

# WRIGHT STATE UNIVERSITY

CELEBRATING  
**40**  
YEARS  
1967-2007  
MAKING A DIFFERENCE  
IN PEOPLE'S LIVES



1960

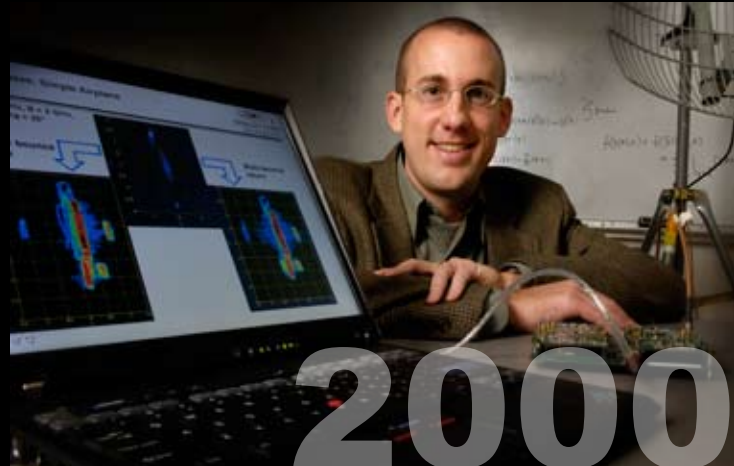
1980



1970



1990



2000

RESEARCH AND SPONSORED PROGRAMS  
RESEARCH THROUGH THE DECADES

# G r e e t i n g s



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**AS WRIGHT STATE BEGINS TO CELEBRATE ITS FORTIETH ANNIVERSARY**, it is an appropriate time to reflect on the growth of our research enterprise. To do so, this report will feature researchers who began their careers in each of our five decades and are still active today.

- **THE 60s**

Forty years ago, Wright State occupied only four buildings. There were no Ph.D.'s and no School of Medicine. Sponsored research was in its infancy, with the university receiving approximately \$300,000 in funding in 1967–68. However, a few WSU pioneers such as Ruben Battino were already leading cutting-edge science programs and attracting funding.

- **THE 70s**

Early in the 70s, about the time Wright State opened its first residence hall and built the (now) Paul Laurence Dunbar Library, Roger Siervogel brought the Fels study of human growth to the university. This leading NIH funded program contributed to Wright State surpassing \$5 million in funding for the first time in 1978-79.

- **THE 80s**

In the mid 1980's, enrollment passed 17,000, and annual research awards exceeded \$10 million. Featured researchers Peter Lauf and Norma Adragna-Lauf moved their nationally prominent programs to Wright State in 1985. Research statewide was strengthened when the Ohio Board of Regents began the selective excellence programs including Research Challenge which continues today.

- **THE 90s**

In 1990 the Nutter Center was opened, followed by the Russ Engineering Center in 1992 and the Dayton Area Graduate Studies Institute (DAGSI) in 1994. Jane Dockery led many programs in the Center for Urban and Public Affairs, building Wright State's reputation for community service. External funding topped \$40 million in 1999-2000.

- **2000**

The 21st century has already seen the 3rd Frontier, the Joshi Research Center, and the start of a major science lab expansion and renovation. Brian Rigling typifies many competitive young researchers leading Wright State into exciting new technology areas. WSU funding also reached a new level with more than \$60 million received in both 2004-05 and 2005-06.

The biggest change that I have seen over the years has been the increase in partnerships and collaboration between researchers in academia, government, and industry. I would like to think that I was one of the first to work in that mode back in the late 70s when I worked on an Air Force project with several companies to design a unique jet engine compressor disk. We brought together mechanical engineers, materials engineers, and computer modelers to run a program that none of us could have done individually. I think that kind of collaboration has really grown over the years.

Wright State researchers have developed a mature concept of collaboration both across the university and with external partners that has allowed us to generate some very large grants. The \$3 million NSF Integrative Graduate Education and Research Traineeship (IGERT) program providing Ph.D. fellowships is a prime example of successful internal collaboration. Certainly the \$12.6 million daytaOhio, involving more than 20 companies and 4 universities, is a success due to partnership. The vision of working together has been extremely important in our recent successes and greatly benefits the region.

With leadership from the Dayton Development Coalition, the Dayton region has become well known across Ohio and nationally for focused economic development. University-sponsored research programs have become part and parcel of economic development within the community. Increasing our research portfolio not only puts us in a good position to be successful in commercializing the research that we're doing, it also produces solid results—jobs and intellectual capital—for the region. I expect that growing collaboration among partners will be crucial for research developments in the decades to come.

Joseph F. Thomas, Jr., Ph.D.  
Vice President for Research and  
Dean, School of Graduate Studies

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R u b i n   B a t t i n o

## THE 1960s

“THERE WERE ONLY ABOUT 90 FACULTY ON THE ENTIRE CAMPUS. AT ONE TIME, I WAS SERVING ON 17 COMMITTEES, ON THE DEPARTMENT, COLLEGE, AND UNIVERSITY LEVEL. IT WAS A REAL COLLEGIAL ATMOSPHERE. WE WERE SETTING REGULATIONS, STANDARDS, RULES. WE WERE BUILDING A UNIVERSITY!”

**F**or Rubin Battino, professor emeritus of chemistry, the chance to be part of Dayton history came in 1966 while he was an assistant professor of chemistry at the Illinois Institute of Technology.

The Miami Valley was about to see the birth of a new public university. Battino decided to accept a position as associate professor of chemistry at what was then a branch campus of Miami and Ohio State Universities.

“I was actually hired by Ohio State. The science and engineering faculty were with OSU, and business, education, and liberal arts fell under Miami University.”

One year later, the branch campus would gain independent status and become Wright State University, the region’s first public comprehensive four-year university.

Battino came to WSU with a National Institutes of Health (NIH) grant, a fully functioning lab, and a postdoctoral student.

“A moving van showed up at IIT and I packed my entire lab into the truck,” he said.

It proved to be a delicate operation. Besides assorted equipment such as vacuum racks, pumps, and a large air thermostat, his lab also had lots of specialized and delicate glassware. Only one piece was damaged in the move. However, Battino repaired that himself, explaining that “scientific glass blowing was a skill I picked up in graduate school.” Within two weeks, his lab was up and running.

There were other challenges as well. “There were only about 90 faculty on the entire campus. At one time, I was serving on 17 committees, on the department, college, and university level. It was a real collegial atmosphere. We were setting regulations, standards, rules. We were building a university!”

As a physical chemist, Battino has centered his academic career on the thermodynamics of solutions, which involves the physical measurements of chemical phenomena.

The work has wide ranging practical and theoretical applications, from medical research to the environment to industry.

Over the years, his work has garnered major support from NIH as well as funding from the National Science Foundation (NSF) and various industry sources such as the Petroleum Research Fund.

“One of the things I’m most proud of is the work I’ve done with my postdoctoral students that involves the super-precise measurements of the solubilities of gases in water.

“When I say super precise, I’m talking about hundredths of a percent, where most of the literature is, give-or-take, about one percent. It would take anywhere from 18 hours to three days to do one measurement.”

His goal was to compile measurements “that would stay in the literature way beyond theories that have gone by the wayside.”

In fact, that’s been the case. He still gets about a half dozen inquiries each year from researchers and students requesting data from his research.

In addition to publishing more than 80 research papers and four technical books, he’s devoted a large portion of his career to fostering chemistry education. He’s authored over 70 papers on chemical education that cover innovative teaching methods for both college and secondary-level science teachers. And with John Fortman, now professor emeritus of chemistry, he started WSU’s popular chemistry demonstration shows that for over 30 years have attracted thousands of students from the Dayton region who learn the wonder of chemistry through things like exploding balloons, glowing pickles, and luminescent soap suds.

Although now officially retired, he still teaches one chemistry graduate course and supervises graduate and undergraduate research students. And, he still likes to “putter around in the lab.” But it’s not the same laboratory that made the trip from Chicago in a moving van more than 40 years ago. “When I retired, I basically shipped my entire lab to a colleague at Blaise Pascal University in France, where to my knowledge it is still being used.”

*RUBIN BATTINO is also a licensed mental health counselor with a small private practice in Yellow Springs, Ohio. He specializes in very brief therapy and Ericksonian psychotherapy and hypnosis, and he has authored several books on psychotherapy. For more information, see [www.rubinbattino.com](http://www.rubinbattino.com)*

# THE 1970s



R o g e r   S i e r v o g e l

**R**oger Siervogel has spent decades studying generations of research participants. As director of the Lifespan Health Research Center, part of the Department of Community Health in Wright State University's Boonshoft School of Medicine, Siervogel leads a team of research scientists and thousands of loyal participants working together to gather a wealth of data that will help solve important health-related problems. The center's ongoing research includes several population studies to determine the impact of the risk factors for various diseases including obesity, cardiovascular disease, and diseases of aging. The center's research priorities also include genetic studies that examine how genes affect growth, health, and disease processes; public health research; and technology transfer to help make practical use of the new knowledge generated by the research.

SIERVOGEL LEADS A TEAM OF RESEARCH SCIENTISTS AND THOUSANDS OF LOYAL PARTICIPANTS WORKING TOGETHER TO GATHER A WEALTH OF DATA THAT WILL HELP SOLVE IMPORTANT HEALTH-RELATED PROBLEMS.

Siervogel, a Brage Golding Distinguished Professor of Research, researches "Adiposity Disease Risk Factors and Lifetime Health" as part of center's Fels Longitudinal Study. This year marks the 29th anniversary of this NIH-funded research—Wright State's longest running grant.

Physical growth and maturation were the key research areas of the study when the Fels Institute was started in 1929 as a private, non-profit program to study the effects of the Great Depression on child development. Its initial research project, the longitudinal study from conception to adulthood, was designed to answer the question "What makes people different?" In 1977, the Institute was donated to Wright State's School of Medicine, and the Fels Longitudinal Study found a new home in what was to become the Lifespan Health Research Center.

It was under the directorship of Alex Roche that Siervogel was enticed to leave his visiting professorship in genetic epidemiology at the University of North Carolina, Chapel Hill, and join the study's team, then located in Yellow Springs, Ohio. "Alex Roche had the vision to see the potential for genetics to play a role in the study, so I was brought onboard in 1974 to add a new dimension," said Siervogel. "Roche was an instrumental moving force in terms of getting the Fels study on the right track, getting research funding for it, and setting the direction that we have followed since he retired from WSU in 1994."

As the years have passed, the pool of Fels Longitudinal Study participants has grown. "The focus of the study was originally more centered on childhood growth. But as the Fels participants aged, we shifted focus to include other kinds of research," Siervogel said. "The emphasis has evolved to include risk factors for common diseases such as obesity, cardiovascular disease, osteoporosis, and others. We try to identify genes that contribute to the disease process in some way."

The first participants were enrolled prenatally in 1929 and are now in their mid-seventies. In addition to the very first volunteers, now their children, grandchildren, and great-grandchildren are part of the study, coming into the center at regular

intervals for testing. Just shy of 80 years old, the Fels Longitudinal Study is the longest running serial study of its kind in the world.

"Independent of the Fels Longitudinal Study, my very first NIH grant in 1976 was a totally new study called the "Genetics of Hypertension," said Siervogel, who became director of the Lifespan Health Research Center in 1992. "That study later became the Southwest Ohio Family Study and is active today in genetic studies of obesity, cardiovascular disease, and osteoporosis."

When Siervogel trained his scientific eye on his own family, it was the familial tendency towards cardiovascular disease that he saw in his future. What he couldn't know was that his future was to be impacted by an unexpected, rare disease, amyotrophic lateral sclerosis (ALS), sometimes called Lou Gehrig's disease. Also called motor neuron disease, the gradual death of the nerve cells responsible for controlling voluntary muscles leads to muscle loss, paralysis, and eventually death.

"My future now is really circumscribed by the increasing disabilities that come with ALS. I'm glad that I will be stepping down from my position as director at a high point. In the last two years our annual research funding has reached over \$5.5 million, up from under one million in 1990. Thanks to the people I surround myself with, I feel like the center has done well on my watch," said Siervogel, who will leave the leadership of the center to a new director but plans to continue directing the projects on which he is the principal investigator, as his health allows.

"My most recent grant was written and funded after my diagnosis in June of 2003," said Siervogel. "Once you get past the initial shock (of learning you have ALS), you decide whether you are going to make the most of the rest of your life, and that is what I am doing. It's not for me to lament what might have been, but to enjoy what I have today."





**Peter Lauf and Norma Adragna-Lauf**

**A**ndermann's Syndrome is a relatively unknown disease that results from a gene mutation critical to our nervous system development. Because this gene helps brain growth and neural communication, children born without it will most likely have difficulties walking, ultimately be confined to a wheel chair, and probably not live beyond 30 years of age.

Now, research scientists are learning more about this disease because of the work of Peter Lauf, M.D., and Norma Adragna-Lauf, Ph.D., of the Wright State University faculty. The couple, who has received more than \$2.5 million in funding from the National Institutes of Health, American Heart Association, and other agencies, collaborates with Dr. Guy Rouleau's Brain Research Group at the University of Montreal.

"THE GOAL OF OUR RESEARCH IS TO APPLY BASIC SCIENCE CONCEPTS TO SOLVE HUMAN DISORDERS AND DEVELOP TREATMENTS AND THERAPIES."

"We laid the groundwork in the 1980s with the discovery of a protein in the cell membrane, which was subsequently found by the Canadian group to be abnormal in patients suffering from Andermann's Syndrome. This protein, which transports salts such as potassium and chloride, was found in almost all tissues of the body. But it has only recently been cloned due to the advances in molecular research," explained Peter Lauf, a WSU University Professor whose primary research interests encompass cellular physiology and the biophysics of membrane transport.

Lauf was one of the first scientists in the world to identify how this protein operates in red blood cell membranes. His work concentrates on studying the physical properties of biological systems, such as cells and body organs. His focus is on the fundamental transport of salts in and out of individual cells.

"Andermann's is a genetic disease involving the chromosomes of nuclei, which contain an abnormal message for producing the protein in question. Since the protein is ubiquitous, it may also be found in red blood cells that travel through our body. Norma and I study these cells to look for abnormalities in the transport system. It's rewarding to study the biophysical properties of our cells and what upsets them," said Lauf.

Adragna-Lauf's interest in research is an outgrowth of her childhood curiosity to explore science. She met her future husband at Harvard and together they represent more than 80 years of experience in scientific research.

"In addition to Andermann's Syndrome, our work has applications to sickle cell anemia, heart disease, hypertension, kidney dysfunction, Alzheimer's disease, and other conditions that relate to the red blood cell transport system," said Adragna-Lauf, whose research expertise encompasses pharmacology and toxicology. "The goal of our research is to apply basic science concepts to solve human disorders and develop treatments and therapies."

The couple brought international recognition to Wright State in 2003 when they hosted an International Symposium

on Cell Volume and Signaling. Some 38 worldwide scientists from 13 countries attended that event at the first meeting of the organization in the United States. The presentations centered on cellular membrane transport processes and control mechanisms that are of fundamental importance in physiology and medicine. Findings from the symposium were published in a 450-page-volume, *Advances in Experimental Medicine and Biology*, that was edited by the Laufs and distributed widely in scientific circles.

Lauf has earned significant international recognition during his 40-year career as a research scientist. He served as a Research Fellow at the prestigious Max Planck Institute in Germany, has held visiting professorships in Germany, Japan, Sweden, and Australia, and lectured internationally at 129 universities. Lauf chaired the WSU Department of Physiology and Biophysics from 1985 to 2003, when he was named University Professor at the Boonshoft School of Medicine and co-director of the Cell Biophysics Group. He has more than 300 publications, book chapters and abstracts to his credit and served on the faculty at the Duke University Medical Center from 1968 to 1985. He founded the Ohio Physiological Society that has become a nationwide model for other society chapters. Lauf's honors include an NIH career award in 1971, the Golding Research Professorship at WSU in 1988, and Research Award from the Affiliate Society Council of Engineering in Dayton in 1998.

Adragna-Lauf's career as a university faculty member and research scientist spans more than 40 years with assignments at the National University of Buenos Aires in Argentina and the Harvard and Duke Medical Schools. She joined Wright State as an associate professor in pharmacology and toxicology in 1985 and advanced to professor in 2001. Adragna-Lauf served as president of the Ohio Physiological Society, is a fellow of the Council on High Blood Pressure Research, an editorial board member of the journal *Cellular Physiology & Biochemistry*, and is co-director of the Cell Biophysics Group. Her credits include more than 350 scientific lectures/presentations/publications.



## J a n e D o c k e r y

**B**eing the sixth of eight children may have helped prepare Jane Dockery for her job as associate director of the Center for Urban and Public Affairs (CUPA). “Learning how to get along with people was instilled in me at an early age,” she said.

CUPA’s mission is to help individuals, organizations, and communities solve problems, primarily by providing information and data analysis to inform strategic decisions. Much of its work is in economic development, community development, and resource development focusing on topics such as industry trends, housing, and health.

In the mid 1990s, CUPA implemented a new organizational structure. Instead of several research associates supporting a principal investigator, the new model made the research associates responsible for building their own research niche and obtaining funding to support their research.

As associate director of CUPA, Dockery, an M.B.A., functions as the chief operating officer. The organization moved from a traditional hierarchical design to a work team approach. The results were dramatic.

“We spread leadership responsibility across a lot of people,” said Dockery. “The result added depth and breadth and instead of conducting eight projects at a time, we now conduct 25 or 30 projects at a time. CUPA is very dynamic.”

In the early 1990s, CUPA conducted industry wage and benefit surveys for employers in the region. What began as surveys to learn what people earned evolved into surveys to help employers determine how to do more with less, and what skill sets employers and employees would need. Along with the raw data, employers wanted to know what the data meant and what the community should be doing in response to the data. CUPA became more than an information provider, as communities and organizations required CUPA to help them interpret and apply data to decision making.

“After I had spent several years gathering data and people saw the quality of the data and what you could do with information, they started to see me as an information expert who also had strategic planning skills,” said Dockery. “My evolution kind of walked alongside CUPA’s evolution.”

CUPA’s health research took off during the 1990s, and it continues today. For its nine-county health care survey, CUPA worked with nine different health districts and the Greater Dayton Area Hospital Association. The survey analyzed health trends and then helped the communities interpret the results. CUPA interviewed 4,000 people and worked with 219 different agencies to develop nine county-level strategic plans and a regional strategic plan.

JANE DOCKERY AND CUPA ARE RECOGNIZED AS INFORMATION EXPERTS AND STRATEGIC PLANNING EXPERTS IN ECONOMIC DEVELOPMENT. “MY EVOLUTION KIND OF WALKED ALONGSIDE CUPA’S EVOLUTION,” DOCKERY SAID.

Dockery proposed an 18-month timeline to complete the work, but in the end had only 16 months. Nevertheless, the work was completed on time. Such a comprehensive survey had never been attempted in the region. A key result was that the ability and visibility of health districts to influence community health was elevated. “Just getting people to the table where they were sharing ideas made a big difference,” she said. “Several of the county health districts began to work together to a greater degree than before the project. For example, they proposed collaborative grant proposals to the Ohio Department of Health. That paved the way for them to work very effectively together when Wright State instituted the new Master’s in Public Health (MPH) program.”

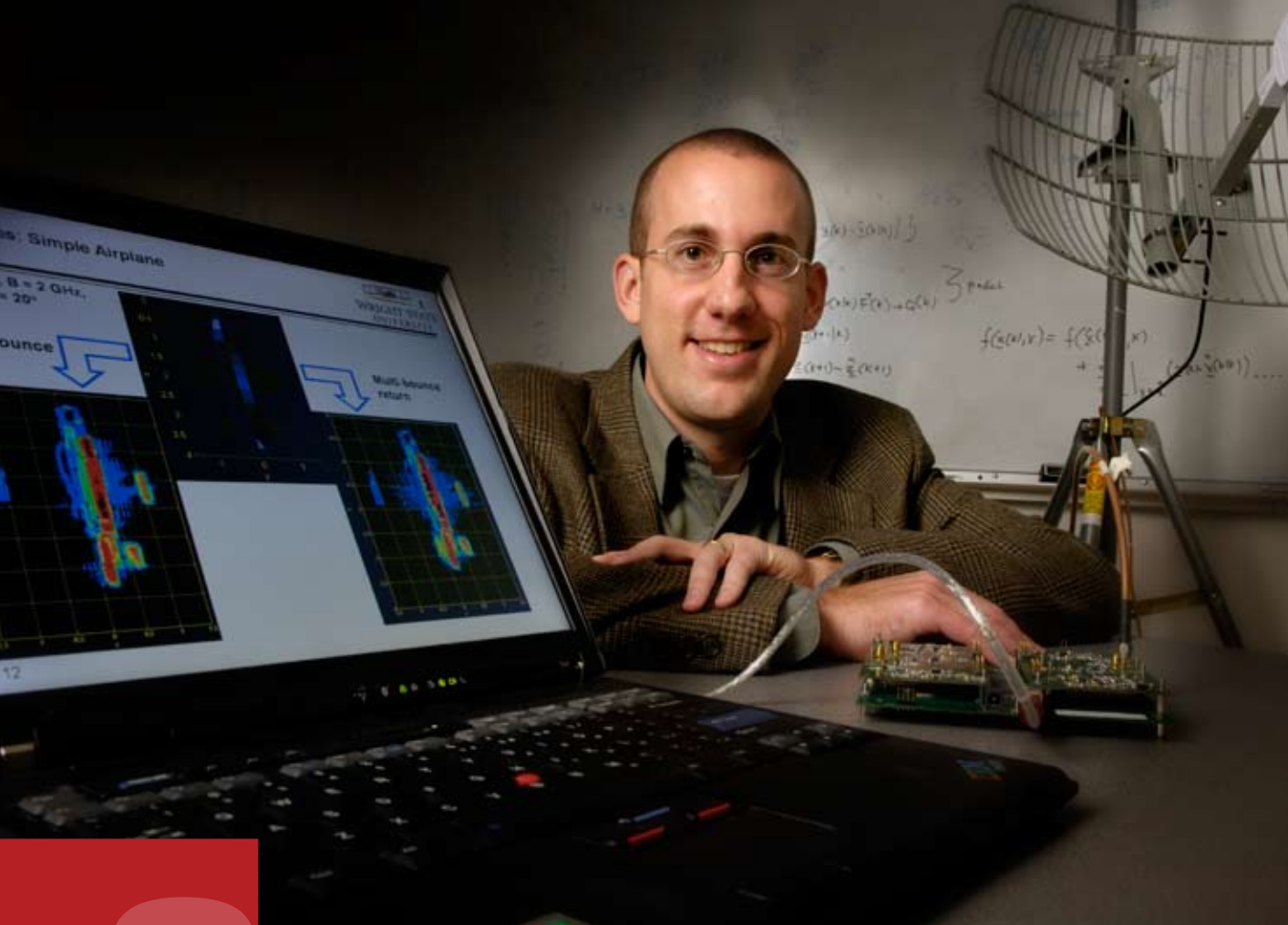
Dockery and CUPA staff are recognized as information experts and strategic planning experts in economic development. Dockery is working with several economic development and workforce organizations and committees that are addressing the economic transition affecting the Dayton region and other regions in Ohio.

The level and complexity of projects continue to increase. The number of research sponsors, collaborators, and topics are growing, as are the expectations for high-level analytical techniques and quick project turnarounds.

Dockery and Jack Dustin, Ph.D., chair and associate professor of urban affairs and geography and CUPA director, directed a statewide research effort entitled *The State of Ohio’s Urban Regions*. The project addressed nine urban topics, including land use issues, health care access, educational divides, economic development, and more. Nine research teams worked at eight different universities, culminating in a statewide forum with the Governor.

“To me, this job is amazing,” she said.





**B r i a n   R i g l i n g**

**T**o understand Brian Rigling's work in waveform diversity, first picture a group of people in a room. Then ask yourself, "How can different groups have conversations without getting in the way of each other?" Perhaps they take turns talking (time multiplexing), speak in a high or low voice (frequency multiplexing), or speak a different language (code multiplexing).

Similar problems arise in the radio frequency (RF) spectrum, with commercial radio and TV, wireless communications, and radar all competing for airtime and spectrum. Waveform diversity researchers have developed sophisticated mathematics and intelligent algorithms to address these issues. However, can these methods be realized in practice?

To answer this question, Rigling, an assistant professor of electrical engineering in the College of Engineering and Computer Science, has collaborated with a local company to develop simulations of real hardware components in order to test the algorithms and the theory constructed by waveform diversity researchers.

RIGLING'S RESEARCH ON WAVEFORM DIVERSITY, SENSOR SIGNAL PROCESSING, AND SENSOR AIDED VIGILANCE, OR SAVig, HAS APPLICATIONS IN ACADEMIC, MILITARY, AND INDUSTRIAL ARENAS.

"Can real hardware that we can build actually implement the sophisticated waveforms that they claim will give the improved performance?" Rigling asked. "When you use real hardware to build a system, it's going to have imperfections. Is your algorithm robust enough to survive a hardware implementation with all of its imperfections?"

Rigling's work has applications in academic, military, and industrial arenas. His research interests include sensor signal processing, which includes synthetic aperture radar (SAR), radar that uses special signal processing to produce high-resolution images of the surface of the Earth or another object while transversing a considerable flight path. SAR is extremely valuable in both military and civil remote-sensing applications. It provides surface mapping regardless of darkness or weather conditions that hamper other methods.

For the Air Force, Rigling is researching methods for radar imaging of the ground and methods for automatic recognition of targets in those images. Both of these problems require an understanding of electromagnetic scattering, or in other words, what happens when radio waves bounce off things.

To help understand how radio frequencies interact with their environment, or how radar interacts with its target, Rigling developed software for high-frequency prediction of electromagnetic scattering that he calls the Raider Tracer. Raider Tracer uses individual facets to represent three-dimensional objects, and its shooting and bouncing rays simulate how radar would respond to that object. It gives researchers access to a wealth of data that might otherwise be inaccessible due to expense or security restrictions.

Though similar software packages exist, they can be company proprietary or may have limited availability due to gov-

ernment restrictions. Raider Tracer acts as a kind of beta test for other researchers. While trying to obtain access permission for one of the government-restricted simulations, Rigling began developing the Raider Tracer. He wanted software that would be available to all.

"In the time I was waiting to get through all of those hoops, I wrote my own software," he said. "Neither industry or government has ownership of it, so I can post it on my Web site for anyone to use."

In partnership with the Air Force Research Laboratory, Rigling and his collaborators in the Department of Electrical Engineering received \$1 million in funding to study Sensor Aided Vigilance, or SAVig. People can keep an eye on things by using video monitors, but sensors can hear and detect abnormalities at longer range and with greater persistence than the camera and human eye can see.

The idea behind SAVig is to detect abnormal activities. If a large truck stops in front of a building, and the driver gets out and runs away, then something is probably amiss.

"Can we have sensors watching a road all the time to try and detect when someone may pose a threat?" Rigling asked.

For four years prior to joining the Wright State faculty in 2004, Rigling was a systems engineer for Northrop Grumman Electronic Systems in Baltimore. He worked on synthetic aperture projects for sonar, radar, and ladar. Rigling led a team of engineers in several internal research and development efforts involving SAR. His team investigated, designed, and developed signal-processing algorithms for SAR autofocus, SAR image speckle reduction, multi-look processing, and SAR image formation.

Funding Highlights

for Awards over \$500,000

**Joseph F. Thomas, Jr.**  
Graduate Studies and  
Research

**Radio Frequency Identification Project**  
Abstract: The main purpose of this Third Frontier grant is to recruit a market-leading Radio Frequency Identification (RFID) company, Alien Technology, from Silicon Valley to Ohio and establish a market-driven applied research facility in the Dayton region.

\$2,238,000  
Ohio Department  
of Development,  
through Develop-  
ment Research  
Corporation

**Mark E. Gebhart**  
Emergency Medicine  
Boonshoft School of  
Medicine

**Modular Acute Care Incident and Education (MACIE) Unit**  
Abstract: This funding will be used to establish a mobile emergency response unit capable of deployment for on-site outpatient treatment capabilities as may be needed.

\$2,186,217  
Ohio Department  
of Administrative  
Services

**Paul Cashen**  
Wright Center of  
Innovation  
College of Engineering  
and Computer Science

**Wright Center of Innovation for Advanced Data Management and Analysis (WCI-ADMA)**  
Abstract: These funds will be used to support the operating expenses of the WCI-ADMA, doing business as daytaOhio.

\$1,500,000  
Ohio Department  
of Development

**Roger M. Siervogel,  
W. Cameron Chumlea,  
Stefan Aleksander  
Czerwinski,  
Ellen W. Demerath,  
Shumei S. Sun,  
and Bradford Towne**  
Community Health  
Boonshoft School of  
Medicine

**Adiposity, Disease Risk Factors, and Lifetime Health**  
Abstract: The researchers will continue the collection and evaluation of serial data for analyses of body composition, fat-related variables, and risk factors for growth, development, and disease (the Fels Longitudinal Study).

\$1,143,896  
Department of  
Health and Human  
Services (DHHS),  
National Institute  
of Child Health and  
Human Develop-  
ment (NICHD)



**Mark E. Gebhart**  
and  
**Glenn C. Hamilton**  
Emergency Medicine  
Boonshoft School of  
Medicine

**Establishment of Neighborhood Emergency Help Centers**  
Abstract: This funding will be used to provide the State with plans for and the establishment of one Neighborhood Emergency Help Center (NEHC) for adult and pediatric disaster victims.

\$800,000  
Ohio Department  
of Administrative  
Services

**Roger M. Siervogel,  
Stefan Aleksander  
Czerwinski,  
Bradford Towne,  
W. Cameron Chumlea,  
and Ellen W. Demerath**  
Community Health  
Boonshoft School of  
Medicine

**Genetic Epidemiology of CVD Risk Factors**  
Abstract: This collaborative effort will elucidate the role of genetic risk factors for cardiovascular disease (CVD) and will lead to the identification of those specific genes that influence the age-related, progressive CVD risk.

\$755,892  
Department of  
Health and Human  
Services (DHHS),  
National Heart,  
Lung, and Blood  
Institute (NHLBI)

**Forouzan Golshani,  
A. Ardeshir Goshtasby,  
and Thomas Wischgoll**  
Computer Science and  
Engineering  
College of Engineering  
and Computer Science  
**Robert E.W. Fyffe**  
Research Affairs  
Boonshoft School of  
Medicine

**Computer-Aided-Detection of Chest X-rays for Early Detection of Lung Cancer and Other Lung Diseases**  
Abstract: WSU researchers will collaborate to display and identify X-ray images that will allow physicians to more effectively detect lung cancer and other lung diseases.

\$705,142  
Ohio Department  
of Development,  
through the  
Cleveland Clinic  
Foundation

**Dennis C. Moore**  
Community Health  
Boonshoft School of  
Medicine

**RRTC on Substance Abuse, Disability, and Employment**  
Abstract: The purpose of this project is to continue to conduct research, training, and dissemination activities to address employment needs of persons with disabilities who also experience substance abuse problems.

\$699,983  
U.S. Department  
of Education





**Shumei S. Sun,**  
**W. Cameron Chumlea,**  
and  
**Roger M. Siervogel**  
Community Health  
School of Medicine  
**Arthur S. Pickoff**  
Pediatrics  
Boonshoft School of  
Medicine

***Longitudinal Cardiac Outcomes and  
Body Composition***  
Abstract: This is a four-year project to link  
adult cardiac structure and hemodynamic  
function with long-term serial childhood data  
for body size, body composition, and blood  
pressure.

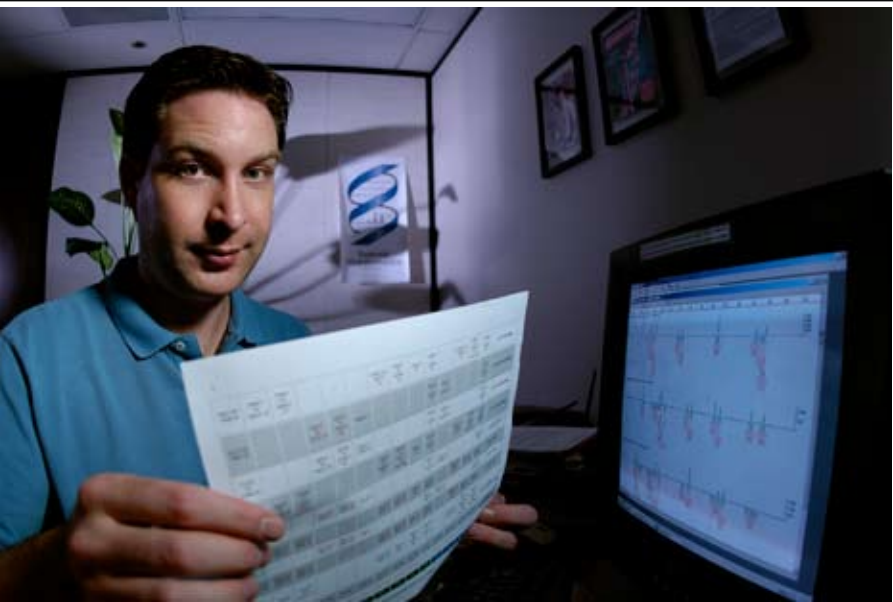
\$633,030  
Department of  
Health and Human  
Services (DHHS),  
National Heart,  
Lung, and Blood  
Institute (NHLBI)



**Forouzan Golshani**  
Computer Science and  
Engineering  
College of Engineering  
and Computer Science  
**Nikolaos G. Bourbakis**  
Information Technology  
Research Institute (ITRI)  
College of Engineering  
and Computer Science  
**John M. Flach**  
Psychology  
College of Science and  
Mathematics  
**Robert E.W. Fyffe**  
Research Affairs  
Boonshoft School of  
Medicine  
**Michele G. Wheatly**  
Science and Mathematics  
- Administration

***IGERT: An Interdisciplinary Initiative  
on Technology Based Learning with  
Disability***  
Abstract: The IGERT Program will create  
a unique synergistic community at the  
confluence of special education, basic  
sciences, and engineering sciences to  
explore solutions to the complex needs  
of persons with disabilities. The grant sup-  
ports competitive graduate fellowships.

\$576,823  
National Science  
Foundation



**Bradford Towne,**  
**Ellen W. Demerath,**  
and  
**Roger M. Siervogel**  
Community Health  
Boonshoft School of  
Medicine

***Genetic Regulation of Adiposity and  
Associated CVD Risks***  
Abstract: This project explores the genetic  
influences (i.e., genes) that jointly influence  
measures of body fatness (adiposity) and  
associated cardiovascular disease (CVD).

\$564,113  
Department of  
Health and Human  
Services (DHHS),  
National Institute of  
Diabetes and  
Digestive and Kidney  
Diseases (NIDDK)

**Robert G. Carlson,**  
**Russel S. Falck,**  
and **Jichuan Wang**  
Community Health  
Boonshoft School of  
Medicine

***Crack Cocaine and Health Services  
Use in Rural Ohio***  
Abstract: Researchers will conduct health  
services research among small town and  
rural crack users in four non-metropolitan  
counties in West-Central Ohio.

\$554,984  
Department of  
Health and Human  
Services (DHHS),  
National Institute on  
Drug Abuse (NIDA)



# A w a r d s

Table 1 Awards by Major Funding Source FY06

Major Funding Source	Number of Awards	Amount Awarded
Federal Agencies	128	\$28,939,587
State Agencies	93	\$19,425,021
Nonprofits	69	\$6,747,939
Industry/Business	147	\$4,576,971
Educational Institutions	70	\$2,907,461
Other Government Agencies	31	\$799,883
Miscellaneous	19	\$932,844
Foreign Sponsors	1	\$48,636
<b>Total</b>	<b>558</b>	<b>\$64,378,342</b>

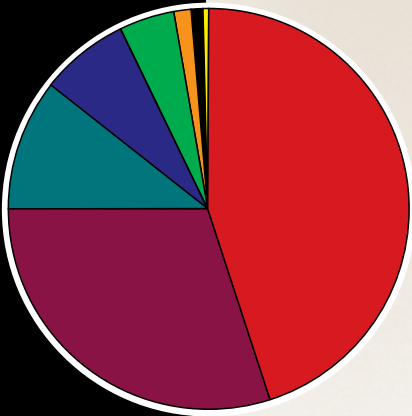


Table 2 Awards by Campus Area FY06

Campus Area	Number of Awards	Amount Awarded
Boonshoft School of Medicine	158	\$25,616,411
School of Graduate Studies	15	\$11,413,370
College of Engineering & Computer Science	126	\$9,031,166
College of Science & Mathematics	124	\$6,836,419
Student Services	5	\$5,847,250
College of Education & Human Services	17	\$2,067,503
Universitywide/Miscellaneous	14	\$971,936
College of Liberal Arts	40	\$829,285
College of Nursing & Health	11	\$777,866
School of Professional Psychology	34	\$726,224
Raj Soin College of Business	3	\$145,190
Lake Campus	11	\$115,722
<b>Total</b>	<b>558</b>	<b>\$64,378,342</b>

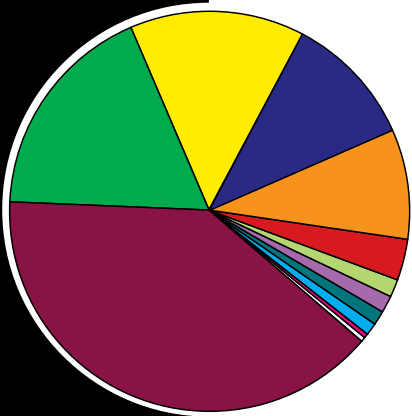


Table 3 Awards by Type of Activity FY06

Type of Activity	Number of Awards	Amount Awarded
Research	328	\$31,459,153
Institutional Support	35	\$9,538,770
Public Service	67	\$8,725,251
Student Aid	15	\$6,256,913
Instruction	79	\$5,753,727
Development	34	\$2,644,528
<b>Total</b>	<b>558</b>	<b>\$64,378,342</b>

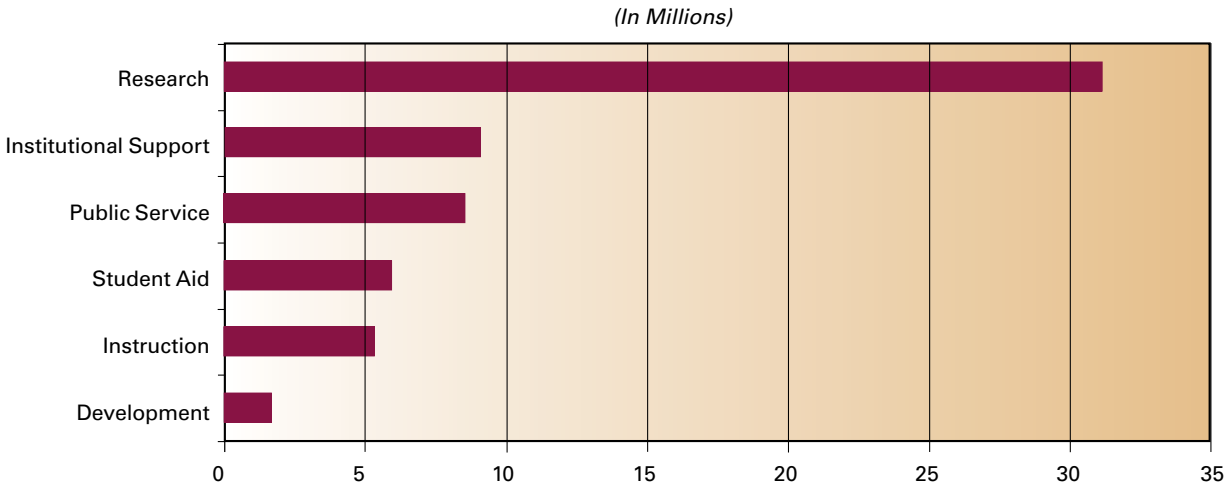




Table 4 Ten Years of Funding: Grant and Contract Awards FY97 to FY06

<i>Fiscal Year</i>	<i>Number of Awards</i>	<i>Amount Awarded</i>	<i>Increase/Decrease vs. Previous Year</i>
1996-97	535	\$31,336,991	
1997-98	462	\$30,283,100	-3%
1998-99	460	\$34,642,162	14%
1999-00	475	\$45,339,049	31%
2000-01	481	\$48,510,950	7%
2001-02	537	\$41,362,186	-15%
2002-03	554	\$46,255,284	12%
2003-04	570	\$50,462,293	9%
2004-05	573	\$62,655,115	24%
2005-06	558	\$64,378,342	3%

Ten-Year Trend FY96 to FY05

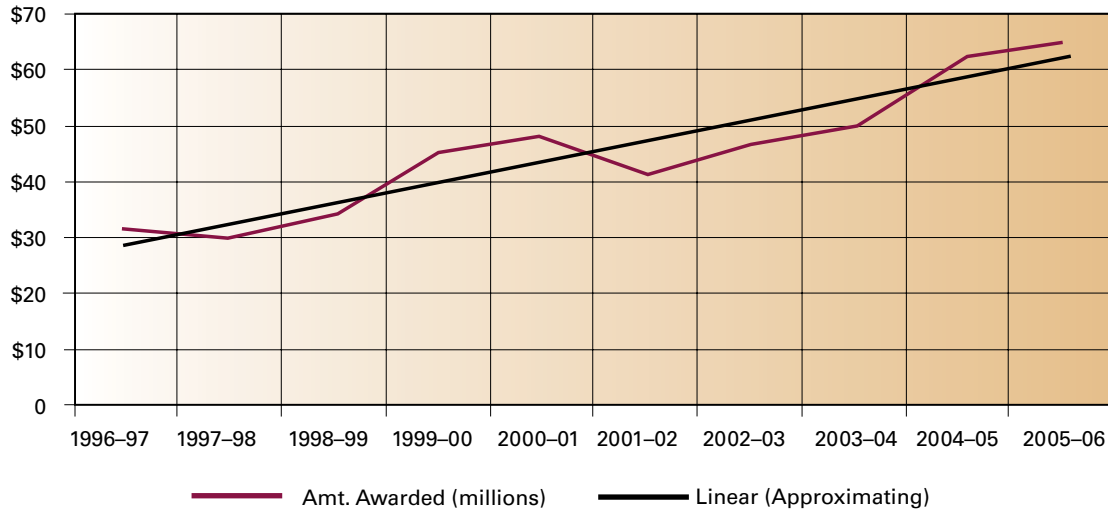


Table 5 Awards by Type and Campus Area FY06

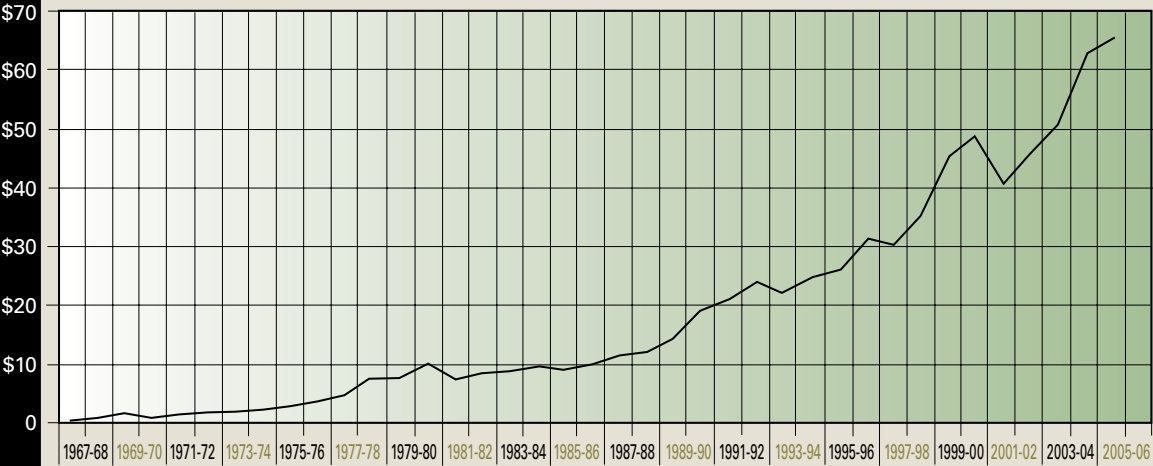
<i>College/School</i>	<i>Research</i>	<i>Instruction</i>	<i>Public Service</i>	<i>Other</i>	<i>Total</i>
Medicine	\$16,195,553	\$753,447	\$7,834,037	\$833,374	\$25,616,411
Grad. Studies	\$762,172	\$0	\$0	\$10,651,198	\$11,413,370
Engineering	\$8,380,286	\$598,880	\$0	\$52,000	\$9,031,166
Sci. & Math.	\$5,356,071	\$1,109,522	\$30,360	\$340,466	\$6,836,419
Other	\$643,978	\$71,413	\$138,600	\$5,965,195	\$6,819,186
Education	\$0	\$1,964,126	\$0	\$103,377	\$2,067,503
Liberal Arts	\$0	\$308,622	\$474,420	\$46,243	\$829,285
Nursing	\$21,093	\$464,790	\$0	\$291,983	\$777,866
Prof. Psych.	\$100,000	\$462,677	\$77,494	\$86,053	\$726,224
Business	\$0	\$0	\$141,640	\$3,550	\$145,190
Lake Campus	\$0	\$20,250	\$28,700	\$66,772	\$115,722
<b>TOTAL</b>	<b>\$31,459,153</b>	<b>\$5,753,727</b>	<b>\$8,725,251</b>	<b>\$18,440,211</b>	<b>\$64,378,342</b>



Table 6 Awards by Federal Agency and Campus Area FY06

College/School	DHHS	DoD	NASA	NSF	EDUC	Other Fed	Federal Total
Medicine	\$11,485,936	\$510,412	\$300,000		\$767,258	\$2,679,637	\$15,743,243
Sci. & Math.	\$759,530	\$719,204	\$271,236	\$2,020,390		\$107,460	\$3,877,820
Engineering		\$1,545,284	\$65,081	\$757,881		\$169,713	\$2,537,959
Nursing	\$621,773						\$621,773
Prof. Psych.	\$49,421				\$66,632		\$116,053
Liberal Arts						\$89,654	\$89,654
Other		\$228,933			\$5,717,002	\$7,150	\$5,953,085
Business							\$0
Education							\$0
Lake Campus							\$0
Grad. Studies							\$0
<b>TOTAL</b>	<b>\$12,916,660</b>	<b>\$3,003,833</b>	<b>\$636,317</b>	<b>\$2,778,271</b>	<b>\$6,550,892</b>	<b>\$3,053,614</b>	<b>\$28,939,587</b>

Annual External Funding Since Inception



Wright State University Research Centers

- Center for Brain Research
- Center for Genomics Research
- Center for Interventions, Treatment and Addictions Research
- Center for Urban and Public Affairs
- Computational Design and Optimization Center
- Dayton Area Graduate Studies Institute
- Information Technology Research Institute
- Institute for Environmental Quality
- Lifespan Health Research Center
- daytaOhio, a Wright Center of Innovation for Advanced Data Management and Analysis
- Center for Global Health System Management and Policy

WRIGHT STATE RESEARCHERS HAVE DEVELOPED A MATURE CONCEPT OF COLLABORATION BOTH ACROSS THE UNIVERSITY AND WITH EXTERNAL PARTNERS THAT HAS ALLOWED US TO GENERATE SOME VERY LARGE GRANTS. THE VISION OF WORKING TOGETHER HAS BEEN EXTREMELY IMPORTANT IN OUR RECENT SUCCESSES AND GREATLY BENEFITS THE REGION.

– Joseph F. Thomas, Jr., Ph.D.  
Vice President for Research and  
Dean, School of Graduate Studies





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