

Who Are the Queer ?

SCIENTISTS

Scientists strive to conduct their inquiries in a dispassionate, objective way. Yet as with any human being, the scientist's personality and social circumstances influence the framework of working life. The questions a scientist finds of interest, the people they associate with, even the places visited are influenced in part by internal and social forces. In this sense, queer scientists are those who, living in conscious recognition of their sexual orientation, are influenced by this orientation in many facets of their lives, including the creative source and social matrix of their scientific careers.

Today, LGBTQ+ people are making contributions in every branch of the physical, social, natural, engineering, and computer sciences. Many noted scientists of the past have also had same-sex relationships and experiences through their lives.

Unfortunately, there is a culture of invisibility surrounding LGBTQ+ people and their participation in, and contributions to, science and technological fields. The intent of this poster series is to raise awareness of scientists' contributions and integrate an important social justice issue into BC's Science classrooms and learning experiences so that all students can see themselves reflected in the curriculum and see that all career options are open to them.

Adapted from the National Organization of Gay and Lesbian Scientists and Technical Professionals Inc. (NOGLSTP) resource, "Queer Scientists of Historical Note," available at <https://www.noglstp.org/publications-documents/queer-scientists-of-historical-note/>.

Who Are the Queer Scientists?



Photo source: National Gay and Lesbian Task Force records, #7301. Division of Rare and Manuscript Collections, Cornell University Library.

Bruce Voeller

1934–1994

Bruce Voeller was an American biologist and AIDS researcher who pioneered the use of nonoxynol-9 as a spermicide and topical virus-transmission preventative. He established the Mariposa foundation to conduct human sexuality research, placing special emphasis on reducing the risks of sexually transmitted diseases.

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Photo source: By Engraved by R. G. Tietze, after a Russian print from a photograph. (Century Magazine) [Public domain], via Wikimedia Commons

Sonja Kovalevsky

1850–1891

Sonja Kovalevsky developed Kovalevsky's theorem. Showing aptitude in mathematics at an early age, Kovalevsky is an example of a brilliant woman who encountered barriers solely because of her gender. Women were not allowed to study in Russian universities, and her father considered it improper for her to study abroad. Kovalevsky went to Germany to study with Karl Weierstrass.

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Photo source: By Unknown photographer (U.S. National Library of Medicine) [Public domain], via Wikimedia Commons

S. Josephine Baker

1873–1945

S. Josephine Baker was a physician who organized the first child hygiene department under government control in New York City. Her tenure led to the lowest infant death rate in any American or European city during the 1910s. She was instrumental in identifying “Typhoid Mary.”

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Photo source: See page for author [Public domain], via Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Alan_Turing_Aged_16.jpg,

Alan Turing

1912–1954

Alan Turing was a British mathematician, considered the father of modern computer science. He is credited with creating the theoretical framework and design for the earliest modern computer. He also invented the Enigma machine, which deciphered the secret German military code, contributing enormously to the Allied victory in World War II.

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Photo source: National Portrait Gallery [Public domain, Public domain, Public domain or Public domain], via Wikimedia Commons

Sir Francis Bacon

1561–1626

Sir Francis Bacon was an English philosopher of science, author of *Novum Organum*; called “the high priest of modern science” for elucidating principles of the scientific method. Originator of the phrase “knowledge is power.”

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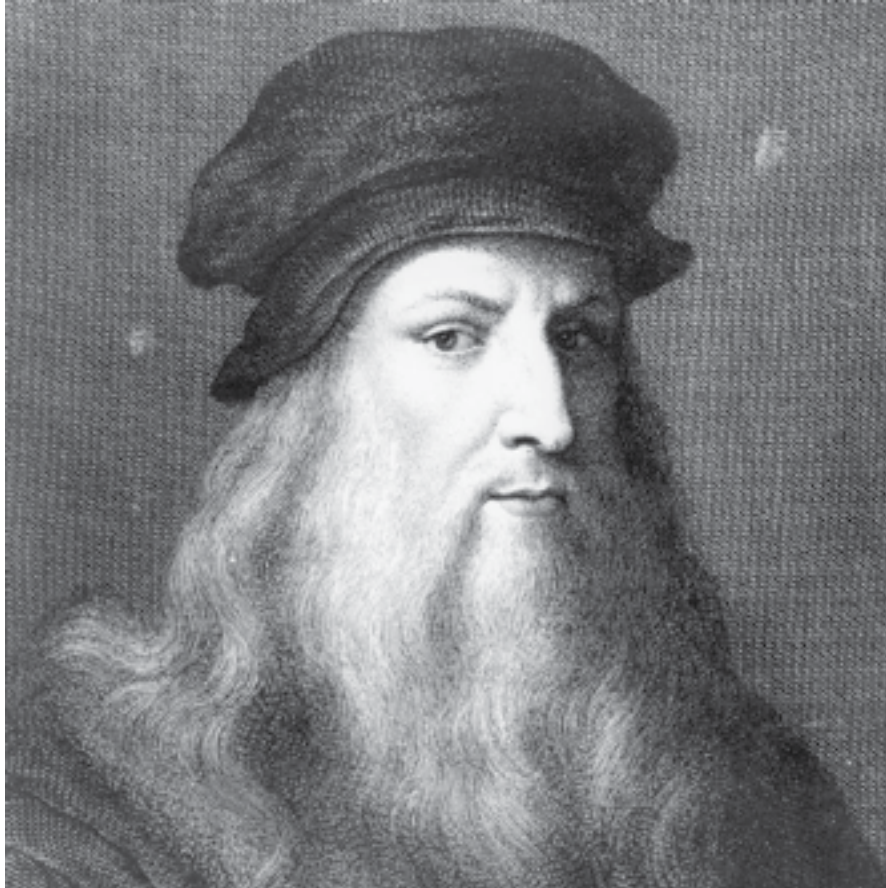


Photo source: <https://commons.wikimedia.org/wiki/File:LEONARDO.JPG>

Leonardo da Vinci

1452–1519

Leonardo da Vinci was an Italian artist, scientist, and engineer, researcher of human anatomy, mathematics, and the potential for human flight. He conceived of helicopters, tanks, machine guns, submarines, and solar power.

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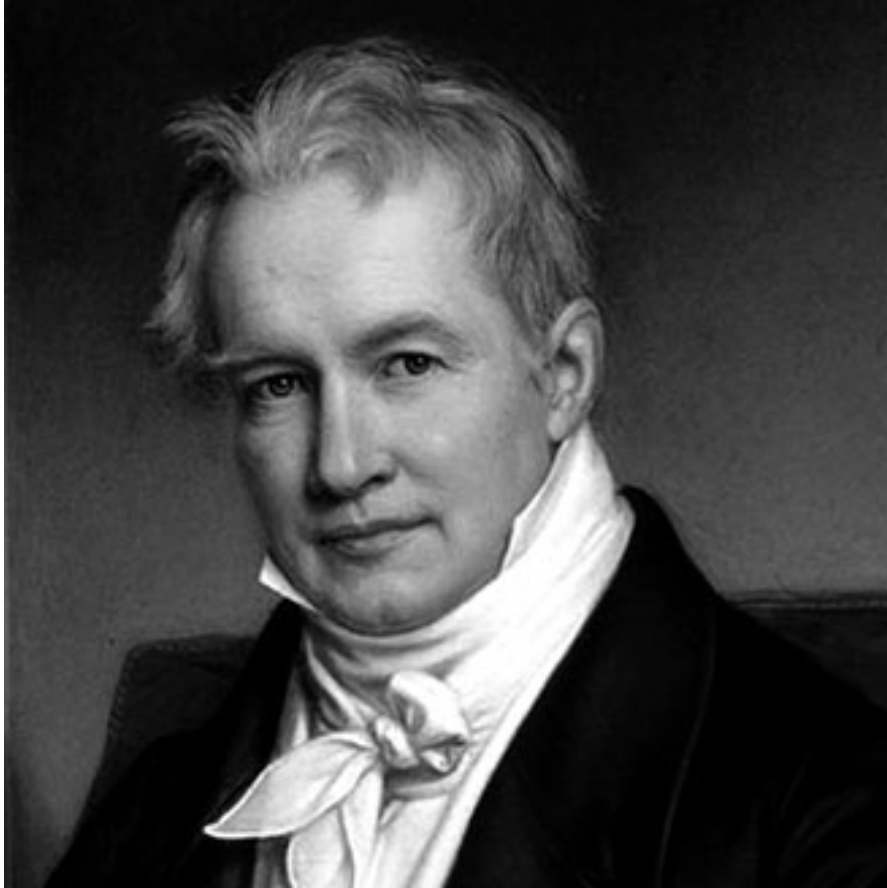


Photo source: Joseph Karl Stieler [Public domain], via Wikimedia Commons

□ Alexander von Humboldt

1769–1859

Alexander von Humboldt was an author of a 23-volume work on his travels, and of the seminal *Cosmos*, which laid the foundations for modern physical geography and meteorology. Humboldt was a leading European figure of his day, considered second only to Napoleon in influence. A major Pacific current, numerous cities, counties, and other landmarks bear his name.

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Photo source: By Smithsonian Institution [Public domain], via Wikimedia Commons

Louise Pearce

1885–1959

Louise Pearce was a pathologist at the Rockefeller Institute who helped develop a treatment for African sleeping sickness. Pearce also studied syphilis, for which tryparsamide was standard treatment until penicillin replaced it. With pathologist Wade Hampton Brown, she discovered and developed the Brown-Pearce tumour, systematically studied syphilis in rabbits, explored how a virus might spread cancer, and researched immune reactions to rabbit pox.

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Clyde Wahrhaftig

1919–1994

Clyde Wahrhaftig was a versatile geologist who made notable contributions to understanding the coal deposits, geology, and glaciers of Alaska, and the landforms, surficial deposits, and bedrock geology of the Sierra Nevada and the California Coast Ranges.

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Photo source: By Smithsonian Institution [No restrictions], via Wikimedia Commons

Margaret Mead

1901–1978

Margaret Mead was an American anthropologist and psychologist. While president of the American Association for the Advancement of Science in 1975, she presided over the passage of an AAAS policy statement deploring discrimination against gay and lesbian scientists. Mead helped pioneer, through cross-cultural studies, greater understanding of the natural variety of sexual behaviours that occur in human societies.

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Photo source: By NASA/Ames Research Center (https://archive.org/details/AILS_AC92-0322-42) [Public domain], via Wikimedia Commons

Jim Pollack

1938–1994

Jim Pollack was a world-renowned expert in the study of planetary atmospheres and particulates whose work led to many advances in our understanding of the solar system. He and Carl Sagan postulated that the seasonal color variations on Mars were caused by wind storms and dust, rather than plant life. He specialized in evolutionary climate change of terrestrial planets, and evolution of the giant gas planets.

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Lesson Plans

Curriculum connections

1. Help students research a scientist including the scientific discoveries and social accomplishments that their discoveries led to, suggesting one of the scientists in the LGBTQ+ poster series as a possible choice.
2. Consider sexism and heteronormativity in the scientific field; refer to the articles in the resources section and have students write or present about discrimination and advocacy work in science.
3. Help students study or engage in inquiry projects on animal species where the male takes a leading role in raising the young, such as emperor penguins and sea horses, and the intergration of different family structures in human experiences including same-sex parents.
4. Have students learn about variations to the XX and XY binary, such as XXY/Klinefelter Syndrome <https://tinyurl.com/yczrnqpx> and XO/Turner Syndrome <https://tinyurl.com/yckc6n5l>. A medically-based introduction to genes and expression can be found here: <https://tinyurl.com/y6vkdrke>.
5. Turner Syndrome: www.kidshealth.org
Turner syndrome is a genetic disorder that affects about 1 in every 2,500 girls. Learn more about the condition and how doctors treat it.
6. **Geography:** examine the transformation of San Francisco's Castro district in the 1960s from a working-class Irish area to the world's first "gay neighbourhood," considering the contributions to development and culture of Vancouver in the same time period by the LGBTQ community, and considering why members of the LGBTQ+ community move from rural areas after graduation to major cities.
7. **Psychology:** consider the impact gender identity and expectations different societies have of people depending on their gender.
 - a. Explore media messages, the roles of two-spirit gender identities, and understanding of current psychological designations on gender identity for secondary students.
 - b. Explore the gender unicorn (K–4, and 5–7 versions), and media messages about gender for elementary and middle school students.

Internet resources

LGBT Science—Exploring the origins of sexual orientation and gender identity
www.lgbtscience.org

Why Is Science So Straight?—The New York Times
<https://tinyurl.com/y73qgqrq>

Out in the open: Is science LGBT-friendly?—New Scientist
<https://tinyurl.com/y7bx4ep6>

Queered Science: LGBTQ Scientists and the Legend of the Unicorn—Autostraddle
<https://tinyurl.com/y728tbwa>