

## MARK A. SHERIDAN

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### Current Positions

Vice Provost for Graduate and Postdoctoral Affairs and Dean of the Graduate School,  
Texas Tech University, Lubbock, TX  
Professor, Department of Biological Sciences, Texas Tech University, Lubbock, TX

### Education

Ph.D. University of California—Berkeley (Zoology)  
M.A. Humboldt State University, Arcata, CA (Biology)  
A.B. Humboldt State University, Arcata, CA (Zoology)

### Faculty Appointments

2014-present Professor of Biology, Texas Tech University, Lubbock, TX  
2009-2014 Jordan A. Engberg Presidential Professor, North Dakota State University, Fargo, ND  
1999-2014 James A. Meier Professor, North Dakota State University, Fargo, ND  
1997-2014 Professor of Zoology, North Dakota State University, Fargo, ND  
1991-1997 Associate Professor of Zoology, North Dakota State University, Fargo, ND.  
1985-1991 Assistant Professor of Zoology, North Dakota State University, Fargo, ND

### Administrative Appointments

2014-present Vice Provost for Graduate and Postdoctoral Affairs and Dean of the Graduate School  
Texas Tech University  
*Responsibilities:*

- Serve as a member of the senior management team of a large (ca. 40,000 students), comprehensive, Carnegie research (R1) university. Work collaboratively with other members of the leadership team to set institutional goals and priorities and to establish and implement strategic initiatives to accomplish identified goals
- Devise/refine and conduct annual analyses of all academic departments/programs (based on various metrics of faculty productivity, program productivity, alignment with workforce demands, etc.) and make recommendations to senior leadership team for resource allocation based on program performance
- Provide academic leadership/administrative management for the university's interdisciplinary graduate programs, effectively a "college of interdisciplinary studies." Currently, there are ten programs (Arid Land Studies; Biotechnology; Land Use, Management & Design; Library and Information Science; Museum Science and Heritage Studies; Interdisciplinary Studies; International Affairs; Public Administration; Wind Science and Engineering; Women and Gender Studies) that function like departments, each led by a director, with distinct

budgets, faculty (a combination of direct line reports to the Graduate School and affiliated faculty attached to other units, depending on program), staff, and courses. My responsibilities include assuring success of the programs, of the faculty, and of the graduates of those programs through strategic allocation of resources; faculty & staff hiring, development, and evaluation; continuous program review and assessment; support of enrollment initiatives, including funding of assistantships/fellowships; facilitating and incentivizing research and other scholarly activity, with emphasis on increasing extramurally-supported research of faculty. Collectively, these programs have ca.100 affiliated faculty and staff and have a larger graduate enrollment than four (out of nine) other colleges (Agriculture, Architecture, Media & Communication, Visual & Performing Arts)

- Review and make formal recommendations on all faculty dossiers for promotion and tenure (as part of university's formal P&T process)
- Work collaboratively with the Office of the Provost, Vice Provost for Student Affairs, and others to development, implement, and review effectiveness of student support services and initiatives to support student success and wellness, both graduate and undergraduate students (includes efforts aimed at increasing undergraduate retention and graduation rates)
- Work collaboratively with Office of the Provost to conduct new faculty orientation and chair academy
- Provide overall leadership for graduate and postdoctoral education and related reporting units: The Graduate School, The Graduate Center, The Graduate Writing Center, The Office of Graduate and Postdoctoral Fellowships, The Office of Postdoctoral Affairs. The Graduate School is the home college (degree conferring) for all graduate students (100+ masters programs, 60+ doctoral programs, and 60+ certificate programs). Develop and implement relevant policies and procedures.
- Lead institutional strategic planning of the graduate and postdoctoral enterprises that expands the size, scope and quality of these enterprises
- Develop and implement strategic graduate enrollment management plan; work collaboratively with senior leadership team to integrate graduate enrollment plan into overall university enrollment management plan for undergraduate, graduate, and international students with emphasis on increasing access and opportunity and participation by members of underrepresented groups
- Advocate for graduate education to US (federal and state) and international government officials, the general public, and prospective students
- Work collaboratively with other branches of TTU (Cleburne, El Paso, Fredericksburg, Marble Falls, McKinney, Junction, Waco, and San Jose, Costa Rica) as well as with other universities in the TTU system to expand access and opportunity to TTU academic programs; liaison with TTU system office on academic and other matters (e.g., government relations)
- Lead review and evaluation (including external evaluators) of all graduate programs
- Lead institutional effectiveness effort to develop and implement measures to improve graduate program quality
- Facilitate the development of new graduate programs (delivered by all modes) that align with the strategic priorities of the university and with workforce demands; Liaison with Texas Higher Education Coordinating Board staff on academic program matters
- Advance professional and career development of faculty, graduate students and postdoctoral scholars

- Lead efforts to increase graduate student success, retention, and completion
- Lead efforts to increase the diversity of the graduate student and postdoctoral population
- Expand external funding opportunities for graduate students and postdoctoral scholars, including the development of training grants
- Work collaboratively with the director of athletics and other athletics staff to enhance academic success of student athletes; work with athletes to expand vision of post-baccalaureate career plans
- Foster alumni, community, and corporate relationships that benefit graduate and postdoctoral education
- Lead alumni/donor relations and philanthropic efforts to support graduate education at the university
- Work collaboratively with faculty senate on academic policy matters
- Manage all fiscal matters of the Division of Graduate and Postdoctoral Affairs (including state, federal, and private gift funds); supervise and facilitate review and professional development of division personnel (faculty, staff, students)

*Accomplishments:*

- Contributed to enhanced impact and stature of university. Since fall 2013, overall enrollment increased 21% to 40,322; the university is ranked 100<sup>th</sup> among top public universities in the US (US News and World Report) and in the top 3% of universities in the world (Center for World University Rankings)
- Enhanced stature of graduate education at Texas Tech with US and foreign government officials, the graduate education community, community and business leaders, and the general public. The expansion of the graduate enterprise was central to the classification of TTU in the elite “highest research activity” (R1) category in 2015 and “very high research activity” (R1) category in 2018 and 2021 by the Carnegie Commission.
- Implemented university-wide comprehensive graduate enrollment management plan, including an international recruitment plan leading to over a 28% increase (to 7012) in total graduate enrollment and 16.4 % increase (to 1,266) in international graduate student enrollment since fall 2013. TTU is now in the top 10 percentile in full-time graduate enrollment and in the top 10 percentile for graduate enrollment in STEM fields among US graduate degree-conferring institutions.
- Increased total graduate student credit hour generation over 27% (to 128,135)
- Leadership of interdisciplinary programs resulted in hiring 7 new faculty and 38% increase in enrollment since 2013 (to 351 degree- and 287 graduate certificate-seeking)
- Worked collaboratively with academic units to create new graduate programs (doctoral, masters, graduate certificate) that align with university priorities and workforce demands; 30+ new programs established since 2013
- Launched bachelor to master’s accelerated programs; 30+ programs created since 2013, including 10 available exclusively online
- Increased total restricted research expenditures within interdisciplinary programs and other projects under the auspices of The Graduate School by nearly 100% (to \$2.127M; greater than four other colleges) since 2013
- Worked collaboratively with TTU branch campuses in Cleburne, El Paso, Fredericksburg, Marble Falls, McKinney, Junction, Waco, and San Jose, Costa Rica to extend face-to-face and on-line delivery of academic programs
- Worked collaboratively with president, provost, and other academic deans to increase graduate student stipend levels

- Worked collaboratively with Faculty Success Task Force to establish guidelines for faculty mentoring and with the Institute for Inclusive Excellence to launch training program for implicit bias and faculty search committee training
- Established on-going faculty development program for developing mentor skills
- Implemented new fully electronic application and degree audit platforms
- Established several new fellowship programs to recruit top-quality applicants and to facilitate enhanced diversity and degree completion
- Increased overall graduate application quality as measured by admission selectivity and standard test scores (GRE scores up 5 percentile) since 2103
- Successfully negotiated some 81 domestic and international collaborative agreements for student exchange, accelerated bachelors-masters programs, and dual degree programs
- Increased the number of international sponsored graduate students by 115% (to 250 students)
- Increased applications to graduate programs by members of underrepresented groups by over 20% and increased enrollment in graduate programs by members of underrepresented groups 90% (to 2146) since fall 2013, which contributed to TTU being recognized as a Hispanic-Serving Institution (one of just 15 R1s)
- Implemented programs to facilitate graduate degree completion resulting in 27% increase in master's degrees awarded (to 1658) and 23% increase in doctoral degrees awarded (to 390) since fall 2013 (TTU is now in the top 12 percentile in number of doctoral degrees awarded among US doctoral-granting institutions)
- Implemented comprehensive professional and career development program for graduate students and postdoctorals with five key competencies: 1) communication, 2) critical thinking, 3) leadership and project management, 4) professionalism, and 5) ethics; led faculty development to 1) advance career development, with emphasis on "pathway to professor," 2) enhance mentor skills for graduate students and postdoctoral, and 3) expand awareness and importance of unconscious bias and holist review (in context of faculty search committees and graduate student application review)
- Established comprehensive Graduate Center with academic support (graduate writing center, statistical consulting service, library research) and student support (career services, international concierge services, financial counseling, conflict resolution) services
- Established Office of Graduate and Postdoctoral Fellowships to facilitate preparation and submission applications for external fellowships and grants; increased submission of external applications by over 300-fold and increase in receipt of distinguished fellowships (e.g., NSF-GRFP; Fulbright)
- Established Office of Postdoctoral Affairs to recruit and advance the professional and career development of postdoctoral scholars
- Increased endowment of the graduate school by 20% to ca. \$60M since fall 2013
- Institutional effectiveness efforts improved satisfaction of newly-graduated students with program preparation by over 20% since 2013; satisfaction with how the graduate experience prepared surveyed alumni increased to 87%
- Facilitated development of successful multi-investigator training grant applications (e.g., NSF-IGE; DoEd-GAANN)
- Worked collaboratively through the Undergraduate Strategic Enrollment Planning Committee with Enrollment Management and academic units to increase undergraduate enrollment (increased 23% since 2013 to 33,256)

- Worked collaboratively through the Undergraduate Student Success Task Force with student affairs and academic units to improve measures of student success (increased first year retention rate 5% since 2013 to 87%; increase 6-year graduation rate 4% since 2013 to 63%).

2011-2014

Associate Dean, College of Graduate and Interdisciplinary Studies  
North Dakota State University, Fargo, ND

*Responsibilities:*

- Advocate graduate education at NDSU to US and foreign government officials, the general public, and prospective students; assist the dean with management of NDSU graduate and interdisciplinary program
- Lead domestic and international graduate student recruitment activities
- Foster alumni relations
- Lead and direct all student affairs matters, including academic standing, misconduct and appeals
- Devise and implement faculty and graduate student professional development programming; mentor faculty on career development, particularly development of their research programs and student/postdoc mentoring skills
- Plan, write/coordinate writing, and implement institution-based grants in support of graduate education
- Identify extramural graduate fellowship opportunities and facilitate applications
- Direct undergraduate research programs; serve as liaison to NCUR

*Accomplishments:*

- Enhanced stature of NDSU graduate programs to internal and external constituents. The expansion of the graduate enterprise was central to the classification of NDSU in the then top “very high research activity” (R1) category in 2010 by the Carnegie Commission.
- Initiated development of graduate enrollment management plan, including comprehensive international recruitment plan leading to 12% increase in total graduate enrollment and 11.9% increase in international student enrollment
- Through faculty search committee training and FORWARD ally network, increased recruitment, retention, and promotion of female and minority faculty
- Initiated alumni relations plan and co-authored graduate fund-raising campaign
- Initiated program evaluation process and worked with staff to develop and enhance graduate professional development programs
- Established fellowship office; developed resources and conducted workshops for preparing fellowship applications; wrote/facilitated development of multi-investigator groups for institutional grants in support of graduate education (e.g., CGS, NSF-IGERT, USD<sub>o</sub>Ed-GAANN)
- Established undergraduate research day and poster competition to showcase undergraduate research

2006-2014

Director, Interdisciplinary Cellular & Molecular Biology Program, NDSU, Fargo, ND

*Responsibilities:*

- Advocate program to internal and external constituents
- Manage program activities (course assignments, seminars, workshops, etc.)
- Recruit, mentor, and evaluate faculty
- Coordinate recruitment and admission process of graduate students
- Evaluate student progress
- Work collaboratively with faculty and others to prepare and submit applications to support interdisciplinary research in cell & molecular biology

- Manage program budget
- Develop and implement policies/procedures; prepare reports (program reviews, assessment reports, etc.)

*Accomplishments:*

- Secured institutional support for assistantships; facilitated submission of extramural proposals, including several that were funded (e.g., NSF equipment, USDA doctoral training)
- Increased applications to program by 123% between 2006 and 2014
- Increased enrollment by 83% between 2006 and 2014
- Increased number of faculty participants by 17% (to 42) between 2006 and 2014

1999-2003

State Director, ND Experimental Program to Stimulate Competitive Research

*Responsibilities:*

- Lead state-wide program involving 11 North Dakota University System (NDUS) institutions and 5 tribally-controlled community colleges to enhance research infrastructure and to increase competitiveness for federal research grants; serve as advisor to ND governor for research development
- Serve as a spokesperson for basic scientific and engineering research in North Dakota to the Federal Executive Branch and Congress as well as to the State Legislature, State Board of Higher Education, NDUS System Office, and general public
- Consult regularly with DOD, DOE, EPA, NASA, NIH, NSF, USDA and other federal research agencies regarding research infrastructure development and research opportunities for ND scientists
- Plan, write/coordinate writing, and implement state-based infrastructure grants (DOE, EPA, NASA, NIH, NSF) and coordinate state activity for agency-based infrastructure programs (DOD, DOE)
- Work collaboratively with university administrations (presidents, vice presidents, deans) to review assets and identify areas of potential strength to develop into competitive thematic research areas and to develop human resources
- Facilitate recruitment of top-quality faculty (review applications, interview finalists, approve hiring recommendations for EPSCoR supported faculty); conduct annual review of EPSCoR-supported faculty
- Foster development of faculty research programs and capabilities of students to conduct research in science, engineering, and mathematics; lead faculty development program for EPSCoR-supported researchers; mentor new faculty regarding career development and grant development
- Review productivity of thematic research clusters and faculty; adjust resource allocation as needed to maintain maximum productivity
- Facilitate transfer of university-developed technology to private sector
- Manage all fiscal matters of the program (including state, federal, and private sector funds); supervise and facilitate professional development of support personnel
- Build and maintain a comprehensive database of all ND-EPSCoR activities and participants
- Coordinate evaluations and recommendations regarding ND-EPSCoR programs; prepare reports for agencies, legislators, policy makers, and university constituents

*Accomplishments:*

- Enhanced the stature of North Dakota's research development initiatives and established ND EPSCoR as one of the premier and most successful EPSCoR programs in the nation; increased ND per capita federal funding from 33<sup>rd</sup> to 24<sup>th</sup> in nation. The expansion of research infrastructure led to increased R&D expenditures at both the University of North Dakota and North Dakota State University, and putting NDSU on the trajectory to becoming an R1 university (achieved in 2010)
- Accelerated the success of EPSCoR-supported investigators for competitive grants, from \$19.8M during 1995-1999 to \$66.1M during 1999-2003
- Increased the capacity to conduct competitive research by facilitating the recruitment of over 100 new faculty to UND and NDSU and by providing research education to over 200 graduate students and 150 undergraduate students, with emphasis on increasing participation by members of underrepresented groups
- Successfully advocated for expansion of federal support of EPSCoR programs by over 300% to ca. \$358M/year
- Increased state support of EPSCoR programs by 2.4-fold to \$6M/biennium
- Established state-wide research day (for faculty, graduate students, and undergraduates) to showcase EPSCoR-supported research
- Facilitated development of High-Performance Computing Center
- Expanded statewide support for technology transfer and commercialization, involving some 180 students, 11 faculty, and 65 companies; activities resulted in 4 patents and 13 funded SBIR/STTR grants.
- Fostered development of multi-investigator groups and facilitated submission of interdisciplinary grant proposals, including successful NSF ADVANCE proposal by NDSU

1997-1999

Director, Biotechnology Program (interdisciplinary B.S.), NDSU, Fargo, ND

*Responsibilities:*

- Coordinate recruitment and admission process of undergraduate students
- Recruit participating faculty
- Manage program activities (course assignments, seminars, workshops, etc.)
- Arrange required student research activity; review and approve research plans
- Advise students; evaluate progress
- Work collaboratively with participating faculty to prepare and submit applications to support instructional and research activities in biotechnology
- Manage program budget
- Develop and implement policies/procedures; prepare reports (program reviews, assessment reports, etc.)

*Accomplishments:*

- Negotiated articulation agreements; increased enrollment by 36% between 1997 and 1999.
- Increased faculty participants/undergraduate research supervisors by 50 % between 1997 and 1999
- Secured external funding for new equipment

1991-1999

Director, Regulatory Biosciences Center, NDSU, Fargo, ND.

*Responsibilities:*

- Lead and direct multi-investigator research center; coordinate research

- activities of participating faculty
- Plan, write/coordinate writing, and implement research/infrastructure grants
- Mentor junior faculty regarding career development
- Supervise support personnel and foster their professional development
- Manage all fiscal matters of the project; supervise support personnel; coordinate multiuser instrument facility
- Coordinate program evaluations and prepare reports

*Accomplishments:*

- Established multi-investigator network that used integrated approaches to study regulatory phenomena in biological systems
- Secured grants to support collaborative research, infrastructure development, including acquisition of multiuser equipment, human resource development
- Facilitated development of competitive research efforts leading to over 100 peer-reviewed publications, extramural awards in excess of \$4M, and to research education and training opportunities for ca. 30 graduate students.

1986-1990 Graduate Program Coordinator, Department of Zoology, NDSU, Fargo, ND

*Responsibilities:*

- Coordinate recruitment and admission process of graduate students
- Evaluate student progress
- Administer exams (e.g., masters' comprehensive, doctoral qualifying)
- Develop policies and procedures for graduate programs
- Prepare reports (program review, etc.)

*Accomplishments:*

- Developed recruitment program that expanded the geographic base of graduate applicants; streamlined application review
- Developed requirements for M.S. and Ph.D. programs (still used)
- Established stipend and TA workload guidelines

## Special Initiatives

Developed and implemented state-wide research development plan for North Dakota  
 Co-led inaugural application for the Ronald E. McNair Postbaccalaureate Achievement Program from NDSU (one of the original 14 institutions funded upon the program's inception in 1989)  
 Co-led establishment of undergraduate biotechnology interdisciplinary program at NDSU (1988)  
 Member, NDSU General Education re-design committee (1992-1994); a framework still in use  
 Member, NDSU first-year experience program, led to development of university-wide first-year experience course  
 Member, NDSU Strategic Plan Committee, 1999; 2009  
 Member, NDSU reaffirmation (HLC) report writing team (2003-2005; 2013-2014); TTU reaffirmation (SACSCOC) response writing team (2015) and midterm report committee (2019-2020)  
 Expanded Women in Science, Math, and Technology (WISMET) groups at NDSU and UND to foster a sense of community and collegiality and to increase understanding of climate issues and collect preliminary data to support applications to NSF ADVANCE program  
 Created and led EPSCoR faculty development program for NDSU and UND faculty  
 Co-created and co-led implicit bias training and faculty and staff search committee training (NDSU)  
 Directed and expanded Nurturing American Tribal Undergraduate Research and Education (NATURE) Program to develop research infrastructure and research capacity at ND's five tribal colleges and to provide research and career development opportunities to tribal college students



Directed and expanded Science Bound Program aimed at providing summer research experience to advanced high school students and at expanding their vision of career options

Directed and expanded Advanced Undergraduate Research Award (AURA) Program aimed at providing undergraduates with research experience and at expanding their vision of career options

Founding Advocate, Focus on Resources for Women's Advancement, Recruitment/Retention, and Development (FORWARD), a program aimed at improving NDSU campus climate (2009-2014)

Member, TTU Strategic Plan Committee 2014; 2017 (chair research subcommittee)

Member, TTU Institute for Inclusive Excellence aimed at promoting an inclusive university community

Member, State-wide Graduate Education Strategic Plan committee

Member, student success task working group (TTU)

Co-initiated department chair training and faculty success initiatives (TTU)

### Concurrent Visiting/Courtesy Appointments

2018	Visiting Professor, National Central University, Taiwan
2017	Visiting Professor, The Hebrew University of Jerusalem, Israel
2012	Visiting Professor, Sun Yat-Sen University, Guangzhou PRC
2012	Visiting Professor, Huazhong Agricultural University, Wuhan PRC
2011	Visiting professor, National Central University, Taiwan
2010	Visiting Professor, University of Denver
2009	Visiting Professor, Memorial University of Newfoundland, St. John's
2007, 2017	Visiting Professor, University of Bergen, Bergen, Norway
1998, 2013	Visiting Professor, University of São Paulo, São Paulo, Brazil
1996, 2004	Visiting Professor, University of Göteborg, Göteborg, Sweden
1994	Visiting Professor, University of Tokyo, Ocean Research Institute, Japan
1991	Visiting Scientist, National Institute of Aquaculture, Japan.
1991	Visiting Scientist, Humboldt State University, Arcata, CA.
1986, 1988	Visiting Scientist, National Marine Fisheries Service, Seattle, WA.
1985	Visiting Scientist, University of Washington, Seattle, WA

### Honors and Awards

2011	Fellow, National Science Council, Taiwan
2010	Marisco Scholar, University of Denver
2009	Jordan A Engberg Endowed Presidential Professorship, NDSU
2008-present	Who's Who in America
2007	49 <sup>th</sup> Faculty Lectureship (university's highest faculty honor), NDSU
2007-present	Who's Who in the World
2006-present	Who's Who in Medicine and Healthcare
2003-present	Who's Who in Sciences Higher Education
2000, 2005	Who's Who Among America's Teachers
1999	James A. Meier Endowed Senior Professorship, NDSU
1998	James A. Meier Faculty Achievement Award, NDSU
1998	Fellow, Programa de Intercâmbio Internacional em Pesquisa e Pós-Graduação, Brazil
1996	Excellence in Research Award, NDSU College of Science and Mathematics
1994	Fellow, Japan Society for the Promotion of Science (JSPS)
1991-present	American Men and Women of Science

1991,1994, 1995,1998	Preferred Professor, NDSU Mortar Board
1983	Aubrey Gorbman Best Paper Award, American Society of Zoologists
1981-1985	California Sea Grant College Program Traineeship
1981	Humboldt State University, Biology Graduate Student Association Scholarship

## **Professional Development**

### *Activities led/organized/presented*

- “Advocacy moments,” panelist, Council of Graduate Schools New Dean Institute, Denver, CO, July 8, 2017
- “Advocacy Strategies: Graduate Education and the Public Good,” panel leader/panelist, Council of Graduate Schools Annual Meeting, Washington, DC, 7-10, 2014
- Building Research Infrastructure (panelist)
- Care and use of vertebrate animals (co-leader)
- Department Chair Training (co-leader)
- Developing human resources capabilities in science, mathematics, and engineering (leader)
- Engaging graduate students in advocacy,” panelist, Council of Graduate Schools Annual Meeting, Washington, DC, December 6, 2018
- “Futurists thinking in graduate education,” discussion moderator, Council of Graduate Schools Annual Meeting (virtual), December 2020
- Graduate centers: A hub for professional and career development and student/postdoctoral life activities, Big 12 Dean’s Conference, Fort Worth, TX, May 2015
- “Hot topic: Academic Integrity,” co-facilitator, Council of Graduate Schools Summer Workshop, Ottawa, Canada, 2015
- “Hot topic: Value and cost of graduate education,” co-facilitator, Council of Graduate Schools Summer Workshop, San Diego, CA, 2019
- How to apply to graduate school (presenter)
- How to write a fellowship application (panelist; presenter)
- How to write a scientific paper (co-leader)
- How to prepare an oral presentation/poster for a professional conference (co-leader)
- How to write a grant (co-leader)
- Managing day-to-day operations, New Deans Institute, Council of Graduate Schools, Savannah, GA, July 2016
- “Public and private value of master’s education,” leader/panelist, Council of Graduate Schools Annual Meeting, Washington, DC., Dec 7-10, 2016
- Research and economic development (organizer)
- Research scientists and federal policy (panelist)
- Search committee training (Co-leader)
- Technology transfer (organizer)
- The role of research in universities (organizer)
- Why get a graduate education? (presenter)

### *Participant*

- Academic Leadership Summit
- Advanced Development for Deans and Academic Leaders
- Alumni relations and development
- Cooperative learning
- Development for Deans and Academic Leaders
- Effective Negotiation
- Interacting with the media

International Advancement: Global Strategies for Alumni Relations and Fundraising  
Leadership training/goals and planning  
Legal issues in higher education  
New Dean Institute, Council of Graduate School  
Promotion, tenure, and evaluation  
Recruiting domestic and international graduate students  
Safe Zone  
Strategic planning  
Undergraduate research strategies, new curricula and technologies  
University accreditation issues and best practices-HLC  
Use of multimedia in the classroom  
Use of unconventional vertebrates as models for biomedical research  
Working with students with disabilities

### **Legislative Testimony**

ND House Appropriations Committee (2000, 2002)  
ND Senate Appropriations Committee (2000, 2002)

### **Media Appearances**

PBS *Campus News* (1992)  
FOX 34 (multiple occasions, 2014-present)  
KAMC (multiple occasions, 2014-present)  
KDSU (1996)  
ND Public Radio (2001, 2002, 2003, 2007)  
NDSU Extension Radio (1992, 1998, 2000)

### **Professional Affiliations and Activities**

#### ***Professional Society Memberships/Affiliation***

American Fisheries Society  
Association of Texas Graduate Schools  
Big XII Graduate Deans Council  
Conference of Southern Graduate Schools  
Council of Graduate Schools  
Endocrine Society  
International Federation of Comparative Endocrinology Societies (Council member, 2009-present)  
International Society for Fish Endocrinology  
North American Society of Comparative Endocrinology (Council member, 2017-present)  
North Dakota Academy of Science (President, 1999-2000)  
Society for Integrative and Comparative Biology (formerly American Society of Zoologists)[Chair, Graduate Student/Post-doctoral Affairs Committee, 1994-1996; Divisions of Comparative Endocrinology (nominating committee 1990-1991; chair, nominating committee, 1994, 2006; chair, Best Student Paper Award Committee, 1991-1993, 2006-7; program officer, 1996-1999; divisional chair elect, 2008-10; divisional chair, 2010-2012) and Comparative Physiology/Biochemistry]  
Sigma Xi (NDSU Chapter President, 1993)

### ***Professional Boards/Task Forces***

American Society of Zoologists, Endocrine Disruptors Task Force (member)  
Coalition of EPSCoR States (state representative, 1999-2003)  
Council of Graduate Schools, Advisory Committee on Advocacy and Public Policy  
(member, 2016-2020; chair, 2021-)  
International Committee on Salmonid Smoltification Nomenclature (member)  
Liaison EDU (advisory board member, 2016-2018)  
National Academy of Sciences/National Research Council, US National Committee for  
the International Union of Biological Sciences (member, 1997-2000)  
Society for Integrative and Comparative Biology, “Grand Challenges” in endocrinology  
working group (member, 2010-2012)  
Science Advisory Board, BioInformatics (member, 2016-present)  
WIndU (Board of Directors, 2020-present)

### ***Grant Panelist***

NIH-BSRG (NDSU)  
National Science Foundation, Integrative Animal Biology (1996-2002), Functional and  
Regulatory Systems (2005-2007), Integrative Organismal Systems (2008-2010; 2014,  
2016), Graduate Research Fellowship Program (2013), NSF Research Traineeship  
(2020, 2021)  
NSF Committee of Visitors (2003)  
ND EPSCoR  
NDSU Research Council  
South Dakota Board of Regents (2009-present)  
US Department of Agriculture, Animal Growth (2001)  
US Department of Education, Innovations and Improvements (2005)

### ***Grant Reviewer (ad hoc)***

Hong Kong Research Grants Council  
Israel Science Foundation  
Maine Technology Institute  
Medical Research Council of Canada  
National Institutes of Health (NIH)  
National Science and Engineering Research Council (Canada)  
National Science Foundation (USA)  
NDSU Grant-in-Aid Program  
Norwegian Research Council  
Sea Grant College Programs (California, Hawaii, Maryland, New Hampshire, Ohio, Oregon,  
and Texas)  
US Department of Agriculture  
US-Israel Binational Science Foundation

### ***Editor/Editorial Board Member***

Co-Editor-in-Chief, General and Comparative Endocrinology (2017-present)  
Associate Editor, General and Comparative Endocrinology (2001-2016)  
Associate Editor, Comparative Biochemistry and Physiology (2001-2014)  
Associate Editor, Frontiers in Endocrinology (2010-2016)  
Editorial Board, Biochemistry and Molecular Biology (2015-present)  
Editorial Board, International Journal of Endocrinology (2008-present)  
Editorial Board, Proceedings of the North Dakota Academy of Science (1998-2001)

***Journal Referee (ad hoc)***

American Journal of Physiology  
Aquaculture  
Aquatic Living Resources  
Biochemistry  
Biological Bulletin  
Canadian Journal of Zoology  
Canadian Journal of Fisheries and Aquatic Sciences  
Comparative Biochemistry and Physiology  
Endocrinology  
Environmental Science and Technology  
Fish Physiology and Biochemistry  
Frontiers in Endocrinology  
Functional Ecology  
General and Comparative Endocrinology  
Hormones and Behavior  
International Journal of Biochemistry and Cell Biology  
Journal of Agricultural and Food Chemistry  
Journal of Comparative Neurology  
Journal of Comparative Physiology  
Journal of Endocrinology  
Journal of Experimental Biology  
Journal of Experimental Zoology  
Journal of Fish Biology  
Journal of Molecular Endocrinology  
Life Sciences  
Lipids  
Molecular and Cellular Endocrinology  
Neuroendocrinology  
Oecologica  
Physiological and Biochemical Zoology  
Proceedings of the National Academy of Sciences, USA  
Plos One  
Scientific Reports (a Nature research journal)  
The Progressive Fish-Culturist  
Transactions of the American Fisheries Society  
Veterinary Research Communication

***Book/Chapter Reviewer (ad hoc)***

Benjamin-Cummings  
Harcourt College Publishers  
McGraw-Hill  
Prentice-Hall  
Saunders College Publishing  
Times/Mirror-Mosby  
Thomson-Brooks/Cole  
Wadsworth/Thomson Learning  
W. C. Brown

***Program Reviewer/Consultant***

Aquaculture Program, North Dakota State University  
Biology Program, Texas A&M University, Corpus Christi

Biotechnology Program, Humboldt State University  
Graduate Program, Department of Biology, Chinese University of Hong Kong  
Graduate Program, Department of Physiology, University of São Paulo, Brazil  
Graduate Programs (CGS consultation), Georgia State University  
Graduate Programs (CGS consultation), Louisiana State University  
National Science Foundation, Directorate for Biological Science, Committee of Visitors  
South Dakota Experimental Program to Stimulate Competitive Research (EPSCoR)

***Professional Meeting (Co)Organizer***

Midwest Regional Conference on Comparative Endocrinology, April 14, 1989 (Sponsored by the American Society of Zoologists).  
*Frontiers in Regulatory Biology*, an NDSU Centennial Symposium, April 20, 1990  
*Physiology of Migratory Fish*, International Congress on the Biology of Fishes, San Francisco, CA, July 1996.  
*A Tribute to Erika Plisetskaya: New Insights on the Function and Evolution of gastroenteropancreatic Hormones*, organized for the Society of Integrative and Comparative Biology, Denver, CO, January 3-6, 1999.  
*Special Session in Honor of Howard A. Bern*, organized for the Society of Integrative and Comparative biology, San Francisco, CA, January 3-7, 2013  
17<sup>th</sup> International Congress of Comparative Endocrinology, Barcelona, Spain, 2013, International Program Committee Member  
Third North American Society of Comparative Endocrinology Conference, Ottawa, Canada 2015, program committee member  
18<sup>th</sup> International Congress of Comparative Endocrinology, Banff National Park, Alberta, Canada, 2017, International Program Committee Member  
Western Association of Graduate Schools, Fargo, ND, March 30-April 2, 2014.  
Big 12 Graduate Dean's conference, Fort Worth, TX, May 1-2, 2015  
8<sup>th</sup> International Symposium on Fish Endocrinology: "Endocrinology of Growth," and "Endocrinology of Energy Balance," Gothenburg, Sweden, June 28-July 2, 2016.  
7<sup>th</sup> World Congress on Molecular and Cell Biology, Xian, China, April 25-27, 2017, Scientific Advisory Committee  
19<sup>th</sup> International Congress of Comparative Endocrinology, Sendai, Japan, June 21-25, 2021, International Program Committee Member

***Other***

School (elementary, Jr. and Sr. High) and Girl/Boy Scout science demonstrations/presentations  
State Science Fair, Judge (1987, 1989, 1992, 1996, 2004, 2005, 2006)  
Provide advice to government natural resources agencies (e.g., Minnesota Dept. Natural Resources, ND Dept. Game and Fish, SD Dept. Game, Fish, and Parks, US Fish and Wildlife Service, US Geological Service) and to the general public on various issues related to nutrition/metabolism and to fish growth/aquaculture.  
External reviewer for promotion/tenure (Canada, China, Japan, US, Taiwan)

**University Governance and Service**

***Texas/Texas Tech University***

***State:***

Graduate Education Advisory Committee, Texas Higher Education Coordinating Board, 2015-present  
Graduate Education Strategic Planning Subcommittee, Texas Higher Education Coordinating Board, 2016-2018

***University:***

Academic Partnerships Committee, 2017-present  
Building Committee, Experimental Sciences Building II, Chair 2016-2019  
Chair's Academy, discussion leader 2018-present  
Dean's Council, 2014-present  
Dean Search Committee (Library), chair 2020  
Faculty Success Task Force, 2018-present  
Fulbright Coordinating Committee, 2014-present  
Graduate Council, chair 2014-present  
International Advisory Committee, 2014-present  
Library Committee, 2019-present  
President's Ad hoc Honorary Degree Committee, 2015  
President's Cabinet, 2015-present  
Provost's Council, 2014-present  
Research Advisory Council, 2014-present  
SACSCOC Response Writing Committee, 2015, 2019  
Undergraduate Strategic Enrollment Planning Committee, 2016-present  
Undergraduate Student Success Task Force, 2016-present  
University Strategic Planning Committee, 2014-present; chair, research subcommittee  
Undergraduate Research Council, 2017-present

***North Dakota/North Dakota State University***

***State:***

Biomedical Research Infrastructure Network (BRIN) Steering Committee, 2000-2004  
IDeA Network of Biomedical Research Excellence (INBRE) Steering Committee, 2004-2009  
EPSCoR Steering Committee, 1996-2003  
R&D Showcase Coordinating Committee, 2002, 2003

***University:***

*Ad hoc* (Provost's) Committee on Academic Integrity, member 2007, 2009  
*Ad hoc* (Provost's) Committee on Promotion, Tenure, and Evaluation, member 1997-1998,  
2009-2010  
Assessment Committee, 2005-2009  
Biotechnology undergraduate interdisciplinary program, steering committee member, 1991-  
1999; director, 1999  
  
Cell and Molecular Biology Program Steering Committee, member 1988-1990; 1995-1999;  
Chair, 2006-2014  
Dean Review Committee, 2009-2010 (Human Development), 2012-2013 (Graduate School)  
Dean Search Committee (Science and Math), member 1998-1999  
Dean Search Committee (Science and Math), Chair 1999-2000; 2005-2006  
Genomics Graduate Program Steering Committee, member 2004-2013  
Graduate Council, member 1997-2000; 2011-2014  
Internal Advisory Committee, NSF ADVANCE Program, 2009-2014  
International Advisory Council, 2011-2014  
Institutional Animal Care and Use Committee, member 2005-2013  
Institution Biosafety Committee, 1997-2013  
Radiation Safety Committee, 1991-1993  
Research Council, member 1990-1993  
Search Committee Training, Co-leader, 2010-2014  
Space and Facilities Committee, member 1994-1997; 2008-2013  
Standing Committee on Faculty Rights, member 2007-2014

Steinhaus-Rhinehart Scholarship Committee, chair 1996-2001  
President's Council, 2001-2003  
University Senate, 1991-1993

**College:**

Editor, College of Science and Mathematics Newsletter, 1989-2001  
Facilities and Instrument Committee, member 1992-1995  
Promotion, Tenure, and Evaluation Committee, member 1995-1997; chair 1997  
Science Building Planning Committee, member 2007-2014  
STEM classroom planning committee, 2009-2012  
Student-Faculty Relations Committee, chair 1989-2001  
Student Progress Committee, member 1991-1992

**Department:**

Assessment committee, 2005-2009  
Cell/Developmental Biologist Search Committee, chair 1996-1997; 2005-2006; 2007-2008  
Curriculum committee, Chair 1987-1990 (chief architect of undergraduate curriculum used for three tracks of zoology majors used 1987-2012; led semester conversion and undergraduate & graduate program reviews)  
Executive Committee, 2007-2008  
Graduate Program Review Committee, 2000-2001  
Integrative Physiologist Search Committee, member 2006-2007  
Planning Committee, member 2005  
Physiological Genomicist Search Committee, chair 2008-2009  
Promotion, Tenure, and Evaluation policy development committee (*ad hoc*), chair 2005-2006  
Promotion, Tenure, and Evaluation Committee, chair 2006-2008; 2011  
Public Affairs Committee, 2012-2014  
Regulatory Biologist Search Committee, chair 2011-2012  
Stevens Hall Renovation Committee, chair 1998

**Other:**

Co-developer and co-presenter, Faculty Search Committee Training, NDSU, 2009-2013  
FORWARD Ally Trainer, NDSU, 2009-2013

**Community Service**

Babe Ruth Baseball, coach 1998-2003  
Boy Scouts of America--*Northern Lights Council*: Cubmaster Pack 235, 1996-1998; Merit Badge Councilor, 1997-2014; Assistant Scoutmaster Troop 214, 1998-2009; Day Camp Director, Two Rivers District, 1997-1998; Co-chair District Training Committee, 1998-2000; Chair, District Finance Committee, 1999-2001; District Friends of Scouting Committee, 1999-2009; District Award of Merit, 2000; Unit Commissioner, 2001-2009; *South Plains Council*: Merit Badge Councilor, 2014-present  
Fargo Park District, baseball coach, 1991-2001  
Fargo-Moorhead Athletics, football coach, 1999-2002  
Fargo-Moorhead Soccer Association, coach, 1994-1999  
Fargo-Moorhead YMCA, basketball coach, 1996-1999  
Fargo North Raiders (Fargo Youth Hockey affiliate), Board of Directors, member, 2003-2005  
Fargo Zoo Planning Project, Education Committee, member, 1993-1994  
River Keepers (Red River), 1997-2014



## Teaching Interests and Philosophy

My central teaching interests are in the areas of animal physiology, endocrinology, and biochemistry/molecular biology. I emphasize the experimental bases of fundamental concepts and strive to develop analytical and critical thinking in all courses. I have taught the following courses, which range from large introductory courses to small graduate topical seminars:

- Animal Physiology
- Cell Physiology
- Endocrinology
- General Biology
- Graduate Seminar (topics: “chemical ecology,” “environmental endocrinology”)
- Molecular Endocrinology
- Physiological Ecology
- Senior seminar (capstone experience)
- Skills for Academic Success (first-year experience)

## Research Interests

My area of research is comparative animal physiology/biochemistry and endocrinology. My laboratory uses integrative approaches (e.g., physiological, cellular, biochemical, genomic) to investigate regulatory phenomena. Current work examines the structure, biosynthesis, function, mechanism(s) of action, and evolution of hormones (and their receptors) involved with the regulation of growth, development, and metabolism of vertebrate animals. Recent work also examined the endocrine disrupting effects of environmental contaminants, particularly environmental estrogens, on growth and development.

## Advising, Mentoring, and Research Education

### *Undergraduate Advising and Recruiting Activities (NDSU)*

- College of Science and Mathematics, new and transfer student advisor, 1999-2013
- Academic Advisor for undergraduate majors in Biological Science, Biotechnology, Zoology/pre-med/pre-dent/other pre-professional (ca. 60 students per year)
- Biotechnology Program, undergraduate student research supervisor
- Pre-dentistry Club, faculty advisor
- Prospective student/student-athlete visits (met with 20-30 students and families per year)
- Residence Hall Learning Community, faculty mentor 2011-2013
- Safe Zone ally/contact

### *Student Mentoring Programs--mentor participant*

- McNair Post-Baccalaureate Achievement Program, mentor, 1990-1993;1997; 2004-2007
- MentorTech, mentor, 2015-present
- North Dakota EPSCoR Science Bound Program, mentor 1995-2013
- North Dakota EPSCoR AURA Program, mentor 1996-2013
- North Dakota Governor’s School in Science and Mathematics, mentor 1991-2013
- North Dakota Science Teacher Education Program, mentor 1997-2003
- Nurturing American Tribal Undergraduate Research and Education (NATURE), mentor, 2008-2013

### *Summary of Mentees*

- Visiting scientists hosted: 5

Post-doctorals: 8  
 Graduate students supervised: 12 M.S., 13 Ph.D.  
 (NDSU: Heather Bergan, Ph.D.; Michael Caruso, Ph.D.; David Cole, M.S., Darrin Cowley, M.S.; Mary Davorak, M.S.; Sondra Dubowsky, Ph.D.; Carmen Eilertson, Ph.D.; Elizabeth Ellens, M.S.; Alison Hagemester, M.S.; Andrea Hanson, Ph.D.; Jamie Harmon, Ph.D.; Yung-hsi Kao, Ph.D.; Jeff Kittilson, M.S., Sarah Klein, M.S., Lincoln Martin, M.S.; Kim Michelson, Ph.D.; Craig Moore, Ph.D.; Laura Nelson, M.S.; Lindsey Norbeck, Ph.D.; Marty Pesek, M.S.; Jason Poppinga, M.S.; Bart Slagter, Ph.D.; Beverly Triebold, Ph.D.; Nicole Very, Ph.D.; Chad Walock, Ph.D.)  
 Graduate student committees (domestic): 19 M.S., 32 Ph.D.  
 Graduate Student committees (international/external examiner): 3 M.S., 7 Ph.D.  
 Undergraduates research students supervised: 139  
 High School teachers: 9  
 High School Students: 28

***Faculty Mentor Programs—mentor***

Provost's faculty mentor program: mentee Dr. Seth Rasmussen (1999-2005)  
 Dean's faculty mentor program: mentee Dr. Lisa Montplaisir (2005-2013)  
 COBRE (NIH) faculty mentor: mentees: Dr. Jane Schuh (2005-2010), Dr. Wendy Reed (2006-2009), Dr. Christopher Cobert (2011-2013), Dr. Stephen Vetter (2012-2013)

**Extramural Grants Received** (ca. \$30.1M in research and research infrastructure support)

NSF, 4/16-3/21, \$389,318, Collaborative Research: "The evolution of endocrine function; discovering the hormonal control of osmoregulation in basal vertebrates" (Co-PI S. McCormick)  
 NSF (DGE), 8/21-present, \$138,000, Graduate Research Fellowships (TTU)  
 NSF (DGE), 8/13-7/20, \$320,000, Graduate Research Fellowships (TTU)  
 NSF (DGE), 12/09-11/16, \$429,877, Graduate Research Fellowships (TTU)  
 NSF (DGE), 1/11-3/14, \$218,000, Graduate Research Fellowships (NDSU)  
 NSF/ND-EPSCoR, 7/13-6/15, \$38,000, Doctoral Dissertation Improvement Award  
 NSF/ND-EPSCoR, 8/11, \$500,000, Department New Faculty Start-up  
 USGS/ND Water Commission, 3/10-2/12, \$16,770, "Uptake and effects of environmental estrogens on growth of fish."  
 USDA, 10/09-9/13, \$91,978, "Cankdeska Cikana Community College Aquaculture Project," (Co-PI A. Hennessey)  
 NSF, 7/09-6/16, \$771,668, "Resolving the growth-promoting and lipid catabolic actions of growth hormone."  
 NSF/ND-EPSCoR, 8/09-7/11, \$41,000, Doctoral Dissertation Improvement Award.  
 NDSU Development Foundation, 6/09-6/10, \$4,530, "Effects of environmental contaminants on animal growth."  
 NSF/ND-EPSCoR, 8/08, \$200,000, Department New Faculty Start-up  
 NSF/ND-EPSCoR, 8/06, \$450,000, Department New Faculty Start-up  
 NSF, 4/05-3/10, \$610,250, "Extrapituitary role of somatostatins in growth."  
 NDSU Research Foundation, 2/05-2/06, \$10,000. "Direct effects of somatostatins on cell proliferation"  
 NSF, 5/03-5/06, \$100,000 (with match), "Purchase of confocal microscope," (Co-PIs A. Grazul-Bilska, L. Reynolds, D. Redmer)  
 NSF/ND-EPSCoR, 1/03-12/05, \$33,000, Doctoral Dissertation Improvement Award  
 NSF, 12/99-4/02, \$5,000,000 (with state match), "Advancing Science Excellence in North Dakota."

NSF, 5/02-4/05, \$11,837,584 (with state match), “Advancing Science Excellence in North Dakota.”

NIH, 9/01-8/04, \$6,200,000, “Building biomedical research infrastructure in North Dakota,” (Co-PI J. Shabb)

NSF, 8/00-8/05, \$481,000, “Differential expression of somatostatin receptors.”

ND Agricultural Products Utilization Commission, 5/00-5/01, \$10,000, “Alternative protein sources for yellow perch,” (co-PI P. Jarvis).

USDA-NCRAC, 9/99-8/00, \$42,500, “Culture technology of sunfish,” (co-PI B. Schatz).

NDSU Research Foundation, 12/99-11/00, \$5000, “Evaluation of somatostatin-receptor interactions.”

NSF/ND-EPSCoR, 7/99-2/01, \$30,000, Doctoral Dissertation Improvement Award

USDA-NRRCGP, 9/98-8/00, \$150,000, “Role of Somatostatins in regulating growth of teleost fish.”

NIH-IDEA, 5/98-9/98, \$6000, “Role of somatostatin in regulating growth.”

NSF, 9/98-8/99, \$6000, to support the symposium entitled “Function and evolution of enteropancreatic hormones.”

Merck Foundation, 9/98, \$5000, to support the symposium “Function and evolution of enteropancreatic hormones.”

NSF, 9/97-8/00, \$280,000, “Differential expression of somatostatin genes.”

NSF, 9/94-8/97, \$260,640, “Physiology of somatostatin.”

Great Lakes Fishery Commission (subcontract from Univ. Toronto), 9/93- 8/97, \$40,000, “Changes in lipid metabolism associated with lamprey metamorphosis.”

NSF, 9/93-8/94, \$61,000, "Hormonal Regulation of Lipid Metabolism in Fish."

NSF/ND-EPSCoR, 10/95-9/00, ca. \$80,000, Regulatory Biosciences Infrastructure Support

NSF/ND-EPSCoR, 10/92-9/95, \$279,250, “Establishment of a Regulatory Sciences Cluster.”

NSF/ND-EPSCoR 6/91-5/92, \$7560, research experience for undergraduates

American Diabetes Association (ND affiliate)/Edgar Haunz Foundation, 1991, \$1800.

Japan Zoological Institute, 1991, \$500, travel grant.

American Society of Zoologists, 1991, \$1785, travel grant to 3rd International Congress on Comparative Physiology and Biochemistry.

NSF, 8/89-9/93, \$241,000, “Hormonal Control of Lipid Metabolism.”

NSF/ND-EPSCoR, 10/89-9/90, \$25,425, Regulatory Biosciences program development.

National Research Council (USA), 1/89, \$800, travel grant to XXXI<sup>th</sup> International Physiology Conference, Helsinki, Finland.

NSF/ND-EPSCoR, 10/87-9/90, \$63,500, “Hormonal Regulation of Lipid Metabolism in Fish.”

Norwegian Research Council, 7/88, \$1000, travel grant to International Smoltification Conference, Trondheim, Norway

NSF, 10/88 - 9/91, \$54,398, “Purchase of centrifuges,” (Co-PI with M. Fawley and M. Duysen).

NIH-BSRG, 7/88- 6/89, \$2000, Physiology of pancreatic hormones.

U.S. Department of Education, 1/87-6/88, \$104,500, “Acquisition of physiological/biotechnical instrumentation,” (Co-PI with M. Duysen and J. Gerst).

NSF/ND-EPSCoR, 10/86-9/91, \$236,194, Regulatory Biosciences Cluster (Co-PI with B. Gladue, D. Redmer, and L. Reynolds)

### **Other External Grants Managed**

DOD-EPSCoR, 12/99-12/03 (ND State Program Coordinator)

DOE-EPSCoR, 12/99-12/10 (ND State Program Coordinator)

EPA-EPSCoR, 12/99-12/03 (institution PD/PI)

NASA-EPSCoR, 12/99-12/03 (institution PD/PI)

## External Grants Facilitated

NSF ADVANCE, 10/09-9/12, \$2,000,000  
NSF-IGE, 8/18-7/21, \$497,856  
US DoEd-GAANN, 10/18-9/21, \$746,000  
US DoEd-McNair, 1988, 1990, 1992, 1994, 1996, 2018

## Patents

Novel somatostatins and methods, US patent number 6818739

## Publications

### Books

Sheridan, M.A. 1999. *Instructor's Guide for Campbell's Biology*, 5<sup>th</sup> Edition. Benjamin-Cummings, Menlo Park, CA.

Bunde, C., Kroll, W., Sheridan, M.A., and Wagle, J. 2008. *Study Guide for Biology: The Dynamic Science by Russell, Wolfe, Hertz, Starr and McMillan*. Thomson/Books-Cole, Belmont, CA.

### Symposium Proceedings

McCormick, S., M. Sheridan, R. Patino and D. MacKinlay (editors). 1996. *The Physiology of Migratory Fish*. American Fisheries Society.

Sheridan, M.A. and Sower, S.A. (editors). 2000. *A Tribute to Erika M. Plisetskaya: New Insights on the Function and Evolution of Gastroenteropancreatic Hormone*. American Zoologist, Vol 40.

### Book Chapters

Sheridan, M.A. and Harmon, J.S. 1994. Adipose tissue. In, *Biochemistry and Molecular Biology of Fishes*, Vol. 3 (edited by P. W. Hochochka and T. P. Mommsen), pp. 305-311. Elsevier, Amsterdam-New York.

Sheridan, M.A., Kittilson, J.D., Ehrman, M.M., and Moore, C.A. 1997. Polygenic expression of somatostatin in rainbow trout. In *Advances in Comparative Endocrinology* (S. Kawashima and S. Kikuyama, eds), pp291-294. Monduzzi Editore, Bologna.

Sheridan, M.A., Ehrman, M.M., Melroe, G.T., and Kittilson, J.D. 2001. Regulation of somatostatin expression. In *Perspectives in Comparative Endocrinology: Unity and Diversity* (H.J.Th. Goos, R.K. Rastogi, H. Vaudry, and R. Pierantoni, eds), pp133-137. Monduzzi Editore, Bologna.

Sheridan, M.A. and Caruso, M.A. 2011. The Pancreas. In *Fish Physiology: From Genome to Environment* (S. Holmgren and C. Olsson, section eds), pp. 1276-1283. Elsevier, New York.

Sheridan, M.A. 2011. Endocrinology of Fish Growth. In *Fish Physiology: From Genome to Environment* (A.P. Farrell and E.D. Stevens, section eds), pp. 1483-1489. Elsevier, New York.

Ellens, E.R. and Sheridan, M.A. 2012. Molecular evolution and regulation of growth hormone signaling: Toward a highly integrated control system of growth. In *Trout: From Physiology to Conservation* (S. Polakof and T.W. Moon, eds), pp 269-306, Nova Science, New York.

Sheridan, M.A. 2016. Evolution of the Growth Hormone Receptor Family. In *Evolution and Diversity of Life* (eLS Series), DOI: 10.1002/9780470015902.a0026413, John Wiley and Sons, NY

## **Essays**

- Sheridan, M.A., 2001. Round Not Flat, *NDSU Magazine*, Spring 2001, pp 46-47.
- Sheridan, M.A., 2013. Unanswered Questions: Animal Nutrition (Chapter 47). In, *Biology: The Dynamic Science*, 3rd Edition by Peter Russell, Paul Hertz, and Beverly McMillan, Cengage, New York.
- Sheridan, M.A., 2017. Unanswered Questions: Animal Nutrition (Chapter 47). In, *Biology: The Dynamic Science*, 4<sup>th</sup> Edition by Peter Russell, Paul Hertz, and Beverly McMillan, Cengage, New York.
- Sheridan, M.A., 2018. The Advocate Dean: Tell the story, but target your message to your audience. In, *GradEdge*, Vol 7, Number 3, Council of Graduate Schools, pp 7-8.
- Sheridan, M.A., 2019. Unanswered Questions: Animal Nutrition. In, *Biology: The Dynamic Science*, 5th Edition by Peter Russell, Paul Hertz, and Beverly McMillan, Cengage, New York, in press.

## **Book Reviews**

- Sheridan, M.A. 1990. The Comparative Physiology of Regulatory Peptides (S. Holmgren, ed), Chapman-Hall, London/New York. *Am. Zool.* 31:757.
- Sheridan, M.A. 1999. Basic and Clinical Endocrinology (F Greenspan and G Strewler, eds), Appleton & Lang, Stamford, CT. *Trends in Endocrinology and Metabolism* 10:117-118.

## **Refereed Journal (H index 43, i10 index 118)**

- Sheridan, M. A. and Allen, W. V. 1982. Wax esters in the serum and liver of steelhead trout, *Salmo gairdneri*. *Comp. Biochem. Physiol.* 74B: 251-255.
- Sheridan, M. A., Allen, W. V. and Kerstetter, T. H. 1983. Seasonal variations in the lipid composition of steelhead trout, *Salmo gairdneri* Richardson, associated with the parr-smolt transformation. *J. Fish Biol.* 23: 125-134.
- Sheridan, M. A. and Allen, W. V. 1984. Partial purification of a triacylglycerol lipase from steelhead trout, *Salmo gairdneri*, adipose tissue. *Lipids* 19: 347-352.
- Sheridan, M. A. 1985. Changes in the lipid composition of juvenile salmonids associated with smoltification and premature transfer to seawater. *Aquaculture* 45: 387-388.
- Sheridan, M. A., Allen, W. V. and Kerstetter, T. H. 1985. Changes in the fatty acid composition of steelhead trout, *Salmo gairdneri*, associated with parr-smolt transformation. *Comp. Biochem. Physiol.* 80B: 671-676.
- Sheridan, M. A., Friedlander, J. K. L., and Allen, W. V. 1985. Chylomicra in the serum of postprandial steelhead trout, *Salmo gairdneri*. *Comp. Biochem. Physiol.* 81B: 281-284.
- Sheridan, M. A., Woo, N. Y. S. and Bern, H. A. 1985. Biochemical basis of smoltification-associated lipid and carbohydrate depletion. *Aquaculture* 45: 388-389.
- Sheridan, M. A., Woo, N. Y. S. and Bern, H. A. 1985. Changes in the rates of glycogenesis, glycogenolysis, lipogenesis and lipolysis in selected tissues of the coho salmon, *Oncorhynchus kisutch*, associated with parr-smolt transformation. *J. Exp. Zool.* 236: 35-44.
- Sheridan, M. A. and Bern, H. A. 1986. Both somatostatin and the caudal neuropeptide, urotensin II,

- stimulate lipid mobilization from coho salmon liver incubated *in vitro*. Reg. Peptides. 14: 333-341.
- Sheridan, M. A. 1986. Effects of thyroxin, cortisol, growth hormone, and prolactin on lipid metabolism of coho salmon, *Oncorhynchus kisutch*, during smoltification. Gen. Comp. Endocrinol. 64: 220-231
- Sheridan, M. A., Plisetskaya, E., Bern, H. A., and Gorbman, A. 1987. Effects of somatostatin-25 and urotensin II on lipid and carbohydrate metabolism of coho salmon, *Oncorhynchus kisutch*. Gen. Comp. Endocrinol. 66: 405-414.
- Sheridan, M. A. 1987. Effects of epinephrine and norepinephrine on lipid mobilization from coho salmon liver incubated *in vitro*. Endocrinology 120: 2234-2239.
- Sheridan, M. A. 1988. Lipid dynamics in fish: Aspects of absorption, deposition, transport and mobilization. Comp. Biochem. Physiol. 90B: 679-690.
- Sheridan, M. A. 1988. Exposure to seawater stimulates lipid mobilization in juvenile salmon. Fish. Biochem. Physiol. 5: 173-180.
- Sheridan, M.A., Muir, N.M. 1988. Effects of catecholamines on glucose mobilization from chinook salmon, *Oncorhynchus tshawytscha*, liver incubated *in vitro*. J. Exp. Zool. 284: 155-159.
- Plisetskaya, E., Ottolenghi, C., Sheridan, M.A., Mommsen, T.P. and Gorbman, A. 1989. Metabolic effects of glucagon and glucagon-like peptide on coho salmon (*Oncorhynchus kisutch*) and chinook salmon (*O. tshawytscha*). Gen. Comp. Endocrinol. 73: 205-216.
- Plisetskaya, E., Sheridan, M.A. and Mommsen, T.P. 1989. Metabolic changes in coho (*Oncorhynchus kisutch*) and chinook (*O. tshawytscha*) salmon resulting from acute insufficiency of pancreatic hormones. J. Exp. Zool. 249:158-164
- Sheridan M.A. 1989. Alterations in lipid metabolism accompanying smoltification and seawater adaptation of salmonid fish. Aquaculture 82: 191-203.
- Klee, M., Eilertson, C. D. and Sheridan, M.A. 1990. Effects of nutritional state on hormone-mediated hepatic glycogenolysis. J. Exp. Zool. 254: 202-206.
- Michelsen, K. and Sheridan, M.A. 1990. Influence of cAMP and calcium on epinephrine-stimulated glycogenolysis in rainbow trout. Comp. Biochem. Physiol. 97C: 329-332.
- Sheridan, M.A., Eilertson, C. D. and Plisetskaya, E. M. 1991. Radioimmunoassay of pancreatic somatostatin-25. Gen. Comp. Endocrinol. 81: 365-372.
- Sheridan, M.A. and Mommsen, T.P. 1991. Effects of nutritional state on *in vivo* lipid and carbohydrate metabolism of coho salmon, *Oncorhynchus kisutch*. Gen. Comp. Endocrinol. 81: 473-483.
- Eilertson, C.D., O'Connor, P. and Sheridan, M.A. 1991. Somatostatin-14 and somatostatin-25 stimulate glycogenolysis in rainbow trout, *Oncorhynchus mykiss*, liver incubated *in vitro*: A systemic role of somatostatins. Gen Comp. Endocrinol. 81:473-483.
- Harmon, J.S., C.D. Eilertson, M.A. Sheridan and E. M. Plisetskaya. 1991. Insulin suppression and enhanced lipid mobilization are associated with hypersomatostatinemia and hyperglucagonemia

- in glucose-injected rainbow trout. *Am. J. Physiol.* 261:R609-R613.
- Harmon, J.S., Michelsen, K.G. and Sheridan, M.A. 1991. Purification and characterization of hepatic triacylglycerol lipase isolated from rainbow trout, *Oncorhynchus mykiss*. *Fish. Physiol. Biochem.* 9:361-368.
- Harmon, J.S. and Sheridan, M.A. 1992. Effects of nutritional state, insulin and glucagon on lipid metabolism of rainbow trout, *Oncorhynchus mykiss*. *Gen. Comp. Endocrinol.* 87:214-221.
- Harmon, J.S. and Sheridan, M.A. 1992. Previous nutritional state and glucose modulate glucagon-mediated hepatic lipolysis in rainbow trout, *Oncorhynchus mykiss*. *Zool. Sci.* 9:274-281
- Harmon, J.S. and Sheridan, M.A. 1992. Glucose-stimulated lipolysis in rainbow trout, *Oncorhynchus mykiss*, liver. *Fish Physiol. Biochem.* 10:189-200.
- Cowley, D. and Sheridan, M.A. 1993. Insulin stimulates hepatic lipogenesis in rainbow trout, *Oncorhynchus mykiss*. *Fish Physiol. Biochem.* 11:421-428.
- Harmon, J.S., Rieniets, L.M., and Sheridan, M.A. 1993. Glucagon and insulin regulate hepatic lipolysis of rainbow trout, *Oncorhynchus mykiss*, by phosphorylation of triacylglycerol lipase. *Am. J. Physiol.* 265:R255-R265.
- O'Connor, P.K., Reich, B., Sheridan, M.A. 1993. Growth hormone stimulates hepatic lipid mobilization in rainbow trout, *Oncorhynchus mykiss*. *J. Comp. Physiol. B* 163:427-431.
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Sheridan, M.A., 2021. Coordinate regulation of feeding, metabolism, and growth: Perspectives from studies in fish. *Gen. Comp. Endocrinol.* 312: 113873.

## **Scholarly Presentations**

### *Invited papers*

Sheridan, M. A., Bern, H. A., Allen, W. V. and Kerstetter, T. H. 1984. Changes in lipid metabolism accompanying smoltification of salmonid fish. International Conference on Biology of Pacific Salmon, September 4-12, Victoria/Agassiz, British Columbia.

Sheridan, M.A. 1986. Hormonal regulation of lipid metabolism in fish. Thirteenth Conference of European Comparative Endocrinologists, September 7-12, Belgrade, Yugoslavia.

Sheridan, M.A. 1988. Alterations in lipid metabolism associated with smoltification and seawater adaptation of juvenile salmonid fish. Third International Salmonid Smoltification Workshop June 27-July 1, Trondhiem, Norway.

Sheridan, M.A. 1989. Effects of catecholamines on lipid and carbohydrate metabolism of fish. XIth International Symposium on Comparative Endocrinology, May 14-20, Malaga, Spain.

Sheridan, M.A. 1990. Comparative aspects of regulation of lipid metabolism in heterothermic vertebrates. American Physiological Society Fall Meeting, Oct. 7-10, Orlando, FL.

Sheridan, M.A. 1991. Effects of growth hormone on lipid metabolism of fish. Ocean Research Institute Symposium on Fish Endocrinology, Sept. 2-3, Tokyo, Japan.

Sheridan, M.A. 1992. Effects of insulin on hepatic lipid synthesis. 2nd International Congress on Fish Endocrinology, May 31-June 4, St. Malo, France.

Sheridan, M.A. 1992. Changes in lipid metabolism in land-locked salmon. IVth International Salmonid Smoltification Workshop, Oct. 18-23. St. Andrews, New Brunswick, Canada

McCormick, S.D., Björnsson, Th.B., Sheridan, M.A., Carey, J.B. and O'Dea, M. 1993. Increased day length stimulates plasma growth hormone and gill Na<sup>+</sup>, K<sup>+</sup>-ATPase but not somatostatin-25 in juvenile Atlantic salmon. XII<sup>th</sup> International Congress of Comparative Endocrinology, May 16-

21, Toronto.

- Sheridan, M.A. and Eilertson, C.D. 1993. Regulation of somatostatin-25 secretion from isolated rainbow trout pancreatic islets. XII<sup>th</sup> International Congress of Comparative Endocrinology, May 16-21, Toronto.
- Kao, Y-H., Youson, J.H., Holmes, J.A., and Sheridan, M.A. 1996. Alterations in lipid metabolism during metamorphosis of land-locked sea lamprey. International Congress on the Biology of Fish, July 1996, San Francisco, CA.
- Sheridan, M.A., Eilertson, C.D., and Kerstetter, T.H. 1996. Changes in plasma somatostatin concentration associated with seawater adaptation and stunting of coho salmon. V<sup>th</sup> International Salmonid Smoltification Workshop, Dec. 1996, Muonio, Finland.
- Sheridan, M.A. 1996. Regulation of development-associated changes in the lipid metabolism of vertebrates. *The Biology of Lipids: Integration of Structure and Function*, a symposium for the Society for Integrative and Comparative Biology, Dec. 1996, Albuquerque, NM.
- Sheridan, M.A. 1997. Regulation of somatostatin gene expression in fish. International Symposium on the Reproductive Endocrinology and Growth Physiology of Fish, National Taiwan University, Nov. 13-14, Keelung, Taiwan
- Sheridan, M.A., Kittilson, J.D., and Moore, C.A. 1997. Polygenic expression of somatostatin in rainbow trout. XIII<sup>th</sup> International Congress of Comparative Endocrinology, Nov. 16-21, Yokohama, Japan.
- Sheridan, M.A. 1999. Evolution of the somatostatin gene family. *A Tribute to Erika Plisetskaya: New Insights on the Function and Evolution of Enteropancreatic Hormones*, A symposium for the Society for Integrative and Comparative Biology, Denver, CO, Jan. 6-10, 1999.
- Sheridan, M.A., Howe, N., Knutson, D., and Kittilson, J.D. 2000. Somatostatin modulates the growth of salmonid fish. IV<sup>th</sup> International Congress on the Biology of Fish, Aberdeen, Scotland, July 23-27, 2000.
- Alexander, L., Knutson, D., Kittilson, J.D. and Sheridan, M.A. 2000. Localization of somatostatin mRNAs in the brain and pancreas of rainbow trout. 5<sup>th</sup> International Symposium of Fish Endocrinology, Seattle, WA., July 30-August 2, 2000.
- Sheridan, M.A. 2001. Regulation of somatostatin gene expression. 14<sup>th</sup> International Congress of Comparative Endocrinology, Sorrento, Italy, May 26-30.
- Sheridan, M.A. 2003. The role of somatostatins in the regulation of metabolism of fish. Society for Integrative and Comparative Biology, Toronto, Canada, January 4-8.
- Sheridan, M.A. 2004. Regulation of the expression of somatostatins and their receptors. 5<sup>th</sup> International Congress of Fish Endocrinology, Castellon, Spain, September 5-9, 2004.
- Sheridan, M.A. 2005. Pancreatic hormones and metabolism in fish. 15<sup>th</sup> International Conference on Comparative Endocrinology, Boston, MA, May 23-28, 2005.
- Sheridan, M.A. and Poppinga, J. 2005. Effects of somatostatin on seawater adaptation. 7<sup>th</sup> International Workshop on Salmonid Smoltification, Iwate, Japan, July 24-29, 2005.

- Sheridan, M.A., Gong, J.-Y., Nelson, L.E., Kittilson, J.D. 2006. Use of the Chinese hamster ovary cell line (CHO-K1) to elucidate the mode of action of multifunctional hormones. VII<sup>th</sup> International Congress on the Biology of Fish, St. Johns Newfoundland, Canada, July 18-22, 2006.
- Sheridan, M.A., Poppinga, J.A., McCormick, S.D., and Kittilson, J.D. 2007. Effects of somatostatin on the growth hormone-insulin-like growth factor-I axis and seawater adaptation of rainbow trout (*Oncorhynchus mykiss*). Aquaculture 2007, San Antonio, TX, February 27-March 2, 2007.
- Sheridan, M.A., Very, N.M., and Hagemeister, A.L., 2008. Somatostatin: An all-purpose regulator of fish growth. 6<sup>th</sup> International Symposium on Fish Endocrinology, Calgary, Alberta, Canada, June 22-27, 2008.
- Very, N., Norbeck, L., Kittilson, J. and Sheridan, M.A. 2008. Regulation of insulin-like growth factor receptors. 8<sup>th</sup> International Congress on the Biology of Fish, Portland, OR, July 28-August 1, 2008.
- Sheridan, M.A. 2009. The role of somatostatin in the regulation of somatic growth. 2<sup>nd</sup> International Symposium on Fish Growth and Reproduction, Hong Kong, June 20-21, 2009.
- Norbeck, L., Hagemeister, A., and Kittilson, J., and Sheridan, M.A. 2009. Evolution of growth hormone receptors and their functional interaction with growth hormone family peptides. 16<sup>th</sup> International Congress on Comparative Endocrinology, Hong Kong, June 22-26, 2009.
- Hanson, A. and Sheridan, M.A. 2009. Effects of xenoestrogens on growth and seawater adaptation of rainbow trout. 8<sup>th</sup> International Workshop on Salmonid Smoltification, Corvallis, OR, September 20-24, 2009.
- Sheridan, M.A. 2010. Peripheral regulation of growth. Aquaculture 2010, San Diego, CA March 1-5, 2010.
- Sheridan, M.A. 2010. Peripheral regulation of the growth hormone (GH)-insulin-like growth factor-1 (IGF-1) system in fish. 9<sup>th</sup> International on the Biology of Fish, Barcelona, Spain, July 5-9, 2010.
- Sheridan, M.A. 2011. Resolving the growth-promoting and lipid catabolic actions of growth hormone. 1<sup>st</sup> North American Society of Comparative Endocrinology, Ann Arbor, MI, July 13-16, 2011
- Sheridan, M.A. 2012. Rainbow trout hepatocytes: A model for elucidating the molecular mechanisms of growth hormone. 10<sup>th</sup> International Congress on the Biology of Fish, Madison, WI, July 15-19, 2012.
- Hanson, A.M. and Sheridan, M.A. 2012. Effects of environmental estrogens on organismal growth and the growth hormone-insulin-like growth factor system of rainbow trout. 10<sup>th</sup> International Congress on the Biology of Fish, Madison, WI, July 15-19, 2012.
- Sheridan, M.A. 2012. Peripheral regulation of the growth hormone-insulin-like growth factor system of fish. 7<sup>th</sup> International Symposium on Fish Endocrinology, Buenos Aires, Argentina. September 3-6, 2012.



- Ellens, E.R., Kittilson, J.D., Sower, S.A., and Sheridan, M.A. 2012. Evolution of the growth hormone receptor family. 7th International Symposium on Fish Endocrinology, Buenos Aires Argentina, September 3-6, 2012.
- Sheridan, M.A. 2013. Control of animal growth: Where are we and where do we go from here? Special session in honor of Howard A. Bern. Society for Integrative and Comparative Biology, San Francisco, CA, Jan 3-7, 2013.
- Sheridan, M.A. 2013. Growth hormone: An integrator of growth and metabolism. 17th International Congress on Comparative Endocrinology, Barcelona, Spain, July 15-19, 2013.
- Sheridan, M.A. 2013. G-protein coupled receptors: Beyond the Nobel Prize. G-protein couple receptors activate multiple cellular effector pathways. 17th International Congress on Comparative Endocrinology, Barcelona, Spain, July 15-19, 2013.
- Sheridan, MA. Martin, L. Kittilson, J, and McCormick, S.D. 2013. Changes in expression of osmoregulatory genes during smoltification and seawater adaptation of Atlantic salmon are associated with alterations in the ERK, PI3K-Akt, JAK-STAT signaling pathways. 9th International Workshop on Salmonid Smoltification, Reykjavik, Iceland, August 12-16, 2013.
- Sheridan, M.A. 2014. Rainbow trout hepatocytes: A model for resolving the growth-promoting and lipid catabolic actions of growth hormone. 11th International Congress on the Biology of Fish, Edinburgh, Scotland, August 3-7, 2014.
- Sheridan, M.A. 2016. Graduate Education: Where we are and where we need to go. 15th Transdisciplinary-Translational-Transcultural International Conference. Suzhou, China, May 29-June 2, 2016.
- Sheridan, MA. 2016. Mechanisms that underlie nutrition-associated “metabolic shifting” of growth hormone. 28th Conference of European Comparative Endocrinologists, Leuven, Belgium, August 21-25, 2016
- Sheridan, M.A. 2017. Differential Activation of Signal Pathways Underlies the Multi-Functionality of Growth Hormone, 7th Annual World Congress on Cell and Molecular Biology, Xian, China, April 23-27.
- Sheridan, M.A. 2017. Integration of feeding, growth, and metabolism: Insights from studies in fish. 18th International Congress on Comparative Endocrinology, Lake Louise, Alberta, Canada, June 4-9.
- Sheridan, M.A. 2017. Mechanisms underlying the multiple actions of growth hormone: Lessons from rainbow trout. FASEB Science Research Conference: The Growth Hormone/Prolactin Family in Biology and Disease, Steamboat Springs, CO, July 23-28, 2017.
- Sheridan, M.A. 2018. The future of graduate education. XXI Cátedra Europa, Universidad del Norte, Barranquilla, Colombia, March 12-16, 2018.
- Gong, N., McCormick, S.D., Sheridan, M.A. 2018. Early evolution of growth hormone receptor/prolactin receptor in sea lamprey and its functional role in metamorphosis and seawater exposure. 29th Conference of European Comparative Endocrinologists, Glasgow, UK, August 18-22, 2018.

- Gong, N., Sheridan, M.A., Björnsson, B. Th. 2018. Rainbow trout leptin signaling system and its impact on the GH-IGFs axis during long-term fasting. 29th Conference of European Comparative Endocrinologists, Glasgow, UK, August 18-22, 2018.
- Gong N., Sheridan M.A., Ferreira-Martins D., McCormick, S.D. 2019. Divergent receptors for growth hormone and prolactin discovered in Agnathans: gene sequences and tissue expression patterns at different life stages of sea lamprey. 5<sup>th</sup> Biennial North America Society of Comparative Endocrinology, Gainesville, Florida, May 24-28, 2019.
- Sheridan, M.A. 2019. Environmental contaminants disrupt cell signaling processes associated with animal growth. 9th World Congress of Mol. & Cell Biology, Singapore, October 25-27, 2019.
- Gong, N., Sheridan, M.A. 2020. Evolution of cytokines and their receptors. Joint Conference of the 9<sup>th</sup> International Symposium on Fish Endocrinology and the 30<sup>th</sup> Conference of European Comparative Endocrinology, to be held at the University of Algarve, Faro, Portugal, September 6-10, 2020 (postponed to TBD 2022)
- Gong, N., McCormick, S.D. Sheridan M.A. 2021. Characterization of a leptin receptor ortholog in a jawless vertebrate (Agnatha). 6<sup>th</sup> Biennial North America Society of Comparative Endocrinology, virtual, May 25-27, 2021.
- Ferreira-Martins, D., Walton, E., Sheridan, M.A., McCormick, S.D. 2022. Role of growth hormone and insulin-like growth factor in metamorphosis and osmoregulation of sea lamprey (*Petromyzon marinus*). 14<sup>th</sup> International Congress on the Biology of Fish, Montpellier, France, June 28-July 1, 2022.
- Gong, N., Ferreira-Martins, D., Norstog, J., McCormick, S.D., Sheridan, M.A. 2022. Evolution of the hormonal control of osmoregulation: Insights from studies in sea lamprey. 14th International Congress on the Biology of Fish, Montpellier, France, June 28-July 1, 2022.

### ***Contributed papers***

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- Sheridan, M. A. 1982. Studies of lipid metabolism in smoltifying coho salmon and steelhead trout. Sixth Annual West Coast Smoltification Workshop, November 19-20, Bremerton, WA.
- Sheridan, M. A. 1983. Direct measurement of fatty acid release from coho salmon liver slices by pH-stat titration. Western Regional Conference on Comparative Endocrinology, March 25-26, Berkeley, CA.
- Sheridan, M. A. 1983. Biochemical basis of body lipid depletion in coho salmon undergoing smoltification. Seventh Annual West Coast Smoltification Workshop, November 11-12, Arcata, CA.
- Sheridan, M. A. 1983. Hormonal regulation of lipid mobilization in fish: Effects of epinephrine and norepinephrine on fatty acid release from coho salmon, *Oncorhynchus kisutch*, liver incubated *in vitro*. *Am. Zool.* 23:1010. (M. Sheridan awarded best paper)
- Sheridan, M. A., Plisetskaya, E., Bern, H.A. and Gorbman, A. 1985. Effects of somatostatin and urotensin II on lipid and carbohydrate metabolism of coho salmon. *Fed. Proc.* 44: 632.

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- Sheridan, M. A. 1985. Effects of thyroxin and cortisol on the lipid metabolism of developing coho salmon. Eighth West Coast Smoltification Workshop, November 15-16, Corvallis, OR.
- Sheridan, M. A. 1987. Effects of saline water on growth and development of juvenile salmon. Twenty-third Annual Meeting of the Upper Missouri River Chapter, American Fisheries Society, February, 16-18, Bismarck, ND.
- Sheridan M. A. 1987. Exposure to seawater stimulates lipid mobilization in juvenile salmon. Tenth Smoltification Workshop, Oct. 16-17, Berkeley, CA.
- Sheridan, M. A. 1987. Effects of catecholamines on glucose release from king salmon liver incubated *in vitro*. *Am. Zool.* 27: 97A.
- Sheridan, M.A. 1988. Hormone-mediated glycogenolysis in salmon liver. Twenty-third Annual Meeting of the Dakotas Chapter, American Fisheries Society. February 29-March 2, Aberdeen, S.D.
- Plisetskaya, E.M., Sheridan, M.A. and Mommsen, T.P. 1988. Effects of glucagon and glucagon-like peptide on metabolism of coho salmon. Western Regional Conference on Comparative Endocrinology, April 25-27, Seattle, WA.
- Sheridan, M.A. 1988. Use of salmon as a model in metabolic endocrinology. Symposium on Use of Unconventional Vertebrates as Models in Endocrine Research. December 5-6, Bethesda, MD.
- Sheridan, M.A. and Plisetskaya, E. 1988. Effects of nutritional state on *in vivo* lipid and carbohydrate metabolism of salmon. *Am. Zool.* 28: 56A.
- Eilertson, C., Klee, M and Sheridan, M.A. 1989. Nutritional state modulates hormone-mediated glycogenolysis. Twenty-fourth Annual Meeting of the Dakotas Chapter, American Fisheries Society, February 22-24, Bismarck, ND.
- Eilertson, C., Sheridan, M.A. and Plisetskaya, E. 1989. Development of salmon somatostatin-25 radioimmunoassay. Midwest Regional Conference on Comparative Endocrinology, April 14, Fargo, ND.
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- Sheridan, M.A. Eilertson, C.D. and Plisetskaya, E. 1989. Radioimmunoassay for somatostatin-25 in coho salmon, *Oncorhynchus kisutch*. XIth International Symposium on Comparative Endocrinology, May 14-20, Malaga, Spain.
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- Cowley, D., Sheridan, M., Hoffnagle, T. and Fivizzani, A. 1990. Metabolic changes during smoltification of landlocked chinook salmon. Annual Meeting of the Dakota Chapter, American Fisheries Society. Feb. 28-March 2. Pierre, SD.
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- Eilertson, C.D. and Sheridan. M.A. 1990. Glucose, arginine and palmitic acid stimulate somatostatin-25 secretion from isolated rainbow trout Brockmann bodies. Midwest Regional Conference on Comparative Endocrinology. May 3-4. Omaha., NE.
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- Eilertson, C.D. and Sheridan, M.A. 1990. Glucose, arginine, palmitic acid and oleic acid stimulate somatostatin-25 secretion from isolated rainbow trout Brockmann bodies. Physiologist 33: A109.
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- isolated rainbow trout Brockmann bodies. *Am. Zool.* 30: 24A.
- Kerstetter, T.H., Sheridan, M.A., and Eilertson, C.D. 1990. Relationship between stunting and plasma concentrations of somatostatin in coho salmon. 13<sup>th</sup> Annual Smoltification Workshop, September 28-29, Seattle, WA.
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- Sheridan, M.A. 1991. Endocrinology for aquaculture. 27th Annual Meeting Dakota Chapter, American Fisheries Society. Feb. 21-22. Bismarck, ND.
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- Sheridan, M.A. 1991. Regulation of lipid metabolism in the liver of fish. 3rd International Congress of comparative Physiology and Biochemistry, August 25-30. Tokyo, Japan.
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- Dubowsky, S., Sax, R., and Sheridan, M.A. 1993. Growth hormone-stimulated growth effects in rainbow trout. Annual Meeting of the American Society of Zoologists, Dec. 26-30, Los Angeles, CA.
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- Slagter, B.A. and Sheridan, M.A. 2002. Regulation of somatostatin receptor expression. Annual EPSCoR Conference, Grand Forks, ND, October 26, 2002.
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receptor mRNAs. 15<sup>th</sup> International Conference on Comparative Endocrinology, Boston, MA, May 23-28, 2005.

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Reindl, K.M. and Sheridan, M.A. 2008. Growth hormone receptor signal transduction in rainbow trout hepatocytes. Annual Meeting of the Society for Integrative and Comparative Biology, San Antonio, TX, January 2-6, 2008.

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Norbeck, L. and Sheridan, M.A. 2008. Effects of 17 $\beta$ -estradiol and testosterone on the expression of growth hormone receptors, insulin-like growth factor-1, and insulin-like growth type 1 receptors in rainbow trout. 6<sup>th</sup> International Symposium on Fish Endocrinology, Calgary, Alberta, Canada, June 22-27, 2008.

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Caruso, M.A., Kittilson, J.D., Blaufuss, P. and Sheridan, M.A. 2009. Rainbow trout insulin receptors:



- Cloning, patterns of mRNA expression, and regulation by fasting. Annual Meeting of the Society for Integrative and Comparative Biology, Boston, MA, January 3-7, 2009.
- Hanson, A.M. and Sheridan, M.A. 2010. Effects of environmental estrogens on the growth hormone-insulin-like-growth factor system and seawater adaptation of rainbow trout. Annual Meeting of the Society for Integrative and Comparative Biology, Seattle, WA, January 3-7, 2010.
- Norbeck, L. and Sheridan, M.A. 2010. Regulation of the growth hormone-insulin-like growth factor system by cortisol and thyroxin in rainbow trout. Annual Meeting of the Society for Integrative and Comparative Biology, Seattle, WA, January 3-7, 2010.
- Caruso, M.A. and Sheridan, M.A. 2010. Expression of insulin and insulin receptor mRNAs is regulated by growth hormone and somatostatin in rainbow trout. Annual Meeting of the Society for Integrative and Comparative Biology, Seattle, WA, January 3-7, 2010.
- Kittilson, J., Reindl, K., and Sheridan, M.A. 2010. Rainbow trout possess two hormone sensitive lipase-encoding mRNAs that are differentially expressed and differentially regulated by fasting. Annual Meeting of the Society for Integrative and Comparative Biology, Seattle, WA, January 3-7, 2010.
- Reindl, K., Kittilson, J. Jones, E. and Sheridan, M.A. 2010. The hepatic growth hormone receptors of rainbow trout differentially link to signal transduction pathways. 9<sup>th</sup> International on the Biology of Fish, Barcelona, Spain, July 5-9, 2010.
- Hanson, A. M. and Sheridan, M.A. 2011. Effects of Environmental Estrogens on Organismal Growth and the Growth Hormone-Insulin-Like-Growth Factor System of Rainbow Trout. Annual Meeting of the Society for Integrative and Comparative Biology, Salt Lake City, UT January 4-7, 2010.
- Walock, C., Martin, L., Kittilson, J. and Sheridan, M.A. 2011. Differential Effects of Growth Hormone on the Expression of Insulin-like Growth Factors 1 and 2. Annual Meeting of the Society for Integrative and Comparative Biology, Salt Lake City, UT January 4-7, 2011.
- Reindl, K.M., Kittilson, J.D. Jones, E. Bergan, H. and Sheridan, M.A. 2011. The Hepatic Growth Hormone Receptors of Rainbow Trout Differentially Link to Signal Transduction Pathways. Annual Meeting of the Society for Integrative and Comparative Biology, Salt Lake City, UT January 4-7, 2011.
- Poursaeid, S., Falahatkar, B., and Sheridan, M.A. 2011. Growth hormone stimulates growth responses in Siberian sturgeon, *Acipenser baerii*; Preliminary results. Aquaculture America 2011, New Orleans, LA, March 1-3, 2011.
- Bergan, H.E. and Sheridan, M.A. 2011. Growth hormone-stimulated lipolysis in the liver of rainbow trout is mediated by the PI3K-Akt pathway. 1<sup>st</sup> North American Society of Comparative Endocrinology, Ann Arbor, MI, July 13-16, 2011.
- Walock, C., Martin, L., Kittilson, J., and Sheridan, M.A. 2011. Differential effects of growth hormone family peptides on the expression of insulin-like growth factor 1 and 2 mRNAs. 1<sup>st</sup> North American Society of Comparative Endocrinology, Ann Arbor, MI, July 13-16, 2011.
- Hanson, A.M. and Sheridan, M.A. 2012. Environmental estrogens inhibit the expression of insulin-like growth factors 1 and 2 in the liver and gill of rainbow trout. Annual Meeting of the Society for

Integrative and Comparative Biology, Charleston, SC, January 3-7, 2012.

- Ellens, E.R., Kittilson, J.D., Sower, S.A., and Sheridan, M.A. 2012. Evolutionary Origin and Divergence of the Growth Hormone/Prolactin/Somatomedin Receptor Family: Insights from Studies in Sea Lamprey. Annual Meeting of the Society for Integrative and Comparative Biology, Charleston, SC, January 3-7, 2012.
- Bergan, H.E. and Sheridan, M.A. 2012. Mechanisms that underlie fasting-associated growth cessation and lipid catabolism in rainbow trout (*Oncorhynchus mykiss*). Annual Meeting of the Society for Integrative and Comparative Biology, Charleston, SC, January 3-7, 2012.
- Ellens, E.R., and Sheridan, M.A. 2012. Evolution of the growth hormone family peptides and their receptors. Northern Plains Biological Symposium, Fargo, ND, April 19, 2012.
- Bergan, H.E. and Sheridan, M.A. 2012. Growth hormone-stimulated hormone sensitive lipase expression in rainbow trout is mediated by ERK and PKC. Northern Plains Biological Symposium, Fargo, ND, April 19, 2012.
- Norbeck, L. and Sheridan, M.A. 2012. Effects of cortisol and thyroxine on the expression of growth hormone receptors, insulin-like growth factor-1, and insulin-like growth factor type 1 receptors in rainbow trout. Northern Plains Biological Symposium, Fargo, ND, April 19, 2012.
- Walock, C.N., Martin, L., Kittilson, J., and Sheridan, M.A. 2012. Differential effects of growth hormone Family peptides on the expression of insulin-like growth factor 1 and 2 mRNAs. Northern Plains Biological Symposium, Fargo, ND, April 19, 2012.
- Bergan, H.E., Walock, C.N., and Sheridan, M.A. 2012. Nutritional state modulates the growth hormone-stimulated insulin-like growth factor and hormone sensitive lipase mRNA expression. 10<sup>th</sup> International on the Biology of Fish, Madison, WI, July 15-19, 2012. (H. Bergan and C. Walock co-awarded best paper)
- Walock, C., Bergan, H., Kittilson, J., and Sheridan, M.A. Differential effects of growth hormone family peptides on the expression of insulin-like growth factor 1 and 2 mRNAs and modulation of their expression by nutritional state. World Aquaculture, Nashville, TN, Feb 21-25, 2013.
- Bergan, H.E. and Sheridan, M.A. Nutritional state modulates the effects of growth hormone on lipid catabolism. Northern Plains Biological Symposium, Grand Forks, ND, April 12, 2013.

### **Invited Seminars and Colloquia**

- “Alterations in the metabolism of smolting salmonid fish,” April 1984, Bodega Marine Laboratory, University of California, Bodega Bay, CA.
- “Hormonal regulation of lipid metabolism: A tale from the fish tail,” May 1985, Department of Zoology, North Dakota State University, Fargo, ND.
- “Hormonal control of lipid metabolism in fish,” November 1986, Department of Biology, Wichita State University, Wichita, KS.
- “Hormonal control of lipid metabolism in fish,”  
January 1987, Biology Department, University of North Dakota, Grand Forks, ND.

- “Alterations in metabolism accompanying smoltification and seawater adaptation of salmon,” April, 1987; Canada-Department of Fisheries and Oceans, West Vancouver Laboratory, West Vancouver, British Columbia, Canada.
- “Fish lipid dynamics,” Oct. 1987, Department of Biological Sciences, Humboldt State University, Arcata, CA.
- “Hormonal control of metabolism,” April 1989, Department of Biology, California State University-Fresno, Fresno, CA.
- “Effects of catecholamines on lipid metabolism of poikilothermic vertebrates,” May 17; XI International Conference on Comparative Endocrinology, Malaga, Spain.
- “King salmon: a model metabolic endocrine system,” September 1989, Department of Zoology, University of New Hampshire, Durham, NH
- “Fish as a model metabolic endocrine system,” January 1990, NDSU Chapter Phi Sigma Annual Plenary Lecture.
- “Fish as a model diabetic system,” August 1990, National Institute of Diabetes and Digestive and Kidney Diseases, NIH, Bethesda, MD.
- “Endocrinology for aquaculture,” April 1991, Humboldt State University, Arcata, CA.
- “Regulation of hepatic lipid metabolism,” May, 1991. NDSU Department of Biochemistry.
- “Fish as model metabolic system,” August 1991, Hiroshima University, Hokkaido University and Ocean Research Institute, University of Tokyo, Japan.
- “Endocrinology for aquaculture of fishes,” August, 1991. National Institute of Aquaculture, Nikko Station and Tamaka Station.
- “Pancreatic physiology,” September 1991. Department of Biology, Moorhead State University, MN.
- “Hormonal control of lipid metabolism in fish,” September 1992, Department of Zoology, University of Manitoba.
- “Structure and expression of pancreatic somatostatin in fish,” October 1993, Department of Biomedical Sciences, Creighton University, Omaha, NE.
- “Somatostatin: Is it a hormone?” October 1993, Department of Pharmaceutical Sciences, NDSU.
- “Fish as a model system for studying animal growth,” November 1993, Bioscience Research Laboratory, USDA-ARS, Fargo, ND.
- “Physiology of somatostatin,” September 1994, Department of Biology, University of South Dakota, Vermillion, SD.
- “Regulation of somatostatin gene expression,” November 1994, Department of Biochemistry, NDSU.
- “Fish as a model for the study of gene expression,” March 1995, Sigma Xi lecture, University of North Dakota.

- “Regulation of somatostatin gene expression,” October 1995, Department of Biological Sciences, Humboldt State University, Arcata, CA.
- “Emerging concepts in growth and development,” NDSU Science and Theology Colloquium, March 1996.
- “Use of fish as a model for the study of growth, development, and metabolism,” December 1996, University of Göteborg, Göteborg, Sweden.
- “Hormonal regulation of growth, development, and metabolism of Fish,” November 1997, Department of Biology, National Taiwan Ocean University, Taiwan
- “Regulation of somatostatin gene expression,” November, 1997, Academia Sinica, Taiwan
- “Use of fish as a model for the study of growth, development, and metabolism,” February 1998, University of Guelph, Guelph, ON, Canada.
- “Hormonal regulation of growth, development, and metabolism of Fish,” June 1998, Department of Physiology, University of São Paulo, Brazil
- “Regulation of somatostatin gene expression,” June 1998, Department of Physiology, University of São Paulo, Brazil
- “Structure-function relationships of the signaling system for the somatostatin peptide hormone family,” March 1999, Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada.
- “Growing pains: The search for how animal growth is controlled,” November 2000, Department of Biological Sciences, Minnesota State University Mankato.
- “Control of Animal Growth,” November 2001, Department of Biological Sciences, Humboldt State University, Arcata, CA
- “Regulation of growth in fish,” August 2003, Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada.
- “Role of somatostatins in regulation of animal growth,” October 2004, Department of Zoophysiology, University of Göteborg, Göteborg, Sweden
- “Growing pains: fish, frogs, and folks like us,” April 2007, 49<sup>th</sup> Faculty Lecture, North Dakota State University, Fargo
- “Regulation of vertebrate growth,” November 2007, Department of Biology, University of Bergen, Bergen, Norway
- “Peripheral regulation of fish growth,” February 2009, Department of Biology, Memorial University of Newfoundland, St. John’s, Newfoundland, Canada
- “Regulation of animal growth,” May 2010, Department of Biology, University of Denver, Denver, CO
- “Growth hormone signaling,” April 2011, Department of Biology, National Central University, Taiwan
- “Organismal Lipid Dynamics in Fish: Aspects of Absorption, Transport, Deposition, and Mobilization,”

June 2012, College of Fisheries, Huazhong Agricultural University, Wuhan PRC

“Regulation of lipid metabolism,” May 2012, College of Fisheries, Huazhong Agricultural University, Wuhan PRC

“Methods of lipid Analysis,” May 2012, June 2012, College of Fisheries, Huazhong Agricultural University, Wuhan PRC

“Regulation of growth in fish,” May 2012, Chinese Academy of Science, Institute of Hydrobiology, Wuhan PRC

“Regulation of growth in fish,” May 2012, College of Biological Sciences, Sun Yat-Sen University, Guangzhou PRC

“Integration of growth and metabolism in animals,” March 2013, Institute of Physiology, University of Sao Paulo, Sao Paulo, Brazil

“Integration of feeding, growth, and metabolism,” September 2017, Hebrew University of Jerusalem

“Regulation of feeding, growth, and metabolism,” February 2018, Texas A&M University

“Endocrine disruption of growth,” April 2018, National Central University, Taipei, Taiwan