Microbiologist Job Opportunities

According to job analysts, the number of job opportunities for microbiologists will increase at a rate as fast as the average for all occupations through the year 2014. Microbiology is a very broad field which includes the study of viruses as well as microscopic organisms found in all kingdoms of life: plants, animals, fungi, and bacteria, etc. Known by many different titles, a microbiologist is a scientist who studies living organisms and infectious agents which can only be seen with a microscope. They also study the interaction of microorganisms with people.

Everyday microbiologists around the world explore, investigate, and discover how organisms called microbes exist and affect our lives. Some microbiologists specialize in one type of microorganism. For example, bacteriologists concentrate on bacteria and virologists study viruses, etc. Microbiologists are basically involved in investigating the fascinating world of organisms too small to be seen with the naked eye.

Just like the medical field, microbiology is not a single subject but rather an umbrella which offers a range of specializations. There are many career options for microbiologists in terms of an area of specialization like bacteriology, biochemistry, biotechnology, cell biology, environmental science, genetics, immunology, mycology, etc. They could also choose to become science writers or teachers. Most biological scientists need a PhD in biology or one of its subfields to work in research or development positions. Postdoctoral work in the laboratory of a senior researcher has become common for biological scientists who intend to conduct research or teach at the university level.

There are many possible career paths for microbiologists, especially for those with a doctoral degree. Microbiologists can become directors of research in medical centers, private firms, or government agencies. Those who hold a teaching and research position in a university can advance to the rank of full professor. They can also make significant discoveries in their research and gain the recognition of other microbiologists. Many scientists consider this to be the highest form of advancement. Although their jobs have different aspects and responsibilities, most microbiologists are involved with some kind of research or laboratory work. They use special equipment to study microorganisms including light microscopes, electron microscopes, centrifuges, glass tubes, slides, and computers. They are often assisted by biological technicians.

The range of job opportunities for microbiologists is as diverse as the organisms they work with. Job opportunities for microbiologists are comparatively high in the field related to public health. Their work involves combating problems related to the outbreaks of epidemics, food poisoning, and the pollution of air and water. For example, public health microbiologists are required to test blood samples sent in by the physicians to see whether patients have communicable diseases. Microbiologists also test drinking water, milk supplies, and other substances that, if contaminated, could cause health problems to the general public. Not only that, increased public awareness in preserving the environment, providing sanitary food production and storage, and finding cures for such diseases as AIDS, cancer, and heart disease are likely to provide the stimulus for increased spending by private companies. Microbiologists are also required to take precautions to prevent specimens from becoming contaminated and to keep harmful microorganisms from reproducing uncontrollably. Generally, they are also required to have skill in scientific experimentation and mathematics and must also be willing to do the precise, detailed work required in microbiology. Depending on the circumstances, microbiologists should be able to work either independently or as part of a team. Communicating their ideas and findings to others is a must, as is careful maintenance of records.

Microbiologists may have to work with many other scientists and may have a vast range of opportunities. They work in almost every industry and have many different responsibilities. In some cases they need to collaborate with many other scientists. Depending on their specific situation, they may perform more than one function or role. Microbiologists are usually required to spend some of their time reading and studying to keep themselves updated with the newest findings of other scientists.

Working conditions vary based on microbiologists’ projects. For example, some microbiologists have to collect samples of soil, seawater, and other substances that contain microorganisms. Some of them spend part of their time in
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classrooms and offices. Generally in medical centers and private industry the normal work week is forty hours. Those who work in universities and other research centers may have flexible hours, but their working hours are generally more than forty hours per week. Some overtime or shift work may be necessary when a project must be completed or when an experiment must be monitored around the clock. Most microbiologists spend a part of their time in clean, well-lit laboratories.

Like any other field the salary structure of microbiologists also varies widely depending on educational background, experience, location, and the kind of job. Based on the survey conducted by the Commission on Professional in Science and Technology, a microbiologist in an educational institution holding a doctorate degree can expect to earn approximately $46,000 annually, and a candidate holding a master’s degree can earn about $29,000. In the private sector, i.e. large and medium industries, a scientist who holds a doctorate can expect to earn $66,000 or more. Candidates who hold a master’s degree can earn around $35,000 annually. The benefits provided normally include paid holidays, health insurance, pension plans.

Today, microbiologists are on the cutting edge of science as they work as integral members of interdisciplinary teams in laboratories of hospitals, clinics, universities, industry, and government. Anyone with an interest in science and the desire to explore the mysteries of life can become a microbiologist. Based on the projections for the next twenty years it is suggested that the demand for trained microbiologists will be high to fill up positions in all the aspects of microbiology.