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GREGOR MENDEL: PLANTING THE SEEDS OF GENETICS, MAY 24-SEPT. 28

PHILADELPHIA—Gene Variants. Mitochondrial Dysfunction. Cloning Technology. The headlines scream the latest applications of the high-tech science of genetics. But the understanding of genetics begins with the compelling story of how a friar determined the laws of inheritance by growing 28,000 pea plants in his abbey garden.

A new exhibit opening May 24 at The Academy of Natural Sciences presents a fascinating look at the father of genetics. "Gregor Mendel: Planting the Seeds of Genetics" tells the mostly unknown story of the 19th-century Augustinian friar who worked by himself with relatively simple tools and cracked some of science's deepest mysteries.

Philadelphia is the final stop on a limited national tour and the last chance to see first hand items related to the man whose revolutionary experiments shaped the modern understanding of heredity. "Gregor Mendel" is presented by Villanova University and The Academy of Natural Sciences and will be on display at the Academy through Sept. 28. The exhibit is free with museum admission.

In a nearby gallery, visitors can see an intriguing display—a collection of preserved rats. On loan from the Wistar Institute in Philadelphia, these rats, some of them nearly a century old, demonstrate how researchers used Mendel's breeding techniques to transform the Norway Rat into the Wistar Rat—the gold standard of white laboratory rats.

Hands-on interactives explain fundamentals of genetics

In 1865, Mendel reported the results of eight years of pea plant hybridizing experiments and laid out the basic laws of inheritance—offering a tentative but insightful sketch of how physical traits are passed from one generation to the next. This ground-breaking work was overlooked until the turn of the century, when it was rediscovered and confirmed by other researchers. Since then, Mendel has come to be recognized as the father of genetics, but the full story of his unique scientific approach and the massive scope of his experiments is largely unknown.

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"Gregor Mendel: Planting the Seeds of Genetics" uses videos, hands-on interactives and rare personal items from his home in Brno, Czech Republic to bring his story to life and to explain the fundamentals of genetics in a way the general public can understand. Visitors will see his few existing botanical specimens, scientific instruments, gardening tools and original manuscripts. They can have fun recreating the steps of Mendel's pea experiment; identify dominant and recessive traits on themselves; look through a microscope to compare what scientists were able to see at different points in history; and analyze DNA sequences like modern-day scientists.

The exhibit traces the rise of genetics through its major milestones—from the discovery of chromosomes to James Watson and Francis Crick's groundbreaking discovery of DNA's structure—and shows how scientists today are using genetics to tackle cutting-edge questions of evolution, conservation and crop cultivation. The Academy's own scientists apply Mendel's findings and their knowledge of genetics, along with on-site equipment in the Academy's Laboratory for Molecular Systematics and Ecology, to learn about the world around them. This includes research on catfish species in Mexico, tree species in Central America, and lizards on islands in the South Pacific.

Through the Academy's partnership with Villanova University, the exhibit is free for all Villanova students, faculty and staff with a valid WildCard.

"Villanova, as an Augustinian university, is especially pleased to partner with The Academy of Natural Sciences to present this exhibition, which highlights and celebrates the groundbreaking achievements of Gregor Mendel, a scientist, teacher and Augustinian friar, known commonly as the Father of Modern Genetics," said the Rev. Peter M. Donohue, O.S.A., Ph.D., University president. "The opportunity allows Villanova to share our unwavering commitment to academic excellence, with every visitor to the Academy."

The Significance of the Wistar Rat

Down the hall from the "Gregor Mendel" exhibit will be a display featuring one of the greatest examples of Mendelian breeding techniques—the Wistar Rat. Considered the gold standard of laboratory rats, this breed was developed at the Wistar Institute in the first half of the 20th century. Like Mendel's peas, Wistar Rats became essential tools enabling scientific experiments in living models, a significant break from the use of static materials such as cadavers and museum specimens.

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"Some consider the Wistar Rat the founding father of the millions of white rats that have committed their lives to science," said Academy President and CEO William Brown. "The Wistar Rat vividly illustrates another piece in the fascinating history of genetic manipulation made possible by Mendel's elegant work with peas. Plus, the rat is a charming and inviting rodent."

For more information on the exhibit and related programming, see <u>www.ansp.org/mendel</u> For more information on the Academy's Laboratory for Molecular Systematics and Ecology, see <u>http://www.ansp.org/research/Imse/index.php</u>

Who we are

Founded in 1812, The Academy of Natural Sciences is the oldest natural history museum in the Americas and is a world leader in biodiversity and environmental research. The mission of the Academy is the encouragement and cultivation of the sciences. <u>www.ansp.org</u>

Villanova University, the nation's only Augustinian university, is a co-educational Roman Catholic institution founded by the Order of Saint Augustine in 1842. The university offers a wide variety of undergraduate and graduate degree programs to more than 10,000 students through four colleges: the College of Liberal Arts and Sciences, the Villanova School of Business, the College of Engineering, and the College of Nursing, as well as the Villanova Law School. Villanova is the oldest and largest Catholic university in Pennsylvania. For more information see www.villanova.edu

"Gregor Mendel: Planting the Seeds of Genetics" was developed by The Field Museum, Chicago, in partnership with The Vereinigung zur Förderung der Genomforschung in Vienna, and The Mendel Museum in Brno, Czech Republic.

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The Academy is located at 1900 Benjamin Franklin Parkway and is open Monday through Friday from 10 a.m. to 4:30 p.m. and weekends until 5 p.m. Admission is \$10 for adults, \$8 for children ages 3–12, seniors, students with college I.D. and military personnel, and free for children under 3. There is a \$2 fee for "Butterflies!"