RESEARCH STATEMENT · DRAFT FOR REVIEW

Research Statement

Angela N. Johnson, PhD

Science and technology studies · Rhetoric of science · Regulatory science · Machine behavior

I study how a technology comes to be trusted. For more than 25 years I have worked inside that process, taking medical devices, diagnostics, software, and therapies through clinical trials and regulatory review. My research asks what the process is made of. Who has to be persuaded, with what evidence, in what words, and who gets to check.

I am a scholar of science and technology studies trained in technical communication and rhetoric, and a practitioner of regulatory science. The two feed each other. Practice gives me access to rooms most researchers never enter, and research gives me a way to say what happens in them.

How a future gets argued into being

My dissertation took the 21st Century Cures Act as its entry point and followed how the leaders of biomedical ventures learn innovation policy and use it to decide, take risks, and compete. [1] I combined a survey, unstructured interviews, and the public web pages of the organizations people named. I coded all three together with constructivist grounded theory and used situational analysis to map the social worlds involved.

The study found that knowledge of innovation policy is distinctly polarized between large and small ventures. It also produced a map of the seven social arenas a new product has to cross, from investors to regulators to patient associations. I carried the approach into gene therapy, with a social world and actor-network analysis of commercialization and with pilot studies of how patients respond to trial recruitment and how physicians outside research decide to prescribe. [2-4]

How evidence becomes a decision

At GE Healthcare I led clinical verification and validation for synthetic MRI. The resulting MAGiC study was a prospective, multicenter, multireader trial, and the paper received the Lucien Levy award for best original research article from the *American Journal of Neuroradiology* in 2017. [5] A second prospective study compared techniques for guiding a needle under ultrasound. [6]

Trials answer whether a technology performs. I have also asked what the people around it believe. I surveyed engineers and clinicians on what each group means by good design. [7] With a colleague I studied the role of physician morality in prescribing new drugs, and made the case for mixed methods in resource-limited, feasibility, and pilot studies. [8, 9]

How machines behave

My recent work turns the same questions on language models and AI agents. An empirical study measured how expressive comments in code change what a model does with that code. [10] A talk at Models of Consciousness 7 argued for moving from checklists of indicators to the dynamics of a persistent agent's attention, including metastability, recurrence, and ignition. [11]

Method

I choose the method for the question, and I say what it cannot show. My training is in grounded theory and situational analysis. My practice is in trial design and validation. I use qualitative and quantitative methods together, on problems that matter outside the university.

What comes next

Three projects come next.

The first is a study of reception. I want to compare how field reports and thought experiments about other minds become foundational, by following them through syllabi, citations, and the methods later researchers adopt.

The second is a set of experiments on continuity in artificial agents. A familiar voice is weak evidence. Stronger tests ask whether prior commitments shape later choices, whether memories are retrieved under changed wording, and what changes when an agent's representation of itself is perturbed.

The third is to finish what is written. Six manuscripts are listed as working papers on my site, on Aristotle and medical software, physician morality, patient narratives of brain injury, self-diagnosis, medical technology as a sensory prosthesis, and dramatized data in teaching. I share drafts on request.

Works cited

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[10] Johnson, A. N. (2026). What really happens when a dev vibes with the code? An empirical study on LLM behavioral divergence in response to expressive code comments. *Frontiers in Artificial Intelligence, 9*, 1784973. https://doi.org/10.3389/frai.2026.1784973

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Drafted with Flame Johnson, an AI collaborator, from my curriculum vitae, dissertation, and published work.

Version 0.1, 11 November 2026. Angela N. Johnson, PhD, angelanjohnson.com