looked at patients with prostate and breast cancer who have a high incidence of breast cancer because they inherited a genetic change that increases their susceptibility. The lifetime risk for the average woman is approximately 11% for breast cancer; however, the lifetime risk increases to 80% for a woman with an inherited genetic change. Using genetic tools, there has been an identification of genetic changes that are important for women with both ovarian and breast cancer in their families. For thousands of women who have breast cancer only, there has been no genetic advances in the last 15 years. However, researchers were able to discover an area that will be important in identifying one of these genetic changes and this research was published this week by the National Academy of Science.

Dr. Trent summarized that genomics is individualizing information and applying it to health. Since July 2002, they have approximately 60 people working for TGen with half of them being scientists.

In response to Senator Allen, Dr. Trent replied that the responsibility for delivering information to patients regarding presymptomatic diagnosis will require educating healthcare providers. People with presymptomatic diagnoses are at risk of having insurance denied based on a preexisting condition.

In response to Senator Allen, Dr. Trent responded that they have administrative support in the Arizona Public Service (APS) building for their computer-based scientist and administrative group. He added that their laboratory support has been provided by Sonora Qwest Laboratories. The City of Phoenix has provided funding for a facility to be built on the old Phoenix Union campus, which will be the initiation of a bioscience campus.

Representative Lopes stated that the value of this project is unquestionable and wondered if this is something that the public sector should invest in. He referred to a news article that indicates a concern as to whether Arizona can be competitive in this effort. Dr. Trent replied that he has no doubt that emphasis on research into bettering health is a major area that should receive a commitment from the public sector. He stressed that there is a role for both commercial and public development. He suggested that Arizona can be competitive in leveraging resources from various entities.

Representative Gullett introduced Dr. Joan Shapiro, noting that they both served on the Flinn Foundation and Battelle Memorial Institute Roadmap Study Committee. Although much work has gone into this project, the work is just beginning. Dr. Shapiro received her degree from New York Cornell Medical School in 1979. She is a geneticist by training and relocated from the Memorial Sloane Kettering to the Barrow's Neurological Institute in 1989. She has been involved in research, investigating the genetic changes associated with the central nervous system and malignancies. She currently is the vice president of research at Barrow's.

**Dr. Joan Shapiro, Biosciences Roadmap, Flinn Foundation**, pointed out that she has worked in research laboratories for 40 years. For the first 20 years of her career, researchers were not allowed to do anything with deoxyribonucleic acid (DNA). For the last 20 years, she was able to manipulate DNA but needed a whole body. Today, if a person shakes her hand, she will have enough DNA from that person where she can subtract her genome from the other person's genome and discover everything about that person's genetics.

Dr. Shapiro provided a handout (Attachment A) regarding Arizona's Bioscience Roadmap. She explained that biosciences are not just genomics, it also involves: 1) chemicals; 2) drugs and pharmaceuticals; 3) medical devices and instruments; 4) hospitals and laboratories; and 5) research and testing. She pointed out that investment in biosciences is important, stating that it is one of the fastest growing industries. Arizona has many existing strengths that can be brought together to focus on the industry, which will provide many employment opportunities for professionals, lawyers, management teams, and many other positions needed to support the project. She emphasized that research attracts funding, noting that for every dollar spent, there is a \$6 return.

Dr. Shapiro explained that one of the challenges facing them is that basic research needs to be supported. She stated there has been a decline in support, noting that research growth among Arizona's universities lags behind the national average. She emphasized that if they do not have the research facilities, faculty will leave. Arizona must take advantage of increases in federal medical and life sciences funding and cannot afford to miss this opportunity. She stressed that it is important to develop a comprehensive plan to keep the research in Arizona.

Dr. Shapiro next discussed the strategies of paving the way for biosciences, which includes building research infrastructure around selective technologies and building a critical mass of bioscience firms. It is important to encourage people to become more informed and to excite young people to explore and pursue scientific and technical careers.

Dr. Shapiro talked about the financial requirements for the biosciences, which is \$140 million a year. Approximately one-third of the costs are already committed through Proposition 301, with funding available through other State sources such as the Arizona Disease Control Research Commission (ADCRC) programs and the Arizona Board of Regents (ABOR). However, more private sector funding is needed. She pointed out that there are several federal sources where they can attract additional funds.

Dr. Shapiro emphasized that the real goal of their research is to cure people, but until that time, it is necessary to treat patients. Three areas of focus include neuroscience, cancer therapy, and bioengineering, noting that there are other long-term infectious diseases as well where they also want to concentrate.

In response to Representative Thompson, Dr. Shapiro pointed out that the private sector does not fund researchers.

In response to Senator Miranda, Dr. Shapiro replied that additional facilities will be needed besides the current areas at ASU and UA. She referred to her own facility, where each floor of the research area is dedicated to a different science. New facilities are needed to deal with the new technology; however, the research parks are very important.

In response to Senator Leff, Dr. Shapiro noted that technology transfer is very important, specifically who should share in the overall observation of a discovery. It is important to ensure that everyone wins and benefits from the patents.

Senator Allen added that it is extremely important that legislators realize that if funding continues to be reduced at the universities, they will not be able to support these types of cutting edge research projects.

There being no further business, the meeting was adjourned at 9:43 a.m.

Respectfully submitted,

Carol Dager  
Committee Secretary

(Tapes and attachments on file in the Secretary of the Senate's Office/Resource Center, Room 115.)