



**MULTI-DEPARTMENTAL OPEN EXAMINATION –  
CONTINUOUS TESTING  
RESEARCH SCIENTIST I (VARIOUS SPECIALTIES)**

<b>LR01 5576</b>	<b>(CHEMICAL SCIENCES)</b>	<b>2H1AB</b>
<b>LR02 5577</b>	<b>(EPIDEMIOLOGY/BIOSTATISTICS)</b>	<b>2H1AC</b>
<b>LR03 5578</b>	<b>(MICROBIOLOGICAL SCIENCES)</b>	<b>2H1AD</b>
<b>LR04 5579</b>	<b>(PHYSICAL/ENGINEERING SCIENCES)</b>	<b>2H1AE</b>
<b>LR05 5580</b>	<b>(SOCIAL/BEHAVIORAL SCIENCES)</b>	<b>2H1AF</b>

Bulletin Release Date: December 16, 2013  
This bulletin supersedes any prior versions.

California State Government supports equal opportunity to all regardless of race, color, creed, national origin, ancestry, gender, marital status, disability, religious or political affiliation, age, or sexual orientation. It is an objective of the State of California to achieve a drug-free work place. Any applicant for state employment will be expected to behave in accordance with this objective because the use of illegal drugs is inconsistent with the law of the state, the rules governing civil service, and the special trust placed in public servants.

**EXAMINATION BASE: Multi-Departmental Open Examination for:**

Department of Food and Agriculture  
Department of Pesticide Regulation

Office of Environmental Health Hazard Assessment  
Department of Public Health

**WHO MAY APPLY:** Persons who meet the minimum qualifications (entrance requirements) as stated on this announcement may take this examination, which is competitive.

**HOW TO APPLY:** Applications and Training and Experience Questionnaires (page two) must be submitted to the address listed below via the U.S. Postal Service, or hand delivered to the Department of Public Health Human Resources Office (hours are 8:00 AM to 5:00 PM). Standard State Applications (STD. 678) can be found at: <http://jobs.ca.gov/pdf/std678.pdf>.

**Mailing Address:**  
California Department of Public Health  
Selection & Certification Unit  
MS 1700-1702  
P.O. Box 997378  
Sacramento, CA 95899-7378

**File in Person Address:**  
California Department of Public Health  
Selection & Certification Unit  
1501 Capitol Avenue, Suite 71.1501  
Sacramento, CA 95814  
Telephone: (916) 324-0286

**You may apply for multiple Research Scientist I specialties for which you meet the minimum qualifications as stated on page 3 of this bulletin.**

To learn more about the job and testing arrangements, contact the testing offices shown below, or visit [Research Scientist](#).

Department of Food and Agriculture – (916) 654-9633  
Department of Pesticide Regulation – (916) 322-4553  
Department of Public Health – (916) 319-9759  
Office of Environmental Health Hazard Assessment – (916) 327-1444

**FINAL FILING DATE:** There is no final filing date. Testing is considered continuous as dates can be set at any time. The testing office will accept applications continuously.

**TESTING PERIOD:** A candidate may be tested only once during any testing period. The testing period for this classification is January 1 through December 31.

**SALARY RANGES:** \$4,833 - \$6,006 per month.

**POSITION DESCRIPTION:** Under supervision of senior scientific research personnel, incumbents plan, organize, and carry out scientific research studies of limited scientific scope and complexity; may serve as a team member on public health projects and investigations or act as a technical scientific consultant on a specific phase of a more complex scientific study; make independent decisions in a very limited or restricted area of a specific scientific field; solve problems using standard principles, procedures, and techniques for their scientific area of expertise when fully trained, and perform other related work. The incumbent’s work is reviewed to see that it conforms to established policies and procedures.

Positions may exist with the:  
Department of Food and Agriculture in Sacramento;

Department of Pesticide Regulation in Sacramento;  
Department of Public Health in Statewide;  
Office of Environmental Health Hazard Assessment in Sacramento and Oakland.

**CHEMICAL SCIENCES:** Incumbents in this parenthetical are distinguished from other Research Scientists by being required to analyze and draw conclusions from research studies of chemistry as related to public and environmental health. This work requires broad knowledge of chemistry in the areas of analytical chemistry, physical chemistry, organic chemistry, and biochemistry. Scientific research and investigation can also be conducted in pharmacology, toxicology, drug chemistry, food chemistry, biochemistry, environmental chemistry, clinical chemistry, immunochemistry, and molecular biology. Research study conclusions are used to improve detection and identification of chemicals and biochemicals including toxic chemicals, metabolites, nutrients, pharmaceuticals, and enzymes; assess environmental fate and transport of chemical pollutants; assess exposure pathways and body burdens of chemical pollutants in humans and biological receptors; assess relationships between body burdens and resultant health or ecological effects; evaluate environmental or human exposures, effects, or risks; and investigate methods and technologies that have the potential to prevent adverse public and environmental health effects of chemical exposures.

**EPIDEMIOLOGY/BIostatISTICS:** Incumbents in this parenthetical are distinguished from other Research Scientists by being required to design, conduct, analyze, and draw conclusions from epidemiologic or biostatistical investigations. These investigations apply statistical and survey techniques and biologic theory for the purpose of describing and understanding the distribution and determinants of disease, health, and genetic conditions in the population and the response of the health care system. Subspecialties focus on infectious agents (general communicable diseases, zoonotic diseases, food borne diseases, vector borne diseases); nutrition and lifestyle factors; social or environmental factors; health promotion; chemical and physical agents in the environment; chronic diseases and injuries; detection, distribution, and treatment of genetic disorders; other genetic influences on disease; and the efficacy of public health, clinical medical, and other interventions in modifying these influences. Scientific research, disease surveillance, and epidemiologic-based investigations are conducted to identify the source of human illness or injury, to prevent or control its occurrence, and to measure the effectiveness of those controls. Scientific research, disease surveillance, and epidemiologic investigations could evaluate the entire ecology of illness occurrence at the molecular or genetic level using molecular epidemiology.

**MICROBIOLOGICAL SCIENCES:** Incumbents in this parenthetical are distinguished from other Research Scientists by being required to analyze and draw conclusions from research studies of the microbial, viral, and immunologic aspects of infectious diseases. Work in a subspecialty requires broad knowledge in a specific area of bacteriology, parasitology, mycology, virology, microscopy, molecular biology/microbial genetics, food, and water microbiology. Research study conclusions are used to improve detection and identification of infectious disease-causing microorganisms; define mechanisms and modes of infectious disease transmission; identify mechanisms of tissue injury; support improved investigation of infectious disease outbreaks; and improve methods to prevent infectious disease transmission.

**PHYSICAL/ENGINEERING SCIENCES:** Incumbents in this parenthetical are distinguished from other Research Scientists by being required to analyze and draw conclusions from research studies of the physical and engineering sciences relevant to public and/or environmental health. This work requires broad knowledge in Physical/Engineering Sciences in areas such as non-industrial indoor air quality, community air quality, occupational air quality, air pollution control, mechanical or ventilation engineering, atmospheric pollution, atmospheric physics, microscopy, material sciences, and industrial hygiene. Engineering and physical science research and investigations can be conducted in areas such as radiation safety, environmental safety, occupational safety, and water safety. Research study conclusions are used to improve detection and identification of physical agents of public and/or environmental health significance; identify sources, environmental fates, and transport of physical agents; assess exposure pathways and body burdens of physical agents in human and biological receptors; assess the relationships between body burdens and resultant health and ecological effects; and investigate technologies which have potential to protect public health and the environment from effects of exposures to physical agents. Incumbents provide consultation to industry and other governmental agencies on the scientific technological aspects of water safety, radiation safety, environmental safety, and occupational safety as appropriate to technical expertise.

**SOCIAL/BEHAVIORAL SCIENCES:** Incumbents in this parenthetical are distinguished from other Research Scientists by being required to apply the theoretical models and research methods of the social/behavioral sciences, particularly the disciplines of psychology, sociology, anthropology, economics, and political science as they relate to public health issues. Work in this parenthetical requires knowledge in one or more of these disciplines to conduct analyses of personality, community, cultural, family, economy, and policy on health, health behavior, treatment, and disease prevention in California. This specialty carries out scientific work related to the evaluations of public health programs. Among the factors the incumbent examines for health behavior implications are: social and economic trends, race, social and economic inequality, economic impacts and cost factors of policies, ethnic diversity, personality and psychological factors, individual and organizational performance, community dynamics and structure, and community and statewide decision making and policy development. The results of this research would be used in developing new effective public health prevention

**SOCIAL/BEHAVIORAL SCIENCES (cont.):** programs focused on preventing unhealthful behaviors and promoting health by behavior modification through health education.

**REQUIREMENTS FOR ADMITTANCE TO THE EXAMINATION:** It is your responsibility to make sure you meet the education and/or experience requirements stated on this announcement on the date you submit your application. Your signature on your application indicates that you have read, understood, and possess the basic qualifications required.

**NOTE:** Applications/resumes **must** include “to” and “from” dates (month/day/year), time base, civil service class title(s), and range (if applicable) for all work experience. College course information **must** include title, number of semester or quarter units, name of institution, completion dates, and degree (if applicable). **Applications/resumes received without this information will be rejected. A copy of your unofficial transcripts is required.**

**MINIMUM QUALIFICATIONS:** One year of research experience in a field relevant to the stated specialty. (One year toward completion of an advanced degree of the stated specialty or a closely related field may be substituted for this experience.) **And** possession of a bachelor’s degree in the stated specialty or a closely related field.

*The required degree must have been obtained from a recognized U.S. university or from a foreign university approved by the Bureau of Private Postsecondary and Vocational Education under the provision of California Education Code Chapter 3, Part 59, Division 10.*

**GENERAL QUALIFICATIONS:** In addition to the scope defined on this announcement, candidates must possess essential personal qualifications including integrity, initiative, dependability, good judgment, ability to work cooperatively with others, and a state of health consistent with the ability to perform the assigned duties of the class. A medical examination may be required.

**EXAMINATION INFORMATION:** The examination will consist of a Qualifications Assessment and is the sole component of the Research Scientist I (Various Specialties) examination. To obtain a position on the eligible list, a minimum score of 70% must be received. The Qualifications Assessment is designed to elicit specific information regarding each candidate’s education, training, and experience relative to the testing classification. Responses to the questionnaire will be assessed based on pre-determined rating criteria. The Qualifications Assessment package will be mailed to the applicant.

The participating departments reserve the right to revise the examination plan to better meet the needs of the service if the circumstances under which this examination has changed. Such revision will be in accordance with civil service law and rules and all competitors will be notified.

**SCOPE OF EXAMINATION:**

Knowledge of:

- |  |  |
|--|--|
| 1. Data management   | 11. Research proposal development and/or grant preparation         |
| 2. Current scientific literature applicable to the research area | 12. Operational definitions of scientific measures                 |
| 3. Preparation of scientific reports                             | 13. Evaluation principles  |
| 4. Basic research methodologies                                  | 14. Quality assurance and quality control methods and procedures   |
| 5. Study design  | 15. Scientific principles  |
| 6. Laboratory sampling techniques                                | 16. Key concepts in philosophy of science                          |
| 7. Population sampling techniques                                | 17. The fundamental information resources in one’s specialty field |
| 8. Statistical software applications                             |  |
| 9. Database design   |  |
| 10. Surveillance methods   |  |

Skill to:

- |  |   |
|--|---|
| 1. Write effectively for various purposes                                      | 4. Execute statistical analyses using software packages |
| 2. Communicate orally to various audiences                                     | 5. Maintain professional and scientific integrity       |
| 3. Evaluate and apply estimation techniques and avoid bias in research results |   |

**SCOPE OF EXAMINATION (cont.):**

Ability to:

- |  |  |
|--|--|
| 1. Perform elementary statistical analysis                         | 19. Empirically define and standardize scientific measures                     |
| 2. Perform literature review                                       | 20. Extract and analyze data for use in complex scientific studies             |
| 3. Write scientific reports and manuscripts                        | 21. Listen well and be responsive to requests for assistance                   |
| 4. Manage a database   | 22. Apply own specialized technical knowledge to others’ projects as requested |
| 5. Develop survey instruments to collect information               |  |
| 6. Perform quality assurance to maintain the integrity of the data |  |

7. Interpret the validity of scientific information
8. Interpret the findings of an analysis
9. Communicate effectively both orally and in writing research findings for various audiences
10. Apply existing laboratory and/or modeling methods
11. Collaborate with others
12. Work independently
13. Apply near real-time field analysis methods
14. Prepare tables and graphs
15. Critically evaluate and synthesize a body of scientific information
16. Develop innovative laboratory and/or modeling methods
17. Design a database
18. Identify equipment, supplies, and other resources needed to perform duties
23. Provide quality assurance/quality control of existing, new, and modified procedures, equipment, and data
24. Evaluate statistical software capabilities and limitations
25. Generate accurate and complete laboratory reports
26. Evaluate the adequacy of existing programs and feasibility of planned programs
27. Coordinate and fulfill ad hoc and ongoing data requests
28. Maintain accurate and complete records and logs
29. Develop appropriate recommendations/solutions based on an analysis of a problem
30. Prepare budget recommendations for equipment, supplies, and other resources needed to perform duties
31. Act as a project lead
32. Provide scientific guidance to colleagues
33. Contribute to a positive professional collaborative work environment.

**NOTE: Please be aware that not all KSAs are required for each specialty.**

**ELIGIBLE LIST INFORMATION:** Possession of the entrance requirements does not assure a place on the eligible list. In order to obtain a position on the eligible list, a minimum rating of 70% must be attained. Names of successful competitors are merged into the open list established for use by the Department of Food and Agriculture, Department of Pesticide Regulation, Department of Public Health, and Office of Environmental Health Hazard Assessment in order of final scores regardless of testing date. Eligibility expires 18 months after it is established unless the needs of the service and conditions of the list warrant a change in this period.

Eligible lists established by competitive examination, regardless of date, must be used in the following order: 1) sub-divisional promotional, 2) departmental promotional, 3) multi-departmental promotional, 4) service-wide promotional, 5) departmental open, and 6) open. When there are two lists of the same kind, the older must be used first.

**VETERANS PREFERENCE:** Effective January 1, 2014, Veterans' Preference will be awarded to qualifying Veterans who are successful in the examination in the form of Rank placement rather than points. All individuals awarded Veterans' Preference will be certified in Rank 1 of the eligibility list, regardless of score. All Open Exams/Eligible lists will award Veterans' Preference, regardless of the classification.

TDD is Telecommunications Device for the Deaf and is reachable only from phones equipped with a TDD device.

The California Relay (Telephone) Service for the deaf or hearing impaired:

MCI from TDD: 1-800-735-2929    MCI from voice telephone: 1-800-735-2922

Sprint from TDD: 1-888-877-5378    Sprint from voice telephone: 1-888-877-5379

BRD: Continuous	Research Scientist I (Various Specialties) (Chemical Sciences) LR01/5576 (Epidemiology/Biostatistics) LR02/5577 (Microbiological Sciences) LR03/5578 (Physical/Engineering Sciences) LR04/5579 (Social/Behavioral Sciences) LR05/5580	Exam Codes: 2H1AB 2H1AC 2H1AD 2H1AE 2H1AF
-----------------	--	--