

## Short List of Catholic Contributors to Science

### **Saint Isidore of Seville (d. 636)**

Doctor of the Church, archbishop, last of the Western Church Fathers, last ancient scholar, encyclopedist

*Etymologies* – 20 volumes, most popular compendium in Medieval libraries

### **Saint Hildegard of Bingen (d. 1179) ("Sibyl of the Rhine")**

Doctor of the Church, nun, writer, composer, philosopher, mystic, polymath, founder of Scientific Natural History in Germany

Wrote theological, botanical, medicinal texts, liturgical songs, poems

Invented constructed language, *Lingua Ignota*

### **Robert Grosseteste (d. 1253)**

Bishop, theologian, scientist, scholastic philosopher

Studied optics, the action of light, and other natural phenomena

Introduced Latin translations of Greek and Arabic philosophical and scientific writings

First to write down complete set of steps for a scientific experiment

### **Saint Albertus Magnus (d. 1280) ("Albert the Great" / "the Universal Doctor")**

Doctor of the Church, friar

Pioneer in natural sciences

Wrote extensively on numerous subjects

One of the greatest philosophers and theologians of the Middle Ages

### **Roger Bacon (d. 1294) ("Doctor Mirabilis," "Wonderful Teacher")**

Friar, founder of the Scientific Method

Studied optics, astronomy and linguistics

Invented the magnifying glass

### **William Ockham (d. 1374)**

Friar, founder of methodological principle "Ockham's Razor"

*Ockham's Razor* (to eliminate unnecessary hypotheses): When there are competing hypotheses, the one with the fewest assumptions should be selected; two competing theories that make exactly the same predictions, the simpler one is better.

### **Nicolaus Copernicus (d. 1543)**

Mathematician, astronomer, founder of Heliocentrism

*On the Revolutions of the Celestial Spheres* (dedicated to Pope Paul III, who sponsored the work)

### **Blaise Pascal (d. 1662)**

Physicist, mathematician, philosopher

Inventor of Pascal's triangle, probability theory, the mechanical calculator

### **Nicolas Steno (d. 1686)**

Bishop, pioneer in anatomy, founder of Geology

Established the Law of Superposition (in layered rocks, each layer is younger than the one beneath it and older than the one above it)

### **Anna Morandi Manzolini (d. 1774)**

Anatomist, artist

Lectured at the University of Bologna

### **Laura Bassi (d. 1778)**

Physicist, first woman to be offered a professorship at a European university

Experimental physics, defended theses on the properties of water

### **Maria Gaetana Agnesi (d. 1799)**

Mathematician, philosopher, theologian

Studied differential and integral calculus

After death of her father, dedicated her life to the study of theology and service of the poor

**Gregor Mendel (d. 1884)**

Friar, founder of Genetics

Discovered the fundamental laws of inheritance

Deduced that genes come in pairs and are inherited as distinct units, one from each parent

**Louis Pasteur (d. 1895)**

Biologist, microbiologist, chemist, founder of Immunology (Pasteurization)

Discovered the principle of vaccination, microbial fermentation and pasteurization

**Guglielmo Marconi (d. 1937)**

Inventor, electrical engineer, founder of The Wireless Telegraph & Signal Company

Invented long-distance radio transmission

Nobel Prize in Physics (1909)

**Gerty Cori (d. 1957)**

Biochemist, first American woman to win a Nobel Prize in Science (1947)

Discovered how the human body metabolizes carbohydrates (the Cori cycle)

Crater of the moon named for her

**George Lemaitre (d. 1966)**

Priest, astronomer, founder of the "Big Bang Theory" ("hypothesis of the primeval atom")

Discovered universe is expanding, perhaps greatest discovery in modern cosmology

**Mary Kenneth Keller (d. 1985)**

Nun, educator, pioneer in computer science

One of the first two people to earn a doctorate in computer science in the United States

Thesis: Inductive Inference on Computer Generated Patterns