



**Over 50 years of manned and uncrewed endeavors have resulted in a priceless cache of information in legacy systems, servers and share drives.**

**Most important are the people involved with the development and application of pursuits that continue to change life on earth..**



# Agenda

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- Process Driven Approach
- Knowledge Management Processes
- JSC Knowledge Online & Associated Site Use
- JSC Knowledge Online
  - Case Studies
  - Historical Records
  - Storytelling
  - Leadership
  - Training
  - Knowledge Based Risks
  - Lessons Learned
  - Shuttle Knowledge Console
  - EVA Historical Archive
  - EVA Lessons Learned
  - Semantics
- Conclusion



# Process Driven Approach

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NPD 7120.6  
Knowledge Policy on  
Programs and Projects



JSC Procedural  
Requirements (JPR)  
2310.1A  
JSC Organizational  
Learning Program



Procedure in Practice



# Knowledge Management Processes

Knowledge Management processes at JSC are built on the foundation comprised of **knowledge capture**, **development** and **transfer** on Center-wide and local levels.

## Knowledge Capture

- Recovered materials,
- Human Systems Academy, Human Systems Integration, JSC Voices,
- MOD Online Lessons, Structures and Dynamics Series

## Knowledge Development

- Source examination,
- Gap Analysis,
- Electronic availability,
- Taxonomy tagging,
- Metadata application,
- Disposition

## Knowledge Transfer

- Hosting and Interface Development,
- EVA Archives,
- EVA Lessons Learned

# JSC Knowledge Online (JKO)



**JSC KNOWLEDGE ONLINE**

Search JKO

Home Case Studies Resources Historical Records Storytelling Leadership and Learning Knowledge-Based Risks Who To Call

Lessons Learned  
QMS  
Shuttle Knowledge Console  
Lean 6 Sigma  
OpEx  
Taxonomy

Suggestion Box  
Storytelling Feedback  
Taxonomy Feedback

**Popular Terms**

Customer Service System  
Research  
Columbia  
Discovery  
Procurement  
Network  
Gravity Probe B Mission  
Accessibility  
Data centers

**What's New**

**Back in The Saddle 2014**  
Date Added: 3/17/14  
Friday, January 10, 2014  
9:00 AM  
Guest Speaker Jeff "Odie" Espenship  
Target Leadership  
Odie's company directly targets leadership and employee groups to create and maintain a culture of operational excellence in the workplace. Odie's background in operational excellence began as an Air Force fighter pilot, flight leader, and instructor pilot. Although he no longer flies in the military, Odie continues to hone his flight

INNOVATION FORUM  
STORYTELLING  
INNOVATION FORUM

**Lunar Module Touchdown Dynamics - straight from the source-- Mr. George Zupp, PhD!**

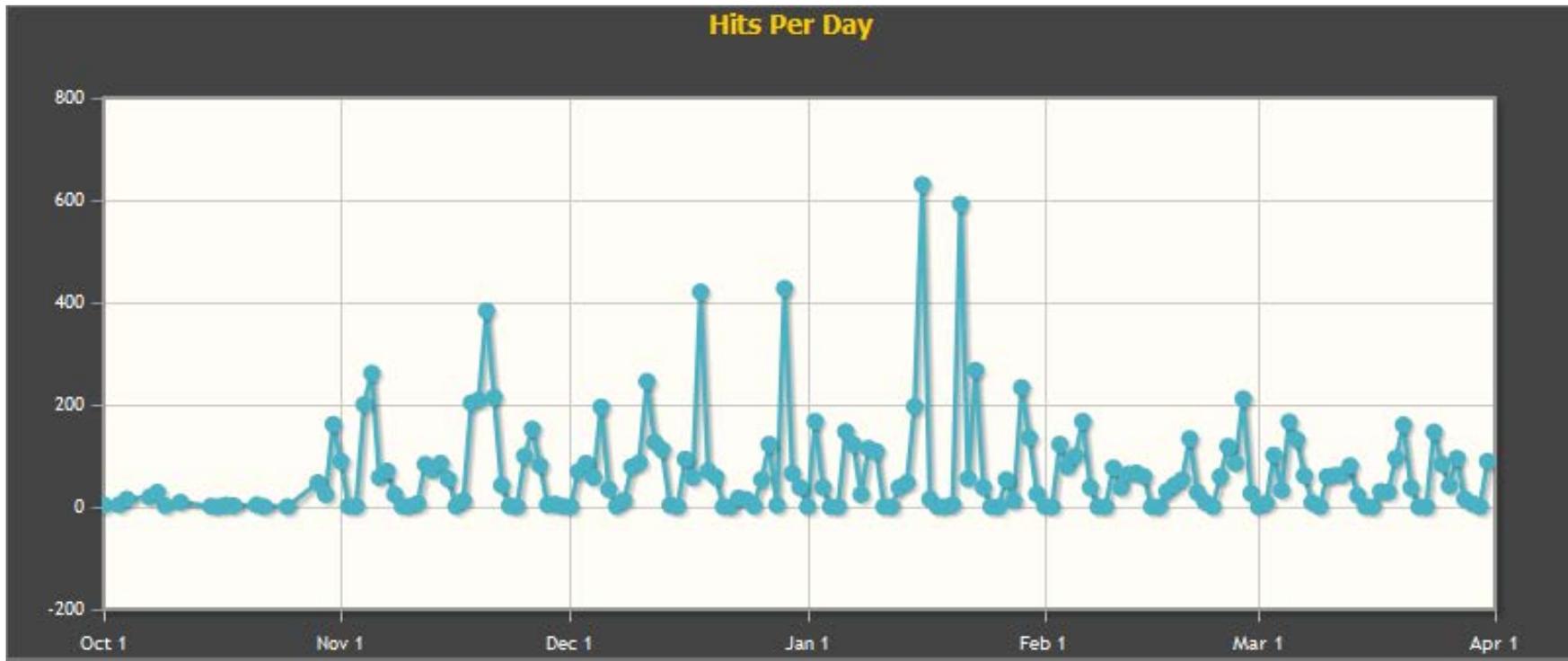
Apollo 11 Lunar Module  
The local lunar surface slope was computed at 4.5 degrees with a sink speed of 1.8 ft/sec

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Last Modified: 06/13/2012 | Visits: 486476

The JKO is the interface for KM activities

# JKO & Associated Site Use

Q1-Q2 FY 2014

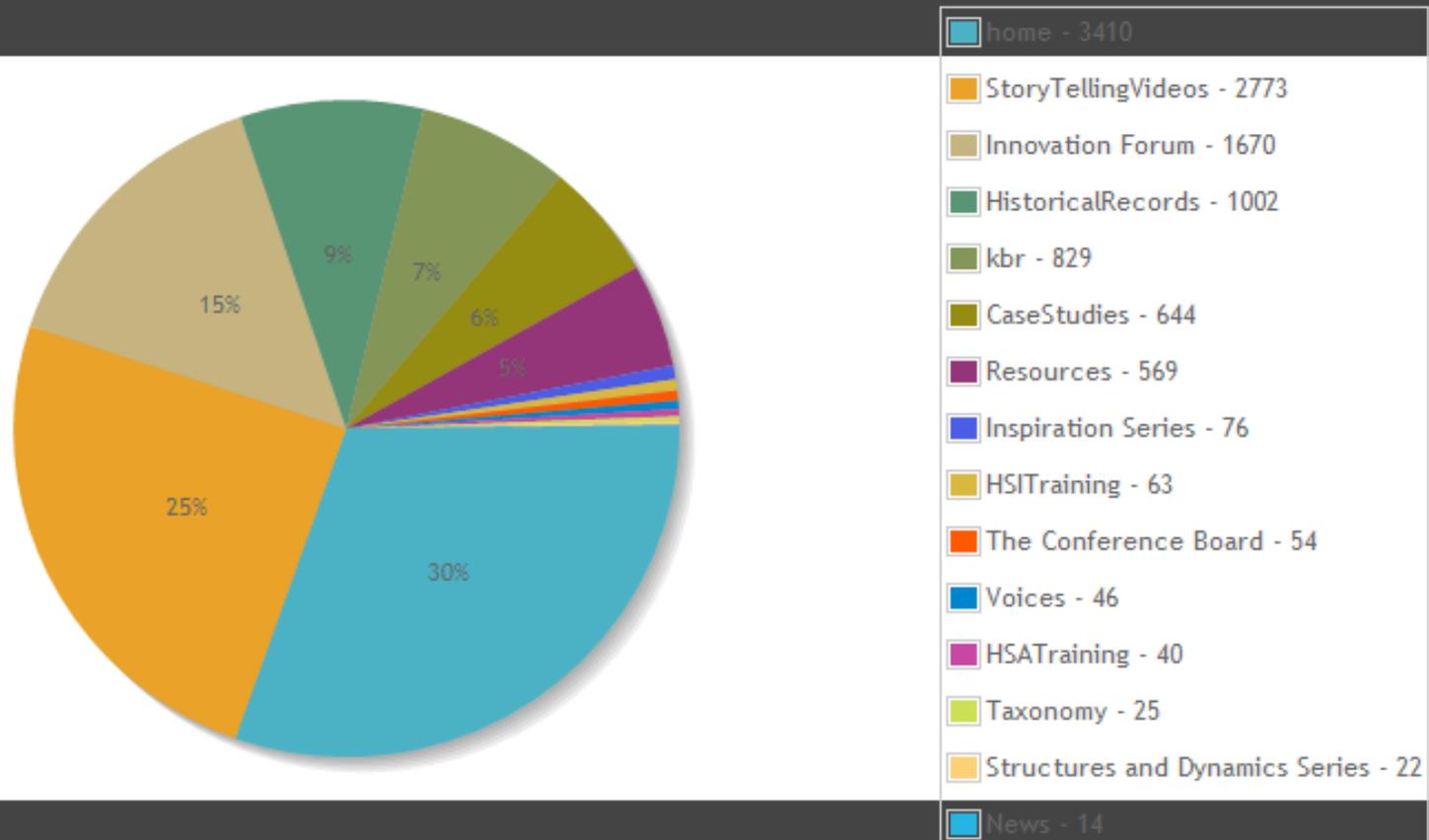


# JKO & Associated Site Use

Q1-Q2 FY 2014



Hits (Class)





# Case Studies

Home Case Studies Resources Historical Records Storytelling Leadership & Inspiration Knowledge-Based Risks Who To

Case Studies External Case Studies Repositories

SORT BY: **DATE** / TITLE



**EVA Lessons Learned**

June 10, 2013

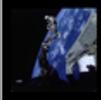
The XA Office, in coordination with PAO present EVA Lessons Learned. This 30 minute video explores storyline of EVA, the creation of the EVA Office, building the "Wall of EVA" on ISS, current use of EVA for ISS maintenance and future use of EVA in Exploration.

[View the Case Study](#)

**Downloads:**  
[Alternate Version](#)

**Submit Feedback** 

**Hide**

 EVA Lessons Learned

 Orbital Acrobatics: Expertise in Action

 MOD Case Study

 Final Report On Cause Of Spacesuit Backpack Fire

 Apollo SkyLab Lessons Learned For the

Case studies collect historical documents and reports, and contextualize them with human elements, technical aspects and lessons learned.

Local case studies as well as external information from APPEL, Goddard Space Flight Center and the NSC can be found here.



# Historical Records

**JSC KNOWLEDGE ONLINE**

Home Case Studies Resources **Historical Records** Storytelling Leadership and Learning Knowledge-Based Risks Who To Call

**Historical Records**

Filter By Program

- Apollo Program Era
- Commercial Crew Program Era
- Constellation Program Era
- Gemini Program Era
- Ground Operations
- International Space Station Program Era
- Mercury Program Era
- Mission Planning
- RION Multi-Purpose Crew Vehicle Program Era
- Skylab Program Era
- Space Shuttle Program Era
- Space Station Freedom Program Era

Clear All Filters Filter: Keyword:

Name ^

Main Organizational Charts Phonebooks

Recommendations, response and documentation regarding the findings of the Apollo 13 R

**APOLLO 14 Composite Casting Demonstration Final Report**

**APOLLO 14 DOD DEBRIEF**  
Apollo 14 Launch, abort, recovery requirements

**Apollo 14 Electrophoresis Separation in Space**

The Historical Records process incorporates recovered materials, develops and transfers the knowledge therein as 'Historical Records'. The records are organized by spaceflight program era, the most commonly identified category by JSC users.



# Storytelling

The mission for Storytelling at JSC is to honor and celebrate one another's experiences; from multiple domains in varied perspectives.

The text box allows users to quickly access presentations according to topic, keyword or presenter.

The screenshot displays the 'JSC KNOWLEDGE ONLINE' website. At the top, there is a search bar labeled 'Search JKO' and a navigation menu with items: Home, Case Studies, Resources, Historical Records, Storytelling, Leadership and Learning, Knowledge-Based Risks, and Who To Call. A left sidebar contains 'Storytelling Home', 'Storytelling Feedback', and 'Storytelling Search'. The main content area features a grid of eight items, each with a thumbnail image, title, date, and download links. A white arrow points from the text 'The text box allows users to quickly access presentations according to topic, keyword or presenter.' to a search filter box in the top right of the grid.

Thumbnail	Title	Date	Downloads
	Early SSP Programmatic Decisions	11/20/2013	MP3, MP4, WMV
	X-31: Breaking The Chain	02/01/2013	WMV
	Columbia Crew Survival Investigation Report	01/10/2013	WMV
	L6S Overview Training	09/01/2012	WMV, SMI
	Space Station Plume Load Problem	03/27/2012	MP3, WMV
	The 5 Imperatives of Application Life-Cycle Management	03/19/2012	MP3, MP4, WMV, SMI
	Shuttle Avionics Software Production Facility (SPF)	01/26/2012	MP3, WMV
	Joe Kosmo's Farewell Advice	12/06/2011	MP4, WMV

Footer: Web Accessibility and Policy Notices | JSC Home | Responsible NASA Official: Jean E. Engle | Curator: JSC Custom Applications | Site Administration  
Last Modified: 06/13/2012 | Visits: 486486



# Leadership

Home Case Studies Resources Historical Records Storytelling Leadership Training Knowledge-Based Risks Who To Call

Filter:

**The Conference Board**



Pete Hasbrook



Camile Alleyne



Steven Gonzalez



Dave Leestma

**Innovation Forum**



Francisco Alvarez



Fitz Walker



Presentations from the Conference Board, Innovation Forum, and Inspiration Series can be found in the Leadership tab.

From 'Matress Mac', General Howell, David Leetsma, and Garland Bauch, the presenters in this collection are as colorful and the variety of topics they address!

**Inspiration Series**



Be Inspired - Walter Ugalde



Inspire, Be Inspired - Student Edition



Lessons in Leadership



Be Inspired: From Star Trek to Leaving a Legacy

**Voices**



Cathleen Pogustie



John Strader



Rick Juicy



Sherri Moranne



# Training

Leadership,  
Learning, and  
Training- that's what  
it's all about!

The screenshot displays a training interface with a sidebar on the left containing navigation links: Training Home, Human Systems Academy, Human Systems Integration, Structures and Dynamics Series, and MOD Online Lessons. The main content area is organized into several panels:

- Human Systems Academy:** Contains thumbnails for "Basic Bone Physiology" and "Basic Microbiology".
- Human Systems Integration:** Contains thumbnails for "Human-Centered Design Process" and "General Travis".
- Structures and Dynamics Series:** Contains thumbnails for "OBJS Design Process", "Finite Element Open Discussion", "MSC Model Check Super Elements 2", and "MSC Nastran Dynamics Non-Linear Analysis".
- MOD Online Lessons:** Contains thumbnails for "SPARTAN - PRO for Dummies" (featuring a "DUMMIES" book cover), "Variant Operations", "PLUTO Drag-Through Proficiency", and "PLUTO Proficiency Training Viral Response".

Each panel includes a search filter at the top right and expand/collapse icons.

Lectures and training videos including 250 training videos from MOD, Human Systems Academy and the Structures and Dynamics series are now available on the JKO.

# Knowledge Based Risks (KBRs)



KBRs capture risks that have been successfully mitigated and remain relevant to current topics including: Project Management, Systems Engineering, Integration and Testing and many more.

Provided by HEOMD.

# Lessons Learned Database



**NASA** JSC Lessons Learned Database Login | Register

Public

Home | Process Flow | Lessons Learned Library | Related Links | DLOR | Lessons Learned Forum | Process Control | Case Files

Knowledge Online  
QMS  
Shuttle Console  
Lean 6 Sigma

Create A Lesson  
All Lessons

### About this Database

Welcome to the Johnson Space Center Lessons Learned Database.

This database is the official vehicle for documenting lessons learned in various Johnson Space Center programs.

Currently the Lessons Learned process has undergone an extensive redesign. The new process can be found in JPR 2310.1 "The JSC Organizational Learning Program".

The ownership of the Lessons Learned Process is the Chief Knowledge Officer. The JSC Lessons Learned Process is composed of local lessons learned programs supported by and coordinated through the JSC Center Data Manager.

The lessons we have learned are captured in this database and are intended to be used as tools for improvement.

Information contained within this database may be subject to Export Control and/or International Trade in Arms Regulations.

[JSC Hurricane Ike Lessons Learned Report May 2009](#)

### Flight Crew Integration/Operational Habitability team SharePoint Site

Thanks to the efforts of many great people, the Office of the Chief Knowledge Officer is proud to host a collection of International Space Station (ISS) crew debrief products! The Flight Crew Integration (FCI) ISS Life Sciences Crew Comments Database is a collection of data from the approximately 20 ISS Post Flight crew debriefs that are conducted following each ISS Expedition. The data products generated from the database capture experiences with the systems, hardware, and living conditions the crew interacts with while they live and work in space.

Engineers, designers, researchers and other JSC users have much to gain from the Astronaut Office approved data products generated from the 44,000+ crew debrief comments currently contained in the database! Accessing the products generated from the database is easy. The FCI ISS Crew Comments SharePoint Site can be accessed here, <https://meme-portal.jsc.nasa.gov/sites/groups/FCIteam/default.aspx>. Instructions are provided on the site to gain access to the products generated from the database.

[Web Accessibility and Policy Notes](#) | [JSC Home](#) | Responsible NASA Official: [Brent J. Fontenot](#) | Curator: [Orlando Bonqat](#) | [Site Administration](#)

Last Modified: 06/13/2012

# Shuttle Knowledge Console (SKC)



The Shuttle Knowledge Console (SKC) was initially developed as a home for the knowledge captured in response to the Space Shuttle's retirement.

Over the last 2 years it has grown from the replication of a few systems to contain an archive of dozens of applications, 5.8 million documents, and 2.6 terabytes of data.

**Shuttle Knowledge Console**

Home Lessons Learned Database JSC Knowledge Online Submit Feedback All Sources Administration

Go HELP

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**Quick Links**

Space Transportation System

Close Call Awareness Program	Columbia Investigation	Engineering Knowledge Base
Flight Design Handbooks	FMEA/CILS	Georgia Tech Shuttle Symposium
Hazard Report Packages	Integrated Hazard Reports	Launch Commit Criteria
Non-Conformance Signature Log	OMRSCP	OMRSD
Orbiter Certifications	Post Flight Presentations	Process Control
Shuttle Document Capture	Shuttle Drawing System (SDS)	Shuttle Mission Reports
Shuttle Operations Data Book	Shuttle PDC	Shuttle Records
Shuttle Systems Archive	SIRMA	Space Flight Documents
Space Flight Operations Contract	Space Meteorology Group	Space Shuttle Flight Software 101
SSP Case Studies	SSP Knowledge Based Risks	SSPWeb Archive

# EVA Archives & Lessons Learned



Historical data from the Office of Extravehicular Vehicle Activity, the EVA Archives and the EVA Lessons Learned Applications can now be found on the JKO.



# Semantics

The Semantic system at JSC (Taxonomy, Ontology and Term Metadata library), is an ever-evolving, iterative solution for refining search results. Closely tied with entities across the Center, the relevancy of the semantic system continues to increase.

## Found! The Needle in the Haystack; a Progressive Approach



<http://www.nasa.gov/personal/inj/rpw/frm.com>



# Conclusions

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The primary interface for knowledge captured, developed and transferred is JSC Knowledge Online (JKO).

<https://knowledge.jsc.nasa.gov>

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