

# INCOSE Chicagoland April 2017 Meeting



**Topic:** ***The Columbia Accident – Enduring Lessons From An Insider’s Viewpoint***

**Presenter:** ***Steve Cantley, Director of R&D and Systems Engineering at bb7 – Madison, WI***

**Date:** Thursday, April 20, 2017

**Agenda:**  
6:00-6:30 p.m. CT – Dinner & Networking  
6:30-6:45 p.m. CT – Introductions & Announcements  
6:45-8:00 p.m. CT – Presentation and Q&A

**Locations:**

1. **Schaumburg, IL** – IBM, 10 N Martindale, Schaumburg, IL 60173 (3<sup>rd</sup> floor conference room)
2. **Madison, WI** – bb7, 5407 Fen Oak Ct., Madison, WI 53718 (Mendota Conference Room)
3. **Glendale, WI** – Johnson Controls, 5757 N. Green Bay Avenue, Glendale, WI 53209 (MPR Conference Room)

## **Abstract**

On February 1, 2003 the Space Shuttle Columbia and her crew aboard were lost during reentry. The direct cause of the accident was a piece of foam insulation that detached from the External Tank during Columbia’s ascent sixteen days prior. As was the case with Challenger’s loss 17 years earlier, a complex system of enabling factors stretched back long before the launch. We will look at the Columbia accident, review the event reconstruction, and examine available information and associated decision making during the mission. You may never design or operate a system like the Space Shuttle, but there are important lessons anyone with Engineering or PM responsibility can take from this event.

Note: Attendees at bb7 have an opportunity to attend a brief tour of the facility and experience a modern commercial “skunkworks” first-hand!  
Come early for a tour (starting at 5:30 pm), and/or attend the presentation (starting at 6:30 pm) – your pick!

## **About Our Speaker**

**Steve Cantley** is Director of R&D and Systems Engineering at bb7, a product development firm in Madison, WI. Originally from the Midwest, Steve somehow ended up in Houston, TX, with surely the coolest job anyone could have – a seat in NASA’s Mission Control Center, where he was responsible for the International Space Station’s electrical power system during the design phase and the first few several years of ISS assembly. A veteran flight controller with more than 2500 hours of console support, he developed contingency hardware still onboard today, and helped the Program rethink its critical spares strategy. Steve supported operations during several spacecraft contingencies – the Space Station’s first automated load shed, its only complete loss of attitude control, and the period immediately following the 9/11 attacks while the rest of Johnson Space Center was evacuated.

Upon returning to the Midwest, Steve joined bb7 and initially supported IceCube, an Antarctic neutrino detector project run at the University of Wisconsin-Madison. During his time at bb7, Steve has helped create or improve four major Antarctic research tools and several medical products, and implemented a design-oriented ISO-9001/13485-registered quality management system.

**Questions?:** For more information, go to <http://www.incose.org/Chicagoland/>.