

# UNIVERSITY OF WYOMING

## Endowed Faculty Report From the Office of the Vice President for Academic Affairs

OCTOBER 2014

To the Governor and the Joint Appropriations and Joint Education Interim Committees

The University of Wyoming has benefited greatly from the Excellence in Higher Education Endowment, which allows the university to establish state-funded endowed faculty positions to advance teaching and scholarship in the areas of distinction defined in the university's strategic plan. It has also benefited from state appropriations targeted toward faculty positions in legislatively identified areas of priority, in particular, the School of Energy Resources positions and the Sustainable Business Practices positions. Furthermore, faculty positions supported (partially or fully) by private endowment gifts through the University of Wyoming Foundation enhance UW's teaching and research programs in areas of mutual interest to the institution and its donors. This report covers all such positions. Part A covers the Excellence in Higher Education Endowment (a continuation of legislative reports prepared annually from 2006-2012); Part B covers other faculty positions identified in legislative appropriations; and Part C covers privately endowed faculty positions;

### **Part A. Excellence in Higher Education Endowment Report**

[Pursuant to W.S. 21-16-1204]

#### **1. Background**

Created in 2006, the Excellence in Higher Education Endowment was funded at \$105 million, the earnings from two-thirds of which, or \$70 million, was designated to the University of Wyoming. Earnings on the state-managed endowment, which are distributed by the state treasurer to the university, allow the university to establish endowed faculty positions (known as Wyoming Excellence Chairs) and to acquire instructional and scholarly materials, classroom equipment, and other resources necessary to support the work of endowed chairs. Distributions to the university are based on a spending policy of 5% of the average of the market value of the corpus for each of the preceding five (5) fiscal years or the fiscal years up to five for which there was a balance.

The statute imposes some constraints on the uses of the endowment earnings. Not less than 2/3 of the amounts must be used to expand university instruction and research in disciplines related to economic and social challenges facing Wyoming. No fewer than four Wyoming Excellence chairs must be in the College of Education. The remaining endowed faculty members must have established reputations in other areas of distinction as identified in the university academic plan, including business, arts and humanities, mathematics, cultural studies, healthcare, economics and law.

To jump-start the program while the endowment corpus was filling, and pursuant to Senate Enrolled Act 54 Section 1 (c) (ii), the Legislature appropriated \$2.8 million in one-time funds, subsequently reduced to \$1.8 million, to be distributed to the University of Wyoming and expended exclusively for the purposes specified in W.S. 21-16-1202 (b). The one-time appropriation allowed the university to begin filling positions in fiscal years 2007 and 2008. Those initial positions were then funded permanently with earnings from the Excellence in Higher Education Endowment.

## **2. Summary, history, and accomplishments of authorized positions**

Under W.S. 21-16-1204, UW must report annually on faculty positions partially or fully funded through the endowment program, including the name of each faculty member filling a Wyoming Excellence chair, their education and experience, their research and instructional activities, and the benefits of their research and instruction.

The jump-start appropriation became effective July 1, 2006. The provost developed a planning budget for the allocation of positions to be supported with these funds during the 2007-2008 biennium, while the \$70M endowment account began to fill. Based on the planning budget, three searches were authorized with jump-start funds: two in the College of Education (fulfilling one-half of the legislative mandate requiring four positions in the College of Education) and one in the College of Arts and Sciences Creative Writing MFA program (aligned with UW's area of distinction Cultural Assets, Arts, and Humanities).

During the second year of that biennium, as more information became available about anticipated payouts to the university from the state-managed endowment account, the provost's office authorized more searches, in two phases. Seven additional Wyoming Excellence endowed positions were authorized during fiscal year (FY) 2008, and five more were authorized in July 2008 for a total of fifteen authorized endowed faculty positions. Four of these 15 positions were to be funded with earnings combined from both the state account and private endowment gifts to the university, allowing for a greater number of search authorizations and establishing a unique private-public partnership in endowing distinguished professorships.

The decision to authorize the fifteen fully or partially funded positions was based on a budget for salary, benefits, and other position-related costs consistent with the projected payout estimates provided by the state treasurer's office prior to the financial market declines realized later in FY2009. Subsequent financial market events mandated the need to reevaluate the size of the budget and number of permanent positions that could be supported by the endowment earnings. Given the need for exceptional prudence in filling permanent faculty positions, and consistent with representations to the Joint Appropriations Committee, the university placed a number of the previously authorized searches on hold through FY2010. At the beginning of FY2011, following careful evaluation of the anticipated earnings stream and the accumulated reserves held in the university account, the provost authorized searches to fill a number of the on-hold positions, including some for a bridging period only in order to ensure that permanent funding commitments would remain in line with the anticipated funding stream. Then, at the beginning of FY2013, based on having received a significantly larger payout during FY2012 and as well as enhanced projected payout estimates from the state, and a substantial private gift, the provost

was able to complete the originally planned position allocations, and augment the program with additional allocations to Nursing, Law, the Haub School (in collaboration with the College of Business), Global and Area Studies, and American Indian Studies.

At the time of this report, 18 positions are permanently funded and several additional positions are supported with endowment funds for a bridging period of several years (at this writing, through FY2017). Although all positions are subject to available funding in any year, the ongoing annual expenses associated with filling the 18 permanently funded positions are in line with the state projections for annual earnings. The expenses associated with the additional bridge-funded (or temporarily) supported positions are funded with accumulated reserves beyond those needed to cover the risks of another period of earnings declines. Individual plans are in place to support each of the bridge-funded positions after the period of support by the Endowment has ended.

The 18 permanently authorized and 5 bridge-funded positions conform to the legislative mandate. Four positions in Education, as prescribed by the legislation, have been created and all are important to the future of K-12 education in the state: literacy education (2 positions), science education, and mathematics education. The strategy for allocation of the other positions was to coordinate a set of positions in the life sciences, an institutional area of distinction identified in the University Plan, and to build greater depth in other areas of distinction, including the arts and humanities, and professions critical to the state such as business, law, and health professions. In addition, positions were selected for allocation based on their potential to address economic and social challenges in the state, such as community economic development, livestock and wildlife disease, managing natural resource conflicts, water management, and preparing for a global economy. Endowment for Excellence position allocations complement a group of faculty positions focused on energy resource sciences that are funded by the School of Energy Resources. The allocation strategy is reflected in the following table, and the accomplishments of the currently filled positions are described in detail below.

<b>Allocation strategy</b>	<b>Number of positions</b>	<b>College/Academic Unit</b>
<b>Education</b>	4	Education
<b>UW Areas of Distinction</b>		
Cultural Assets, Arts & Humanities	3	Arts & Sciences Art Museum
Life Sciences, Environmental and Natural Resource Sciences, Earth and Energy Sciences	7	Arts & Sciences Agriculture & Natural Resources Engineering & Applied Science Haub School
Professions Critical to Wyoming (other than education)	4	Business Health Sciences (Nursing, Kinesiology and Health Promotion) Law
History and Culture of the Rocky Mountain Region	1	Arts & Sciences
Other Economic and Social Challenges	4	Agriculture & Natural Resources Arts & Sciences Haub School

### **FY 2014 Accomplishments of Wyoming Excellence Chairs**

#### **College of Education (four positions authorized; one vacated at end of FY 2013 with a search underway, one vacated August 2014 with a search to be initiated)**

Four of the permanent positions reside in the College of Education, with focuses on literacy, science education, and mathematics education. The individuals who hold these positions are developing and leading nationally recognized programs in these fields and are expected to be magnets for attracting the best and brightest junior faculty and students into these critical areas of teaching need in Wyoming. These positions represent the four Wyoming Excellence chairs that must, by law, be in the College of Education.

**Dr. Victoria Ridgeway Gillis, Wyoming Excellence Chair in Literacy Education** (B.S. Biology, North Georgia College; M.A.T. Secondary Science, Emory University; Ph.D. Reading Education, University of Georgia). Professor Gillis has a distinguished record of scholarship in content-area reading and adolescent literacies. She brings a strong record of classroom teaching at the secondary and university levels as well as an extensive background in professional development for in-service teachers. During the 2013-14 academic year, Dr. Gillis collaborated with faculty and doctoral students on a number of projects. These include investigating the academic and sociocultural growth of a group of College Bound Latinas she is co-mentoring with assistant professor Dr. Aurora Chang. Another junior faculty member will be joining the team along with a doctoral student in this effort. She mentored a first-year doctoral student in a continuing study of teachers' use of technology in the classroom, working with teachers at the UW Lab School. In late spring 2014, she was contacted by Wheatland middle school to provide services through the Literacy Research Center and Clinic (LRCC) in disciplinary literacy, which will be part of a research study to explore the effects of disciplinary literacy on achievement of

middle school students. Her contributions to the UW LRCC effort continue to include mentoring professionals working in adolescent literacy at the Teton Literacy Center and working with high school teachers and students in various locations around the state. She presented her work at two national conferences, had two peer-reviewed publications. She was selected to serve as the Disciplinary Literacies Departmental Editor for the *Journal of Adolescent & Adult Literacy* for the upcoming year. She also serves as an Associate Editor for *Linguistics in Education* and on the editorial board of the *Journal of Adolescent & Adult Literacy* and the *Journal of Literacy Research*.

**Dr. George Kamberelis, Wyoming Excellence Chair in Literacy Education** (B.A Philosophy and Religion, Bates College; M.A. Literature and Religion, University of Chicago; M.S. Psychology and Ph.D. Education and Psychology, University of Michigan). Along with other UW faculty, Professor Kamberelis planned the University of Wyoming Literacy Research Center and Clinic (UWLRCC). As part of the planning process, he developed partnerships with the *Teton Literacy Center* in Jackson, *Systems of Education* in Jackson, *Raising Readers in Wyoming* in Sheridan, the *Child Development Center* in Casper, *Wyoming Kids First* in Casper, the *Wyoming Department of Family Services*, *Laramie County School District # 1*, *Albany School District # 1*, and *Sheridan County School District # 1*. Dr. Kamberelis continued his training and support of graduate assistants, recruiting tutees, explaining LRCC work to parents and others, supervising tutoring sessions, research on tutoring outcomes, writing proposals with doctoral students and faculty. With Dr. Victoria Gillis, Dr. Kamberelis organized the Fall Literacy conference. Dr. Kamberelis left the University in August 2014. A search will be initiated to fill the position.

**Dr. Tim Slater, Wyoming Excellence Chair in Science Education** ( B.S Physical Science; B.S. Ed. Secondary Science Education, Kansas State University; M.S Physics & Astronomy, Clemson University; Ph.D. Geological Sciences, University of South Carolina). Professor Slater serves on the Wyoming Department of Education’s Leadership Steering Committee on WY Content and Performance Standards for Schools and is working at the national level on common core standards for schools. During the 2013-14 academic year, he had three peer-reviewed publications, 5 invited presentations, and 23 presentations at regional and national conferences. He spent much of FY2014 working on the 2<sup>nd</sup> edition of “Investigating Astronomy” textbook, which was printed in mid-2014, and the first edition of “Modern Earth Science” textbook, which is to be printed in 2016. He also completed two scholarly book chapters in 2013, both to be printed in 2014. Dr. Slater is serving as the editor-in-chief for the *Journal of Astronomy & Earth Sciences Education*. Working with UW faculty, he submitted three grants for extramural funding in FY 2014, two of which were funded totaling \$2,386,318. He also served as leading principal investigator on two additional NSF grant awards and a NASA grant that are ongoing (totaling \$3,938,381). He mentors one doctoral student and six master’s students.

### **Cultural Assets, Arts and Humanities (3 positions authorized; 3 filled)**

**Mark Jenkins, Writer-in-Residence** (B.A. and M.S., University of Wyoming) and several **Visiting Eminent Writers-in-Residence** support the English Department’s fiction and non-

fiction creative writing tracks, work one-on-one with creative writing students, provide service on student thesis committees, and participate in student recruitment and admissions. Mark Jenkins, a world-renowned travel and outdoor adventure writer, Wyoming native and Laramie resident, continued to offer his successful *World to Wyoming* lecture series at community colleges throughout the state. Jenkins has won numerous writing awards, including the Overseas Press Club Ross Award for “The Healing Fields” in 2013. He presented “Climbing Everest” at Casper College. (Jenkins climbed Mount Everest in 2012.) He explained Everest’s past and present, and how the meaning of climbing the mountain has evolved. He shared a visual presentation “Last of the First Skiers”, his experiences with one of the world’s oldest skiing cultures, in Jackson, WY.

**Fine Arts Visiting Artists-in-Residence.** The Wyoming Excellence Artist-in-Residence is a rotating position that offers students in the departments of Art, Music, and Theatre and Dance the opportunity to work with professional artists with national and international reputations. The American Indian Studies Program and the MFA in Creative Writing Program jointly hosted Navajo poet **Sherwin Bitsui** for a two-month residency during the fall 2013 semester. During that time, Bitsui taught a class on Navajo poetics and gave public readings in Jackson and Laramie. Representative Cathy Connolly, member of the Joint Committee on Education, attended Bitsui’s reading in Laramie. Bitsui also participated in a public reading, *Listening to Nature*, at the Intertribal Center at Central Wyoming College.

Also during the fall 2013 semester, AIS hosted writer **Sherman Alexie** for one week. Alexie visited classes in American Indian Studies, Education, English and History; gave a public lecture attended by 600 people; spent time with the MFA student cohort; and had a special meeting and dinner with 20 high school students visiting from the Wind River Indian Reservation. AIS invited high school students from the Wind River UNITY (United National Indian Tribal Youth) Council, and from a few schools on the Wind River Indian Reservation to a special meeting and dinner with Sherman Alexie. This became an informal recruiting opportunity for UW, since many of these students spent time visiting campus and touring Laramie.

**Heather Bender, Museum as Classroom Educator (this position is funded through fiscal year 2017)** (B.A. Art and History, minor in Education, Salisbury University; Wyoming State Teacher Certificate). Ms. Bender has been the director of Lewis & Clark State College Center for Arts and History in Idaho, and education specialist at the Buffalo Bill Center of the West in Cody, Wyoming. She brings art to life for UW art and education students, engaging them in inquiry-based teaching and learning strategies. During this academic year, she began research into early childhood education with regard to arts integration, interdisciplinarity, culturally relevant pedagogy and how museums play a vital role in both preschool student development and early childhood educator training. This work is ongoing with the expectation that it will culminate in the development, implementation, and assessment of an early childhood educator training/workshop in future years. Under Heather’s direction, nearly 9,000 students grades pre-K through 16 and beyond attended art programs this fiscal year. This included College of Education course EDEL 3170: Art in the Elementary School, participants as well as partnership programs with Albany County School District #1, and five area preschools. She continues to oversee *Imagine Learning from the Masters*, an art/literacy based afterschool enrichment program for local elementary schools. Additionally, she worked with College of Education

faculty to provide inquiry-based programs for their courses and students as needed. Heather also completed coursework to add a Teachers of American Indian Children to the Wyoming Professional Teaching Standards Board Certification of the master teacher.

**Life Sciences, Environment and Natural Resources, and Earth and Energy Sciences (seven positions authorized and filled)**

**Dr. Ingrid Burke, Wyoming Excellence Chair in Ecology** (B.S. Biology, Middlebury College; Ph.D. Botany, University of Wyoming). Dr. Burke received UW's Promoting Intellectual Engagement award for the course "Environment," which she taught to freshmen students. Dr. Burke's advisory board and committee memberships include: Wyoming Energy Resources Council, Environmental Protection Agency's Scientific Advisory Board, EPA Ecological Effects and Processes Committee (chair), and a National Academy of Sciences Committee on Sustainability, among others. The Haub School launched a new minor in sustainability this year, and is increasing exponentially in students enrolled as majors and minors, and students enrolled in courses, with an average of 13% growth per year over recent years. The Ruckelshaus Institute published articles this year on public perceptions of conservation in Wyoming, produced a film series on bark beetles and our future forests, and launched a new magazine to address natural resources issues of the Rockies, *Western Confluence*. In addition to directing the Haub School, Dr. Burke maintains a teaching and research program, and is engaged in outreach through many presentations throughout the state. Burke has been designated as a National Science Foundation Presidential Faculty Fellow, a National Academy of Sciences Education Fellow in the Life Sciences, and was recently elected a Fellow of the American Association for the Advancement of Science. In 2013-2014, Dr. Burke has authored or co-authored 9 articles in peer-reviewed journals and contributed to one National Academy of Sciences book.

**Dr. Holly Ernest, Wyoming Excellence Chair in Prion biology** (B.S., Biology, Cornell University; M.S. Veterinary Physiology and Pharmacology, Ohio State University; Doctor of Veterinary Medicine, Ohio State University; Ph.D. Ecology, University of California, Davis). Professor Ernest joined the UW faculty in August of 2014. Dr. Ernest's research interests include wildlife disease ecology, wildlife genetics and genomics, and wildlife epidemiology. Her research on disease pathogens in wildlife has ranged from *Trichinella* in black bears and leptospirosis in wild pigs to West Nile virus and Avian Pox virus in birds to environmental mercury contamination. She currently has over 35 publications in peer-reviewed journals.

**Dr. Andrew Hansen, Wyoming Excellence Chair for Advancement of the Engineering Initiative** ( In February 2013, Dr. Hansen was assigned by President Buchanan and the Governor's Engineering Task Force to develop a plan for an Engineering Initiative to move the College of Engineering and Applied Science to a "Tier I" stature in areas of importance to Wyoming. Over the course of several months, he crafted a vision for that plan and obtained the enthusiastic approval of the Task Force Committee. The plan was publicly released in May 2013 and may be found at:

[http://www.uwyo.edu/acadaffairs/plans/uw\\_engineering\\_initiative\\_may\\_13.pdf](http://www.uwyo.edu/acadaffairs/plans/uw_engineering_initiative_may_13.pdf)

The plan documents a clear path toward Tier 1 status for the College by articulating a set of tangible goals that are both laudable and achievable. Dr. Hansen returned to the faculty in September 2013, where he continued the role of implementing the Initiative. He developed a

strong rapport with the Task Force due to his extensive experience and credibility in the College. He also recognizes the importance of the K-12 aspect of the initiative. Due to the administrative changes that took place in August of 2013, Dr. Hansen's involvement in the Engineering Initiative was minimized. Teaching courses, performing research, and mentoring graduate students have become his primary functions at this point.

**Dr. Xiaohong Liu, Wyoming Excellence Chair in Regional Climate Modeling** (M.S. and Ph.D., Nanjing University, P.R. China). Dr. Liu is an internationally recognized scientist in climate modeling, aerosol-cloud reactions and aerosol modeling. He most recently worked as senior research scientist at the Atmospheric Science and Global Change Division of the Department of Energy's Pacific Northwest National Laboratory, located in Richland, Wash. In AY2013-14, Dr. Liu and his research team have been heavily involved in the development of the NCAR Community Earth System Model version 1 (CESM1) by improving the representation of atmospheric aerosols, clouds, and aerosol-cloud interactions in CESM1. This will generate broad impacts since CESM is widely used in the climate modeling community and is an important tool for understanding and simulating climate variability and climate change. Dr. Liu is also leading the development of an advanced aerosol module for the next generation of NASA climate model (GEOS) with the support of NASA funding. His group has been involved in the investigation of the radiative forcing of wildfire aerosols (black carbon and organic carbon) and how they affect the climate variability at a regional scale under current and future climate conditions. Dr. Liu gave presentations at 16 national and international conferences, and published 12 papers in peer-reviewed journals. As a principal investigator on several grants, he has brought over \$1 million in external funding to the UW. He serves on numerous editorial boards and advisory committees.

**Dr. Amy Navratil, Gardner/Fiske Chair in Biomedical Physiology** (B.S. microbiology and Ph.D. Biomedical Sciences, Colorado State University). As the Hank Gardner and Marilyn Fiske Professor of Physiology, Assistant Professor Navratil conducts research on the cell signaling pathways that are activated in gonadotrope cells of the pituitary gland and how these pathways are involved in controlling fertility in mammals. Through the work in her laboratory, she mentors a doctoral student, a post-doctoral associate, and two undergraduate students. She presented at the Endocrine Society conference in Chicago, and published two papers in peer-reviewed journals. Dr. Navratil teaches ZOO 3115: Human Systems Physiology and ZOO 4735: Advanced Physiology Topics.

**Carlos Martinez del Rio, Wyoming Excellence Chair in Biodiversity and Biodiversity Institute Director** (Ph.D. Zoology, University of Florida). Professor Martinez del Rio has been a professor in UW's department of Zoology and Physiology since 1994 and director of the Biodiversity Institute since October of 2012. He has a distinguished record of research, having published 150 publications and two books in the areas of physiological ecology, ecology, natural history and conservation biology. Although he claims that his administrative role has reduced his research activities, he still managed to co-author 13 peer-reviewed publications this year and maintains a program of research. He teaches three courses in the Zoology-Physiology and the Life Sciences programs. Dr. Martinez del Rio and his staff have developed biodiversity programs and events with collaborating partners such as the Art Museum, Geology Museums,

Program in Ecology, Science and Mathematics Teaching Center, Wyoming Natural Diversity Database, Wyoming Geographical Information Center, Wyoming Cooperative Fish and Wildlife Research Unit, and the departments of Art, Botany, Ecosystem Science and Management, English, Geology and Geophysics, Music, Theater and Dance, and Zoology and Physiology.

**Dr. Fred Ogden, Cline Distinguished Chair of Engineering, Environment, and Natural Resources** (B.S., M.S., and Ph.D., Civil Engineering, Colorado State University). Dr. Ogden's position as Cline Chair is being partially supported with Wyoming Excellence funds through FY 2017. Dr. Ogden joined UW in 2006, and has a joint appointment between the Department of Civil & Architectural Engineering in the College of Engineering and Applied Sciences, and the Haub School of Environment and Natural Resources. He is currently principal investigator for three grants that are funded by the National Science Foundation (NSF), and total over \$5 million. All three research grants study the effects of land use on water resources. Dr. Ogden presented at six national and international conferences, and co-authored five publications. He teaches three courses in the Department of Civil and Architectural Engineering.

**Professions Critical to the State (four positions allocated and filled in the Colleges of Business, Law, and Health Sciences; the Law position will be vacated in FY 2014 and a search for a replacement is underway).**

**Dr. Eric N. Johnson, Toppan Chair in Accounting** (B.A. Accounting, Whittier College; M.B.A. and Ph.D., Arizona State University). Dr. Eric N. Johnson's position as Toppan Chair is partially supported with the Wyoming Excellence endowment through FY 2014. His research interests include risk factors related to financial fraud, the role of information technology and internal control, and ethics and judgment issues in budgeting and management performance evaluation. During FY 2013 Dr. Johnson co-authored three papers in two top-5 accounting journals (*Accounting, Organizations and Society* (2) and *Contemporary Accounting Research* (CAR)). He developed a proposal to establish a Center for Accounting Fraud and Ethics at UW, which would provide an emphasis on research of underlying reasons why individuals engage in financial fraud. This proposal was adopted by the department and initial steps were taken to launch the center.

**Mr. Dennis Stickley, Law** (B.S. international agriculture, M.S. resource economics, and J.D., University of Wyoming; Master of Law, University of Utah). Mr. Dennis Stickley came to UW in 2008 on a visiting professorship funded jointly by the Excellence Endowment and the College of Law. The financial arrangement extends through 2014. Professor Stickley is an international expert in energy law, and has been listed in the *Guide to the World's Leading Energy and Natural Resources Lawyers*. Professor Stickley is a member of the Extractive Industries Technical Assistance Facility panel of experts of The World Bank. At UW, he teaches Oil and Gas Law, Mining Law, and Energy Industry Transactions. He published on hydraulic fracturing in the Spring 2012 issue of *Wyoming Law Journal*. He was engaged to be the legal adviser to Ambassador Princeton Lyman as the Special Envoy to the African Union High-Level Implementation Panel, which is mediating the dispute between north and south Sudan over rights to crude oil. To continue to enhance the Law College's expertise in energy and natural resources, the dean of Law and the director of the School of Energy Resources have developed a plan for a permanent SER-funded position in energy law.

**Diane K. Boyle, Wyoming Excellence Chair in Nursing** (BSN University of Maryland; MSN, University of North Carolina; Ph.D., University of Kansas). Dr. Boyle is a prolific researcher and brings to the University of Wyoming significant expertise in health outcomes, patient safety, nursing quality indicators, nursing workforce issues, and health care work environments, areas that are very important for the School, College and the State of Wyoming. Over the past year she published 8 papers, four of which involve nursing work environments, with three of these papers linking nursing work environments to patient outcomes. She is heading a collaborative team (funding: Wyoming IDeA Network of Biomedical Research Excellence; NIH, NCRR & NIGMS) that has developed a novel composite quality performance indicator of pressure ulcers and falls. The team has a draft of a paper on the composite indicator with the target journal, *BMC Medical Research Methodology*. Her team has also examined differences between rural (sample includes critical access hospitals) and urban hospitals on the composite measure and modeled changes needed in nursing structure and processes of care to make rural and urban hospitals 'equal' in the quality outcome. She has been working with Dean Mary Burman to explore ways of strengthening resources for tenure track faculty so that external funding can increase within the School of Nursing and increase the impact of the research findings to the larger nursing and health care community. Dr. Boyle has worked with the Wyoming Nursing Leadership Institute to improve the statewide discussion of the importance and impact of measuring nursing sensitive indications and using these data to improve the quality of patient care in the state.

**Christine Porter, Wyoming Excellence Chair in Community & Public Health** (B.S. Biology, University of Maryland; M.A. Education and International Development: Health Promotion, University of London, UK; Ph.D. Community Nutrition, Cornell University). This new WY Excellence position was developed to begin for the FY15. The faculty member in this position will be housed in the Division of Kinesiology and Health and will fulfill a major role in sustainment and advancement of community and public health across the University and state. Dr. Porter's research involves working to understand and organize social change that addresses health disparities. Her research uses community-based participatory action research (CBPR) approaches to such change and investigates public health strategies for supporting for the public's creation of its own health. She is particularly interested in documenting, assessing, and furthering sustainable food systems approaches to achieving equity, food security and healthy communities. She is project director and principal investigator for Food Dignity, a \$5 million grant from the USDA.

### **History and Culture of the Rocky Mountain West (one position allocated and filled for FY 2014)**

**American Indian Studies Visiting Scholar (B.A., University of Arizona; A.F.A, Institute of American Indian Arts).** Northern Cheyenne multidisciplinary artist **Bently Spang** was the AIS eminent artist in residence during the spring 2014 semester. Spang taught a class on Native American art; had a solo exhibition, *Bently Spang on Fire*, at the UW Art Museum; and presented *Tekcno Pow Wow III*, an audience-participatory, multimedia, group performance art piece featuring pow wow, hip hop, and Maori dancers, in conjunction with the Shepard Symposium on Social Justice. A \$10,000 grant from the Wyoming Cultural Trust Fund also

partially supported some of Spang's public activities, including the publication of a brochure about Bently Spang and his work, to accompany the exhibit at the UW Art Museum and *Tekno Pow Wow III*. Fremont County Commissioner Keja Whiteman attended *Tekno Pow Wow III*.

**Other Economic and Social Challenges (four positions allocated, three filled).**

**Community economic development and planning (search ongoing in FY 2015).** The departments of Agricultural and Applied Economics and Geography are seeking to fill a mid- to senior-level position in community planning and economic development, with research, extension, and teaching duties. The individual in this position will focus on community development issues pertinent to the Rocky Mountain West and rural areas internationally. Communities in the Rocky Mountain West and many areas in developing countries share a common direct dependence upon their respective surrounding natural resource base both economically and culturally. Community economic development in the West requires that the public and users factor in this resource dependence to build sustainable communities. Important skills for this position include working expertise in geospatial analysis, the economics of industry location and site analysis, and community development implementation processes. The search is continuing.

**Dr. Steven Smutko, Wyoming Excellence Chair and Spicer Distinguished Chair in Environment and Natural Resources** (B.S. Outdoor Recreation, Colorado State University; M.S. Community and Regional Planning, North Dakota State University; Ph.D. Economics, Auburn University) Dr. Smutko is a professor in the Department of Agricultural and Applied Economics in addition to his role as UW's Spicer Chair, based in the Haub School and Ruckelshaus Institute of Environment and Natural Resources (ENR). Dr. Smutko has a B.S. in Outdoor Recreation from Colorado State University, a Masters in Community and Regional Planning from North Dakota State University, and a Ph.D. in Economics with specialization in resource economics from Auburn University. He conducts research, teaching and extension/outreach in policy development and public decision-making in natural resources management. He recently completed a project to assist Governor Mead's Task Force on Forests develop policy recommendations on issues related to forest health, forest management, and forest-related economic opportunities. He is currently directing projects to enhance participatory decision making among the four federal agencies that manage land in the Greater Yellowstone Ecosystem, and to assess the potential for enhanced collaboration in oil and gas production in the West. In 2014 Smutko participated in a research project to understand socio-ecological systems related to fire management in the wildland-urban interface. Dr. Smutko taught graduate and undergraduate courses in natural resources problem-solving, negotiation, and negotiation analysis.

**Marc Wall, Global and Area Studies Visiting Scholar** (A.B. European History, Princeton University; M.A. International Affairs, Columbia University). Dr. Wall assisted in organizing and spoke at the Fall 2013 on-campus Symposium on Challenges and Opportunities in East Asia and Spring 2014 Wyoming Goes Global Conference. He hosted visiting scholars during both semesters for various public presentations, served as a guest speaker in various courses at UW, and met periodically with students interested in careers in diplomacy and the U.S. Foreign

Service. He taught two courses across the academic year. In Fall 2014 INST 4990/5990 Diplomacy and National Security with 22 students and in Spring 2014 INST 4990/5990 Trends in American Foreign Policy (taught with Jean Garrison) with 15 students. He co-authored a conference paper with Jean Garrison “Evolving Challenges and Opportunities in U.S.-China Relations,” which was presented at the annual meeting of the American Political Science Association, in Washington, DC, He authored one publication Dr. Wall spoke before classes and student groups and community groups around the state of Wyoming. These included 16 public presentations in 8 Wyoming communities. The program **The Rise and Future of China in the Global Marketplace** was given at Central Wyoming College in Riverton and **Reflections on a Diplomatic Career** at Casper College, Sheridan College, Northwest College and to high school students in Jackson and Casper (Natrona County High School and Kelly Walsh High School). He spoke to groups at Warren Air Force Base in Cheyenne, various civic organizations including Jackson’s Global Business Roundtable, the Laramie Sunrise Rotary Club, the League of Women Voters of Laramie, the Wyoming Economic Outlook in conjunction with the Cheyenne Rotary and Wyoming Business Alliance, and before the Casper Committee on Foreign Relations. Served as the keynote speaker for the **International Studies Articulation Meeting and Human Security Workshop** with UW faculty/students participants and faculty from the community colleges, and participated in various outreach activities associated with the *World to Wyoming* series with Mark Jenkins and *What in the World?* series with Global and Area Studies graduate students.

**Dr. Heidi Jo Albers, Conservation Finance: Knobloch chair** (B.S. Duke University, Geology and Economics; Master of Environmental Studies, Yale School of Forestry and Environmental Studies; Ph.D. in Economics. University of California at Berkeley). Jo Albers joined the UW in the fall of 2014. As an economist with a natural science background, her research interests lie in two general areas: natural resource management in low-income countries with an emphasis on biodiversity conservation and poverty alleviation; and integrated bio-economic modeling of natural systems to generate spatially explicit management. Her work emphasizes the interactions between private and public resource managers in the provision of ecosystem services. Recent and current research topics include non-timber forest product extraction and forest reserve policy in Tanzania; coastal conservation in Tanzania, Costa Rica, and South Africa; REDD policies; invasive species in a river network; spatial patterns of enforcement and livelihood projects for conservation; and land and resource management under risk and uncertainty, including species conservation and forest management with fire risk. Her teaching experience includes spatial resource economics, sustainable development economics, forest economics, ecological and economic management of invasive species, and decisions with risk and uncertainty for natural resource management.

### **3. Wyoming Excellence in Higher Education Endowment Fiscal Summary**

The costs associated with each position include salaries commensurate with the market for top academics, employer paid benefits, ongoing budgets to support research and instructional activities, as well as one-time start-up expenses which are especially critical to recruiting distinguished scholars with large established laboratory research programs.

The balance in the Excellence in Higher Education Endowment expenditure account held at the university as of June 30, 2014 is \$5.4 million. Total expenditures for the 2015 fiscal year are

currently budgeted at \$4.3 million. The planning budget is designed to draw down internal reserves to a level deemed fiscally prudent to manage risks associated with potential fluctuations in earnings and payout.

The following tables summarize the uses and expenditures of the budgets for filled positions, and the total estimated initial cost of the program when all 18 allocated positions are filled. Not shown are projected costs as the program continues. Costs may in line with salary increases and increases in benefit costs should UW receive a budget appropriation for a merit salary increase. Wyoming Excellence chairs will not receive salary increases in years in which salary increases are not available to other UW employees. The temporary increase in expenditures for the next few fiscal years reflects a plan by the UW Office of Academic Affairs: (a) to invest in critical start-up expenses of new and newly hired endowed chairs; (b) to provide temporary support for key areas not yet assigned permanent positions; and (c) to maintain an adequate cash balance to cover on-going expenses for an acceptable period, in the event of diminished revenue.

Balance July 1, 2013	\$6,025,926
Advertising and Recruitment	\$56,025
Salaries and Benefits	\$3,317,631
Support	\$694,431
Equipment/facilities	\$134,863
Income (distribution from state and interest)	\$3,580,315
Balance June 30, 2014	\$5,403,291

Estimated Annual Budgets for Eighteen Permanently Funded Positions

<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>
\$4,282,000	\$3,769,000	\$3,622,000

Estimated Annual Budgets for Bridge-funded Positions

<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>
\$1,026,000	\$815,000	\$691,000

## **Part B. Legislatively identified faculty positions**

### 1. Sustainable Business Practice Faculty

The Wyoming Legislature provided funding for three sustainable business practice positions. Sustainable Business Practices is a central theme in the College of Business at the University of Wyoming. Sustainable Business Practices funds were used to hire a core group of faculty in the area of sustainable business practices, around and through which additional faculty members have made significant contributions to business sustainability. Our designated Sustainable Business Practices faculty include:

**Dr. Jose Antonio Rosa, Professor of Marketing and Sustainable Business Practices** (B.A., General Motors Institute; M.B.A., Dartmouth College; M.A., Ph.D., University of Michigan). José Antonio Rosa is professor of marketing and sustainable business practices in the Department of Management and Marketing in the College of Business. Among his current research interests are the influence of hope on the innovativeness of subsistence consumers, and the psychological antecedents and processes involved in sustainable consumption behavior. Dr. Rosa has twice been a Fulbright Fellow, studying the innovativeness of managers in Chile in 2005 and that of consumers and consumer merchants in Colombia in 2010. In 2013-14, he served an ACE fellowship at Eastern Illinois University.

**Dr. Kelly Tian, Professor of Marketing and Sustainable Business Practices, and Director, Ph.D. Program in Marketing and Sustainable Business Practices** (B.S., M.A., University of Alabama; Ph.D., Georgia State University). Dr. Tian joined the University of Wyoming in 2012, as Professor of Marketing and Sustainable Business Practices. Prior to joining the UW, she taught at Deakin University (Australia), New Mexico State University and the University of Kentucky. Kelly brings a track record of research versatility and publication quality in the area of sustainable business practices. Her research represents a rare combination of psychometric scale development work, and qualitative, anthropological work. Her current research examines sustainable business practices in China, the role of NGOs in economic development, as well as the use of marketing technologies to promote pro-social behaviors among youth.

**Dr. Stacey Menzel Baker, Professor of Marketing and Sustainable Business Practices** (B.S., M.B.A., Ph.D., University of Nebraska – Lincoln). Professor Baker is an expert in consumer vulnerability, and the role of marketing in reconstructing communities after disasters. In addition, she is a leading voice in the area of Transformative Consumer Research, a movement to apply marketing theory and technology to social problems. Her work on disaster recovery in the wake of a tornado in Wright, Wyoming, has impacted both the study of marketing and the practice of disaster response.

## 2. School of Energy Resources (SER) faculty

The Wyoming Legislature established and appropriated funding for the School of Energy Resources in 2006 and provided additional funding in 2012. Professors in the SER are internationally recognized energy experts who are actively involved in both energy research and teaching. They work in a variety of disciplines and have formed productive collaborations across campus. The current SER professors include:

**Dr. Timothy Considine, SER Professor of Economics and Finance** (B.A. Loyola University, M.S. Purdue University; Ph.D., Cornell University). Dr. Considine's research focuses on the economics of coal, natural gas, and petroleum. During the 2013-14 academic year, Dr. Considine authored or co-authored 6 papers in peer-reviewed publications, and three industry-related publications. He had six presentations at regional, national, and international conferences. He teaches one course in the MBA program and a course in the Economics Department.

**Dr. Craig Douglas, SER Professor of Mathematics** (A.B. Chicago University; M.S. and M.Phil. Yale University). Professor Douglas' primary research is oriented towards high performance computing and Big Data with applications that use networks of intelligent sensors in a field coined dynamic big data driven application systems (DBDDAS). The major applications have been in water infiltration and flow through porous media. His research group has speeded up a process used in water infiltration by a factor of about 1,000 over standard implementations by going to mathematical modeling basics and reevaluating the formulation, which led to very fast and clever implementations. The techniques are being applied now to problems in oil and gas reservoir simulation for determining quickly how long it takes to have breakthrough in a water or chemical flood between injection and production wells. He co-authored 7 refereed publications and presented at 10 international conferences. He currently has over \$3 million in external funding.

**Dr. Subhashis Mallick, SER Professor of Geology and Geophysics** (B.Sc. and M.Sc. Indian Institute of Technology; Ph.D. University of Hawaii). Dr. Mallick is a first-rate computational seismologist, with a strong record of developing new approaches to addressing high-profile problems of interest to industry, including reservoir characterization and 4D seismology. His research interests include time-lapse monitoring of petroleum and CO<sub>2</sub> sequestration reservoirs, development of new 3D pre-stack waveform inversion techniques, and seismic anisotropy and rock physics modeling.

**Dr. Bruce Parkinson, SER Professor of Chemistry** (B.S. Iowa State University; Ph.D. California Institute of Technology). Dr. Parkinson is an internationally renowned photoelectrochemist who leads a research group that investigates novel methods to harness solar energy. He is expert in developing and evaluating novel materials with photovoltaic properties that convert solar energy into useable energy forms. He is also expert in surface chemistry and removing sulfur from fossil fuels. Dr. Parkinson published fourteen papers and had over 15 national-international presentations in 2013-14. As principal investigator, his external funding surpasses \$3 million.

**Dr. Felipe Pereira, SER Professor of Mathematics** (B.S. and M.Sc. Federal University of Minas Gerais, Brazil; M.Sc. New York University; Ph.D. The University at Stony Brook). Professor Pereira's expertise includes application of mathematics to CO<sub>2</sub> Sequestration and enhanced oil recovery. He also works on the development of models and numerical simulators for multi-phase flows in multi-scale heterogeneous petroleum reservoirs and aquifers. He recently published a new computational strategy for solving two-phase flow in strongly heterogeneous poroelastic media of evolving scales.

**Dr. Maohong Fan, SER Associate Professor of Chemical Engineering** (Ph.D. Iowa State University; Ph.D. Osaka University). Professor Fan's work integrates multiple methods and processes including homogeneous, heterogeneous and photo as well as bio catalysis and separation with sorption and membrane for conversion of coal, oil and gases to value-added chemicals and clean fuels. He also develops new materials (e.g., ionic liquids and nanostructure as well as magnetic materials) for clean and renewable energy production with conventional and unconventional technologies such as supercritical fluids and advanced crystallization as well as chemical vapor deposition

**Dr. John Kaszuba, SER Associate Professor of Geology and Geophysics** (B.S. Beloit College; M.S. Virginia Polytechnic Institute and State University; Ph.D. Colorado School of Mines). Professor Kaszuba is a recognized expert in high pressure/high temperature hydrothermal and multiphase fluid-rock reactions. His research has produced seminal experimental papers regarding supercritical carbon dioxide reaction processes in brine aquifers, with implications for geologic sequestration of carbon. During FY14, Dr. Kaszuba published three papers in refereed publications and presented at three national conferences. He is the principal investigator of a new \$1.4 million grant, funded by the DOE. He teaches three courses per semester in the Department of Geology and Geophysics. He serves as advisor to over 15 undergraduate students and five graduate students each semester, and serves on numerous graduate student committees.

**Dr. Mohammad Piri, SER Associate Professor of Chemical and Petroleum Engineering** (M.Sc. and Ph.D. Imperial College London). Professor Piri's specialty is multiphase flow in porous media with applications to oil and gas recovery, pore-scale modeling of displacement processes, two- and three-phase relative permeability (measurement and prediction), wettability, and CO<sub>2</sub> sequestration and leakage. He completed the establishment of the Hess Digital Rock Physics Laboratory. He established a research cluster under the Tier-1 Engineering initiative, and his current external research funding exceeds \$5 million. He presented his work at ten conferences, and he had ten peer-reviewed publications. He also received the UW President's Faculty Stewardship Award. During the last few months of the 2013-14 academic year, Dr. Piri was appointed as the Wyoming Excellence Chair in Petroleum Engineering. His report will be provided as part of the Excellence Endowment at the end of FY 2015.

**Dr. Po Chen, SER Assistant Professor of Geology and Geophysics** (B.S. Beijing University, Ph.D. University of Southern California). Professor Chen's expertise includes theoretical seismology and high-performance computing. His principal research interests involve Earth imaging at a variety of scales. He has developed computationally intensive new imaging techniques, including full 3D waveform tomography and 3D pre-stack depth migration. He has

worked on earthquake rupture dynamics and seismic hazards and has a strong interest in focusing on energy-related issues, including 4D imaging of sequestered CO<sub>2</sub>.

**Dr. Dario Grana, SER Assistant Professor of Geology and Geophysics and Petroleum Engineering** (M.S. and Ph.D., Geophysics, Stanford University). Professor Grana's research interests are rock physics, seismic reservoir characterization, inverse problems, geostatistics, and time-lapse reservoir modeling. During the 2013-14 academic year, he had 4 refereed journal articles, and he co-authored a book (Seismic Reflections of Rock Properties, Cambridge Press). Most notably, he was the recipient of the prestigious Eni Award for New Frontiers in Hydrocarbon. He teaches courses in Geology and in Petroleum Engineering.

**Dr. Kristina Hufford, SER Assistant Professor of Restoration Ecology and Land Reclamation** (B.A. University of California Berkeley; Ph.D. University of Georgia). Professor Hufford is an expert on issues in restoration and genetics of native ecosystems. Her research is focused on studies of the consequences of adaptive variation for the long-term sustainability of restored plant populations. She is particularly interested in the spatial scale of local adaptation, and genotype-environment interactions. As a practical application of this topic, she is currently studying methods to improve revegetation success in reclamation and restoration of degraded habitats by matching seed sources to the environment. Revegetation failures are common, and improving outcomes depends on investigation of the ecological factors key for the re-establishment of a diverse, functional plant community. These studies - and the resulting identification of appropriate native plant seed sources for restoration - have great potential to improve reclamation outcomes and rangeland health in for lands affected by natural resource extraction and energy development in Wyoming and the surrounding region. In support of her research efforts, she has received over \$200,000 in funding from the Bureau of Land Management. She had five publications during the 2013-14 academic year.

**Tara Righetti, SER Assistant Professor of Law** (B.A. University of Colorado Boulder, 2005; J.D., University of Colorado Boulder, 2007) Tara Righetti joined the University of Wyoming College of Law and SER faculty in the fall of 2014. Prior to that, she served as CEO and general counsel of a privately owned upstream oil and gas company with operations in six states and on the outer continental shelf. She is a member of the state bars of Texas and California. Professor Righetti's research focuses on legal issues related to oil and gas regulation, land use, and development. She teaches classes on oil and gas law and energy transactions and finance. Her other areas of interest include state owned oil enterprises, pipeline law, and the environmental design of energy boomtowns.

### **Part C. Privately Endowed Faculty Positions**

Thirty-eight<sup>1</sup> UW faculty positions are partially or fully supported by privately funded endowments established with gifts to the UW Foundation. A \$3 million or more endowment supports a faculty chair, which may be designated to cover all or part of the base salary of the faculty member. A \$2 million gift endows a professorship, which may be used to provide an annual salary supplement or to support teaching, research, or scholarship expenses. And a \$1 million gift endows a faculty fellowship, which supports faculty development in teaching or

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<sup>1</sup> One endowment supports academic centers or institutes: the Solomon D. Trujillo Center for e. Business.

research. Of the 38 endowments, 14 support faculty chairs (only 1-2 of these are fully funded from their respective endowments), 15 support faculty professorships, 5 support faculty fellowships, and 4 support lectureships and/or teaching excellence. A complete list of the privately endowed chairs, professorships, and faculty fellowships is available from the UW Foundation. That list describes the history of the endowment, the qualifications or purpose, the uses, and the current and past faculty recipients.

In all cases, the specific uses of the endowment earnings are specified in the gift agreements and are reflected in the focus of the teaching, research, and extension programs of the faculty member beneficiaries.

The 38 chairs, professorships, and faculty fellowships are distributed across UW as follows:

College of Agriculture and Natural Resources	3 positions
College of Arts and Sciences	6 positions
College of Business	11 positions
College of Education	2 positions
College of Engineering and Applied Science	8 positions
College of Law	12 positions
Interdisciplinary	6 positions

As discussed in Part A of this report, the funding for some privately endowed positions is bolstered by earnings from the state-funded Excellence in Higher Education Endowment. These public-private partnerships include:

The Roy & Caryl Cline Endowed Chair in Engineering, Environment, and Natural Resources, held by Professor Fred Ogden (College of Engineering and Applied Science)

The Eldon & Beverly Spicer Chair in Environment and Natural Resources, held by Professor Steve Smutko (Haub School and College of Agriculture)

The Clara Raab Toppan Distinguished Professorship in Accounting, held by Professor Eric Johnson (College of Business)

The Gardner Chair in Biomedical Physiology, held by Professor Amy Navratil (College of Arts and Sciences)

The Knobloch Chair in Conservation Finance, which is now occupied by Professor Heidi Jo Albers (Haub School for Environmental and Natural Resources).