

JOHNSON SPACE CENTER  
 *Space &  
Life Sciences  
Directorate*

*achieving a vision*



# achieving a vision

The exploration of space is a vision that extends the sphere of human activity beyond the confines of Earth's atmosphere....









- **A vision that rejects artificial limitations on our abilities and ingenuity**
- **A vision that motivates us to conquer scientific and technological obstacles**
- **A vision that inspires the next generation of scientists and engineers in the United States and around the world**

Space represents a world of opportunities without boundaries. Rather than a barrier to human activity, outer space is the beginning of a universe yet to be explored. NASA's Space Science and Human Exploration and Development of Space (HEDS) Enterprises work together to understand and explore that universe. The robotic craft of the Space Science Enterprise seek out clues about the universe from its origins through its ultimate destiny. HEDS builds on the knowledge garnered through our space science efforts to bring the space frontier fully into the sphere of human activity. The Space and Life Sciences Directorate at the Johnson Space Center (JSC) is NASA's lead organization for developing state-of-the-art capabilities in human life sciences and technology applications that will allow us to achieve the HEDS vision. In concert with this responsibility, the Directorate leads NASA's efforts to archive and analyze extraterrestrial materials (such as meteorites) while contributing to the agency's broad Space Science research.

The Directorate oversees a vigorous and comprehensive program to understand the opportunities and requirements for human space activity. Through the Directorate's work, we will....

# mission activities

-  **discern how the human body reacts to space flight**
-  **maintain the safety, health, and productivity of our space travelers**
-  **develop the know-how and technologies that will enable us to live and work in space**
-  **better understand how and why our solar system came into being**
-  **comprehend more fully our home planet and its relationship to the Sun and the space environment**
-  **explore the nuances of tissue formation and growth in microgravity**

Through it all we will bring the knowledge gained and technology inspired by the challenges of space exploration back "down to Earth", galvanizing advancements in the fields of medicine, technology, and education.

## *enabling functions*

The Directorate also fulfills an array of cross-programmatic functions that enable the missions of the Center and space agency as a whole.

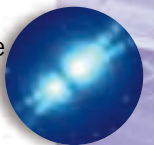
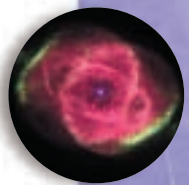
The Directorate coordinates and directs the preparation of all human life sciences experiments identified for space flight. We plan, integrate, and manage human life sciences research operations before, during, and after flight, interfacing with external investigators, industry, and advisory councils.

The Directorate integrates across discipline-specific programs to develop prioritized research agendas that span traditional boundaries in science and technology. This program integration function has allowed the Directorate to identify the challenges that face human space explorers in the next century. By supplying this cross-disciplinary approach, the Directorate enables JSC and NASA to map research and development budgets to an integrated timeline for human activity beyond low-Earth orbit.

The NASA workforce brings together the best scientists, engineers, policy makers, and support personnel in the Nation. The Directorate is responsible for keeping this workforce healthy and productive at the Johnson Space Center, overseeing all Center programs in occupational safety, environmental health, and employee fitness.

We live in incredible times. Half a millennium past, Columbus stumbled on the Americas and proved to the nations of Europe that the world was, indeed, round. Since those days, we have steadily pushed at the boundaries of our world literally and figuratively. We now travel to the depths of the oceans, fly beyond the edges of the atmosphere, and look into the centers of galaxies not our own. Every day, JSC's Space and Life Sciences Directorate moves us a little closer to the realization of a vision — a vision that leads us to expand the frontier of human activity, to reject artificial limitations, and explore the universe — as we acknowledge....

**....a world without boundaries.**







*we will bring the knowledge gained  
and technology inspired by the challenges of  
SPACE "down to earth".*



We in the Space and Life Sciences Directorate at NASA's Johnson Space Center are proud to be an integral part of the national effort to understand, explore, and develop the space frontier. Our Directorate is tasked with being the world's leader in understanding both the opportunities and the limitations of humans living and working on that frontier. In meeting the many challenges of human space flight, we reap many rewards here on Earth. As we carry out our mission, we contribute to important national goals by transferring technology and strengthening the educational applications of our knowledge, experience, and vision.

We have prepared this package to give our customers — the American people — a better understanding of the role that our Directorate, our Space Center, and NASA as a whole play in realizing national missions, objectives, and benefits.

We play a multifaceted role, managing both basic and applied research in order to provide for healthy and productive humans in space. At the same time, we run a research program aimed at understanding our solar system and the environs in which our planet exists. In sum, we support a cross-disciplinary organization, one that produces a comprehensive approach to understanding, exploring, and developing the space frontier.

After you familiarize yourself with this brochure package, please take the time to visit us at our website at: <http://www.jsc.nasa.gov/sa/index>

On behalf of the entire Directorate, I would like to thank you for taking the initiative to learn about the American space program and about the many activities of our Directorate in particular. Our programs not only enable the Nation to understand, explore, and develop the space frontier, but actively generate tangible returns here on Earth, benefiting the health, outlook, and economic competitiveness of the American people.

**Dave R. Williams, M.D., FRCP**

*working together  
across the sciences to explore  
life on earth and in space*

For more information about JSC's Space and  
Life Sciences Directorate, please visit our web site at:

<http://www.jsc.nasa.gov/sa/index>



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