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On October 11, a brilliant fall day with a lingering edge of summer, PBS pulled out all the stops for a celebration of an extraordinary and unique milestone: 125 years of psychological science at Indiana University.

Extraordinary because in 1888 William Lowe Bryan established the second psychological laboratory in the US at the dawn of a new discipline in a small, rural town far from the intellectual centers of Europe and the East Coast. Unique because the lab marked the beginning of what is now the longest continuing psychology program in the country.

The daylong celebration was launched with “Connections and Connectivity”—presentations by distinguished PBS faculty Linda Smith and Olaf Sporns. Each gave a talk about their work and its relationship to the field at large. No topic could better match the occasion.

(continued on next page)
"Beautiful scientific brush strokes being painted by Linda Smith, connecting motor, sensory, social systems,” announced one of the tweets coming out of the lecture hall, as Linda Smith delved into her work on early childhood development. (The man behind the tweet being one Ben Motz, PBS senior lecturer and director of pedagogy.)

Recounting “the chains of events in time that lead to new structures and new functions,” explained Smith, an infant’s trunk control and head stabilization being the necessary precursor to sustained visual attention and coordinated social attention till ultimately, if all proceeds as usual, you reach “the big gorilla,” of language and other cognitive processes.

“Everything you are today comes out of where you were before,” observed Smith of these processes.

Yet her words had special resonance on a day when the past and its inevitable way of acting upon the future, was visibly present in multiple forms.

It was present, for example, in the many alumni who came to share their experiences with the current students in both a series of noon-time round-table discussions and a panel entitled “Psychology in the Real World”: Mary Czerwinski and Pete Yonkman, David T. Pfennninger and Skyler Place, Deborah Pizer Hermalyn and Kimberly Mullen, Jessica Jackson-McLain and Cynthia Kretz, Scott Branam and Jenifer L. Vohs.

It was present in PBS alumni John Monahan (PhD, 1972), now a professor of law, psychology and psychiatric medicine at the University of Virginia, and “the leading thinker on the issue of violence risk assessment,” according to the US Supreme Court. In his lecture “Danger and Disorder: Guns, Violence and Mental Illness,” he had a sobering tale to tell, along with his commentator, IU sociologist Bernice Pescosolido: A look at the data suggests that the commonly invoked link between gun violence and mental illness, fueled perhaps by the stigma of mental illness in our culture, is grossly exaggerated.

The PBS past was visibly present in the sunlit ceremony dedicating the largest brain sculpture in the world—10,000 pounds of Indiana limestone mined from Reed Quarry in Bloomington, designed by local artist Amy Brier, and carved by owner of Accent Limestone Mike Donham and his team. And in Provost Lauren Robel’s moving remarks about the meaning of that sculpture has on this occasion, as well as in the generosity of the Harlan family’s underwriting, which follows their own cross-generational history with the department.

In momentous speeches honoring the event, that past again flowed through the words of IU President Michael McRobbie, College of Arts & Sciences Dean Larry Singell, and in the personal history of IU historian and professor, James Capshew. And it flashed across the screen behind them.

History, however, both collective and individual, was perhaps most fully embodied at the banquet in the President’s Hall that night when thirteen emeritus faculty stood upon the stage:

Total years of service among them: 547
Average number of years each one served: 38
Together they comprise a piece of that larger and ongoing history now visually represented in our hallways in a Gantt chart pictured on the next page.

Current and former students, faculty and staff, friends of the department and key figures in the university and the community: All came together to make that day a living tribute to a unique and extraordinary past, one that will propel us on to a bright and hopeful future.

That day, a sense of connection and continuity between past, present, and future brought the entire PBS community together. Our sincere thanks to our many constituents for making it all happen! ♦
THE PBS FACULTY GANTT CHART

This Gantt chart tracks all full-time faculty who have taught in PBS since the department began in 1888. It records their years as faculty (in black) and as emeriti professors (gray). PBS Professor Jason Gold compiled the graph at the suggestion of PBS historian James Capshew. Capshew will incorporate the graph in his upcoming revised edition of the department’s history.
Set in Stone

A sculpture and an endowment encompass the past, present, and future of PBS

A year before the October 11th festivities, PBS department chair, Bill Hetrick, had envisioned a sculpture that would represent and reflect the meaning of this 125-year milestone for the department. He had witnessed firsthand the impact of the Brain Extravaganza, a project in which neuroscientist Jill Bolte Taylor commissioned 22 giant fiberglass brains to be temporarily installed across the Bloomington campus and community.

One of those brains had stood outside Hetrick’s window and each day he saw the way the artwork drew passers-by on 10th Street, who would predictably cross the street at the sight of the sculpture to take photographs or get a close-up look at the giant brain.

Leading up to the celebration, he had conceived a plan, one that took no small effort to implement, and which was realized due to one family’s great generosity and heartfelt belief in his vision and the overall mission of the department. This family, Hal P. Harlan and his sons Hugh P. Harlan and Doug H. Harlan, sponsored the sculpture through the Harlan Family Foundation.

The outcome of those efforts became the centerpiece for the 125th celebration, something that could represent the full weight and gravity of the occasion: a 12,000 pound limestone sculpture of a human brain, designed and implemented by Bloomington limestone sculptor Amy Brier and carver Mike Donham, owner of Accent Limestone, and his team.

In the weeks and months leading up to the sculpture’s arrival, Hetrick saw the project through to completion. Many people rose to the occasion: IU architects, landscapers, and engineers, as well as the artist and carvers who brought their centuries-old techniques to bear on accurately representing the human brain’s anatomical structure.

In her comments at the dedication ceremony Provost Lauren Robel set a mood appropriate to the moment. The sculpture, she observed, “is a tribute to the spirit of exploration, the desire to know what is not yet known, and the men and women who have dedicated their lives to unraveling the mysteries of the human mind. These are the reason the department remains strong and vibrant after 125 years.”

The ceremony also set the stage for a further announcement. Not only did the Harlan family underwrite the sculpture. They had also initiated an endowment: the Harlan Family Behavioral Neuroscience Research Innovation Fund, which will be used to train students as Harlan Scholars.

Then the sculpture was unveiled.

“Stone is synonymous with memory,” Amy Brier once said of her art. “It is a physical record of the earth’s history.”

“Stone is synonymous with memory,” Amy Brier once said of her art. “It is a physical record of the earth’s history.”

It seemed somehow fitting then, that in this sculpture she seamlessly combined one place of memory—Indiana limestone—with another—the human brain—at a moment when the Department reflects on its own historical memory and the capacity to sustain itself, like Indiana limestone, long into future.
Inaugural Traditions

125th sets the stage for future banquets and alumni recognition awards

With the 125th celebration PBS initiated a new tradition: an annual banquet to connect with our extended PBS community and a new opportunity to honor our alumni with three types of awards: the Young Alumni Award for promising and accomplished alumni under 40, the Distinguished Alumni Award for alumni 40 and above, and what we now call the Richard C. Atkinson Lifetime Achievement Award named after its first recipient for a lifetime of major social and intellectual contributions. This year we were pleased to announce the following award recipients during the 125th celebration.

Young Alumni Award

Danielle M. Dick (PhD, 2001) is an Associate Professor in the Department of Psychiatry, Psychology & Human and Molecular Genetics at the Virginia Institute for Psychiatric and Behavioral Genetics at Virginia Commonwealth University. Her groundbreaking work on alcoholism uses genetically-informative designs to evaluate interactions of genetic and environmental risk factors in the development of alcohol dependence and related problems.

This was not the first time we have recognized her. As a graduate student working with Dick Rose and Rick Viken in our department, she was awarded the 2001 J. R. Kantor Graduate Award for Outstanding Doctoral Graduate. Since then, numerous organizations have recognized her great talent and future promise with prestigious awards for her illuminating research, among them the Behavior Genetics Association, the National Alliance for Research on Schizophrenia and Depression, and the Research Society on Alcoholism.

We are pleased to recognize her once again.

Katharine (Katie) Graf Estes (BA, 2000) is an Assistant Professor in the Department of Psychology and the Center for Mind and Brain at the University of California at Davis. As a prolific researcher and director of the Language Learning Lab, her work concentrates on the sophisticated learning that occurs in infants, which precedes and leads to language acquisition. In particular, she explores how infants learn from statistical regularities in the language they hear. Her great aptitude as a scientist and scholar was similarly well recognized during her undergraduate years in our department with the Cheryl Burnham Buhler Award in Psychology and a grant and scholarship from the Honors College.

Recent work explores how certain characteristics of infant-directed speech may play a key role in its effect on word learning.

Katie is also the recipient of the UC Davis’ Hellman Fellows Award in 2009 to pursue a project on mapping sounds to meanings in early word learning, an NSF Career Award and NIH/NICHD grant for her contributions to the study of language-learning in infancy.

We were happy to have her with us on October 11th to accept the Young Alumni Award.

Distinguished Alumni Award

Mary Czerwinski is a Senior Researcher and Manager of the Visualization and Interaction Research Group at Microsoft Research. The group studies and designs advanced technology and interaction techniques and Mary’s research focuses primarily on emotion tracking, information worker task management, multitasking, and awareness systems for individuals and groups.

Mary received a PhD under the direction of Richard Shiffrin with a thesis entitled “Differences between memory and visual search: Implications for models of attention.” Mary is active in the field of Human-Computer Interaction, publishing prolifically and participating in a wide number of conferences, professional venues and journals.

Mary was awarded the Association for Computing Machinery’s Special Interest Group on Computer–Human Interaction’s (ACM SIGCHI) Lifetime Service Award, was inducted into the CHI Academy, and became an ACM Distinguished Scientist in 2010.

We were extremely delighted to present Mary with the Distinguished Alumni Award.

Since receiving our award, Pete Yonkman (BA, 1995, in psychology and a law degree from the IU Maurer School of Law in 1998) has been named President of Cook Medical at Cook Group Incorporated, a medical device manufacturer, whose global headquarters are located in Bloomington. Pete joined Cook in 2001 as Corporate Counsel and Manager of its patent office and was named president of Cook Urological Incorporated in August 2005. In 2007 he became Executive Vice President of Sales and Marketing becoming Vice President of Strategic Business Units and finally taking on his new role as President of Cook Medical. He has been active on the IU Law School’s Business Law Advisory Board and as a 2006 Hoosier Fellow in the Kelley School’s Tobias Center for Leadership.

Noted for his vision, creativity and talent by his colleagues, we are proud to claim him, too, as a graduate of this department and present him with this award.

(continued on next page)
A History within a History

Festschrift honoring George Rebec highlights major contributions to science and commitment to students and colleagues

The day after the department celebrated its 125-year history of the department, colleagues and friends of George Rebec, as well as former and current students, came together to celebrate a career spanning more than a quarter of that history. Their accounts of the unique integrity of his science and scholarship, his writing and teaching, mentoring and leadership, and the way he held those around him to equally high standards, kept those in attendance both moved and amused throughout the afternoon. They also revealed how much he contributed to that larger history in which he played such an important role.

Rebec retired this past spring as the Chancellor’s Professor of Psychological and Brain Sciences at Indiana University. After earning a BA from Villanova University, then an MS and PhD in biopsychology from the University of Colorado, Boulder, he completed his postdoctoral training at the University of California, San Diego, in the Department of Psychiatry. George came to Indiana University in 1977. He has authored over 224 articles as well as numerous book chapters and textbooks.

Rebec served as Director of the Program in Neuroscience since 1984 when it was reactivated. He was the Interim Director for the Linda and Jack Gill Center for Neuroscience from 2001 to 2004. He was elected Treasurer and President of the National Association of Neuroscience Departments and Programs, which later became a part of the Society for Neuroscience. He has had continuous NIH funding since 1979 which continues to sustain his active laboratory. He has been invited to speak at universities and institutions across the U.S., Canada, and Mexico, Europe, the Middle East, China, and Australia. He has also been the recipient of countless teaching awards and his dry, humorous delivery in class has enlivened many a student’s classroom experience.

The Richard C. Atkinson Lifetime Achievement Award

Richard C. Atkinson (PhD, 1955) is president emeritus of the University of California and professor emeritus of cognitive science and psychology at the University of California, San Diego. He served as president of the UC system from 1995 to 2003. Before becoming president he served for fifteen years as chancellor of UC San Diego. He is a former director of the National Science Foundation and was a long-term member of the faculty at Stanford University. In 1980 he became the fifth chancellor of UC San Diego.

Dick was a member of the Stanford faculty from 1956 to 1980. His research dealt with problems of memory and cognition. His theory of human memory has been influential in shaping research in the field. It has helped in clarifying the relationship between brain structures and psychological phenomena, in explaining the effects of drugs on memory, and in formulating techniques that optimize the learning process.

Dick’s scientific contributions have resulted in election to the National Academy of Sciences, the Institute of Medicine, the National Academy of Education, and the American Philosophical Society. He is past president of the American Association for the Advancement of Science, former chair of the Association of American Universities, fellow of the Center for Advanced Study in the Behavioral Sciences, the recipient of numerous honorary degrees, and a mountain in Antarctica has been named in his honor.

We were extremely pleased to honor him with the Department of Psychological and Brain Sciences’ inaugural Lifetime Achievement Award.

COMING SOON!
In a newly revised version of the history of PBS, written in honor of the 125th anniversary, IU historian and professor in the history and philosophy of science, James Capshew, brings the first 100 years up to the present. Watch for more information on the upcoming release of the book—order a copy for yourself or give one as a gift!
Is Mediation Safe?

Grant funds study of the safety of family mediation in cases of domestic violence

Researchers at Indiana University’s Department of Psychological and Brain Sciences and the Maurer School of Law, both in Bloomington, have been awarded a four-year, $763,686 grant to study whether family mediation is a safe alternative to court-based litigation in cases with a history of intimate-partner violence.

The award comes from the National Institute of Justice, the research, development and evaluation agency of the U.S. Department of Justice. The IU researchers will subcontract with a co-principal investigator from the University of Arizona and partners from the D.C. Superior Court’s Multi-Door Dispute Resolution Division.

Amy Holtzworth-Munroe, professor in IU Bloomington’s Department of Psychological and Brain Sciences in the College of Arts and Sciences, is co-principal investigator for the study. Amy G. Applegate, a clinical professor in the IU Maurer School of Law, is a member of the research team.

“Some experts argue that family mediation is a useful alternative, while others raise concerns about whether parties with a history of intimate-partner violence can be adequately protected from physical and emotional harm in mediation,” Holtzworth-Munroe said. “Our research will provide new evidence to help weigh the risks and benefits of mediation in these cases.”

“Despite the use of protective measures such as shuttle or video-conferencing mediation, the appropriateness of mediation has been a source of controversy in cases involving intimate-partner violence,” said Applegate, who is also director of the Viola J. Taliaferro Family and Children Mediation Clinic at the IU Maurer School of Law. “The NIJ’s generous grant also makes it possible for families in high-conflict situations.”

Connie J.A. Beck, co-principal investigator and associate professor in the University of Arizona’s Department of Psychology, explained that the study will consist of a randomized control trial of family mediation with cases of intimate-partner violence that Multi-Door would generally consider inappropriate for mediation. These cases will be randomly assigned to one of three study conditions: traditional court-based litigation, shuttle mediation or video-conferencing mediation.

“We estimate 75 mediation cases for each study condition,” Beck said, adding that no study of the outcomes of these approaches has ever been conducted.

The study will take place at Multi-Door. Immediate and one-year outcome measures have been established, and a one-year follow-up study will be conducted to evaluate continuing intimate-partner violence and fear-related issues.

Traditionally, the path forward for families with high IPV has been to court, where litigation has the potential to escalate violence,” said Multi-Door Director Jeannie Adams. “The division’s goal is to provide a safe method of dispute resolution when possible for families in high-Conflict situations; we can do this best by providing alternatives to the traditional mediation model, using shuttle and video conferencing mediation when appropriate. We are very excited about the study since it will provide us with evidence to support whether families with high IPV fare better in mediation or court.”

Data analyses will test hypotheses, such as the hypotheses that mediation will not result in more fear or continued violence than court cases but will result in more flexible and customized safety arrangements to protect both parties and their children. In addition, cost-benefit analyses will be conducted.

In addition to Applegate, Holtzworth-Munroe, Beck and Adams, other researchers involved in the study are Matthew Centciao-Bargasse, Darrell Hale, Jennifer Herman, Kitty Huggins, Roberta Mitchell and other Multi-Door staff. Consultants to the project include statistical consultant Brian D’Onofrio, associate professor, IU Department of Psychological and Brain Sciences; cost-benefit analysis consultant Kerry Krutilla, associate professor, IU School of Public and Environmental Affairs; and Peter Salem, executive director of the Association for Family and Conciliation Courts, who will consult on dissemination and policy implications of study findings.

Results of the study will be published in interdisciplinary peer-reviewed journals, reports, and presentations to stakeholders, with a goal toward informing families, mediators, judges and courts about the feasibility of special types of mediation as an option for separating parents who have a history of intimate-partner violence.

The division’s goal is to provide a safe method of dispute resolution when possible for families in high-conflict situations.

“Network Architecture and Dynamics in the Human Brain,” on the use of neuroimaging to chart human brain connectivity. He discussed the significance of a set of highly connected hubs—a rich club of the brain—forming networks critical to its structural and functional infrastructure. The current picture of human brain connectivity, he said, might be comparable to the maps of those of 16th-century cartographers, depicting oceans and continents but missing many details in between. Yet that picture is evolving.

The conference, too, and the interactions it fostered, no doubt will help move neuroimaging research forward by cultivating an information-rich hub right here.
Preterm Birth in Perspective

A comprehensive study uses a sibling-comparison approach to shine new light on preterm birth and its impact on mortality, psychiatric and social problems

A n unprecedented study of preterm birth suggests that only some of the problems previously associated with preterm birth are actually caused by preterm birth itself.

The new study by Indiana University Bloomington researchers confirms the strong link between preterm birth and the risk of infant and young adult death, autism and ADHD. But it also suggests that other threats that have been closely tied to the issue, such as severe mental illness, learning problems, suicide and economic woes, may instead be more closely related to other conditions that family members share.

“The study confirms the degree to which preterm birth is a major public health concern and strongly supports the need for social services that reduce the incidence of preterm birth,” said lead author Brian D’Onofrio, associate professor in the Department of Psychological and Brain Sciences at Indiana University Bloomington. “Yet, the findings also suggest the need to extend services to all siblings in families with an offspring born preterm. In terms of policy, it means that the entire family, including all of the siblings, is at risk.”

The study, “Preterm birth and mortality and morbidity: A population-based quasi-experimental study,” was published in September in JAMA Psychiatry. Co-authors include medical researchers from Karolinska Institutet in Stockholm. In what is thought to be the largest population-based study of preterm births to date, the researchers looked at records of 3.3 million children born in Sweden between 1973 and 2008. Using a sibling-comparison approach and considering a broad continuum of premature gestational ages, the study examined the associations between preterm birth and mortality, psychological health, educational outcomes and social functioning.

The results in some ways are consistent with previous studies and similarly emphasize the dangers of preterm birth. Yet, unlike those studies, which compare preterm infants to unrelated non-preterm infants, the current study also compared preterm infants to their non-preterm siblings and cousins—an approach that made it possible to shed new light on the problem.

“The study has given us insights that no other study has been able to do,” D’Onofrio says.

The sheer number of children in the study allowed the researchers to draw meaningful conclusions on conditions that are relatively rare. For example, birth at 25 to 30 weeks is a rare event, as is autism or schizophrenia. Other studies have not had a large enough dataset to consider such issues simultaneously.

The problem with previous studies that compared preterm infants to unrelated non-preterm infants, D’Onofrio said, “is that preterm birth is associated with a lot of other factors that are also predictive of poor outcomes in the offspring. So you are not sure if preterm birth or all these other factors actually cause these harmful outcomes. Trying to tease apart what is due to preterm birth or everything that goes along with preterm birth is very difficult.”

Comparing siblings is a way of controlling for and holding constant everything those siblings share: mothers and fathers, socioeconomic status, and some genetic factors.

“You get the exact same results when comparing differentially exposed siblings and cousins, which suggests our conclusions are very robust,” D’Onofrio said.

When the researchers looked at infant and young adult mortality, the results were the same when comparing siblings as when they compared preterm infants to unrelated non-preterm individuals. Early gestation is associated with greater risk of mortality, suggesting preterm birth has a causal influence. For autism and ADHD, the results are the same with both methods.

In other areas, however, the results are strikingly different from previous findings. The association between preterm birth and severe mental illness, such as schizophrenia or bipolar disorder, was greatly reduced when comparing siblings. Both siblings had higher chances of severe mental illness than the general population. For suicide, the findings are even more dramatic. Although individuals born preterm are more likely to attempt suicide than unrelated individuals who were not born preterm, no distinction exists between siblings.

This suggests, D’Onofrio said, “that part of the association with severe mental illness and all of the association with suicide isn’t due to preterm birth; it is due to something else, something that siblings share.”

The difference occurred again when researchers looked at income. Being born at an earlier gestational age is associated with low income when you compare the individuals born preterm to unrelated individuals born at 40 weeks of gestation. But when you compare siblings, it becomes apparent that the key factor is something else. Factors that siblings share cause the low income.

“Our study is part of a growing interest in research and public health initiatives focusing on very early risk,” D’Onofrio said. “When you look at early risk factors, they don’t just predict one type of problem; they frequently predict lots of problems with long-term implications.”

Exploring how these factors have subsequent ramifications across numerous domains and functions—mortality, physical and mental health, intellectual abilities, social outcomes—is a burgeoning area of research for a problem that is increasingly widespread.

According to the World Health Organization, in both developing and industrialized countries, more than one in 10 children are born prematurely, and the numbers are growing.

The research was supported by grants from the National Institute of Child Health and Human Development, the National Institute of Mental Health, the Swedish Research Council, and the Swedish Prison and Probation Services. ◆

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Jeffrey Huber, nationally renowned Indiana University diving coach, has joined the Department of Psychological and Brain Sciences in the College of Arts and Sciences at IU Bloomington as a professor of practice. Head Diving Coach at IU from 1989-2013, Huber is well known for his 37-year career as a collegiate diving coach. He received the highest national and international honors and awards for his coaching, including three-time U.S. Olympic Coach, 12-time USA Diving National Coach of the Year, NCAA Diving Coach of the Year, Big Ten Diving Coach of the Year for the men’s and women’s teams almost every year between 1992 and 2013, and four-time winner of the US National Diving Championship Coach of Excellence Award.

Less known, perhaps, is his academic background in educational psychology and his lifelong engagement with theories of cognition and motor-learning. He served as both an adjunct assistant professor in the IU School of Education and a coach before his coaching became a 24/7 proposition.

“Getting kids to the Olympics—you can’t take time off from that,” he said.

Yet, throughout his career Huber consistently applied the principles of psychology to the coaching arena and wrote a textbook and several articles on the topic. He now brings his 37 years of coaching experience back to the classroom.

“We are extraordinarily pleased that Dr. Jeff Huber has joined our faculty as a professor of practice,” said William Hetrick, chair of the Department of Psychological and Brain Sciences. “While many people know Jeff as an internationally decorated diving coach and living legend here at IU, I suspect that few are aware of his academic background in educational psychology and his innovative new textbook on the application of psychological principles to athletic performance and coaching. He takes a scholarly—and heart-felt—approach to the application of psychological principles to real-world challenges facing elite athletes and coaches. This is exactly what you’d expect of a professor of practice.”

PBS Distinguished Professor and Luther Dana Waterman Professor Richard Shiffrin said the announcement of Huber’s retirement last spring led him and Huber to discuss the possibility of Huber’s return to academia.

“As chair of the hiring committee, Professor Peter Finn said Huber adds “an extra dimension” to what the department has to offer students because of his wealth of experience in an applied domain.

“His approach to diving is a great example of how you can apply theories of cognition and motor learning to a particular sport,” Finn said. “His background and experience combined with his academic rigor will enrich the educational environment.”

As a coach Huber developed a reputation for taking kids in high school who were not well known, and in fact not even very good divers, and having them win national titles within a two-year period. He recalls one year he went to Indianapolis to recruit a top female diver, who had no interest in IU. He then happened to receive a videotape from a diver in New York. It was not very good. But she came out for a visit and he saw that she was intelligent, had a great, positive attitude and an ability to learn. By the time Cassandra Cardinell graduated, she was an NCAA champion, a USA national champion and an Olympian.

That Huber typically had more divers on the 10-meter platform than any other program in the country also reflects his skill in applying psychological principles to the sport to create an effective learning environment. On one of the most fear-provoking diving platforms, Huber was able to “get kids up on the platform and enable them to enjoy the event.”

“Coaches/teachers have to be guided by more than just past experiences, intuitions or what their own coaches did,” he said, “I feel strongly that coaches need to be educated and to coach and train athletes according to the best theory and research.”

Huber said he is delighted to join a department that is “full of luminaries in the field” and he embraces the return to teaching and academia.

“My passion is psychology,” he said. “I’m fascinated by how people learn or why they don’t, and how we can accelerate the process. And I now have 37 years of experiences that I want to share. I am really excited to be in this department. It rocks. And I look forward to making a real contribution to it.”

He will teach two courses in the spring, an introductory course and a seminar on the psychology of coaching elite athletes.
Casting a Wide Net

Network Science, a new journal developed by PBS professor Stan Wasserman, examines friendship, politics and other topics across the spectrum of arts and sciences

With the inaugural issue of Network Science, a new journal published by Cambridge University Press, coordinating editor Stanley Wasserman brings together scholars from fields across the academic spectrum whose interests converge upon the quickly evolving field of network science. The journal finds a natural home at Indiana University, particularly in a year in which the topic for the Themester initiative across the Bloomington campus is “Connectedness: Networks in a Complex World.”

Wasserman, who has joint appointments in the College of Arts and Sciences at IU Bloomington, himself a methodologist, designs studies and analyzes data for researchers in varied areas including management, community psychology and public health. His book “Social Network Analysis: Methods and Applications” is a classic in the field, still in print after almost 20 years, and is used widely in university courses.

“This is the beginning of Network Science,” its editors announce in their introduction to the journal. And while the roots of the discipline have a long tradition in social and behavioral science research going back to the 1920s, network approaches in the past two decades have surfaced in a wide range of areas, with methods and applications drawn from across the natural, social and information sciences.

The idea for the journal was launched about four years ago, said Wasserman, Rudy Professor in the Departments of Psychological and Brain Sciences and Statistics. “A group of us thought there was a distinct niche for a journal based on the network paradigm, but not specific to social science. I took it to Cambridge, and they thought it was a great idea.”

“The resulting journal,” said David Tranah, editorial director of mathematical sciences at Cambridge University Press, “has a wide scope that includes disciplines from across the sciences and social sciences, and incorporates publishing technology and procedures from both. We anticipate a bright future for this evolving discipline, and for its journal, Network Science.”

IU has been a hotbed for network science for the past decade. Among the editors and associate editors of Network Science are three IU faculty members. Many researchers at IU study networks, particularly in the School of Informatics and Computing. The first International School and Conference on Network Science, which is now held annually around the world, took place in Bloomington in 2006.

“Systems, as they are studied by network scientists, consist of relational information, the relational ties that link the little bits to other little bits,” Wasserman said. “And that’s really the big difference between what network scientists do and what everybody else does. We have relational data, often big amounts of relational data.”

The network under investigation might be biological, social, economic or mathematical. It could examine the spread of ideas, products, diseases, a cultural fad or new technology. Yet, at the center of network science is the idea that connectivity, systematicity and dependence between the units or actors of a network is essential to greater understanding of those units and their organization.

Network science as an academic discipline has exploded since 1995. First studied quantitatively by behavioral scientists, networks are now modeled by many different types of researchers. Physicists, biologists, computer scientists and engineers now do network research. Mathematicians and statisticians, who have greatly influenced its development, have a renewed role.

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Network science as an academic discipline has exploded since 1995. First studied quantitatively by behavioral scientists, networks are now modeled by many different types of researchers. Physicists, biologists, computer scientists and engineers now do network research. Mathematicians and statisticians, who have greatly influenced its development, have a renewed role and interest, with the massive amounts of data now being gathered on people, organizations or social actors. Economists and political scientists also realize that information flows through networks and can be used to generate more accurate theories and better predictive outcomes.

In the 21st century, with the recognition of the interconnectedness and globalizatation of the world along with the growth of the Internet and social media, network methods seem an increasingly fitting and appropriate way to examine many aspects of the social and physical world, and the individuals, organizations and cellular processes within it.

Among the topics covered in the first issue of Network Science, which came out this spring, are:

- Friendship networks and social status among a large collection of students in U.S. high schools and junior high schools, an article by two physicists.
- Covert networks and the tools needed to study groups characterized by low visibility and efforts to conceal associations between actors within them.
- Network dependencies in international trade.
- A closing “End Note” on political partisanship in the U.S. Congress, concluding that current levels have not been seen since the early 1900s.

Wasserman mentions possible topics for future issues: the significant network research in the field of public health, for example, which investigates the links between social networks and the physical and mental health of individuals. Studies of smoking, drinking and obesity—perhaps most notoriously described in the 2009 New York Times Magazine article, “Are your friends making you fat?”—also consider the function of social networks with respect to health, attitudes, culture and behavior.

He describes studies of teenage delinquency and of the spread of homophobia in teenage populations. Researchers in these studies “will go out and get data on kids,” Wasserman said, “but what is really important are the friends they have and what their attitudes are. In order to really study who behaves the way they behave and why, you need relational data. This is social influence in action.”

Stanley Wasserman
**Mental Illness and Stigma**

*Glenn Close discusses the issue with Olaf Sporn’s class on “The Connected Brain”*

On November 5, Glenn Close stopped in on PBS professor Olaf Sporn's P457 seminar, “The Connected Brain,” as part of her trip to the campus to raise awareness of mental illness and combat the stigma that surrounds it. Accompanied by IU sociologist Bernice Pescosolido, who studies stigma and mental health, the class visit followed her large public lecture at the Whittenberger Auditorium. Sporns’ course is one of the 2013 Themester course offerings related to “Networks in a Complex World” and the discussion started with a question of how social networks might or might not help raise awareness and combat stigma.

Undergraduate Senior Elliot Layden asked a question on whether knowledge of the physical or organic causes of mental illness might help reverse its stigma. Close responded with an anecdote that suggested it might not.

On a visit to a graduate neuroscience lab at a large, prestigious university, she spent some time with the graduate students in the lab. One woman in particular had stood out as a really articulate, star student among them. When Close got up to go to the bathroom, the woman followed her out and came up to her weeping. She told Close that she suffered from serious depression and could never divulge this to others in the lab or she would lose their respect and her standing in the lab. Sporns further explored the issue, pointing out the way such “organic or physical causes” themselves have complex relationships to the world in which they exist. Social experience, including the experience of being stigmatized, can affect and alter brain chemistry and function. He called attention to the work being done on embodiment that reveals the complex way in which the physical structures and functions of the brain respond to and are shaped by social and environmental phenomena.

Pescosolido added to this with the notion that for this reason, it was necessary for many fields to come together to tackle the topic: neuroscientists and psychologists, anthropologist and sociologists, to name a few. No single view can capture the complexity of mental illness and stigma.

“We are now trying to work together,” she explained, “so we can see how the brain, how social relationships, how different social contexts all work together in terms of changing the brain, changing people’s lives, because we now know it’s very complex. We now know all of those things are working together in concert.”

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**PBS in the NEWS**

- **Click on the links for more!**

- Subtle bigots are exhausting: Boston Globe features Mary Murphy’s research on subtle vs. blatant bigotry
- Should kids learn cursive? A story on NBC news and the Today show website cites Karin James on the issue
- Here they are: Top brain science movies revealed: an interview with Ben Motz on NBCnews.com
- Brian D’Onofrio’s study on preterm birth appeared in US News and World Report and Indiana Public Media, among other news sources
- Peter Todd discusses food choices and smart shopping carts with Annie Corrigan on WFIU’s “Earth Eats”

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**PBS POST-DOC STUDENT WINS PRIZE FOR PAPER**

Richard Prather wins the Developmental Science Early Career Researcher Prize for the journal’s best paper in a single year

The Developmental Science journal recently announced that it has awarded its seventh annual Early Career Researcher Prize for best paper written in its 2012 issues to PBS post-doctoral student Richard Prather.

“This outstanding article,” say the editors, “makes a substantial contribution to our understanding of the development of numerical competencies. The paper reports computational simulation of how the coding of numerical magnitude is related to the development of numerical skills. By presenting a series of developmental models, the paper elucidates the mechanisms that underlie children’s development of numerical and mathematical skills.


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