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Media contact:

Kristopher Benke | Press Office | Cell Press
press@cell.com



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***Cell* focus issue explores sex and gender in science**

Cell, the flagship biology journal of Cell Press, presents a landmark issue on sex and gender in science. It includes a collection of articles on topics related to strategies for promoting gender equality in academia, enhancing rigor in the study of sex-related variables, and supporting transgender researchers. The special content, scheduled to appear online on March 14, 2024, also discusses the past, present, and future of research on sex and gender.

To mark the occasion, Cell Press's parent company, Elsevier, is announcing updated guidelines on reporting sex- and gender-based analyses ([SGBA](#)), inspired by the Sex and Gender Equity in Research ([SAGER](#)) guidelines, which were implemented across all Cell Press and Lancet journals, and nearly 2,300 Elsevier journals in 2023.

Elsevier's SGBA guidelines support equitable and impactful science by encouraging researchers to use precise language and definitions in their work, ensure samples are sufficiently representative and inclusive to support robust conclusions, and avoid inappropriate generalizations. For example, study authors are asked to use more precise terms like "sex assigned at birth" over vague and ambiguous ones, like "biological sex."

"Discussions that steer us away from outmoded binary notions of sex and gender are much needed," says Isabel Goldman, MD, a *Cell* Leading Edge editor and Cell Press's most recent diversity equity and inclusion lead. "In the span of a year, our journals' information for authors went from containing disparate, little, or no information on sex and gender to presenting unified state-of-the-art guidelines across thousands of titles."

Included in the *Cell* focus issue:

- Rigorous science demands support of transgender scientists

This landmark commentary from 24 transgender (and/or family members of trans) scientists explores the experiences of sex and gender minorities in STEMM and why addressing systemic barriers that they face will lead not only to just, equitable, and diverse research departments, but also to more rigorous science. "When cis and trans people alike challenge sex and gender essentialism, we enshrine bodily autonomy and intellectual freedom. When we build institutions and systems to support all who contribute, we move to rectify scientific inequity and injustice," write the authors.

- Sex contextualism in laboratory research: Enhancing rigor and precision in the study of sex-related variables

This perspective article documents how the first step toward better understanding sex-related variation in health and disease is to acknowledge that sex *per se* is not a biological variable or causal mechanism. Instead, it is a “classification system” with categories that encompass an array of varying and overlapping traits. The authors urge researchers to move “beyond sex as a system of classification” and toward “working with concrete and measurable sex-related variables” and to employ rigorous sex-based analyses to support robust research conclusions.

- The history of sex research: Is "sex" a useful category?

This Benchmark explore the multiplicity of sex definitions throughout the history of sex-based research, which has caused it to mean “just about everything, and therefore also nearly nothing,” writes author Beans Velocci, PhD, an assistant professor of history and sociology of science at the University of Pennsylvania. As such, the term “sex” often functions as a binary, categorical variable that captures many distinct traits and characteristics. It has functioned historically to uphold social systems. Dr. Velocci argues that improving sex and gender research will require a cross-disciplinary approach.

- Closing the scissor-shaped curve: Strategies to promote gender equality in academia

Institutional gender inequality manifests as a “progressive decline in the representation of women at successive stages of the scientific and academic career trajectory,” write researchers at the University of Lausanne in this commentary. The authors examine data-driven initiatives related to hiring, mentoring, funding, culture, and maternity leave that they have implemented at their university to combat the scissor-shaped curve in STEMM, which sees men many more times likely to attain full professorship than women.

- Q&As with Shirin Heidari and Londa Schiebinger

The focus issue features two exclusive researcher interviews. The first is with the lead author of the SAGER guidelines, Shirin Heidari, PhD, who discusses her work and the importance of considering sex- and gender-related variables in science. The second conversation is with Londa Schiebinger, PhD, founding director of the Gendered Innovations in Science, Health & Medicine, Engineering, and Environment project, on the persistent STEMM gender gap.

- The future of sex and gender in research

In this Voices article, eight scientists talk about interdisciplinary collaboration, moving beyond binary conceptualizations, and expanding research on sex-related differences and sex’s dynamic nature. “Science’s rigid commitment to binary sex and gender quashes creativity and limits progress.” says Elle Lett, PhD. “What if, instead, we imagined a world where society’s baggage didn’t encumber scientific conceptualization?”

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Cell (@CellCellPress), the flagship journal of Cell Press, is a bimonthly journal that publishes findings of unusual significance in any area of experimental biology, including but not limited to cell biology, molecular biology, neuroscience, immunology, virology and microbiology, cancer, human

genetics, systems biology, signaling, and disease mechanisms and therapeutics. Visit: <http://www.cell.com/cell>. To receive Cell Press media alerts, contact press@cell.com.

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Image:

Cover of *Cell*'s special focus issue on sex and gender—Art by Phillip Krzeminski

For Reporters Only:

Please see below for advanced access to each of the articles appearing as part of *Cell*'s special focus issue on sex and gender.

<https://www.dropbox.com/scl/fo/5x2e6txa27608uskdpb5z/h?rlkey=8ofprjac6j0bk91g2un3a3i86&dl=0>

- Commentary: Rigorous science demands support of transgender scientists
Link when embargo lifts: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00187-9](https://www.cell.com/cell/fulltext/S0092-8674(24)00187-9)
DOI: 10.1016/j.cell.2024.02.021
- Perspective: Sex contextualism in laboratory research: Enhancing rigor and precision in the study of sex-related variables
Link when embargo lifts: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00174-0](https://www.cell.com/cell/fulltext/S0092-8674(24)00174-0)
DOI: 10.1016/j.cell.2024.02.008
- Benchmark: The history of sex research: Is "sex" a useful category?
Link when embargo lifts: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00122-3](https://www.cell.com/cell/fulltext/S0092-8674(24)00122-3)
DOI: 10.1016/j.cell.2024.02.001
- Commentary: Closing the scissor-shaped curve: Strategies to promote gender equality in academia
Link when embargo lifts: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00119-3](https://www.cell.com/cell/fulltext/S0092-8674(24)00119-3)
DOI: 10.1016/j.cell.2024.01.050
- Voices: The future of sex and gender in research
Link when embargo lifts: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00176-4](https://www.cell.com/cell/fulltext/S0092-8674(24)00176-4)
DOI: 10.1016/j.cell.2024.02.010
- Q&A with Shirin Heidari
Link: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00115-6](https://www.cell.com/cell/fulltext/S0092-8674(24)00115-6)
DOI: 10.1016/j.cell.2024.01.046
- Q&A with Londa Schiebinger
Link: [https://www.cell.com/cell/fulltext/S0092-8674\(24\)00114-4](https://www.cell.com/cell/fulltext/S0092-8674(24)00114-4)
DOI: 10.1016/j.cell.2024.01.045

Media contact(s):

Please feel free to reach out directly to authors on any of the papers.

For contact information or to interview Dr. Isabel Goldman, please reach out to:

Kristopher Benke
Scientific Communications Officer
Cell Press
press@cell.com