



# Daniel G. Kougias, PhD

## Current Position

Senior Health Scientist

## Discipline Areas

- > Toxicology
- > Neurotoxicology
- > Food & Nutritional Toxicology
- > Risk Assessment

## Years' Experience

12 Years

## Joined Cardno

June 2018

## Education

- > PhD, Neuroscience  
University of Illinois at Urbana-Champaign, 2018
- > BS, Molecular & Cellular Biology,  
University of Illinois at Urbana-Champaign, 2011
- > BS, Food Science & Human Nutrition,  
University of Illinois at Urbana-Champaign, 2011
- > Certificate in Business Administration,  
College of Business, University of Illinois at Urbana-Champaign

## Summary of Experience

Dr. Daniel G. Kougias is a Senior Health Scientist with a breadth of expertise and interests that span from basic toxicology and risk assessment to focused disciplines within toxicology. Dr. Kougias completed his PhD at the University of Illinois at Urbana-Champaign in Neuroscience with toxicological experience as an NIH Trainee in Endocrine, Developmental, & Reproductive Toxicology. His graduate research broadly examined dietary and hormonal influences across the lifespan on the neuroanatomy of cognitive-related brain regions and their associated impacts on cognitive behavior. Since his work investigated hormonal influences, he inevitably studied the hormone-sensitive periods of life (i.e., development, puberty, and aging) as well as sex differences. In particular, his first project explored the effects of short- and long-term supplementation of a bioactive nutrient on the neuroanatomy and cognitive function in aging male and female rats. After successfully completing this project, Dr. Kougias started his dissertation work, which investigated the neurotoxic effects of perinatal exposure to phthalates in combination with a maternal high-fat diet in both male and female rats. Dr. Kougias's success, as reflected by a strong publication record as well as many professional honors and awards, is, in part, ascribed to acquiring a broad skillset during his undergraduate career, where he has held several interdisciplinary research positions and completed coursework for his dual degree in Molecular & Cellular Biology and Food Science & Human Nutrition.

Dr. Kougias also has regulatory writing experience from working as a research intern at Abbott Laboratories during the latter portion of his graduate career. In particular, he has prepared an FDA *Generally Recognized as Safe* (GRAS) self-affirmed dossier on a proprietary bioactive nutrient by synthesizing scientific literature about its safety, formulating a safety assessment with tabulated studies, and compiling information regarding its properties, production, and food-use specifications. Dr. Kougias also has scientific writing experience while at Abbott Laboratories, as he successfully published his first scientific review article as a first author on the topic of nutritional interventions to address the aging neuromuscular system.

## Significant Projects

### Neurotoxicology and Food & Nutritional Toxicology

*Project Lead & Manager – Endocrine Disruptors and Diet: Effects on the Developing Cortex – University of Illinois at Urbana-Champaign*

Exploited a rat model to investigate the effects of prenatal exposure to phthalates in combination with a maternal high-fat diet on indices of sexual development, behavior, cognition, genetic expression, and neurotoxicity. Determined developmental indices, sex, pubertal onset, and stage of estrous cycle. Examined both short- and long-term cognitive and behavioral effects. Extracted tissues and performed histological techniques and immunohistochemistry. Investigated the neural effects with stereological microscopy and inflammatory/oxidative stress effects via ELISA.

### Toxicology

*Trainee – NIH Traineeship in Endocrine, Developmental, & Reproductive Toxicology – University of Illinois at Urbana-Champaign*

Extensively trained as a toxicologist across disciplines through coursework, seminars, presentations, and conferences. Affiliated with the environmental toxicology program. Broadly exposed through program functions and collaborations to different subfields of toxicology.

### Risk Assessment

*Research Intern – FDA GRAS Self-Affirmed Dossier – Abbott Laboratories, Champaign, IL.*

Generated an FDA GRAS self-affirmed dossier on a proprietary bioactive nutrient by synthesizing scientific literature about its safety, formulating a safety assessment with tabulated studies, and compiling information regarding its properties, production, and food-use specifications.

### Honors & Awards

- > NIEHS Extramural Paper of the Month, *September 2018*
- > NIH Predoctoral Traineeship in Endocrine, Developmental, & Reproductive Toxicology, *2017-2018*
- > International Society for Developmental Psychobiology Travel Award, *2017*
- > Environmental Toxicology Scholar, *2016-2017*
- > Great Lakes National Scholarship Award, *2016-2017*
- > Rated Top 10% for Instructor's Overall Teaching Effectiveness, *Spring 2015*
- > List of Teachers Ranked As Excellent By Their Students, *Spring 2014*
- > Abbott Laboratories Scholarship (for Certificate in Business program), *Spring 2013*
- > Neuroscience Program Fellowship, *2012-2013*
- > Robert & Dorothy Spillman Scholarship, *2011*
- > Furnall Scholarship, *Spring 2011*
- > LAS Assistance Award, *Fall 2011*
- > University of Illinois Foundation Scholarship, *Fall 2011*

### Memberships

- > Society for Neuroscience (SfN) *since 2013*
- > Society of Toxicology (SOT) *since 2018*
  - Midwest Regional Chapter (MRC) *since 2019*
  - Biological Modeling Specialty Section *since 2019*
  - Neurotoxicology Specialty Section *since 2019*
  - Regulatory & Safety Evaluation Specialty Section *since 2019*
  - Risk Assessment Specialty Section *since 2019*
  - Exposure Specialty Section *since 2019*

Professional  
Honors/Awards

Professional  
Societies

## Services

- > Councilor for the SOT Midwest Regional Chapter (MRC) *since 2020*

## Publications

### Peer-Reviewed Publications

- > Pierce, J.S., Roberts, B., Kougias, D.G., Comerford, C.E., Riordan, A.S., Keeton, K.A., Reamer, H.A., Jacobs, N.F.B., Lotter, J.T. (2020). Pilot study evaluating inhalation and dermal glyphosate exposure resulting from simulated heavy residential consumer application of Roundup®. *Inhal Tox*. Advance online publication, Sept. 6, 2020. doi: [10.1080/08958378.2020.1814457](https://doi.org/10.1080/08958378.2020.1814457).
- > Lewis Jr., N. A., Kougias, D. G., & Takahashi, K. J., Earl, A. (2020). The Behavior of Same-Race Others and its Effects on Black Patients' Attention to Publicly Presented HIV-Prevention Information. *Health Commun*. Advance online publication, April 23, 2020. doi: [10.1080/10410236.2020.1749369](https://doi.org/10.1080/10410236.2020.1749369).
- > Sellinger, E. P., Kougias, D. G., Drzewiecki, C. M., Juraska, J. M. (2020). Behavioral effects in adult rats exposed to low doses of a phthalate mixture during the perinatal or adolescent period. *Neurotoxicol Teratol*. Advance online publication, April 18, 2020. doi: [10.1016/j.ntt.2020.106886](https://doi.org/10.1016/j.ntt.2020.106886).
- > Kougias, D. G. (2020). Letter to the editor re: "Herbicide biomonitoring in agricultural workers in Valle del Mayo, Sonora Mexico" by Balderrama-Carmona et al. (2019) in *Environ Sci Pollut Res Int* (<https://doi.org/10.1007/s11356-019-07087-6>). *Environ Sci Pollut Res Int*. 27:17429-17433. doi: [10.1007/s11356-020-08388-x](https://doi.org/10.1007/s11356-020-08388-x). Full online-only access: <https://rdcu.be/b3dLn>.
- > Moody, L., Hernandez-Saavedra, D., Kougias, D. G., Chen, H., Juraska, J. M., Pan, Y-X. (2019). Tissue-specific changes in Srebf1 and Srebf2 expression and DNA methylation with perinatal phthalate exposure. *Environ Epigenet*, 5:1-11. doi: [10.1093/eep/dvz009](https://doi.org/10.1093/eep/dvz009).
- > Moody, L., Kougias, D., Jung, P., Digan, I., Hong, A., Gorski, A., Chen, H., Juraska, J., M. Pan, Y-X. (2018). Perinatal phthalate and high-fat diet exposure induce sex-specific changes in adipocyte size and DNA methylation. *J Nutr Biochem*. 65:15-25. doi: [10.1016/j.jnutbio.2018.11.005](https://doi.org/10.1016/j.jnutbio.2018.11.005).
- > Kougias, D. G., Sellinger, E. Willing, J., Juraska, J. M. (2018). Perinatal exposure to an environmentally relevant mixture of phthalates results in a lower number of neurons and synapses in the medial prefrontal cortex and decreased cognitive flexibility in adult male and female rats. *J Neurosci*. 38:6864-6872. doi: [10.1523/JNEUROSCI.0607-18.2018](https://doi.org/10.1523/JNEUROSCI.0607-18.2018).
- > Kougias, D. G., Tapas, D., Perez, A. B., Pereira, S. (2018). A role for nutritional intervention in addressing the aging neuromuscular junction. *Nutr Res*. 53:1-14. doi: [10.1016/j.nutres.2018.02.006](https://doi.org/10.1016/j.nutres.2018.02.006).
- > Kougias, D. G., Cortes, Moody, L., L. Rhoads, S. G., Pan, Y., Juraska, J. M. (2018). Effects of Perinatal Exposure to Phthalates and a High-Fat Diet on Maternal Behavior and Pup Development and Social Play. *Endocrinology*. 159:1088-1105. doi: [10.1210/en.2017-03047](https://doi.org/10.1210/en.2017-03047).
- > Kougias, D. G., Hankosky, E. R., Gulley, J. M., Juraska, J. M. (2017). Beta-hydroxy-beta-methylbutyrate (HMB) ameliorates age-related deficits in water maze performance in male and, to a trivial extent, female rats. *Physiol Behav*. 170:93-99. doi: [10.1016/j.physbeh.2016.12.025](https://doi.org/10.1016/j.physbeh.2016.12.025).

Presentations and  
Posters

- > Kougias, D. G., Nolan, S. O., Koss, W. A., Kim, T., Hankosky, E. R., Gulley, J. M., Juraska, J. J. (2016). Beta-hydroxy-beta-methylbutyrate (HMB) ameliorates aging effects in the dendritic tree of pyramidal neurons in the medial prefrontal cortex of both male and females rats. *Neurobiol Aging*. 40:78-85. doi: [10.1016/j.neurobiolaging.2016.01.004](https://doi.org/10.1016/j.neurobiolaging.2016.01.004).
- > Hankosky, E. R., Sherrill, L. K., Ruvola, L. A., Haake, R. M., Kim, T., Hammerslag, L. R., Kougias, D. G., Juraska, J. M., Gulley, J. M. (2017). Effects of a hydroxy-methyl butyrate (HMB) on cognitive flexibility and working memory in an animal model of aging. *Nutr Neurosci*. 20:379-387. doi: [10.1080/1028415X.2016.1145376](https://doi.org/10.1080/1028415X.2016.1145376).
- > Kougias, D. G., Reamer, H., Kovochich, M., McEwen, A., Miller, E., Roberts, B., Comerford, C., Pierce, J. (2020). Risk Assessment of Glyphosate Exposure from Consumer Application of Roundup® using a Margin of Safety Approach. Intended poster presentation at the 59<sup>th</sup> Annual Meeting of the Society of Toxicology (SOT) at the Anaheim Convention Center, Anaheim, CA; March 15-19, 2020. Abstract published in *The Toxicologist*.
- > Earl, A., Lewis Jr., N.A., Kougias, D., & Takahashi, K.J. (2019). The behavior of same-race others and its effects of Black patients' attention to publicly presented HIV-prevention information. Symposium presentation at the Ohio State University Weary Symposium on Diversity & Social Identity, Columbus (June).
- > Kougias, D. G., Kovochich, M., Miller, J. V., Abramson, M. M., Maddaloni, M. A., Kreider, M. L. 2019. Evaluation of International Screening Values for Perfluorooctane Sulfonate (PFOS). Poster presentation at the 58<sup>th</sup> Annual Meeting of the Society of Toxicology (SOT) at the Baltimore Convention Center, Baltimore, MD; March 10-14, 2019.
- > Miller, J. V., Kougias, D. G., Abramson, M. M., Maddaloni, M. A., Kreider, M. L. 2019. Comparative analysis of international and domestic points of departure and uncertainty factors contributing to disparate oral reference doses for PFOA. Poster presentation at the 58<sup>th</sup> Annual Meeting of the Society of Toxicology (SOT) at the Baltimore Convention Center, Baltimore, MD; March 10-14, 2019.
- > Kougias, D. G., Sellinger, E. P., Juraska, J. M. 2018. Perinatal exposure to an environmentally relevant mixture of phthalates on the number of neurons, glia, and synapses within the medial prefrontal cortex of male and female rats. Poster presentation at the 57<sup>th</sup> Annual Meeting of the Society of Toxicology (SOT) at The Henry B. Gonzalez Convention Center, San Antonio, TX; March 11-15, 2018.
- > Kougias, D. G., Wise, L. M., Belagodu, A. P., Juraska, J. M. 2017. Perinatal exposure to bisphenol A or phthalates and a high-fat diet minimally affect oxidative stress within the medial prefrontal cortex of both male and female pups. 2017 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2017. Online.
- > Sellinger, E. P., Kougias, D. G., Juraska, J. M. 2017. The effect of perinatal phthalate exposure on the number of synapses in the medial prefrontal cortex. 2017 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2017. Online.
- > Juraska, J. M., Willing, J., Kougias, D. G. Effects of a relevant phthalate combination during perinatal development on apoptosis in the mPFC of male and female rats. 2017 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2017. Online.

- > Kougias, D. G., Cortes, L. R., Rhoads, S. G., Juraska, J. M. (2016). Behavioral and weight effects of perinatal exposure to phthalates and a high-fat diet in male and female rats. 2017 International Society for Developmental Psychobiology (ISDP). Washington, D.C.
- > Lewis, N. A., Jr., Kougias, D. G., & Earl, A. (2017, March). If 'we' pay attention to health information, then so do 'I': Audience impacts African-American attention to health information. In symposium Using Social Psychological Insights to Make Sense of Persistent Health Disparities (Chair: Lauren Howe). International Convention of Psychological Science, Vienna, Austria.
- > Kougias, D. G., Cortes, L. R., Rhoads, S. G., Juraska, J. M. (2016). The effects of perinatal exposure to phthalates and a high-fat diet on maternal behavior, indices of pup development, and periadolescent behavior. 2016 National Institute of Environmental Health Sciences EHS FEST. Durham, NC: Environmental Health Science FEST, 2016. Online.
- > Kougias, D. G., Cortes, L. R., Rhoads, S. G., Juraska, J. M. (2016). Perinatal exposure to phthalates and a high-fat diet affects maternal behavior, indices of pup development, and periadolescent behavior. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online.
- > Willing, J., Kougias, D. G., Cortes, L. R., Drzewiecki, C. M., Wehreim, K. E., Juraska, J. M. (2016). Long-term behavioral effects of perinatal exposure to phthalates and maternal high-fat diet in male and female rats. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online.
- > Kougias, D. G., Nolan, S. O., Kim, T., Koss, W. A., Gulley, J. M., Juraska, J. M. (2015). Long-term HMB supplementation ameliorates aging effects in the dendritic morphology of mPFC layer 5 pyramidal neurons in aged male and female rats. Program No. 305.15. 2015 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2015. Online.
- > Gulley, J. M., Hankosky, E. R., Ruvola, L. A., Sherrill, L. K., Keeley, C. J., Patel, R. A., Ghane, M. A., Hammerslag, L. R., Kim, T., Kougias, D. G., Juraska, J. M. (2014). Effects of a bioactive nutrient on memory and cognitive flexibility in a rodent model of aging. Program No. 359.02. 2014 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2014. Online.
- > Juraska, J. M., Sherrill, L. K., Ruvola, L. A., Kofsky, N. M., Keeley, C. J., Ghane, M. A., Hankosky, E. R., Hammerslag, L. R., Kim, T., Kougias, D. G., Gulley, J. M. (2014). The effects of daily supplementation with a bioactive nutrient on age-related declines in working memory in male and female rats. Program No. 359.03. 2014 Neuroscience Meeting Planner. Washington, D.C.: Society for Neuroscience, 2014. Online.
- > Kougias, D. G., Koss, W. A., Sherrill, L. K., Hammerslag, E. R., Hankosky, E. R., Gulley, J. M., Juraska, J. J. (2013). The effects of HMB on water maze performance in middle-aged and aged male and female rats. Program No. 579.09. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013. Online.