


DISCOVERIES

Antibiotics



Inventions & Discoveries

Invention	Inventor	Year
Anesthesia	Thomas Green Morton	--
Penicillin	Alexander Fleming	1928
Aspirin	Felix Hoffman	1899
Automated DNA Sequence	Lloyd M Smith	1987
Spiral Structure of Protein	Linus Pauling	--
Bacteria	Antonie Van Leeuwenhoek	1676
Microbes	Robert Hooke and Antonie Van Leeuwenhoek	--
BCG Vaccine	Albert Calmette & Camille Guerin	1921
Blood Group	Karl Landsteiner	1900
Calcium	Humphry Davy	1808
DDT	Paul Hermann Muller	1939

Invention	Inventor	Year
Cholera Vaccine	Waldemar Haffkine	1892
Rubella Vaccine	Maurice Hilleman	1963
Hepatitis B Virus	Baruch Blumberg	1965
Hepatitis B Vaccine	Pablo DT Valenzuela	1986
Polio Vaccine	Jonas Edward Salk	--
Smallpox Vaccine	Edward Jenner	1796
Anthrax Vaccine	Louis Pasture	--
Plague Vaccine	Waldemar Haffkine	1987
Kidney Dialysis	William John Kolf	--
X-Ray	Wilhem Rontgen	1895
Vitamin	Casimir Funk	1912

- **Food web:** consists of all food chain in a single ecosystem, described by English ecologist Charles Elton ("Pyramid of numbers")

- **Ernst Haeckel:** described the term ecology

Father of modern ecology: Eugene Odum



- Arthur Tansley: coined the term ecosystem
- Raymond Lindeman: mentioned about the energy transfer from one trophic level to another
- *Helicobacter pylori* discovered by: Robin Warren (Nobel Prize in Physiology or Medicine in 2005)
- Louis Pasteur: experimentally demonstrated how yeast is responsible for making alcohol from sugar
- Camillo Golgi received the Nobel Prize in 1906 along with Santiago Ramona Cajal on the structure of nervous system
- Observation of bacteria and protozoa: Antonie von Leeuwenhoek, 1774
Animalcules ← ← Father of microbiology
- Purkinje: coined the term protoplasm in 1839
- Salamander embryos cell division: observed by Walter Fleming, in 1879
- "Every cell arises from another cell" by Rudolf Virchow in 1865
- Charles Darwin: Theory of Evolution, 1859
- Natural system of plant classification: August Eichler
- JBS Haldane: suggested life must have developed from simple inorganic molecules
- Circulation of blood by: William Harvey



- Darwin of 20th century: Ernst Mayr
- AO Hume: father of Indian Ornithology
- Salim Ali: Ornithology
 - ↓
 - Salim Ali Bird Sanctuary: Goa
- DNA as a molecule discovery: 1869, Fredrick Miescher
- Christian Barnard: performed world's first human heart transplant
- Crescograph discovered by: Jagdish Chandra Bose
 - ↓
 - To measure the growth in plants
- Father of Surgery: Sushruta
- Father of medicine: Charak
- Yoga philosophy: Patanjali
- Presence of green mould prevented the growth of bacteria: Alexander Fleming (penicillin)
- Article on the structure and origin of plant cells: 1838, by Matthias Sheldon
- Nature of structure of Chlorophyll in plants and magnesium as a central element in its structure by: Richard Willstätter, 1915
- Lachrymal gland produces tears
 - ↓
 - Onions produce chemical irritants known as Syn-Propanethial-S-Oxide



Cholera vaccine by: Jaime Ferran, 1885

Leon Calmette: BCG vaccine

Smallpox vaccine: by Edward Jenner

There is no vaccine for Hepatitis C (affects Liver)

SCIENTIFIC NAMES

- *Solanum lycopersicum*: Tomato
- *Parthenium hysterophorus*: Carrot grass
- Oleo gum resin (*Asafoetida*) obtained from: dried latex from the tap root of *ferula*
- *Canis lupus familiaris*: Dog
 - *Megaptera novaeabgliae*: humpback whale
- Mango: *Mangifera indica*
 - *Narcissus*: Daffodila
- Peacock: *Pavo cristatus*
 - Rose: *Rosa*
- Lion tail macaque: Beard baboon
 - Lily: *Lilium*
- Comb jellies: *Ctenophora*
 - *Malus pumila*: Apple
- *Passer domesticus*: sparrow
 - Banana: *Musa paradisiaca* Linn
- *Canis lupus*: grey wolf
 - Orange: *Citrus sinensis*
- *Capra aegagrus hircus*: Goat
 - *Bos mutus*: Wild Yak



- Buffalo: *Bubalus bubalis*
- Ox: *Bos taurus*
- Horse: *Equus caballus*
- Gazella beneti: Chinkara
- Asian Elephant: *Elephas maximus*
- Housefly: *Musca domestica*
- Citrullus lanetus: Watermelon

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