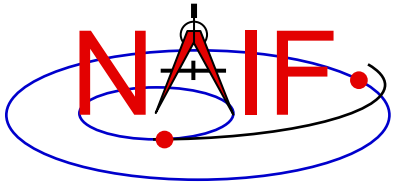


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Navigation and Ancillary Information Facility

# **Welcome to the SPICE Tutorials**

**January 2017**

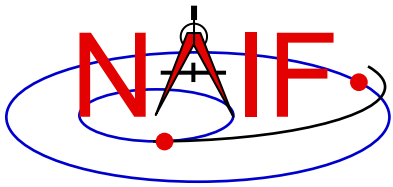


# Objectives

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- Provide an **overview** of the entire SPICE system
- Provide a sense of the purpose and **uses** of SPICE
- Provide an introduction to the use of primary SPICE **components**
- Provide **examples** of how to use SPICE software and data files
- Provide some insight into **conventions** and **common problems**
- Provide a substantive **programming example**
- Provide a **peek at new capabilities** being worked on or considered
- Familiarize you with available **SPICE resources**

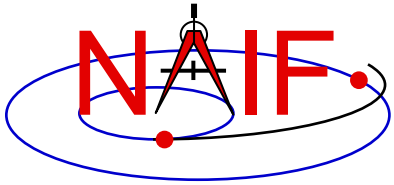


# Scope

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- **Broad coverage**
  - Begins at a high level, but quickly drills down to details
  - Touches on many SPICE-related topics that could be of interest to science and engineering teams
    - » Depth of discussion varies somewhat amongst topics
- **Provide information for FORTRAN, C, IDL and MATLAB programmers**
- **Some tutorials have important material provided in a “Backup” section: you should read those charts too!**
- **Some topics are addressed rather little or not at all**
  - Kernel production
  - Archiving SPICE data

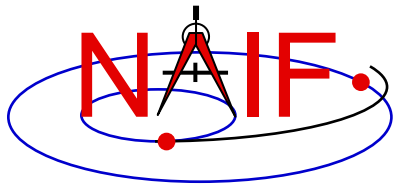


# Repeated Material

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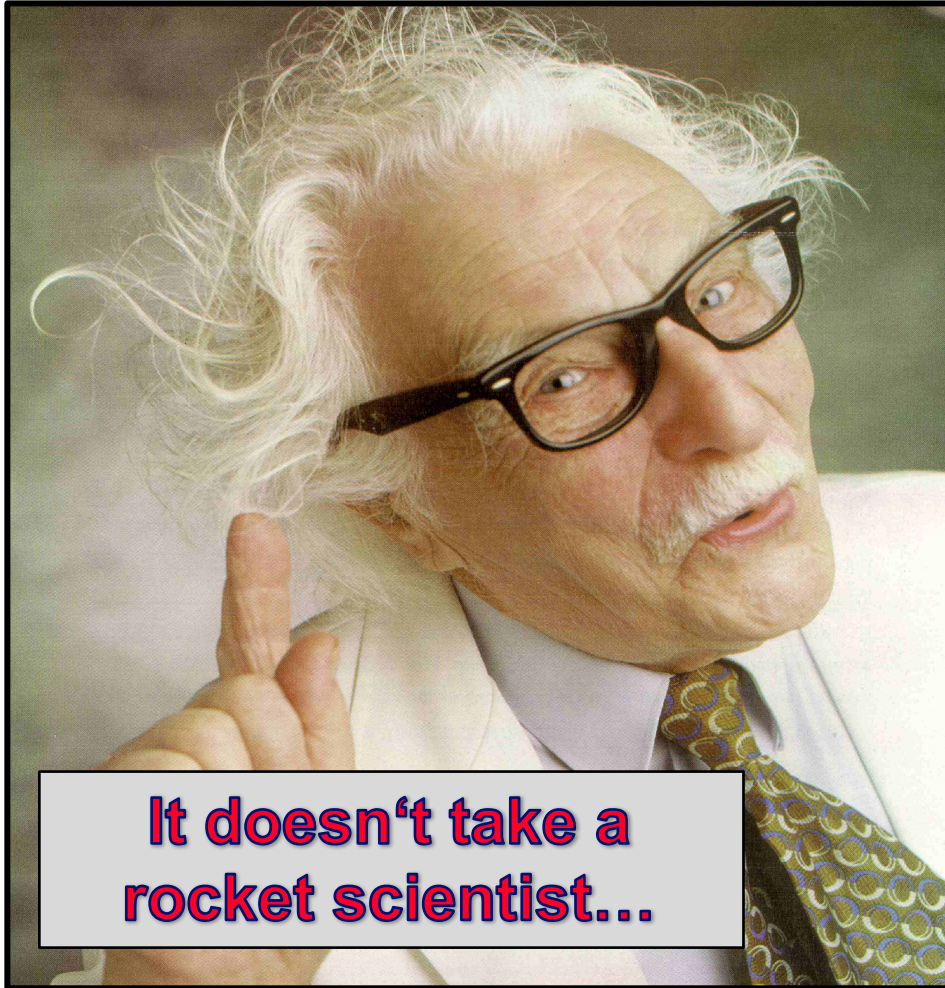
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- **Some topics will be repeated in two or more tutorials**
  - **We're not trying to bore you, but...**
    - » **we don't wish to assume people will read all of the tutorials at the same time**
    - » **we think some items are sufficiently important to mention them more than once**



# Your SPICE Odyssey Begins Here

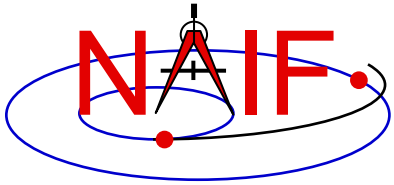
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**It doesn't take a  
rocket scientist...**

**... but it does take a modest amount of effort to learn enough about SPICE to begin to use its features with good success.**

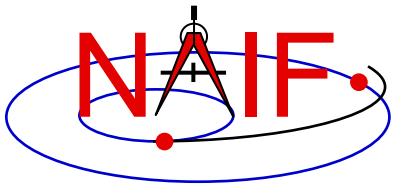
**It helps to have some math skills, some innate sense of spatial orientation, and some familiarity with your computer's operating system, a code editor, and a compiler or Integrated Development Environment (IDE).**



# SPICE Seems “Large”

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- **The generic SPICE Toolkit contains:**
  - over 1000 public APIs (“modules” or “subroutines”)
  - about 17 utility and application executables
  - about 24 subsystem technical reference documents
  - and more
- **Don’t let this size bother you... just work your way into it bit by bit**
- **Most customers use only a handful of these APIs**
- **Hundreds of others just like you are using SPICE today**



# The NAIF Team at JPL

Navigation and Ancillary Information Facility



**Chuck Acton**



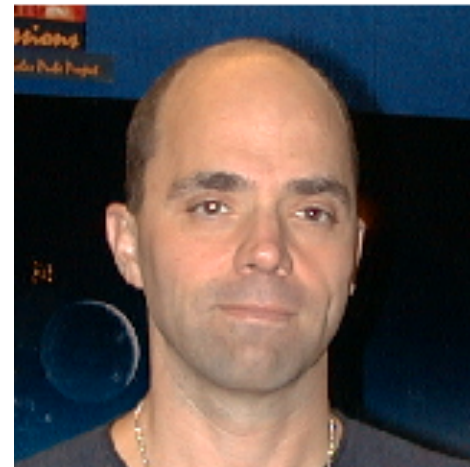
**Nat Bachman**



**Maria Liukis**



**Boris Semenov**



**Ed Wright**