DOWNLOAD PDF KLIUEVA: MAKING OF A BACTERIOLOGIST

Chapter 1 : ãƒ•ãƒ-ãƒ³ãƒ†ã‚£ã‚¢ã‚´ãƒ«ãƒ•ã‚¢ãƒ«ãƒ‡ãƒŸãƒ¼å…¬å¼•HPã•Œæ–°ã•—ã••ãªã‚Šã¾ã—ã

Kliueva: Making of a Bacteriologist Research and Development Boy Meets Girl Act III. War Retreat The War and Soviet Medicine Revival Veber's Ploy Act IV. Politics.

Supervise biological technologists and technicians and other scientists. Isolate and maintain cultures of bacteria or other microorganisms in prescribed or developed media, controlling moisture, aeration, temperature, and nutrition. Use a variety of specialized equipment such as electron microscopes, gas chromatographs and high pressure liquid chromatographs, electrophoresis units, thermocyclers, fluorescence activated cell sorters and phosphorimagers. Prepare technical reports and recommendations based upon research outcomes. Study growth, structure, development, and general characteristics of bacteria and other microorganisms to understand their relationship to human, plant, and animal health. Study the structure and function of human, animal, and plant tissues, cells, pathogens and toxins. Observe action of microorganisms upon living tissues of plants, higher animals, and other microorganisms, and on dead organic matter. Investigate the relationship between organisms and disease, including the control of epidemics and the effects of antibiotics on microorganisms. Provide laboratory services for health departments, for community environmental health programs, and for physicians needing information for diagnosis and treatment. Examine physiological, morphological, and cultural characteristics, using microscope, to identify and classify microorganisms in human, water, and food specimens. Conduct chemical analyses of substances such as acids, alcohols, and enzymes. Develop new products and procedures for sterilization, food and pharmaceutical supply preservation, or microbial contamination detection. Monitor and perform tests on water, food, and the environment to detect harmful microorganisms or to obtain information about sources of pollution, contamination, or infection. Research use of bacteria and microorganisms to develop vitamins, antibiotics, amino acids, grain alcohol, sugars, and polymers. What work activities are most important? Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job. Analyzing Data or Information - Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts. Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources. Processing Information - Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data. Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems. Thinking Creatively - Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions. Organizing, Planning, and Prioritizing Work - Developing specific goals and plans to prioritize, organize, and accomplish your work. Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events. Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person. Interpreting the Meaning of Information for Others - Translating or explaining what information means and how it can be used. Interacting With Computers - Using computers and computer systems including hardware and software to program, write software, set up functions, enter data, or process information. Training and Teaching Others - Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others. Developing Objectives and Strategies - Establishing long-range objectives and specifying the strategies and actions to achieve them. Monitor Processes, Materials, or Surroundings - Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems. Coaching and Developing Others - Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills. Communicating with Persons Outside Organization - Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail. Establishing and Maintaining Interpersonal Relationships - Developing constructive and cooperative working relationships with others, and maintaining

them over time. Evaluating Information to Determine Compliance with Standards - Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards. Guiding, Directing, and Motivating Subordinates - Providing guidance and direction to subordinates, including setting performance standards and monitoring performance. Coordinating the Work and Activities of Others - Getting members of a group to work together to accomplish tasks. Scheduling Work and Activities - Scheduling events, programs, and activities, as well as the work of others. Estimating the Quantifiable Characteristics of Products, Events, or Information - Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity. Provide Consultation and Advice to Others - Providing guidance and expert advice to management or other groups on technical, systems-, or process-related topics. Performing Administrative Activities - Performing day-to-day administrative tasks such as maintaining information files and processing paperwork. Developing and Building Teams - Encouraging and building mutual trust, respect, and cooperation among team members. Judging the Qualities of Things, Services, or People - Assessing the value, importance, or quality of things or people. Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects. Monitoring and Controlling Resources - Monitoring and controlling resources and overseeing the spending of money. Staffing Organizational Units - Recruiting, interviewing, selecting, hiring, and promoting employees in an organization. Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes not including computers or vehicles. Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things. Resolving Conflicts and Negotiating with Others - Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others. Assisting and Caring for Others - Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients. Holland Code Chart for a Microbiologist.

Chapter 2 : Bacteriologist Career Information and College Majors

Did America try to steal Soviet "cancer secrets"? And how could a cancer cure turn into a "biological atomic bomb"? Nikolai Krementsov's compelling tale of cancer and politics is the story of a husband-and-wife team who developed a promising anticancer treatment in Stalin's Russia, only to see their discovery entangled in Cold War rivalries, ideological conflict, and scientific turf wars.

Bacteria are microscopic organisms composed of a single cell. They are generally referred to as microorganisms because they are so tiny that a microscope is often needed to visualize them. An individual who studies, identifies, and classifies bacteria is called a bacteriologist. He usually does his studies in the laboratory. The microscope is an essential tool for many bacteriologists as it can magnify the minute organisms many times their actual size. The improvement of the microscope by Anton van Leeuwenhoek has opened the minute world of bacteria to everyone. It was in when Leeuwenhoek first discovered bacteria. Different classes of bacteria have different requirements for growth. Some cannot survive extremes of temperatures, while others prefer very low or high temperatures. Many bacteria also differ in their oxygen needs and nutrient needs. Other ways to identify bacteria are through their appearance or shape, the substances they produce, and through their chemical reactions when tested in the laboratory. For example, rod-shaped bacteria are called bacilli, while round-shaped bacteria are known as cocci. Ad In bacteriology, the structure, functions, and growth of various bacteria have been discovered. Bacteriology has also explored the positive and negative impact of bacteria in the environment and in human beings. Another important function is the identification of bacteria that often cause disease in man and animals, and the mechanisms of how they bring about infection. This is an important aspect of bacteriology, which leads to the development of antibiotics or antibacterial drugs known to treat diseases caused by bacteria. Bacteriology is a subcategory of microbiology , the study of microorganisms. Aside from bacteria, microbiology also studies fungi , viruses, and parasites in association to the diseases they cause in man. In medicine, microbiology and immunology are often studied together. Immunology deals with the responses of the immune system to the presence of microorganisms inside the body. Treatment and prevention of diseases are made possible because of these studies. Patients suspected of having infectious diseases are often requested to submit samples such as blood, urine , sputum, and feces, for examination. In the laboratory, bacteriologists then grows the bacteria present in the sample by planting them in certain growth media. Strict and sterile procedures are usually observed in growing the bacteria in order to isolate the bacteria causing the disease and to prevent the bacteria from spreading around the laboratory. Once bacteria are identified, a proper diagnosis can be done and patients can be given the right antibiotic for treatment.

Chapter 3 : Project MUSE - The Cure: A Story of Cancer and Politics from the Annals of the Cold War (revi

Some of them are good, helping with things like digestion, but others are bad, making people sick. As a Bacteriologist, you work to understand everything about the different forms of bacteria. You study things like what they look like, where they live, what kind of conditions they thrive in, and how they reproduce.

By these tests it has been possible to determine that mere destruction or inactivation of a substance cannot be accepted as proof that it existed in a living state. The paper in question came out in the Rockefeller Institute house publication Journal of Experimental Medicine vol. Not exactly a gripping title. What kind of data is in here? Desired amounts of the air were transferred to deep Dewar beakers where small amounts of the substances to be frozen, enclosed in Noguchi tubes, were completely immersed for several minutes. This was different for each substance. Bacteria can be measured the same way we measure them now, by making serial dilutions and plating each dilution on agar, then seeing how many colonies grow. Trypsin can be measured somehow, Dr. Northrop took care of that part of the study. Northrop would be a co-author. And how do you measure viscosity? Nowadays you would use a colorimetric assay, in which trypsin cuts the protein that has some sort of colored label attached to it, and you would measure how much colored label gets released into solution. All stocks of Virus III were lost some time before the invention of electron microscopy. Nobody can now be sure what exactly this rabbit-specific virus was, but it was probably Leporid herpesvirus 2, as described by Nesburn in They inject HSV into rabbit brains, and they look for dead rabbits. It seems like this assay should actually be quantitative, based on looking at how long it takes the rabbits to die, but all their rabbits either died within a week or lived longer than a month, so the results were clear without measuring time to death. Some comments on the data: Vaccinia virus was the most stable, retaining the ability to create a skin lesion even after 34 freeze-thaws. Virus III was destroyed after 12, and the other herpesvirus was destroyed after We have to take Dr. At a mere 1: But when diluted further, they were very susceptible to freeze-thaw. In fact, bacteria and bacteriophage were also more susceptible to freeze-thaw at low dilutions. Even vaccinia virus lost all its effect after 34 dilutions at 1:

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Chapter 4 : The Cure: A Story of Cancer and Politics from the Annals of the Cold War, Krementsov

In , Nina Kliueva and Grigorii Roskin announced the discovery of a preparation able to "dissolve" tumors in mice. Preliminary clinical trials suggested that KR, named after its developers, might work in humans as well.

In lieu of an abstract, here is a brief excerpt of the content: Bulletin of the History of Medicine University of Chicago Press, This welcome book tells the extraordinary story of a purported cancer cure, that reveals much about Soviet medicine and science during the Cold War. The "cure" had its origins in the research of Grigorii Roskin , a protozoologist, who in became interested in tumor transplantationâ€”as a means of tackling certain questions within cytology and the histology of cancer, and later in search of a cure for the disease. At the time, the major treatments available for cancer were surgery and radiotherapy. Roskin, however, took a different path: By the s, experimental research indicated that the toxin produced by T. Clinical trials on patients proved promising, but the creation of a stable, standardized, clinically usable preparation was beyond his skill. Then in Roskin went on holiday and met, fell in love with, and later married Nina Kliueva , who, as it turned out, had the skills necessary to take the project forward. Trained as a bacteriologist in Rostock-on-Don, Kliueva had moved to Moscow where she developed a particular ability in vaccine development. Within a short time she and Roskin began collaborating on the development of a vaccine based on the trypanosome. They undertook this task in their spare time, perhaps hoping to obtain convincing proof of the efficacy of their putative cancer cure before applying for support. The German invasion of the Soviet Union in June interrupted their research. Kliueva and Roskin were evacuated to the Urals, where Kliueva worked on vaccine development in relation to war needs. They returned to Moscow in , and revived their earlier interest in cancer. This work was aided by institutional changes within Soviet science, the optimism about biomedical research following penicillin, and the opening of Soviet science to international contacts. Such developments allowed Kliueva and Roskin to obtain a new supply of T. Their victory resulted in their gaining additional research space, a degree of institutional autonomy, and substantial press publicity. The press campaign over what was known as "preparation KR" or just "KR" brought not just national but also international attentionâ€”and then the next round of troubles started. The Soviet press campaign coincided with attempts in by the Soviet and American authorities to build scientific bridges between their two nations. In this context, reports about KR filtered across the Atlantic, and the U. Kliueva and Roskin had undertaken some clinical trials, and with promising resultsâ€”but a host of technical questions remained to be solved, and it was not clear what the results meant. You are not currently authenticated. View freely available titles:

Chapter 5 : Full text of "Who's who in California"

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Chapter 6 : bacteriophage | Amboceptor

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Chapter 8 : What is Bacteriology? (with pictures)

Trained as a bacteriologist in Rostock-on-Don, Kliueva had moved to Moscow where she developed a particular ability in vaccine development. Within a short time she and Roskin began collaborating on the development of a vaccine based on the trypanosome.

Chapter 9 : Bacteriologist Salary and Career Advice | Chegg CareerMatch

Bacteriophage can be measured the same way, by first making a "lawn" (agar plate fully covered with bacteria) and applying different dilutions of bacteriophage, then seeing how many "plaques" (holes in the lawn) are formed by the phage killing the bacteria.