

Visiting Researcher Profile



Dr. Brad Files

Materials Research Engineer
NASA Johnson Space Center

Research Specialty: Advanced Aerospace Materials

Bio

Dr. Brad Files is a materials engineer at NASA Johnson Space Center. He started working for NASA as an Aerospace Engineering co-op student from Purdue University in 1990, and became a full-time employee upon receiving his PhD in Materials Science and Engineering from Northwestern University. His dissertation subject was Terminator 3: A Bio-inspired Self-healing Superalloy, using computational thermodynamics to design a steel that could heal itself. Soon after joining NASA full time in 1997, Dr. Files began working on nanotechnology efforts, focusing on applications using single-walled carbon nanotubes. For the next 4 years he was the project lead for production and applications of nanotubes for human spaceflight. In January 2002, Dr. Files was named Deputy Branch Chief of the Materials and Processes Branch, responsible for a wide range of materials selection, compatibility, and certification efforts for the Space Shuttle and Space Station programs, along with advanced materials development activities. He became Chief of the Materials and Processes Branch in May 2004. Current activities in the Branch include materials selection for the development of the upcoming Crew Exploration Vehicle.

Dr. Files has participated in the *Journey through the Universe* Program since 2000 and has presented to hundreds of students across the United States.

Examples of Classroom Presentations

Living in Space – Human Spaceflight Programs [Grades: 1-8]

Astronauts and cosmonauts have been living on the space station since November 2000. What is it like to live in space? What does the inside of the space station look like? You'll see inside the space station as it looks today and imagine what it would be like to live there. Learn about the food that astronauts are eating and how they do daily activities in space. How do these astronauts spend their time during the day?

Examples of Family/Public Program Presentations

Journey to the International Space Station

Have you ever wondered what it would be like to live in space? It may surprise you to hear that living in space is more like living on Earth than you would expect. Join us as we journey to the International Space Station and get a glimpse into life above the Earth. We will talk about construction in space compared to Earth, along with daily home life and a typical workday. This interactive presentation will discuss survival, meeting the basic needs of a human being and how astronauts have fun in space while being away from family and friends for extended lengths of time. You will have an opportunity to ask questions about what it may be like to live in space, and you will be asked to imagine what your life would be like if you were chosen to be one of the astronauts to go to the Space Station.