M. KATHRYN "KATY" BREWER, PHD

SCIENTIFIC & MEDICAL WRITER

US CITIZEN | REMOTE FROM BARCELONA, SPAIN (CET) | ALSO AVAILABLE US EAST COAST BUSINESS HOURS (ET)

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PROFESSIONAL SUMMARY

PhD-trained scientific and medical writer with 13 years of experience producing high-quality scientific content.

- Author of 18 scientific publications (11 as first author), plus abstracts, posters, presentations, essays, reports and graphics.
- Led 5 first-author papers through peer review and publication; served as a peer reviewer (independent and assisted).
- Completed 12 years of preclinical research in neuroscience, metabolism and rare disease biology
- Speaks native English and professional Spanish (B2+) and with work experience in international settings.
- Incorporates AI tools into medical writing workflows in compliance with ICMJE and GPP standards.

RECENT WORK EXPERIENCE

Scientific & Medical Writer – Independent (remote) **March 2025 – present**

- Analyzing data, preparing a first-author manuscript related to neuroinflammation and epilepsy to be submitted for publication in January 2027. Collaborated remotely with former team at the University of California, Berkeley.
- Prepared a lay summary of a recent *Nature* paper related to neuroinflammation and the neurodevelopmental disorder Tuberous Sclerosis Complex (TSC) for TSC Alliance (to be published in November).
- Published blog articles about sustainability in biomedical laboratories, US university rankings, and career transitions.

Project Member – iGEM Community (remote) **Jan 2025 – June 2025**

- Collaborated with international teams to develop educational content for a free online science communication course.
- Created learning materials, facilitated Q&A sessions, and provided individualized feedback for student assignments.

Postdoctoral Fellow – University of California, Berkeley (UC Berkeley) **Sep 2021 – Feb 2025**

- Independently led a preclinical neuroscience project related to epilepsy and Tuberous Sclerosis Complex (TSC). Prepared the corresponding manuscript, including data analysis, figure preparation, and initial drafts.
- Authored a successful fellowship application to the American Epilepsy Society ($98,000 over 2 years).
- Communicated findings through oral presentations and posters at institutional events (UC Berkeley) and an international scientific meeting (Cold Spring Harbor Laboratory, NY).
- Mentored six junior researchers, providing guidance on experimental design, record-keeping, data analysis and writing.

Visiting Researcher – University of Kentucky College of Medicine **July – September 2021**

- Coordinated final drafts, submission and revisions for a first-author primary research article published in *iScience*.

Postdoctoral Fellow – Institute for Research in Biomedicine (IRB Barcelona) **May 2019 – June 2021**

- Authored peer-reviewed research articles (one as first-author, three as co-author) related to glycogen metabolism and neuroinflammation in Lafora disease and motor neuron disease models. Managed the full writing cycle of first-author manuscripts from first drafts through submission, peer review and final publication.
- Wrote a successful proposal for a Marie Skłodowska-Curie COFUND Postdoctoral Fellowship (212,000€ budgeted over 3 years; funded 26 months until lab closure).
- Gave oral presentations to collaborators (Valencia) and at an international scientific meeting (ENABLE 2019).
- Served as an independent peer reviewer for the journal *Neurochemical Research*.
- Trained and mentored a junior student in experimental design and data analysis.

Graduate Researcher – University of Kentucky College of Medicine **August 2013 – 2019**

- As first author, prepared initial drafts and managed submission to journals and peer review for four primary research articles, two book chapters and two conference summaries in the fields of neuroscience and metabolism.
- Co-authored two primary research articles and two review articles related to Lafora disease and carbohydrate biology.
- Led the academic team of a successful drug discovery project with a biotechnology company (Valerion Therapeutics).
- Wrote a successful NIH/NINDS F31 predoctoral fellowship application ($105,000 over 3 years).
- Presented posters and gave talks at an international and local conferences (Neurology Grand Rounds, institutional symposia, ICBEM 2018, and the 2016, 2017 and 2018 Lafora disease workshops). Won first-place poster at four events.
- Organized and managed data sharing and manuscript preparation with academic, industry and clinical partners.
- Independently mentored two junior researchers and assisted in training other undergraduate and graduate students.
- Organized and participated in scientific outreach and education initiatives for schools and community organizations (primary, secondary and high school students).

SUMMARY OF SCIENTIFIC COMMUNICATION ACTIVITIES

- Authored/co-authored 18 primary research articles, reviews, editorials, and book chapters (full list).
- Led 5 first-author papers through peer review and publication; served as a peer reviewer (independent and assisted).
- Published an essay in *ASBMB Today* titled Becoming a scientific honey bee (2025).
- Published conference proceedings summarizing the 2017 and 2018 International Lafora Disease Workshops.
- Designed the program layout for the 2017, 2018 and 2019 International Lafora Disease Workshops.
- Designed the cover of the 2018 JBC thematic minireview series, "Brain Glycogen Metabolism".
- Created logos for the Brain and Epilepsy Alliance for Metabolism (BEAM) and Lafora Epilepsy Cure Initiative (LECI).
- Participated in activities as a member of the European Medical Writers Association (EMWA; Sep 2026-present) and the Asociación Española de Redactores de Textos Médicos (AERTeM; Nov 2026-present).

RELEVANT SKILLS

- Preparation of manuscripts, literature reviews, grants, abstracts, posters, slide decks, and educational materials.
- Scientific communication (oral, written, visual) at international conferences, stakeholder meetings, and outreach events.
- Time management, adherence to deadlines, attention to detail, organization, adaptability, cross-functional collaboration, stakeholder engagement, mentoring and project management.
- Reference management and literature search tools: EndNote, Zotero, PubMed, Scopus, Google Scholar.
- Data analysis: GraphPad Prism, ImageJ, Microsoft Excel.
- Document preparation and collaboration: Dropbox, Microsoft Word, Google Workspace, Adobe Acrobat.
- Visual communication and graphic design: Microsoft PowerPoint, Illustrator, Photoshop, Canva, BioRender.
- Familiarity with AI tools for literature search and editing support (in compliance with ICMJE/GPP standards): ChatGPT, Claude, Gemini.

EDUCATION

University of Kentucky College of Medicine, Lexington, Kentucky, USA **May 2019**
Ph.D. in Molecular and Cellular Biochemistry (GPA: 4.0/4.0)
University of Kentucky, Lexington, Kentucky, USA **May 2013**
B.S. in Biology, Minor in Mathematics; Graduated Summa Cum Laude (GPA: 3.89/4.0) with Honors and Honors in Biology

WRITING SAMPLES

Primary research articles (peer-reviewed):
Glycogen accumulation modulates life span in a mouse model of amyotrophic lateral sclerosis (Brewer MK, et al. *Journal of Neurochemistry*. 2023.) In this article, we demonstrate that astrocytes, a type of supportive cell for neurons, accumulate glycogen in the spinal cords of mice with motor neuron disease. We show that excessive glycogen production reduced lifespan in the mice, suggesting glycogen plays a role in disease progression.

Targeting Pathogenic Lafora Bodies in Lafora Disease Using an Antibody-Enzyme Fusion (Brewer MK, et al. *Cell Metabolism.* 2019.) In this preclinical study, a collaboration between the University of Kentucky and Valerion Therapeutics, we show that an antibody-based drug breaks down toxic carbohydrate aggregates in mice with Lafora disease, a fatal form of childhood epilepsy, and reverses disease-associated metabolic changes in the brain.

Literature review (peer-reviewed): Brain glycogen structure and its associated proteins: past, present and future (Brewer MK, Gentry MS. In: *Brain Glycogen Metabolism*. 2019.) This book chapter reviews the history of scientific research related to glycogen, particularly in the context of the brain, and summarizes current knowledge in the field.

Conference report: The 4th International Lafora Epilepsy Workshop: shifting paradigms, paths to treatment, and hope for patients (Brewer MK, et al. *Epilepsy & Behavior.* 2019.) This report summarizes the fourth Lafora disease workshop, an annual event that brings together scientists, clinicians and the families of patients in the Lafora disease community to accelerate cures for a devastating and untreatable pediatric disease.

Essay: Becoming a scientific honey bee (Brewer MK. *ASBMB Today.* 2025.) This essay describes my experience at the World Science Forum in Budapest, which helped to inspire my career transition towards science communication and writing.

Please also check out my website and blog for more writing samples!