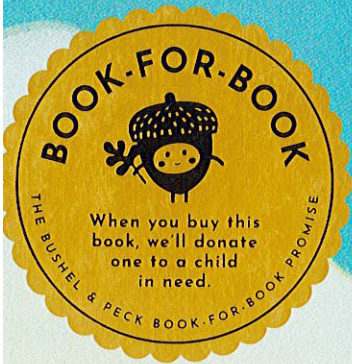


# SCIENTISTS OF *Faith*

28 STORIES  
OF BRILLIANT  
SCIENTISTS WITH  
REMARKABLE  
FAITH IN GOD



CHRISTY MONSON • ILLUSTRATED BY WILLIAM LUONG

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## PUBLISHER'S NOTE

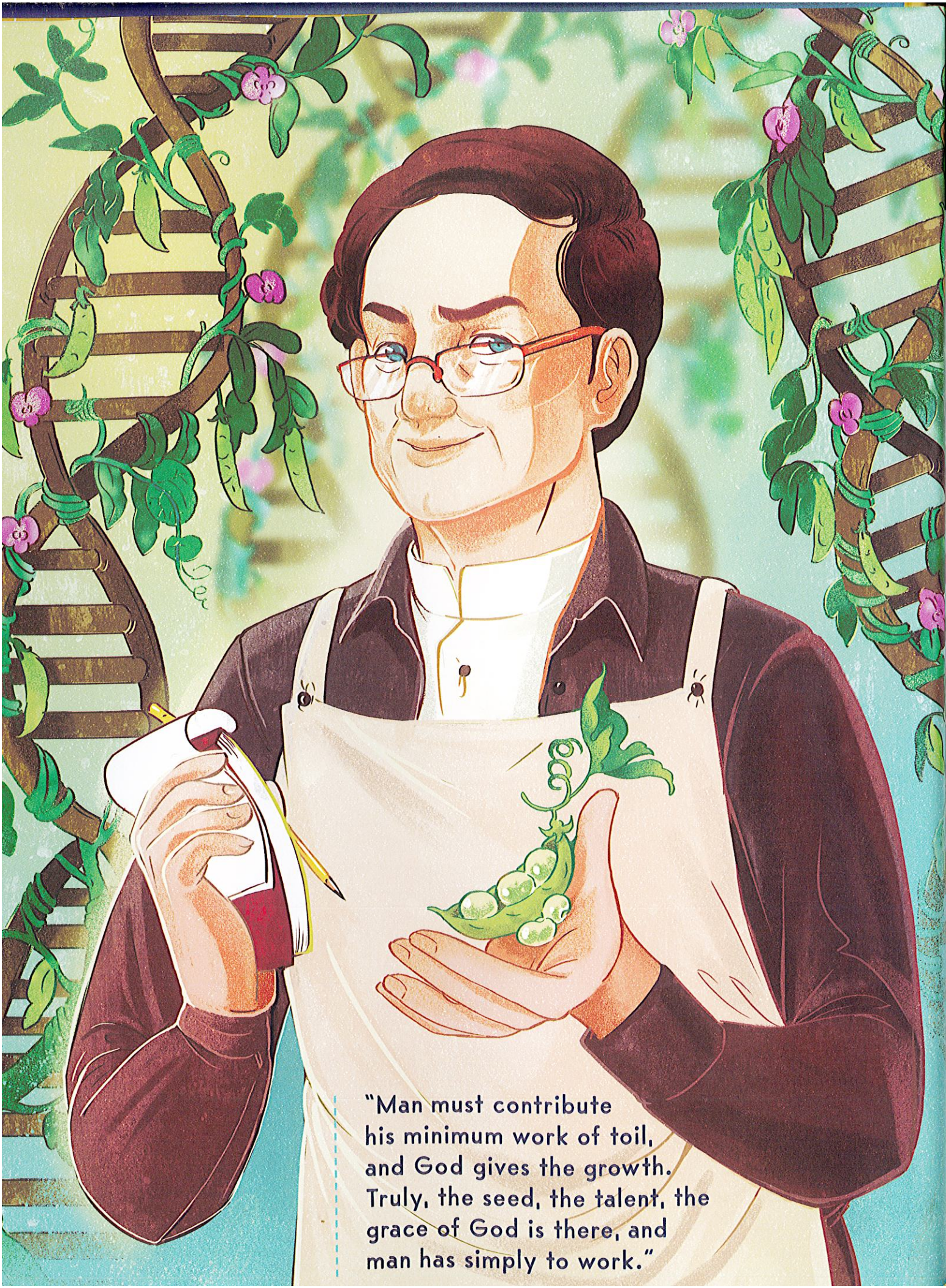
We're tremendously excited to present you with *Scientists of Faith*, a remarkable collection of true stories that perhaps couldn't come at a better time. Increasingly, it seems kids and adults alike find themselves presented with something of a false choice: to believe in God, or to believe in the work of science. We hope to offer a third choice: to let God inspire one's love of science, and to let science deepen one's wonder at God and His works.

In this book, you'll find remarkable men and women who did just that. These are scientists who were as devoted to faith as they were to their studies. Of course, the stories are as varied as the people themselves. Some individuals belonged to a specific religion or denomination. Others gravitated to a more general faith in God. Some changed faiths partway through life, some lost their faith and rediscovered it, and still others didn't discover faith until later on altogether. Some were Christian, others Jewish, and others Muslim. Their fields of study varied widely, from astronomy to paleontology to climate change. What they all had in common, however, was a sincere belief that faith and science go hand in hand.

We recognize that everyone who reads this book comes to its pages with their own personal beliefs about God and science, and that those beliefs will vary widely from reader to reader. For this reason, no one story in this book is meant to be seen as a standard or model of belief. Indeed, you might find that you disagree with the doctrine or theories of some of the scientists in these pages as much as you agree with others. That's okay! What we hope you will take from this book is not so much what to believe but how and why. From Galileo Galilei to Karin Öberg, we hope the examples of the men and women in this book will deepen your love of God and His wondrous creations and help you see how scientific curiosity can be a beautiful part of a faithful life. As it says in Psalm III:2, "Great are the works of the Lord, studied by all who delight in them."



SOME STORIES COME WITH OPEN QUESTIONS. THERE ARE NO RIGHT OR WRONG ANSWERS. INSTEAD, THESE ARE MEANT TO HELP YOU THINK MORE DEEPLY ABOUT THE CONTENT. YOU MIGHT ENJOY DISCUSSING THEM WITH A PARENT OR FAITH LEADER, TOO. IT WILL BE A WONDERFUL CONVERSATION!



"Man must contribute his minimum work of toil, and God gives the growth. Truly, the seed, the talent, the grace of God is there, and man has simply to work."

# GREGOR MENDEL

1822-1884

5

Gregor Mendel is considered the "father of genetics." He was a *botanist* (a person who studies plants), teacher, and Catholic monk who explained *genetics* (traits we inherit from our parents) using math, now called *Mendelism*.

Gregor was born July 22, 1822, in Heinzendorf, Austria (now part of the Czech Republic). He began life on a farm with his family. As a child, he worked with his father, grafting fruit trees to get the best fruit. His father wanted him to labor on the farm, but Gregor's school teacher was impressed by his talent for learning and wanted him to continue his education.

Gregor went away to school in a town called Troppau, but his parents had a hard time giving him money for living expenses. He tutored other students to earn money to feed himself, but sometimes he still went hungry. Despite money troubles, he graduated in 1840 with the highest test scores in the entire school. His physics teacher, Friedrich Franz, recommended that he join the Augustinian Abbey of St. Thomas in Brunn (now Brno, Czech Republic).

As a monk, some of Gregor's first duties were to visit the sick and the dying. Seeing people that way made Gregor depressed. He became so sad that he couldn't work, so the abbot had him try teaching. Gregor liked it, but he failed the teaching exam. So the abbot then sent him to the University of Vienna to learn about botany, zoology, chemistry, and physics.

When Gregor returned to the abbey from his studies, he began to teach and set up experiments. He grew almost 30,000 pea plants. He found that out of four plants, one received a *recessive gene* (a type of gene from one parent), two were *hybrids* (a mixture of different genes), and one received a *dominant gene* (another type of gene from one parent). He discovered that genes are given in pairs (one gene from each parent) and give the plant or animal its traits. In 1866, Gregor published his findings.

People didn't believe Gregor's findings at the time. He didn't try to promote his theory, and only a few copies of his research were available in libraries. Most of his papers were burned by the next abbot. Later, botanists and geneticists found the same results as Gregor, but not until about 1900. In Great Britain, William Bateson, a biologist, showed a new interest in Gregor's findings. Much more research and scientific evidence is available now, but in order to understand it all, students must still study Gregor's ideas. Today, his work is known as Mendel's Laws of Inheritance.

Gregor died in 1884, but his life as a monk and a researcher shows his love and dedication to his faith, and his love of science. He wrote, "The victory of Christ gained us the kingdom of grace and the kingdom of heaven."



GREGOR HAD TO WORK EXTREMELY HARD TO GET AN EDUCATION WHEN HE WAS YOUNG. HOW DO YOU THINK THAT TOUGH EXPERIENCE HELPED HIM LATER AS A RESEARCHER? IS IT POSSIBLE THAT GOD WAS PREPARING HIM? WHAT THINGS MIGHT HE BE PREPARING YOU TO DO?

Jennifer Wiseman is a senior *astrophysicist* (an astronomer who studies the physical nature of the stars) at NASA's Goddard Space Flight Center. She discovered a comet that is partially named after her, 114P/Wiseman-Skiff.

Jennifer was raised in Mountain Home, Arkansas, on a farm where her family raised cattle. At night, she loved to walk with her parents and study the night sky. The trees, animals, meadows, and stars from one side of the Earth to the other inspired her. She grew up in a Christian family.

In the 1980s, she studied the famous author and astronomer Carl Sagan and his work. Her imagination soared when she saw moons revolving around other planets and close-ups of those planets. Her parents didn't get to go to college, but they encouraged Jennifer and her two older brothers to receive an education. She did well in school and was valedictorian at her high school.

After high school, Jennifer went to the Massachusetts Institute of Technology (MIT). While in school, she also served two internships—one at the Kennedy Space Center and the other at Lowell Observatory in Flagstaff, Arizona. In Flagstaff, Jennifer studied the night sky and discovered a comet, 114P/Wiseman-Skiff, which was named after her. She said this was an answer to her prayer, because she hadn't picked a subject for her senior paper. Now she could write her paper on the comet.

Jennifer earned her PhD in astronomy from Harvard University in 1995. When she first studied radio astronomy, she didn't think she would like it. But after she took a couple of classes, she found it fascinating. After she finished her doctorate, she continued her research at the National Radio Astronomy Observatory in Charlottesville, Virginia.

Jennifer loves giving talks at schools, churches, and community organizations. She says that people are fascinated with pictures of the universe, "They're awestruck by it just as I am." She also says, "Interestingly, I don't hear much about this conflict idea [between science and religion] in my daily work with scientists. When I talk to people, I find that most people really realize that there are deeper questions of life that science can't fully address, and they don't really see why there should be any conflict."

Jennifer is comfortable with both her religion and her science, and shares her ideas freely with everyone around her. Today, she acts as the senior scientist for the Hubble Space Telescope and makes sure the Hubble is working at its scientific best.



JENNIFER SAYS THERE ARE "DEEPER QUESTIONS OF LIFE THAT SCIENCE CAN'T FULLY ADDRESS." WHAT DO YOU THINK SOME OF THOSE QUESTIONS MIGHT BE? DOES YOUR FAITH HELP ANSWER THEM? HOW?

"In Christian faith, our significance is basically given as a gift of love from God, who's responsible for the universe."