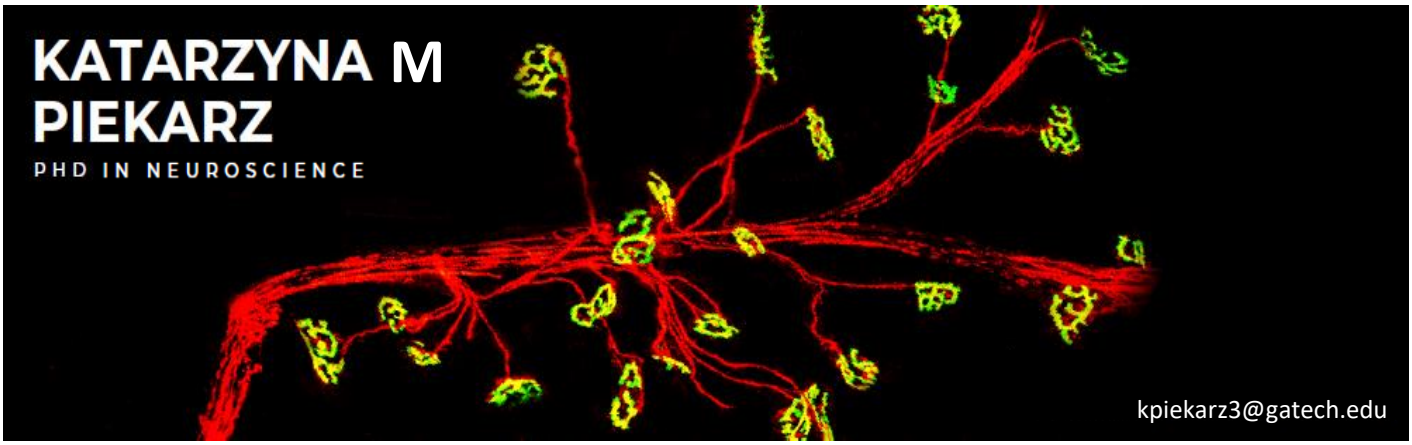
KATARZYNA M PIEKARZ

PHD IN NEUROSCIENCE



kpiekarz3@gatech.edu

EXPERIENCE

- POSTDOCTORAL FELLOW at GEORGIA TECH
  November 2021-

  Developmental neuroscience in Ciona; axonal guidance, motor system;
  Bioinformatics

- PhD CANDIDATE/GRADUATE RESEARCH ASSISTANT
  July 2016–August 2021

  OU Neuroscience
  University of Oklahoma Health Sciences Center, Oklahoma, USA

  Preventing alpha motor neuron loss in aging and neurodegeneration

- WOC RESEARCH ASSISTANT at Veterans Affairs Oklahoma City Health care
  May 2017–August 2021

- RESEARCH TRAINEE at OKLAHOMA MEDICAL RESEARCH FOUNDATION (Fulbright Visiting Graduate Research Traineeship Program)
  June 2015–June 2016

EDUCATION

- PhD in NEUROSCIENCE
  July 2016 – August 2021

  OU Neuroscience,
  University of Oklahoma Health Sciences Center

- MSc in BIOTECHNOLOGY
  October 2013 - July 2016

  Jagiellonian University, Faculty of Biochemistry, Biophysics and Biotechnology, Cracow, Poland
  Thesis: The role of Eco1 during meiosis in Saccharomyces cerevisiae

- MA in LATIN AMERICAN STUDIES
  October 2009 - July 2011

  Jagiellonian University, Faculty of International and Political Studies, Cracow, Poland

- BA and MA in ITALIAN LANGUAGE AND LITERATURE
  October 2004 - July 2009

  Jagiellonian University, Faculty of Philology, Cracow, Poland

LABORATORY SKILLS

MOLECULAR TECHNIQUES,
CELL CULTURE,
YEAST CULTURE, IMMUNOSTAINING,
CRISPR, VIRAL VECTORS,
ANIMAL MODELS (MICE, C. ELEGANS, D. MELANOGASTER)
CONFOCAL AND FLUORESCENCE MICROSCOPY

COMPUTER SKILLS

PYTHON, R STUDIO, MATLAB
DATA ANALYSIS, BIOINFORMATICS (RNA-seq, scRNA-seq etc.)
MACHINE LEARNING
NEURAL NETWORKS, GANs, AUTOENCODERS
ADOBE CREATIVE SUITE
BAYESIAN STATISTICS WITH JASP

AWARDS AND SCHOLARSHIPS

Poster Award at OCNS Research Retreat, Feb 7th, 2020

Diana Jacobs Kalman/AFAR Scholarship for Research in the Biology of Aging 2019

2019 Oklahoma Center for Neuroscience Seed Grant

OUHSC Graduate College Award for Scientific Achievement at GREAT Symposium 2019

OUHSC sponsored AGE 2019 meeting Travel Award

OMRF Pre-doctoral Scholarship; Drs. Patricia H. and J. Donald Capra Scholarship Fund 2018-2019

OCNS Image Competition 2018 winner

OK Catalyst Researchers Program; May-July 2018

Bertelsmann Data Science Challenge Scholarship through Udacity; May-August 2018

Superior Poster Presentation by a Pre-doctoral Student at AGE 2018, meeting of the American Aging Association

Best Student Poster Award at 2018 Oklahoma Geroscience Symposium

Fulbright Visiting Graduate Research Traineeship Program (currently BioLAB) at Oklahoma Medical Research Foundation 2015-2016

Merit-based Jagiellonian University Scholarship for academic years 2011-2012, 2010-2011, 2009-2010

6-month visiting scholarship at Pontificia Universidad Católica del Peru 2010-2011

6-month Erasmus Program at Universita degli Studi di Siena 2007-2008

ADDITIONAL LABORATORY PRACTICE

SUMMER INTERN at KAROLINSKA INSTITUTET, SWEDEN, 2014
Department of Neuroscience, Experimental Neurogerontology Group, Brun Ulfhake's laboratory

10th Stem Cells Summer School at JAGIELLONIAN UNIVERSITY MEDICAL COLLEGE, 2014
Stem cells isolation, mouse handling

Student Laboratory Practice,
JAGIELLONIAN UNIVERSITY, 2014-2015
Faculty of Biochemistry, Biophysics and Biotechnology, Department of Physical Biochemistry
Cell culture (MBE, HEK293), cell toxicity tests

Student Laboratory Practice,
JAGIELLONIAN UNIVERSITY, 2013-2014
Faculty of Biology and Earth Sciences, Department of Genetics and Evolutionism, Institute of Zoology
SNPs analysis

REFERENCES

Sylwia Kędracka-Krok, PhD | Associate Professor at Jagiellonian University
+48 12 664 6148 | sylwia.kedracka-krok@uj.edu.pl

David Sherry, PhD | Associate Professor at OUHSC
(405) 271-8001 ext. 45514 | David-Sherry@ouhsc.edu

Anna Csiszar, MD, PhD | Associate Professor at OUHSC
(405) 271-8000 ext. 47830 | Anna-Csiszar@ouhsc.edu

SOCIAL


/katarzyna-piekarz


orcid.org/0000-0003-4710-9970


researchgate.net/profile/Katarzyna_Piekarz


@KatPiekarz

COMPUTER TRAINING

The Computational Neuroscience, Neurotechnology and Neuro-inspired AI (CN3) Autumn School at the Intelligent Systems Research Centre in Ulster University, October 2022

McMedHacks 2022 Summer School – Deep Learning and Medical Image Analysis

Neuromatch Academy – Computational Neuroscience, summer school, July 2022

Build Basic Generative Adversarial Networks; by DeepLearning.AI (Coursera), May 2021

Dimentionality Reduction using an Autoencoder in Python (Coursera), February 2021

Professional Certificate in TinyML (by HarvardX and Google on edX), March 2021 (Fundamentals of TinyML; Applications of TinyML; Deploying TinyML)

Deep Learning Specialization (by Andrew Ng, DeepLearning.AI on Coursera), December 2020 (Neural Networks and Deep Learning; Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization; Sequence Models; Convolutional Neural Networks; Structuring Machine Learning Projects)

Computational Neuroscience course (by University of Washington on Coursera), May 2020

Neuromatch 2.0 - the community driven online computational neuroscience conference (IEEE Brain, UPenn, PennState, Georgia Tech, NBDT, eLife, Imperial College London), May 25-27, 2020, online

29th Annual Computational Neuroscience Meeting CNS*2020, July 18-22, online

Neuromatch Academy, virtual computational neuroscience summer school, July 13-31, 2020

Allen Institute Modeling Workshop. Towards multipurpose models of cortical circuits; August 12-14, 2020, online

Numbers-Computers-Life, Student Conference and Workshops, Faculty of Mathematics and Informatics, Jagiellonian University, Poland 2015; R in Neuroinformatics, Computer-Aided Drug Design

NGS in Gene Regulation, Ideas4biology, Poznań, Poland 2014
Linux environment, R, data analysis and visualization

Bioinformatics for Biologists, VitaInSilica, Poznań, Poland 2013
Statistics, Databases

10th Poznan Summer School of Bioinformatics, Adam Mickiewicz University, Poznań, Poland 2013
Molecular evolution, Phylogenetics, Metagenomics

MEMBERSHIPS

2021- Society for Developmental Biology
2018- American Aging Association
2018- IEEE, IEEE Computer Society, IEEE Brain
2018- Society for Neuroscience
2018- Organization for Computational Neuroscience, Software Working Group
2018-2019 Microscopy Society of America
2016- American Association for the Advancement of Science
2016- Planetary Society

PUBLICATIONS

B Ahn, R Ranjit, P Kneis, H Xu, **KM Piekarz**, WM Freeman, M Kinter, et al., Scavenging mitochondrial hydrogen peroxide by peroxiredoxin 3 overexpression attenuates contractile dysfunction and muscle atrophy in a murine model of accelerated sarcopenia. Aging Cell (2022) 3

Piekarz KM et al. Pharmacologic treatment with OKN-007 reduces alpha-motor neuron loss in spinal cord of aging mice. Geroscience (2022). https://doi.org/10.1007/s11357-021-00506-y

Piekarz KM, Bhaskaran S, Sataranatarajan K, Street K, Premkumar P, Saunders D, Zalles M, Gulej R, Khademi S, Laurin J, Peelor R, Miller BF, Towner R, Van Remmen H. Molecular changes associated with spinal cord aging. Geroscience. 2020 Apr;42(2):765-784

Hongyang Xu, Shylesh Bhaskaran, **Katarzyna M Piekarz**, Rojina Ranjit, Jan Bian, Parker Kneis, Aubrey Ellis, Suyesha Bhandari, Heather Rice, Holly Van Remmen. Age related changes in muscle mass and force generation in the Triple Transgenic (3xTgAD) Mouse Model of Alzheimer's Disease, Frontiers in Aging Neuroscience, 350 (2022)

Katarzyna M Piekarz, and Holly Van Remmen. Knocking out MMP-9 and MMP-12 has a differential and sex-specific effect on age-related α-motor neuron loss and decline in muscle mass; in preparation

Katarzyna M Piekarz, Debra Saunders, Nataliya Smith, Rheal Towner, and Holly Van Remmen. OKN-007 treatment slows down disease progression in SOD1 G93A ALS mouse model by decreasing alpha-motor neuron loss and microglia activation, without affecting muscle mass at P145; in preparation

Katarzyna M Piekarz, and Holly Van Remmen. Troponins are expressed in alpha-motor neurons of wildtype mouse and can translocate to the nucleus to potentially act as transcription factors; in preparation

Sataranatarajan K, Pharaoh G, Brown JL, Ranjit R, **Piekarz KM**, et al. Molecular changes in transcription and metabolic pathways underlying muscle atrophy in the CuZnSOD null mouse model of sarcopenia. Geroscience. 2020 May 12. doi: 10.1007/s11357-020-00189-x

Bhaskaran S, Pollock N, Macpherson P, Ahn B, **Piekarz KM**, et al. Neuron specific deletion of CuZnSOD leads to an advanced sarcopenic phenotype in older mice. Aging Cell. 2020, doi: 10.1111/acel.13225

Brown JL, Lawrence MM, Ahn B, Kneis P, **Piekarz KM**, et al. Cancer cachexia in a mouse model of oxidative stress. Journal of Cachexia, Sarcopenia and Muscle. 2020.

Ahn B, Ranjit R, Premkumar P, Pharaoh G, **Piekarz KM**, et al. Mitochondrial oxidative stress impairs contractile function but paradoxically increases muscle mass via fiber branching. Journal of Cachexia, Sarcopenia and Muscle 2019, doi: 10.1002/jcsm.12375

Bumsoo Ahn, Rojina Ranjit, **Katarzyna M Piekarz**, et al. Skeletal muscle specific overexpression of the mitochondrial H2O2 scavenger, peroxiredoxin 3, rescues mitochondrial dysfunction and sarcopenia phenotypes elicited by redox imbalance, Free Radical Biology and Medicine 128:S123, 2018, DOI: 10.1016/j.freeradbiomed.2018.10.302

Alomer RM, da Silva EML, Chen J, **Piekarz KM**, McDonald K, Sansam CG, Sansam CL, Rankin S. Esco1 and Esco2 regulate distinct cohesin functions during cell cycle progression. PNAS. 2017 vol. 114 no.37