

CURRICULUM VITAE

Joshua D. Preston

I. Personal Info

Office Address: Emory University
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II. Education

Month/Year(s)	Degree	Fields of Study	Research Advisors	Institution (Location)
08/2015 – 12/2018	BS (with honors)	Biology (major), Mathematics (minor)	<i>Research Mentors:</i> Kevin Pearson (UKY), Rafael de Cabo (NIA)	University of Kentucky (Lexington, KY)
07/2019 –	MD	Medicine	N/A	Emory University School of Medicine (Atlanta, GA)
12/2023 –	PhD	Nutrition and Health Sciences	<i>Dissertation Advisors:</i> Dean Jones (Emory), Rafael de Cabo (NIA)	Emory University Laney Graduate School (Atlanta, GA); NIH NIA (Baltimore, MD)

III. Appointments at Hospitals/Affiliated Institutions

Month/Year(s)	Position Title	Department, Division; Hospital(s)	Institution
07/2019 –	Medical Student	Emory University School of Medicine; Grady Memorial Hospital, Emory University Hospital, Emory University Hospital Midtown	Emory University
01/2023 –	Graduate Research Assistant	Department of Medicine, Emory University School of Medicine	Emory University
03/2023 –	NIH Special Volunteer	Experimental Gerontology Section, Translational Gerontology Branch	National Institute on Aging IRP

III. Licensure, Trainings, Standardized Exams, and Certifications

Year	Exam, License or Certification
2018	Medical College Admission Test: 512 (86 th percentile)
2022	United States Medical Licensure Exam – Step 1: Completed
2023	United States Medical Licensure Exam – Step 2: Completed

IV. Professional Societies

Year	Type of License or Certification
2019 –	American College of Physicians
2019 –	Christian Medical and Dental Association

V. Report of Scholarship

eRA Commons Username: joshua.preston

ORCID: <https://orcid.org/0000-0001-9834-3017>

Google Scholar: https://scholar.google.com/citations?user=_ZUkfa4AAAAJ&hl=en

ResearchGate: <https://www.researchgate.net/profile/Joshua-Preston-2>

Academic Bio: <https://sph.emory.edu/phd-students/profile/index.php?FID=joshua-preston-13113>

Peer-Reviewed Scholarship in print or other media:

1. **Preston JD**, Reynolds LJ, Pearson KJ. Developmental Origins of Health Span and Life Span: A Mini-Review. *Gerontology*. 2018;64(3):237–245. PMID: 29324453
2. Reynolds LJ, Chavan NR, DeHoff LB, **Preston JD**, Maddox HF, O'Brien JM, Armstrong DA, Marsit CJ, Pearson KJ. Smoking during pregnancy increases chemerin expression in neonatal tissue: In utero smoke exposure and neonatal chemerin expression. *Exp Physiol*. 2019 Jan;104(1):93–99. PMID: 30565770
3. Di Francesco A, Choi Y, Bernier M, Zhang Y, Diaz-Ruiz A, Aon MA, Kalafut K, Ehrlich MR, Murt K, Ali A, Pearson KJ, Levan S, **Preston JD**, Martin-Montalvo A, Martindale JL, Abdelmohsen K, Michel CR, Willmes DM, Henke C, Navas P, Villalba JM, Siegel D, Gorospe M, Fritz K, Biswal S, Ross D, de Cabo R. NQO1 protects obese mice through improvements in glucose and lipid metabolism. *npj Aging Mech Dis*. 2020 Nov 19;6(1):13. PMID: 33298924
4. Reynolds LJ, Vsevolozhskaya OA, Rice BB, Chavan NR, Dugan AJ, Maddox HF, **Preston JD**, DeHoff LB, O'Brien JM, Pearson KJ. Physical activity during pregnancy alters gene expression in neonatal tissue. *PhysInt [Internet]*. 2021 Mar
5. Saintilnord WN, Tenlep SYN, **Preston JD**, Duregon E, DeRouchey JE, Unrine JM, de Cabo R, Pearson KJ, Fondufe-Mittendorf YN. Chronic Exposure to Cadmium Induces Differential Methylation in Mice Spermatozoa. *Toxicological Sciences*. 2021 Apr 12;180(2):262–276. PMID: 33483743
6. Rashid CS, **Preston JD**, Ngo Tenlep SY, Cook MK, Blalock EM, Zhou C, Swanson HI, Pearson KJ. PCB126 exposure during pregnancy alters maternal and fetal gene expression. *Reproductive Toxicology*. 2023 Aug;119:108385. PMID: 37080397
7. French BN, Marxen TO, Akhnouk S, Novack J, Van Anderlecht K, Jung EH, **Preston JD**, Spicer JO. A call for spaced repetition in medical education. *Clin Teach*. 2023 Oct 3;e13669. PMID: 37787460
8. **Preston JD**, Jansen CS, Kosaraju S, Niyogusaba T, Zhuang TZ, Iwamoto SW, Hutto SK, Lechowicz MJ. Cutaneous T-cell lymphoma with CNS involvement: a case series and review of the literature. 2023; PMID: 37877303
9. Johnson ML*, **Preston JD***, Rashid CS, Pearson KJ, Ham JN. Sex differences in type 2 diabetes: an opportunity for personalized medicine. *Biol Sex Differ*. 2023 Dec 13;14(1):88. PMID: 38093356

VI. Report of Funded and Unfunded Projects

Status; <i>Role;</i> <i>Year(s)</i>	Name of <i>Investigator(s)</i>	Grant Title; <i>Funding Agency;</i> <i>Grant Type/Number</i>	Description of major goals
Funded; <i>PI;</i> 2016	Preston JD	Summer Research and Creativity Grant: "Maternal cigarette smoke exposure and offspring obesity and type 2 diabetes risk";	Grant to support salary as full-time summer undergraduate research assistant.

*Co-first authorship / both authors contributed equally

		<i>University of Kentucky, Research Personnel Funding</i>	
Funded; <i>PI;</i> 2018	Preston JD	Bucks for Brains Summer Research Program Award; University of Kentucky; Research Personnel Funding	Grant to support salary as full-time summer undergraduate research assistant.
Funded; <i>Trainee;</i> 2019 –	Gross RE	Emory Medical Scientist Training Program Grant; <i>NIH;</i> T32 GM008169	Institutional training grant for Emory's Medical Scientist Training Program (MSTP). The Emory MSTP prepares highly gifted and motivated students to pursue careers as physician-scientists and leaders in biomedical research. The seven to eight year training process leads to both M.D. and Ph.D. degrees.
Funded; <i>Co-PI;</i> 2022	Akhnoukh SB Marxen TO Novack J Preston JD	The Hatchery's Discovery Incubator Program: "GalaxyDex"; <i>Emory University;</i> Pilot/Startup Funding	A pilot grant to fund a startup based around the use of spaced-repetition flashcards in medical education.
Unfunded; <i>Co-PI;</i> 2023	Preston JD de Cabo R Price NL Jones DP	Metabolic Predictors of Lifespan and Cause of Death in Mice; <i>Impetus Longevity Grants;</i> Research Funding	A research grant to support experimental costs for metabolomic aging experiments in mice

VII. Honors and Prizes

National Honors or Nationally Competitive Awards:

Year(s)	Award Name; <i>Awarding Institution or Organization</i>
2017	NIH Summer Internship Program in Biomedical Research (SIP); <i>National Institute on Aging</i>
2017	Astronaut Scholar; <i>Astronaut Scholarship Foundation</i>
2018	Featured in Monthly Trainee Spotlight; <i>NIEHS Superfund Research Program</i>
2020	PedsEndo Discovery Program Award; <i>Pediatric Endocrine Society</i>
2020	Featured in President's Letter; <i>Pediatric Endocrine Society</i>

University, Regional, or State Awards:

Year(s)	Award Name; <i>Awarding Institution or Organization</i>
2015	Citizenship, Leadership, Athletics, Sportsmanship, Scholarship (CLASS) Scholarship; <i>KHSAA</i>
2015	"Service Above Self" Scholarship; <i>Nicholasville Rotary Club</i>
2015	Interfraternal Council Scholarship; <i>University of Kentucky</i>
2015 - 2018	Dean's List (7 time awardee); <i>University of Kentucky</i>

2015 - 2018	Provost Scholarship (7 time awardee); <i>University of Kentucky</i>
2016 - 2018	Student Skills Development Award (3 time awardee); <i>University of Kentucky Lewis Honors College</i>
2017	First Place in Oswald Research and Creativity Competition; <i>University of Kentucky</i>
2017 - 2018	Undergraduate Research Travel Grant (2 time awardee); <i>University of Kentucky</i>
2017 - 2018	Donovan Scholarship in Gerontology (2 time awardee); <i>University of Kentucky</i>
2018	Kate Johnson Award; <i>University of Kentucky Lewis Honors College</i>
2018	Honorable Mention in Oswald Research and Creativity Competition; <i>University of Kentucky</i>

VIII. Research Experience, Skills, and Expertise

Research Group and/or Experience; <i>Institution (Location);</i> Year(s)	Expertise Gained	Techniques and Skills Gained
Dr. Kevin Pearson Laboratory; <i>Center for Research in Obesity and Cardiovascular Disease (COCVD), University of Kentucky (Lexington, KY);</i> 2015-2019	Pregnancy, Aging, Sexual Dimorphism, Developmental Origins Hypothesis, Endocrinology, Toxicology	Technical: real-time quantitative polymerase chain reaction (RT qPCR), NanoString, Western Blotting, primary cell culture, ELISA, luciferase assays, radiolabeled transport assays, glucose tolerance test, animal (rodent) husbandry, tissue collection Software/Computational: GraphPad Prism, SigmaPlot, GraphPad, Microsoft Excel, WebMev
Dr. Rafael De Cabo Laboratory (NIH Summer Internship); <i>Experimental Gerontology Section, Translational Gerontology Branch, National Institute on Aging (Baltimore, MD);</i> 2017	Aging, Senescence, Metabolism, Cancer, Insulin Signaling, Signal Transduction	Technical: Western blotting, immunoprecipitation, immortalized cell culture Software/Computational: ImageJ
Various Clinical Research and Scholarship; <i>Emory University School of Medicine (Atlanta, GA);</i> 2020 –	Medical Education, Spaced Repetition, Lymphoma, Tuberculosis, Type II Diabetes	Technical: Chart review Software/Computational: REDCap, Epic, Cerner PowerChart, Anki

Dr. Dean P. Jones Clinical Biomarkers Laboratory[†]; <i>Dept. of Medicine, Emory University School of Medicine (Atlanta, GA);</i> 2022 –	Targeted and Untargeted Metabolomics, Nutrition, Tumor Metabolism, Exposomics, Redox Biology, Microbiome, Translational & Surgical Science Study Design	Technical: liquid chromatography mass spectrometry (LCMS), GCMS, Software/Computational: BioRender, xMWAS, JASP, MetaboAnalyst.ca, Zotero
Dr. Rafael De Cabo Laboratory[†]; <i>Experimental Gerontology Section, Translational Gerontology Branch, National Institute on Aging (Baltimore, MD);</i> 2022 –	Aging, Metabolism, Experimental Gerontology, Longitudinal Study Design, Statistical Modeling, Machine Learning	Technical: LCMS sample preparation, blood/serum metabolomics Software/Computational: R, longitudinal and repeated measures statistics

IX. Report of Teaching and Training

Year(s)	Course Title	Role	Institution	Type of Student/Audience
2023	Human Disease: Endocrinology	Mentor	Emory University School of Medicine	Medical Students
2023 – 2024	Epidemiology of Obesity	Teaching Assistant	Emory University	Undergraduate Students

X. Report of Campus and Community Involvement, Committee Service, and Leadership

Year(s)	Position/Role; Activity and/or Organization; Description (if applicable)
2014 – 2016	Volunteer; <i>Summer Music Camp. Festival of the Bluegrass, Lexington, KY</i>
2015 – 2016	President; <i>Woodland Glen V Hall Government, University of Kentucky</i>
2015 – 2017	President and Founder; <i>Student Bluegrass Music Coalition, University of Kentucky</i>
2016 – 2018	Volunteer; <i>Ashland Terrace Assisted Living Home, Lexington, KY</i>
2017 – 2019	Member; <i>Tates Creek Presbyterian Church, Lexington, KY</i>
2017 – 2019	Volunteer; <i>The Lafayette Independent and Assisted Living Home, Lexington, KY</i>
2017 – 2019	Supervisor and Mentor; <i>Kevin Pearson Laboratory, University of Kentucky;</i>

[†] PhD dissertation work partnered between these two laboratories. Dean P. Jones, Rafael de Cabo, Thomas R. Ziegler, Jessica Alvarez, Miriam Vos all sit on my dissertation committee.

I was responsible for training, mentoring, and supervising multiple (7) undergraduate students to assist in ongoing experiments in the laboratory.

2019 **Review Committee Member;**
Undergraduate Research Faculty Mentor of the Year Award, University of Kentucky

2019 – **Mentor;**
Mentorship Matching Program, Emory University School of Medicine;
I have served as a formal (i.e. through the Mentorship Matching Program) and informal mentor and coach for multiple (6) undergraduate students who aspire to pursue their MD or MD/PhD.

2019 – 2020 **Recruitment Hosting Representative;**
MD/PhD Program Student Association, Emory University School of Medicine;
Another representative and I were responsible for organizing and coordinating hosting, lodging, and transportation of prospective applicants to Emory's MD/PhD program during recruitment sessions.

2020 – 2021 **Mentor;**
American Physician Scientist Association (APSA) Undergraduate Mentorship Program;
I have served as a mentor to multiple (2) aspiring MD/PhD undergraduate and graduate students. One of my former mentees is now in an elite MSTP program.

2021 – **Mentor;**
USMLE coaching and peer mentorship, Emory University School of Medicine;
I served as a peer mentor to multiple younger medical students (3) preparing for the United States Medical Licensure Exam Steps 1 and 2, especially those who were retaking the exam or struggling to prepare.

2022 – **Member;**
All Souls Anglican Church, Atlanta, GA

2022 – **Leader and Creator;**
Human Disease Infectious Disease Thread Spaced Repetition Project;
A colleague and I worked closely with Emory School of Medicine faculty (Varun Phadke, Jennifer Spicer) to create a shared, spaced repetition (flashcards/Anki decks) resource to be paired with infectious disease lectures for second year medical students in order to improve long-term retention of key concepts as students progress toward clinical rotations and licensure exams.

XI. Report of Invited Presentations

1. Lecture: Preston JD, de Cabo R, Pearson KJ. 'Chemerin: a Positive Biomarker of Aging.' 1st annual University of Kentucky Entrepreneur Showcase Alumni Speaker, Lexington, KY. 2019.
2. Grand Rounds: Preston JD, Boden MD. 'My Neck is Sore and My Hand is Numb When I Breastfeed My Baby.' CME Infectious Disease Conference, Emory Decatur Hospital, Decatur, GA. 2020.
3. Lecture: Preston JD. 'How My NIA Internship Changed My Life: 5 Lessons Since Summer 2017.' National Institute on Aging Intramural Research Program Summer Alumni Speaker, Baltimore, MD. 2023.

XII. Report of Other Presentations and Abstracts

National or International:

1. *Poster*: Reynolds LJ, **Preston JD**, Carter LG, Pearson KJ. 'Maternal Exercise Alters Offspring Adipogenesis.' Integrative Biology of Exercise, Phoenix, AZ. 2016.
2. *Poster*: Pearson KJ, Chavan NR, **Preston JD**, Pauly JR, O'Brien JM, Marsit CJ, and Reynolds LJ. 'Smoking during Pregnancy Increases Chemerin Expression in Neonatal Tissue.' Society of Toxicology Annual Meeting, Baltimore, MD. 2017.
3. *Poster*: **Preston JD**, Di Francesco A, Kalafut K, Rhinesmith T, Di Germanio C, Bernier M, and de Cabo R. 'The Role of NQO1 in mTORC2/Akt Signaling.' NIH Summer Intern Poster Day, Bethesda, MD. 2017.
4. *Poster*: **Preston JD**, Di Francesco A, Kalafut K, Rhinesmith T, Di Germanio C, Bernier M, and de Cabo R. 'The Role of NQO1 in mTORC2/Akt Signaling.' National Institute on Aging Summer Student Poster Day, Baltimore, MD. 2017.
5. *Oral Presentation*: **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Kevin J. 'Maternal Nicotine Exposure Increases Offspring Adiposity and Glucose Intolerance.' National Conference on Undergraduate Research, Memphis, TN. 2017.
6. *Poster*: **Preston JD**, Sammons KW, Tenlep SN, Reynolds LJ, Swanson HI, and Pearson KJ. 'Exposure to PCB126 during the Nursing Period Significantly Impairs Early Life Glucose Tolerance.' NIEHS Superfund Research Program Annual Meeting, Philadelphia, PA. 2017.
7. *Poster*: Weltzer MT, Reynolds LJ, Carter LG, **Preston JD**, Pearson KJ. 'Maternal Exercise Alters Lipid Accumulation in Offspring.' National Conference on Undergraduate Research, Memphis, TN. 2017.
8. *Poster*: **Preston JD**, Rashid CS, Tenlep SN, Swanson HI, and Pearson KJ. 'PCB Exposure during Pregnancy Significantly Affects Maternal and Fetal Gene Expression.' Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
9. *Poster*: Reynolds LJ, Chavan NR, Rice BB, Maddox HF, **Preston JD**, DeHoff LB, and Pearson KJ. 'Physical Activity during Pregnancy Alters Gene Expression in Neonatal Tissue.' The American College of Sports Medicine Annual Meeting, Minneapolis, MN. 2018.
10. *Poster*: Rice BB, **Preston JD**, Sammons KW, Tenlep SN, Reynolds LJ, Swanson HI, and Pearson KJ. 'Exposure to PCB126 during the Nursing Period Significantly Impairs Early-Life Glucose Tolerance.' Society of Toxicology Annual Meeting, San Antonio, TX. 2018.
11. *Poster*: **Preston JD**, Di Francesco A, Kalafut K, Rhinesmith T, Di Germanio C, Bernier M, and de Cabo R. 'Regulation of Akt Signaling by NQO1.' The Fourteenth International Symposium on Neurobiology and Neuroendocrinology of Aging, Bregenz, Austria. 2018.
12. *Poster*: Howard SS, **Preston JD**, Di Germanio C, Bernier M, de Cabo R, and Pearson KJ. 'Chemerin is a Biomarker of Aging in Mice.' National Conference on Undergraduate Research, Kennesaw, GA. 2019.
13. *Poster*: **Preston JD**, Towobola B, Tenlep SN, Reynolds LJ, Slone FR, Crosby CL, Howard SS, Johnson ML, and Pearson KJ. 'Sex and Diet Impact Glucose Uptake in Mice: A Focus on Adipose Tissue.' 4th National Conference on Prevention of Diabetes and Its Complications, Atlanta, GA. 2019.
14. *Poster*: **Preston JD**, Towobola B, Tenlep SN, Reynolds LJ, Ham JN, and Pearson KJ. 'Sex and Diet Impact Glucose Uptake in Mice: A Focus on Adipose Tissue.' Pediatric Endocrine Society 2020 Annual Meeting (Cancelled due to COVID), Forth Worth, TX. 2020.
15. *Poster*: Smith MR, Hu X, Liang Y, **Preston JD**, Safley S, Robertson J, Tran V, Weber C, Sharma J, Saunders N, Jones DP. 'Environmental chemicals associated with metabolic dysregulation in differentiated thyroid cancers.' American Thyroid Association Annual Meeting, Washington, DC. 2023.

University, Regional, or State:

1. *Poster:* DeHoff LB, Reynolds LJ, Tenlep SN, **Preston JD**, and Pearson KJ. 'Skin: a Proxy Tissue for the Investigation of Whole Body Glucose Homeostasis.' University of Kentucky Barnstable Brown Diabetes and Obesity Research Day, Lexington, KY. 2016.
2. *Poster:* **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Pearson KJ. 'Maternal Nicotine Exposure Increases Offspring Adiposity and Glucose Intolerance.' University of Kentucky Pharmacology and Nutritional Sciences Summer Undergraduate Poster Day Lexington, KY., Lexington, KY. 2016.
3. *Oral Presentation:* **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Pearson KJ. 'Maternal Nicotine Exposure Increases Offspring Adiposity and Glucose Intolerance.' Kentucky Honors Roundtable, Murray State University, Murray, KY. 2016.
4. *Poster:* **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Pearson KJ. 'Maternal Nicotine Exposure Increases Offspring Adiposity and Glucose Intolerance.' Pharmacology and Nutritional Sciences Annual Retreat. University of Kentucky, Lexington, KY. 2017.
5. *Poster:* **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Pearson KJ. 'Maternal Nicotine Exposure Increases Offspring Adiposity and Glucose Intolerance.' University of Kentucky Center for Clinical and Translational Science Spring Conference, Lexington, KY. 2017.
6. *Poster:* **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Pearson KJ. 'Maternal Nicotine Exposure Prior to and during Pregnancy and Nursing Increases Offspring Obesity Risk.' University of Kentucky Showcase of Undergraduate Scholars, Lexington, KY. 2017.
7. *Poster:* **Preston JD**, Di Francesco A, Kalafut K, Rhinesmith T, Di Germanio C, Bernier M, and de Cabo R. 'The Regulation of Akt Signaling by NQO1.' University of Kentucky Cardiovascular Research Day, Lexington, KY. 2017.
8. *Poster:* **Preston JD**, Reynolds LJ, Tenlep SN, Sammons KW, Pauly JR, and Pearson KJ. 'Maternal Nicotine Exposure Prior to and during Pregnancy and Nursing Increases Offspring Obesity Risk.' Posters-At-The-Capitol, Frankfort, KY. 2017.
9. *Poster:* Crosby CL, **Preston JD**, Howard SS, Di Germanio C, Bernier M, de Cabo R, and Pearson KJ. 'Chemerin is a Biomarker of Aging in Mice.' University of Kentucky Showcase of Undergraduate Scholars, Lexington, KY. 2019.
10. *Poster:* Crosby CL, **Preston JD**, Howard SS, Di Germanio C, Bernier M, de Cabo R, and Pearson KJ. 'Chemerin is a Biomarker of Aging in Mice.' University of Kentucky Center for Clinical and Translational Science Spring Conference, Lexington, KY. 2019.
11. *Seminar:* **Preston JD**. 'Sex and diet impact glucose uptake in mice: A focus on adipose tissue.' Nutrition and Health Sciences Spring Seminar, Emory University, Atlanta, GA. 2023.
12. *Seminar:* **Preston JD**. 'The Study of Longitudinal Aging in Mice: Presentation of Methods and Initial Findings From Longitudinal Metabolomics.' Nutrition and Health Sciences Fall Seminar, Emory University, Atlanta, GA. 2023.
13. *Poster:* **Preston JD**, Weinberg J, Price NL, Zhan J, Jarrell ZR, Smith MR, Teeny S, Tran V, Oglesby EN, Camandola S, Bernier M, Aon MA, Cortassa S, Go YM, de Cabo R, Jones DP. 'The Circulating Metabolome Across the Lifespan: Initial Findings from the NIA Study of Longitudinal Aging in Mice (SLAM).' Emory School of Medicine Department of Medicine Research Day, Atlanta, GA. 2023.
14. *Poster:* Smith MR, Hu X, Liang Y, **Preston JD**, Safley S, Robertson J, Tran V, Weber C, Sharma J, Saunders N, Jones DP. 'Environmental chemicals associated with metabolic dysregulation in

differentiated thyroid cancers.' Emory School of Medicine Department of Medicine Research Day,
Atlanta, GA. 2023.