

EDUCATION

- 2011 – 2017 **Ph.D.** in Biochemistry, Nencki Institute of Experimental Biology, Warsaw, Poland
2005 – 2011 **M.Sc.** in Applied Biotechnology, University of Agriculture, Krakow, Poland
2010 – 2011 **Summer school**, Institute of Genetics and Animal Breeding, Jastrzebiec, Poland
2009 – 2010 **International student exchange**, Ghent University, Ghent, Belgium

RESEARCH EXPERIENCE

- 2022 – present **Assistant Professor**
Department of Nutrition and Health Sciences, College of Education and Human Sciences, University of Nebraska – Lincoln, NE

- Determine the role of aberrant polyunsaturated fatty acid metabolism in development of lipotoxic cardiomyopathy.
- Identify the lipid metabolism pathways associated with diabetic cardiomyopathy pathogenesis.
- Describe the role of pyruvate metabolism in the development of non-alcoholic fatty liver disease.
- Establish the role of calcium flux and endoplasmic reticulum stress in pancreatic dysfunction and diabetes development.
- Harnesses the potential of epigenetics to uncover the mechanism behind "healthy obesity" using hibernating 13-lined ground squirrels as a model.

- 2017 – 2022 **Postdoctoral Fellow**, Prof. Jamey D. Young lab
Department of Chemical and Biomolecular Engineering, School of Engineering, Vanderbilt University, Nashville, TN

- Applied *in vivo* $^2\text{H}/^{13}\text{C}$ metabolic flux analysis (MFA) and metabolomics profiling to identify liver phenotypes that accelerate the transition from NAFLD to NASH.
- Discovered that pharmacologic activation of SERCA calcium pump inhibits this transition *in vivo* by: 1) increasing polyunsaturated fatty acids contribution in hepatocytes by downregulation of *de novo* lipogenesis, while specifically promoting ω -3 fatty acids synthesis and transport; 2) alleviating redox imbalances between liver and peripheral tissues by normalizing pyruvate cycling, tryptophan-kynurenine pathway activity, and pyruvate transporters expression; 3) mitigating the inflammatory response and ER stress of steatotic hepatocytes.
- Participated in the development of *in vivo* $^2\text{H}/^{13}\text{C}$ MFA technique to evaluate whole body metabolism.

- 2011 – 2017 **Ph.D. Student**, Laboratory of Molecular Medical Biochemistry
Center for Basic and Translational Research in the Field of Biology and Biomedical Sciences, Nencki Institute of Experimental Biology, Warsaw, Poland

- Showed that dietary oleate contributes to the development of left ventricular hypertrophy caused by activation of PKC α -dependent pathway, NCX protein-regulated change in calcium homeostasis, and increased level of β -myosin heavy chain in cardiomyocytes.
- Demonstrated that oleate-mediated cardiac steatosis is induced by the increased expression of triacylglycerol synthesis proteins and the inhibition of ATGL-mediated lipolysis.
- Revealed that downregulation of SCD1 expression/activity decreases lipid accumulation in cardiomyocytes through inhibition of lipogenesis and activation of lipolysis, independently of the PPAR α transcription factor.
- Determined that upregulated lipogenesis, and the activation of PPAR α -dependent β -oxidation pathway in cardiac muscle relate to the development of physiological left ventricular hypertrophy and may be one of the adaptive mechanisms to endurance training.
- established that pathological hypertrophy relates to extensive triacylglycerol accumulation in cardiomyocytes generated by the impairment of lipolytic and lack of lipogenesis activation.

2005 – 2011 **M.Sc. Student**, Biotechnology – Interdepartmental Studies
Department of Biotechnology and General Food Technology, University of Agriculture,
Krakow, Poland

- investigated the effects of phytase B on the baking characteristics and texture stability of rye bread.
- concluded that phytase B can be used as a food additive to reduce phytic acid content in rye breads and to improve its bioavailability.

SUPERVISORY AND MENTORING EXPERIENCE

Aug 2024 – present **Supervisor of graduate research assistant**, Yousuf Al Farqani
Mar 2023 – present **Supervisor of postdoctoral fellow**, Adam Olichwier
May – Aug 2022 **Mentor of high school student**, Coston Autry
Jul 2021 – Sep 2022 **Mentor of medical university student**, Noah Whittenbarger
Jan – Aug 2021 **Mentor of undergraduate student**, Maxwell T. Byram, **and graduate student**, Zhirou Yue
Jul – Aug 2018 **Mentor of high school student**, Maxwell T. Byram, **and undergraduate student**, Allison G. Albright
Jun – Aug 2015 **Tutor of graduate students**, Agnieszka Kielan and Agnieszka Łyżwa, during EU Human Capital Operational Program: "*Preparation for a career of students from the Faculty of Agriculture and Biology of the University of Life Sciences in Warsaw*"
2014 and 2015 **Re-elected chairperson of PhD Student Council** of Nencki Institute of Experimental Biology, Warsaw, Poland

FELLOWSHIPS AND GRANTS

2023 – present **University of Nebraska Foundation Layman Seed Grant**
"The effect of LPCAT3 activation on cardiomyocyte metabolism during acute lipotoxicity"
Amount: 10,000 USD
Role: PI
2023 – present **NPOD Project Leader 2023**
"The role of LPCAT3 in pathogenesis of diabetic cardiomyopathy"
Amount: 150,000 USD
Role: PI
2022 – 2023 **NPOD Program Seed Grant 2022**
"The impact of obesity on satellite cells action in the skeletal muscle"
Amount: 40,000 USD
Role: PI
2021 – 2022 **Vanderbilt Diabetes Center Discovery Program Grant**
"In vivo 2H/13C flux analysis to assess LXR activation as a strategy to inhibit NASH pathogenesis"
Amount: 90,000 USD
Role: Co-investigator
2015 – 2016 **Grant PRELUDIUM 8 from National Science Centre in Poland**
"Role of stearoyl-CoA desaturase 1 (SCD1) in regulation of adipose triglyceride lipase (ATGL) and lipolysis in cardiomyocytes"
Amount: 50,000 PLN
Role: PI

Fellowships

2015 – 2017 **Stipend** from Nencki Institute of Experimental Biology
Best doctoral student of the year in academic years 2015-2016 and 2016-2017
2013 – 2014 **Scholarship** from Mazovian Voivodeship
"Development of science - the development of the region - supporting scholarships and support for Mazovia doctoral students."
2011 – 2012 **Scholarship** from Academic Business Incubator

“Scientific PhD Scholarships as an opportunity for the development of Swietokrzyskie Voivodeship.”

AWARDS AND HONORS

- 2020 ASBMB Graduate/Postdoctoral **Travel Award**
- 2015 **Main prize** in the competition "*Polish Digital 2020+*"
Awarded by the Polish Chamber of Commerce in the category of Economics.
- 2015 FEBS Young Scientists' Forum (YSF) **Travel Award**
- 2015 **Representative** to 4th IRB Barcelona PhD Students Symposium "*Science fights back: Tackling disease to recover homeostasis.*"

ACADEMIC SERVICE

- Member of UNL's Faculty Senate
- Member of UNL's Research Council
- Judge 2023 Student Research Days Competition
- Reviewer 2023 Student Research Days Competition
- Presenter at UNL's Women in Science Expo 2023

Reviewing and Editorial Service

- Liver International
- The Journal of Lipid Research
- Mitochondrion
- Cells
- Journal of Personalized Medicine

Scientific Outreach

- **Co-organizer** of 13th Annual Vanderbilt Postdoctoral Association Symposium
- **Main organizer** of "2nd *Nencki Institute PhD Student Conference 2015*" and "*Do Science!*" Opening of *Academic Year 2013-2014 in Ochota Biocenter*"
- **Co-organizer** of science popularization events: 16th, 17th, 18th, and 19th Science Festival in Warsaw; 16th, 17th, 18th, and 19th Scientific Picnic in Warsaw, Brain Awareness Week 2012, 2013, 2014, and 2015; Researchers' Night 2012, 2014, and 2015; Scientific Kindergarten 2012, 2013, 2014, and 2015.

Invited Talks and Seminars

- **Metabolism Interest Group** "*The effect of SERCA activation on liver metabolism during acute lipotoxicity in vivo,*" January 18, 2022, Vanderbilt University, Nashville, TN
- **Vanderbilt-Ingram Cancer Center** "*The effect of ER stress inhibition on liver metabolism and diet-induced steatohepatitis in mice,*" December 6, 2021, Vanderbilt University, Nashville, TN
- **Metabolism Interest Group** "*The effect of SERCA2 activation on liver metabolism and diet-induced steatohepatitis in mice,*" March 2, 2021, Vanderbilt University, Nashville, TN
- **Metabolism Interest Group** "*The role of lipid metabolism signaling pathways in development of left ventricular hypertrophy,*" February 20, 2018, Vanderbilt University, Nashville, TN

PATENTS

- Dobrzyn P, Dobrzyn A, Kozinski K, **Bednarski T.** *Method for the early diagnosis of a pre-diabetic state and type 2 diabetes.* US 10,222,384 B2

PUBLICATIONS

Peer-review articles

- **Bednarski TK,** Rahim M, Hasenour CM, Banerjee DR, Trenary IA, Wasserman DH, Young JD. *Pharmacological SERCA activation limits diet-induced steatohepatitis and restores liver metabolic function in mice.* JHep Reports, 2024; Submitted.

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- **Bednarski TK**, Duda M, Dobrzyn P. *Alterations of lipid metabolism in the heart in spontaneously hypertensive rats precedes left ventricular hypertrophy and cardiac dysfunction*. Cells. 2022; 11 (19): 3032.
- Rahim M, Hasenour CM, **Bednarski TK**, Hughey CC, Wasserman DH, Young JD. *Multitissue $^2\text{H}/^{13}\text{C}$ flux analysis reveals reciprocal upregulation of renal gluconeogenesis in hepatic PEPCK-C-knockout mice*. JCI Insight. 2021; 6 (12): 149278.
- Hasenour CM, Kennedy AJ, **Bednarski T**, Trenary IA, Eudy BJ, da Silva RP, Boyd KL, Young JD. *Vitamin E does not prevent Western diet-induced NASH progression and increases metabolic flux dysregulation in mice*. J Lipid Res. 2020; 61 (5): 707-721.
- **Bednarski T**, Olichwier A, Opasinska A, Pyrkowska A, Gan AM, Ntambi JM, Dobrzyn P. *Stearoyl-CoA desaturase 1 deficiency reduces lipid accumulation in the heart by activating lipolysis independently of peroxisome proliferator-activated receptor alpha*. Biochim Biophys Acta. 2016; 1861 (12 Pt A): 2029-2037.
- Dobrzyn P, Pyrkowska A, Duda MK, **Bednarski T**, Maczewski M, Langfort J, Dobrzyn A. *Expression of lipogenic genes is upregulated in the heart with exercise training induced but not pressure overload-induced left ventricular hypertrophy*. Am J Physiol Endocrinol Metab, 2013; 304 (12): E1348-E1358.

Review articles

- **Bednarski TK**, Rahim M, Young JD. *In vivo $^2\text{H}/^{13}\text{C}$ flux analysis in metabolism research*. Curr Opin Biotechnol. 2021; 71: 1-8.
- **Bednarski T**, Pyrkowska A, Opasińska A, Dobrzyn P. *Regulation of cardiac metabolism and function by lipogenic factors*. Postepy Hig Med Dosw. 2016; 70: 644-653.
- Dobrzyn P, **Bednarski T**, Dobrzyn A. *Metabolic reprogramming of the heart through stearoyl-CoA desaturase*. Prog Lipid Res. 2015; 57: 1-12.

In preparation

- **Bednarski TK**, Whittenbarger N, Rahim M, Trenary IA, Young JD. *Investigating the ability of LXR activation to mitigate NASH pathogenesis in vivo*.
- **Bednarski TK**, Byram MT, Yue Z, Hasenour CM, Rahim M, Trenary IA, Young JD. *The effect of SERCA2 activation on liver metabolism during acute lipotoxicity in vivo*.
- Rahim M, **Bednarski TK**, Hasenour CM, Trenary IA, Young JD. *Development of an integrated metabolism model to assess in vivo mitochondrial function in the muscle and liver of overnutritive mice*.

PRESENTATIONS

- **American Diabetes Association (ADA) 83rd Scientific Sessions**, June 23 – 26, 2023, San Diego, CA
Poster presentation: *“The effect of LXR activation on liver metabolism and diet-induced steatohepatitis in mice”*
- **2023 ASBMB Deuel Conference on Lipids**, March 7 – 10, 2023, Dana Point, CA.
- **14th Annual International Conference on Systems Biology of Human Disease**, June 19 – 22, 2022, Nashville, TN
Oral presentation: *“Effects of SERCA activation on in vivo liver metabolism during acute and chronic lipotoxicity”*
- **Vanderbilt Diabetes Day**, May 9, 2022, Nashville, TN
Poster presentation: *“The effect of LXR activation on liver metabolism and diet-induced steatohepatitis in mice”*
- **Vanderbilt Digestive Disease Research Center (VDDRC) Retreat, “Obesity, Metabolism, and Nutrition,”** April 27, 2022, Nashville, TN
Poster presentation: *“SERCA2 activation reduces liver inflammation, ER, and oxidative stress while normalizing pyruvate cycling in obese mice”*
- **American Association for the Study of Liver Diseases, “The Liver Meeting,”** November 12 – 15, 2021
Poster presentation: *“SERCA2 activation reduces liver inflammation and partially normalizes liver lipid composition in obese mice”*
- **15th Annual VPA Symposium**, November 1, 2021, Nashville, TN

- Oral presentation: “*The effect of LXR activation on liver metabolism and diet-induced steatohepatitis in mice*”
- **9th Annual Oak Ridge Postdoctoral Association (ORPA) Research Symposium**, July 28 – 29, 2021
Oral presentation: “*Investigating the ability of SERCA2b activation to mitigate hepatic lipotoxicity*”
 - **FASEB, The Liver Biology Conference: Fundamental Mechanisms and Translational Applications**, June 16 – 17, 2021
Oral presentation: “*The effect of SERCA2 activation on liver metabolism during acute lipotoxicity in vivo*”
 - **Vanderbilt Virtual Diabetes Day**, November 13 and 20, 2020, Nashville, TN
Poster presentation: “*Acute effect of lard, olive, and coconut oil on hepatic energy metabolism*”
 - **14th Annual VPA Symposium**, October 29, 2020, Nashville, TN
Poster presentation: “*Acute effect of lard, olive, and coconut oil on hepatic energy metabolism*”
 - **Virtual American Diabetes Association (ADA) 80th Scientific Sessions**
Oral presentation: “*The effect of SERCA2 activation on liver metabolism and diet-induced steatohepatitis in mice*”
 - **Virtual 2020 ASBMB Annual Meeting**
Oral presentation: “*The effect of SERCA2 activation on liver metabolism during acute lipotoxicity in vivo*”
 - **2020 Deuel Conference on Lipids: Fat in Liver and Beyond**, March 3 – 6, 2020, Coronado, CA.
Poster presentation: “*Acute effect of long-chain and medium-chain saturated fatty acids on hepatic energy metabolism*”
 - **Vanderbilt Diabetes Day**, November 15, 2019, Nashville, TN
Poster presentation: “*The effect of SERCA2 activation on liver metabolism during acute lipotoxicity*”
 - **American Diabetes Association (ADA) 79th Scientific Sessions**, June 7 – 11, 2019, San Francisco, CA.
Poster presentation: “*Short-term effect of saturated and monounsaturated fatty acids on hepatic energy metabolism*”
 - **13th Annual VPA Symposium**, April 9, 2019, Nashville, TN
Poster presentation: “*Hepatic energy metabolism is acutely affected by monounsaturated fatty acids*”
 - **2018 Southeast Lipid Research Conference: “Obesity and Diabetes-Associated Dyslipidemia”**, November 1 – 3, 2018, Nashville, TN
Poster presentation: “*Acute effect of saturated fatty acids on hepatic energy metabolism*”
 - **19th European Bioenergetics Conference (EBEC 2016)**, July 2 – 7, 2016, Riva del Garda, Italy.
Poster presentation: “*Stearoyl-CoA desaturase 1 regulates rate of triglyceride lipolysis in cardiomyocytes*”
 - **4th IRB Barcelona PhD Students Symposium**, November 12 – 13, 2015, Barcelona, Spain.
Poster presentation: “*Lipid metabolism pathways are involved in development of obesity and hypertension related left ventricular hypertrophy*”
 - **2nd Nencki Institute PhD Student Conference**, October 27 – 29, 2015, Warsaw, Poland.
Oral presentation: “*The role of fatty acids in cardiac metabolism and pathogenesis of left ventricular hypertrophy*”
 - **44th European Muscle Conference (EMC 2015)**, September 21 – 25, 2015, Warsaw, Poland.
Poster presentation: “*Development of hypertension-induced left ventricular hypertrophy is associated with impairment of lipolysis in cardiomyocytes*”
 - **15th annual FEBS Young Scientists' Forum (YSF 2015) and 40th Congress of The Federation of European Biochemical Societies (FEBS 2015)**, July 2 – 9, 2015, Berlin, Germany.
Poster presentation: “*Activity of Akt/mTOR pathway depends on type and time of hypertensive stimuli in the heart*”
 - **1st Congress BIO 2014**, September 9 – 12, 2014, Warsaw, Poland.
Poster presentation: “*Hypertension-induced heart steatosis is not associated with increased cardiac lipogenesis*”
 - **11th Congress of the International Society for the Study of Fatty Acids and Lipids**, June 28 – July 2, 2014, Stockholm, Sweden.
Poster presentation: “*Lipid-induced cardiac remodeling and left ventricle steatosis depend on the degree of saturation of fatty acids in dietary fats*”

- **48th Annual Scientific Meeting of the European Society for Clinical Investigation**, April 30 –May 3, 2014, Utrecht, The Netherlands.
Poster presentation: “*Monounsaturated fatty acids activate lipogenic pathways in the heart leading to cardiac steatosis and left ventricular remodelling*”
- **1st Nencki Institute PhD Student Conference**, October 16 – 18, 2013, Warsaw, Poland.
Oral presentation: “*Lipid metabolism in obesity-induced and endurance training-induced left ventricular hypertrophy*”
- **54th International Conference on the Biosciences of Lipids: “Linking Transcription to Physiology in Lipidomics”**, September 17 – 21, 2013, Bari, Italy.
Poster presentation: “*Lipid metabolism in different types of left ventricular hypertrophy*”
- **10th Euro Fed Lipid Congress "Fats, Oils and Lipids: from Science and Technology to Health"**, September 23 – 26, 2012, Krakow, Poland.
Poster presentation: “*Effect of dietary stearate and oleate on expression of fatty acid desaturases and elongases in the heart*”

ABSTRACTS

- Banerjee DR, Rahim M, Hasenour CM, **Bednarski TK**, Young JD. *Pharmacological SERCA Activation Shifts Cardiac Fuel Preference Without Impairing Function in Obese Mice*. *Circulation* 148 (Supplement 1): 17088, 2023.
- **Bednarski TK**, Rahim M, Whittenbarger N, Olichwier AJ, Young JD. *The Effect of LXR Activation on Liver Metabolism and Diet-Induced Steatohepatitis in Mice*. *Diabetes* 72 (Supplement 1): 260-LB, 2023.
- Hasenour CM, Rahim M, **Bednarski TK**, Banerjee DR, Young JD. *Cardiac and Skeletal Muscles Exhibit Discordant Flux Adaptations as a Result of Western Diet-Induced Obesity*. *Diabetes* 71 (Supplement 1): 1393-P, 2022.
- Rahim M, Hasenour CM, **Bednarski TK**, Hughey CC, Wasserman DH, Young JD. *Simultaneous 2H/13C Assessment of Liver and Kidney Metabolic Fluxes Reveals Reciprocal Upregulation of Renal Gluconeogenesis in Hepatic PEPCK-C Knockout Mice*. *Diabetes* 70 (Supplement 1): 207-LB, 2021.
- **Bednarski TK**, Rahim M, Trenary IA, Young JD. *The Effect of SERCA2 Activation on Liver Metabolism and Diet-Induced Steatohepatitis in Mice*. *Diabetes* 69 (Supplement 1): 74-OR, 2020.
- **Bednarski TK**, Rahim M, Trenary IA, Young JD. *The effect of SERCA2 activation on liver metabolism during acute lipotoxicity in vivo*. *The FASEB Journal* 34 (S1): 1-1, 2020.
- **Bednarski TK**, Rahim M, Young JD. *Short-Term Effect of Saturated and Monounsaturated Fatty Acids on Hepatic Energy Metabolism*. *Diabetes* 68 (Supplement 1): 285-LB, 2019.
- **Bednarski T**, Dobrzyn P. *Stearoyl-CoA desaturase 1 regulates rate of triglyceride lipolysis in cardiomyocytes*. *BBA - Bioenergetics* 1857 Suppl.: e74, 2016.
- **Bednarski T**, Duda M, Dobrzyn P. *Lipid metabolism pathways are involved in development of obesity and hypertension related left ventricular hypertrophy*. 4th IRB Barcelona PhD Students Symposium: Science fights back: Tackling disease to recover homeostasis Abstract Book, 58, 2015.
- **Bednarski T**, Duda M, Dobrzyn P. *Development of hypertension-induced left ventricular hypertrophy is associated with impairment of lipolysis in cardiomyocytes*. *J Muscle Res Cell Motil* 36: 580–581, 2015.
- **Bednarski T**, Duda M, Dobrzyn P. *Activity of Akt/mTOR pathway depends on type and time of hypertensive stimuli in the heart*. *FEBS J.* 282, Suppl. s1: 222, 2015.
- **Bednarski T**, Olichwier A, Opasinska A, Dobrzyn P. *Hypertension-induced heart steatosis is not associated with increased cardiac lipogenesis*. *Acta Biochimica Polonica* Vol. 61 (3), Suppl. 1: 229, 2014.
- **Bednarski T**, Opasinska A, Olichwier A, Dobrzyn P. *Role of cardiac lipid metabolism in the development of hypertension-induced heart steatosis*. *FEBS J* 281 Suppl. 1: 597, 2014.
- **Bednarski T**, Pyrkowska A, Dobrzyn A, Duda M, Dobrzyn P. *Lipid-induced cardiac remodeling and left ventricle steatosis depend on the degree of saturation of fatty acids in dietary fats*. *ISSFAL Congress Abstract Book*, Abstract S5.01, 2014.
- **Bednarski T**, Pyrkowska A, Dobrzyn A, Duda M, Dobrzyn P. *Monounsaturated fatty acids activate lipogenic pathways in the heart leading to cardiac steatosis and left ventricular remodelling*. *European Journal of Clinical Investigation*, 44 (Suppl. 1): 7, 2014.

- Dobrzyn P, Pyrkowska A, Duda M, Maczewski M, **Bednarski T**, Langfort J, Dobrzyn A. *Overexpression of lipogenic genes in the heart distinguishes physiologic from pathologic left ventricle hypertrophy*. FASEB J. 27: 813.2, 2013.
- **Bednarski T**, Pyrkowska A, Ochalek A, Duda M, Dobrzyn A, Langfort J, Dobrzyn P. *Lipid metabolism in different types of left ventricular hypertrophy*. 54th International Conference on the Biosciences of Lipids: Linking Transcription to Physiology in Lipidomics Abstract Book, Abstract 5, 2013.
- **Bednarski T**, Pyrkowska A, Ochalek A, Duda M, Dobrzyn A, Langfort J, Dobrzyn P. *Lipogenesis and Fatty Acid Utilization in Different Models of Left Ventricular Hypertrophy*. FEBS workshop Translating Epigenomes into Function: a Next-Generation Challenge for Human Disease Workshop Booklet, Abstract 53: p. 53, 2013.
- Dobrzyn P, Pyrkowska A, **Bednarski T**, Ochalek A, Duda M, Langfort J, Dobrzyn A. *Stearoyl-CoA desaturase expression is upregulated in exercise training-induced left ventricular hypertrophy*. FEBS J 280, (Suppl. 1): 182, 2013.
- **Bednarski T**, Pyrkowska A, Dobrzyn P. *Lipid metabolism in obesity-induced and endurance training-induced left ventricular hypertrophy*. 1st Nencki Institute PhD Student Conference Abstract Book, Abstract S7.5: p. 28, 2013.
- **Bednarski T**, Pyrkowska A, Dobrzyn P. *Lipogenesis and fatty acid utilization in obesity-induced and endurance training-induced left ventricular hypertrophy*. Do Science! Opening of the Academic Year 2013/2014 at Biocentrum Ochota Programme and Abstract book, Abstract 1: p. 20, 2013.
- **Bednarski T**, Jazurek M, Dobrzyn A, Małodobra-Mazur M, Dobrzyn P. *Effect of dietary stearate and oleate on expression of fatty acid desaturases and elongases in the heart*. EJLST 114, (Suppl. 1): 367, 2012.

WORKSHOPS

- Office of Research and Economic Development's **NSF CAREER Club**, January – July 2024, Lincoln, NE
- College of Education and Human Sciences **Scholarly Enhancement Program: Grant-writing for Grand Visions (GWGV)**, September 2023 – May 2024, Lincoln, NE
- **Center for Transformative Research in Metabolism: Hibernation Science Workshop**, August 6 – 18, 2023, Fairbanks, AK.
- **Alcoholic and Nonalcoholic Steatohepatitis: Pathogenesis and Mechanisms of Liver Injury Joint NIAAA-NIDDK Research Workshop**, September 16 – 17, 2019, Bethesda, MD.
- **10th Annual Course on Isotope Tracers in Metabolic Research: Principles and Practice of Kinetic Analysis**, October 30 – November 3, 2017, Nashville, TN.
- **Translating Epigenomes into Function: A Next-Generation Challenge for Human Disease**, October 13 – 16, 2013, Capri, Italy.
- **Mitochondria, apoptosis and cancer 2013 (MAC-2013)**, October 10 – 12, 2013, Stockholm, Sweden.
- **qPCR Experience Boot Camp**, September 11 – 14, 2012, Piran, Slovenia.