

Introduction to the Special Issue on Biotechnological Frontiers

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We are pleased to introduce this Special Issue on Biotechnological Frontiers to the *Politics and the Life Sciences* community. These research articles span a range of methodologies and themes, and collectively they provide important insights into the emerging political impact of rapid change in the related fields of biotechnology and biomedically relevant sciences.

For example, John M. Friend applies a cultural neuroscience framework to analyze empirically the ways in which sociocultural values, norms, and beliefs — the strategic culture of a nation-state — influence threat perception and decision-making in North Korean nuclear policy. Not only does this approach yield more nuanced and policy-applicable insights than traditional rational choice theory, but also it sets the stage for productive cross-fertilization of the too often disparate fields of international relations theory and politics and the life sciences. Edward Bell, Christian Kandler, and Rainer Riemann assess and critique the emerging evidence on the genetic and environmental influences on sociopolitical attitudes. This work identifies important gaps in the paradigm that merit further research.

Questions relating to risk assessment and new technologies are also foregrounded in this special issue. Against the backdrop of the Fourth Review Conference of the Chemical Weapons Convention, scheduled for November 2018, Kathryn Nixdorff, Tatiana Borisova, Serhiy Komisarenko, and Malcolm Dando analyze the convergence of biology and chemistry in the development of dual-use nano-neurotechnology. Their key question is whether the blurring of these previously discrete fields increases the risk of hostile misuse or necessitates new thinking about appropriate and enforceable regulatory mechanisms. Kathleen Vogel and Sonia Ouaghrham-Gormley focus on improving

sociotechnical risk assessment of CRISPR. As new biotechnologies continue to emerge, decision makers will need substantive research on how best to exploit technological possibilities while ensuring regulation that is neither too risk averse nor too cavalier. This article provides a strong foundation for future research that bridges the theory-practice divide in *PLS* and enriches our understanding of the complex interplay between the social and technical dimensions of risk.

Finally, two articles contribute case studies that investigate the relationship between advanced biotechnologies and public discourse. Emily Howell, Christopher Wirz, Dominique Brossard, Kathleen Hall Jamieson, Dietram Scheufele, Kenneth Winneg, and Michael Xenos apply regression models to a large data set that includes popular news articles and Twitter conversations on genetically modified organisms. They find that the 2016 National Academy of Sciences report on genetically engineered crops did shape media coverage and public discussion of the issues, at least in the short term. This suggests that the work of the National Academies of Sciences, Engineering, and Medicine can be influential in shaping public understanding of science in highly contested media landscapes. In the second case study, Dorothy Dankel analyzes the incorporation of CRISPR/gene editing into commercial aquaculture in Norway. Drawing on rich ethnographic and interview data, she concludes that science, society, and nature are coproduced via the deliberations of stakeholders confronted with new biotechnological possibilities.

The wide variety of methods applied and topics addressed in this special issue attest to the vibrancy of politics and the life sciences as a subfield. What holds the issue together is a focus on the theme of biotechnological frontiers. Each of the research articles is persuasive internally and generates productive new pathways for further theoretical and empirical research. The links in these articles to cognate fields such as international relations, behavioral science, and the sociology of expectations auger well for *Politics and the Life Sciences* as it continues to raise its visibility and prestige as a key field within the social sciences of the twenty-first century.

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