

Hewlett-Packard Laboratories

History and Technology Contributions

Hewlett-Packard Company (HP) is a technology company that operates in more than 170 countries around the world. We explore how technology and services can help people and companies address their problems and challenges, and realize their possibilities, aspirations and dreams. We apply new thinking and ideas to create more simple, valuable and trusted experiences with technology, continuously improving the way our customers live and work.

No other company offers as complete a technology product portfolio as HP. We provide infrastructure and business offerings that span from handheld devices to some of the world's most powerful supercomputer installations. We offer consumers a wide range of products and services from digital photography to digital entertainment and from computing to home printing. This comprehensive portfolio helps us match the right products, services and solutions to our customers' specific needs.

HP Labs, (HPL), is the exploratory and advanced research group for Hewlett-Packard, tackling complex challenges facing our customer and society over the next decade, while pushing the frontiers of fundamental science.

Our [research](#) spans a wide range of technical disciplines and touches all of HP's businesses. Collectively, we are applying our expertise in these areas to address eight opportunities that we believe are crucial to defining the future of information technology:

- [Analytics](#) – Creating technologies and processes that deliver new ways to leverage data across different formats and business disciplines, enabling faster, better informed decision-making.
- [Cloud](#) – Delivering an application and computing end-state of Everything-as-a-Service.
- [Content transformation](#) – Enabling the seamless transfer of content between physical and digital media, and providing access to content wherever customers desire.
- [Digital commercial print](#) – Transforming inflexible, manual mass production printing processes to flexible, customized, on-demand printing processes which are enabled by new digital technologies that allow for lower cost, higher quality commercial printing.
- [Immersive interaction](#) – Designing a radically simplified user experience, where human interaction through and with technology becomes completely seamless and intuitive.
- [Information management](#) – Turning enormous and rapidly increasing amounts of enterprise information into relevant business insight.
- [Intelligent infrastructure](#) – Designing smarter, more secure enterprise computing devices, networks and storage using scalable architectures that work together to connect individuals and businesses to an exponentially expanding array of dynamic content and services.
- [Sustainability](#) – Creating technologies, IT infrastructure and new business models that promote low emissions, save money and leave a lighter footprint on the environment.

In 1966, Bill Hewlett and Dave Packard decided to create a central research lab for HP to free scientists from day-to-day business problems so they could focus on ideas that would help shape the company's future.

HP Labs has a long history of technical achievements including such well-known early innovations as pocket scientific calculator (1972), thermal inkjet printing (1984) and RISC architecture (1986).

In the past two decades, our contributions have ranged from optical sensing technology used in cordless mice (1998), to the world's first molecular logic gate (1999), a fundamental step in the creation of chemically assembled electronic nanocomputers, to Jena, the most popular toolkit for Semantic Web developers (2000).

HP Labs began its pioneering work in what is now known as sustainable IT in 2000, resulting in hundreds of patents and several HP products, including [Dynamic Smart Cooling](#) (2006) which reduces data center cooling costs by 25 to 40 percent.

- » [HP Labs timeline](#) (1966-2006)
- » [40 years of contribution](#) (history)
- » [Former directors](#)

Researcher Qualifications and Descriptions

The following labor categories and job descriptions apply to HPL administrative support specialists, technicians, engineers, and management level personnel engaged in directed scientific research and development activities.

Senior Fellow-Research and Development

Functional responsibility:

Provides top Level R&D program leadership and integrated science leadership for multiple research programs within labs. Is a thought leader within the industry on numerous leading edge complex technologies, theories or techniques. Develops/invents highly innovative solutions within multiple technologies, theories and/or techniques. Provides technical consultation at the corporate level and for major customers. Deep, sophisticated understanding of the linkages between various technologies, the key design choices available, and the customer usage patterns.

Education: Not specified

Experience: Business Unit and Corporate Review Board Approval

Director Engineering III

Functional responsibility:

Provide top level research program management. Manages activities of individual contributors and/or Manager I and Manager II level research program staff. Has responsibility for developing plans for long-term staff competencies to reach research goals. Determines research agenda and develops viable short-term and long-term business and /or technical portfolios for complex research programs. Is accountable for a portfolio of projects with broad impact across business units and/or built on a wide range of technical competencies.

Education/Experience: 10 or more years experience in R& D environment and a MS/PhD in a technical field or an equivalent combination of education and experience

Fellow- Research and Development

Functional responsibility:

High level R&D program technical leadership. Provides technical consultation and leads development of technical strategy for a program. Has expert ability to collaborate, influence and build relationships across business units, senior management and externally with industry experts. The contributor is a recognized authority on numerous technological areas, their interdependence with each other, and the business impact of their evolution. Contributions have caused substantial change to the state of the art in a significant discipline.

Education: Not specified

Experience: Business Unit and Corporate Review Board Approval

Distinguished Technologist-Research and Development

Functional responsibility:

Senior level R&D program leadership. Recognized authority internally and externally on leading-edge technologies, theories, or techniques. Provides innovative solutions to complex and critically sensitive issues affecting multiple disciplines and work groups. Determines and pursues courses of action essential in accomplishing program objectives. Integrates advanced technology, theories or techniques that have a significant continued impact across disciplines.

Education: Not specified

Experience: Business Unit and Corporate Review Board Approval

Manager Engineering IV

Functional responsibility:

Manages activities of individual contributors (typically Expert/Master) and/or Manager I level research program employees. Has accountability for a large multi-department research area projects or multiple projects within a department. Work has significant impact on business unit results and organizational strategy. Applies expert subject matter knowledge to manage staff activities in solving most complex business/technical issues within established policies. Plans, directs, and monitors high-end operational/tactical activities of Staff.

Education/Experience: Typically a Bachelor's degree or equivalent experience required. Masters degree preferred. Twelve plus years minimum related experience with seven plus years management experience.

Engineer VII

Functional responsibility:

Master level program technical contributions: Has unique mastery and is a recognized authority on relevant subject matter knowledge including technologies, theories, or techniques. Contributes to the development of innovative principles and ideas used to address program research goals. Successfully operates in the most complex disciplines and requires an in-depth knowledge of multiple factors. Provides highly innovative solutions. Provides mentoring and guidance to lower level program contributors.

Education: Typically a PhD and 3 years experience or a Master's degree and a minimum of 6 plus years experience or a Bachelor's degree or equivalent experience plus a minimum of 10 plus year's related experience.

Manager Engineering II

Functional responsibility:

Manages program individual contributors with accountability for results of a major research program in terms of cost, direction and people management. Applies advanced subject matter knowledge to manage program staff activities in solving common and complex business or technical issues within established policies. Plans, directs and monitors operational and tactical activities of the program. Recruits research staff.

Education/Experience: Typically a Bachelor's degree or equivalent experience required. Masters degree preferred. Twelve plus years minimum related experience with seven plus years management experience.

Engineer VI

Functional responsibility:

Applies advanced subject matter knowledge to address complex program problem or issues. Is regarded as a subject matter expert. Frequently contributes to the development of new ideas and methods needed to address a program's technical challenges. Works on complex problems/projects where analysis of situations or data requires an in-depth evaluation of multiple factors. Exercises significant independent judgment to determine the best method for accomplishing work and achieving objectives. May provide mentoring and guidance to lower level employees.

Education/Experience: Typically a PhD and 2 years experience or Master's degree with a minimum of 4-6 plus years experience or a Bachelor's degree or equivalent experience and a minimum of 8 plus year's related experience.

Engineer V

Functional responsibility:

Applies developed subject matter knowledge to solve common and complex program issues. Works on problems/projects of diverse complexity and scope. Exercises independent judgment with a defined scope to find solutions to programs technical problems. May act as a team or project leader providing direction to team activities and facilitates information validation and team decision-making process.

Education/Experience: Typically a PhD or Master's degree and a minimum of 4-6 plus years experience, or a Bachelor's degree or equivalent experience and a minimum of 8 plus year's related experience.

Engineer II

Functional responsibility:

Ability to apply intermediate level of subject matter knowledge to solve a variety of common research program business issues. Works on problems/projects of moderately complex scope. Acts as an informed team member providing analysis of information and limited project direction input.

Education/Experience: Typically a Bachelor's degree or equivalent experience and a minimum of 2-4 years related experience or Master's degree and up to two years experience.

Engineer I

Functional responsibility:

Applies basic foundation of a function's principles, theories, and concepts to assignments of limited scope. Utilizes professional concepts and theoretical knowledge acquired through specialized training, education or previous experience to address technical tasks within the program.

Education/Experience Typically a Bachelor's degree or equivalent experience and a minimum of 0-2 years related experience. May also be a highly experienced non-degreed individual.

Technician VI

Functional responsibility:

Advance technician level. Uses ability as a skilled specialist to contribute to the development of new concepts/techniques and to complete program assignments/tasks in innovative and effective ways. Expert knowledge on the general/technical aspects of the job. Works on assignments that are highly complex in nature where a strong degree of independent judgment, initiative and technical knowledge are required to solve problems.

Education/Experience Typically an Associate's degree or equivalent experience and 6+ years of experience. May include highly experienced individuals performing equivalent work who are non-degreed.

Technician V

Functional responsibility:

Senior technician level. Applies extensive knowledge of the job skills, company policies and procedures to complete complex, specialized program assignments/tasks in creative and effective ways. Comprehensive understanding of the general/technical aspects of the job. Works on assignments that are complex in nature and require judgment, initiative, and technical/specialized knowledge to resolve problems and/or develop recommended solutions.

Education/Experience Typically an Associate's degree or equivalent experience and 6+ years of experience. May include highly experienced individuals performing equivalent work who are non-degreed.

Administrative Support III

Functional responsibility:

Applies developed knowledge of the job skills, company policies and procedures to complete a wide variety of difficult assignments/tasks in support of the program research effort. Has the ability to work with multiple issues/projects and has the experience/ability to support a typical program research team's administrative needs.

Education/Experience High school education or equivalent. Typically requires 3-5 years general administrative experience.

Hewlett-Packard Labs Labor Rates for Directed, (SOW), Research Activities:

The following table contains the standard labor rates for the listed labor categories at HP Laboratories, effective as of 1 May 2009.

| HPL | Resource | Type | Job Grade | Job Level | Labor Rate (\$/hour) |
|------------|----------------------------|-------------|------------------|----------------------------|-----------------------------|
| | Sr. Fellow - General | | 11 | Senior Fellow | \$475.00 |
| | Dir Engineering III | | 11 | Manager III | \$475.00 |
| | Fellow - General | | 10 | Fellow | \$425.00 |
| | Dist. Tech. - General | | 9 | Distinguished Technologist | \$380.00 |
| | Mgr Engineering IV | | 8 | Manager II | \$320.00 |
| | Engineer VII | | 8 | Master | \$300.00 |
| | Mgr Engineering II | | 7 | Manager I | \$320.00 |
| | Engineer VI | | 7 | Expert | \$250.00 |
| | Engineer V | | 6 | Specialist | \$205.00 |
| | Engineer II | | 5 | Intermediate | \$175.00 |
| | Engineer I | | 4 | Entry | \$160.00 |
| | Technician VI | | 3 | Advanced | \$150.00 |
| | Technician V | | 2 | Senior | \$130.00 |
| | Administrative Support III | | 1 | Core | \$60.00 |

These rates are subject to change without notice.