

# Cynthia M. Rando

BUSINESSS STRATEGY | HUMAN FACTORS & ERGONOMICS

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***Business Strategy & Innovation • Human Factors & Ergonomics • Partnership  
& Relationship Development • Integration & Communication***

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Founder and CEO of Sophic Synergistics, a consulting firm that focuses on building environments and products that deliver the best in human centered design and user experience outcomes. I have spent 15 years in the field of Human Centered Design including 12 years at NASA's Johnson Space Center. During this time I provided extensive leadership to the organization addressing several critical areas in Human Factors and Human Centered design including: interface design, ergonomics, safety and risk mitigation strategies, usability/user experience, accident investigation and root cause analysis activities. I was also instrumental in implementing several culture change initiatives and innovative solutions for the agency, including: crowdsourcing, the Center of Excellence for Collaborative Innovation and the NASA Human Health and Performance Center.

Member of the Board of Directors for the Board of Certification in Professional Ergonomics, a Certified Human Factors Professional and Certified Birkman Consultant. I received my B.S. and M.S. in Human Factors Engineering from Clemson University and an MBA from Northeastern University. In addition, I have taught Human Factors and Ergonomics course material at University of Houston Clear Lake.

**Human Factors Engineering • Usability/Human Centered Design • Ergonomics  
Cognitive Psychology • Industrial Engineering and Safety Engineering • Expert Witness • Accident  
Investigation and Root Cause Analysis • Decision Support Development & Process Design • Adaptive Problem  
Solving • Business Administration • Strategic Communications • Innovation • Collaboration •  
Change Leadership • Entrepreneurship**

## **HUMAN FACTORS ENGINEERING & ERGONOMICS EXPERTISE**

- Experience providing expert witness root cause analysis and accident investigation support
- Adept in **developing and leading research** efforts that guided the design of human interfaces including human health and ergonomic related products and operations.
- Provided anomaly and accident investigation assistance to NASA for various mission events and mishaps. Including consulting support to the safety organization regarding safety information and cognition and behavior.
- Directed stakeholder coordination and interpretation of **human safety** requirements for the Human Systems Integration Requirements document CxP 70024, NASA STD 3000/SSP 50005 and SSP 57000.
- Focused on **improving and evolving technology**, equipment and work environments to complement human behavior and capabilities.
- Successfully **implemented and applied human factors** and safety expertise in creating innovative solutions for NASA, aimed at enhancing mission capabilities for human spaceflight and reducing risk to the human.
- Provided **consulting support** to the Mission Operations Directorate for crew procedures by developed a basic understanding of robotics operations **and** provided **valuable feedback** on numerous robotics procedures.
- In-depth practice in hardware and system design, crew evaluations, requirements interpretation, application and verification, International Space Station (ISS) issue mitigation and **program integration**.

## **LEADERSHIP & BUSINESS DEVELOPMENT EXPERTISE**

- Convey the **“big picture” thinking** strategically throughout the organization empowering employees to produce beyond expected results.
- Demonstrate imagination, insight, and boldness to present challenges that **bring out the best in people** and bring them together around a shared sense of purpose.
- Create a highly dynamic work environment that **facilitates innovation and continuous improvement**.
- Plan, develop and implement strategic plans for each Business Unit with a **bottom-up and top-down approach** to achieve established objectives with a strong focus on improving shareholder returns.
- Conduct in-depth analysis of business strategy, identifying the best policies for development and the avoidance of foreseeable difficulties with a focus on continuous progress.
- Initiate appropriate actions to **minimize risks** and align performance goals with business targets.
- Institutionalize new strategic **communication models** to effectively convey NASA brand messaging and inspire public action and support

## **INNOVATION & STRATEGIC PLANNING EXPERTISE**

- Conducted all **market research** and developed the Request for Proposal that defined the **Statement of Work** for Innovation Service Provider government contracts.

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- **Researched and recommended** strategic revenue generating opportunities associated with the marketable properties of the organization.
- Supported the Board Executive by **providing strategic direction** based on knowledge of operating business issues, competitive analysis and broader market research data.
- Managed open innovation service provider (OISPs) contracts, schedule and deliverables by directing training, challenge and technical development and posting, including communications and process management efforts between NASA and the OISPs.

#### OPERATIONS MANAGEMENT EXPERTISE

- Ensure continuous upgrade of computing and decision technology, including telecommunications and networking systems, to meet operational needs.
- Attract, develop and retain key management staff and strategic partners, ensuring that the company has the talent in place to meet its competency needs in the future.
- Work closely with the Human Capital management teams to develop divisional succession plans.

#### PUBLIC OUTPUT EXPERTISE

- Design, implement and evaluate programs for the membership services team and assisted them with initiatives.
- Developed innovative courses to provide career development opportunities for the organization and personnel empowerment
- Instructed college level course in ergonomics and provide on site instructional training and development

#### PROFESSIONAL BACKGROUND

##### Sophic Synergistics LLC.

October 2014-Present

CEO

- Consulting firm focused on providing innovative strategic services focused on optimizing return on investment through a human centered approach to operations, communications, design, development and culture change initiatives. Service areas include: Business Strategy, Communications and Innovation, Human Factors, Human Health and Performance, Ergonomics, Root Cause Analysis and Expert Witness Assistance, Birkman Assessments and Coaching, Speaking and Training for business development.
- Member of the Board of Directors for the Board of Certification in Professional Ergonomics

##### D.B. Consulting, Inc. – Various Positions Held

April 2013-November 2015

SUPERVISOR, STRATEGIC COMMUNICATIONS AND EXTERNAL RELATIONS | Nov 2013-Present

- Providing leadership assistance to NASA's External Relations and Public Affairs Office by developing and incorporating strategic communication models.
- Acting as Public Affairs Officer for NASA.
- Identifying and fostering development of collaborative partnerships that support external outreach and internal coordination needs.

##### Selected Accomplishments:

- Developed Agency outreach initiatives and communication campaigns such as "SuitUp" for EVA 50<sup>th</sup> Anniversary and International Space Station Program's Destination Station.
- Provided oversight to JSC Space Flight Awareness Program Activities, JSC Official Communications, including Press Releases, Media Appearances/Social Media activities and strategies, and VIP guest support.

MANAGER HUMAN SYSTEMS ACADEMY | April 2013-Nov 2014

- Manager of the Human Systems Academy at NASA Johnson Space Center.
- Developed the operational and sustainability strategy to support the Human Systems Academy, including course content offerings and communications to support the strategic plan and goals of the HSA.
- Defined data analysis methods to monitor the success and vitality of the HSA and identified opportunities for expansion and collaboration, including media and social media (e.g. Facebook, Twitter, YouTube etc. ) strategies and content in support of astronaut public outreach communications during their missions and personal global outreach campaign
- Identified unique partnership opportunities internal and external to the organization

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##### University of Houston Clearlake – Houston, TX

Jan 2014-Jan 2015

ADJUNCT PROFESSOR ERGONOMICS

- Provided course instruction and communications covering topics in human factors and ergonomics, focusing on the biological/engineering principles of design for a safe and efficient workplace environment.

- Instructed in the following areas: human factors, biomechanics, anthropometry, heat and cold stress, vibration, pressure, illumination, work station and tool design and the presentation of visual, auditory and other sensory forms of information.

#### EARLIER POSITIONS HELD

**Wyle, Integrated Science and Engineering Group** – Houston, TX **May 2010-April 2013**  
 INNOVATION AND STRATEGY COORDINATOR

**MEI Technologies, Inc.** – Houston, TX **Jan 2004-May 2010**  
*Various Positions Held:*  
 INNOVATION AND STRATEGY COORDINATOR | Jun 2008-May 2010  
 SENIOR HUMAN FACTORS ENGINEER | Jan 2004-May 2010

#### EDUCATIONAL BACKGROUND & CREDENTIALS

**Certified Human Factors Professional (CHFP)** – Board of Certification in Professional Ergonomics (BCPE)  
 Member of the Board of Directors for BCPE

#### Academic Qualification

**Master of Business Administration, Specialization in Entrepreneurship and Innovation**  
 Northeastern University, Boston MA

**Master of Science in Applied Psychology, Human Factors Engineering** – Clemson University, Clemson, SC

**Bachelor of Science in Psychology** – Clemson University, Clemson, SC

#### AWARDS

- Recipient of the JSC Center Director's Team Award for Destination Station (2014)
- Recipient of the ITAMS Excellence Award (2014)
- Recipient of the JSC Center Director's Innovation team award for NASA@work implementation and management for the agency (2011)
- Recipient of an excellence in innovation award from Wyle Integrated Science and Engineering (2011)
- Recipient of a certificate of excellence for outstanding contribution to the implementation and success of the NASA@work internal NASA collaboration platform (2010)
- Recipient of a certificate of excellence for outstanding contribution to the success of the open innovation service provider pilot activities for NASA (2010)
- Certificate of appreciation for the transformation of the International Space Station (ISS) to six person crew capabilities (2009)
- Recipient of a NASA Crew and Thermal Systems Division award for exemplary contribution to the development and testing of the Crew Quarters mock-up in support of Critical Design Review (2008)
- Recipient of a NASA Bioastronautics Bravo Award for work done to improve cautions and warnings within procedures protecting the safety of the crew (2007)
- Recipient of a NASA GEM (Go the Extra Mile) Award for volunteer work with Texas A&M students on testing of a speech recognition device (2007)
- Recipient of a NASA Group Achievement Award for work on Exploration Systems Architecture Study (2006)
- Recipient of a NASA Special Space Flight Achievement Award for work on the Crew Exploration Vehicle Internal Volume Study Team (2005)
- Recipient of a NASA Special Space Flight Achievement Award for work on the NASA-STD 3000 Human Systems Integration Standards for the Crew Exploration Vehicle (2005)

#### PUBLIC OUTPUT

- InnoCentive Webinar: "Open Innovation and Collaboration-NASA Presents It's Real Life Implementation and Lessons Learned" (2012)
- IAC Conference Proceedings Publication - Open Collaboration: A Problem Solving Strategy That is Redefining NASA's Innovative Spirit, Cape Town, South Africa (2011)
- Panelist Collaborative Innovation Business Cluster Forum IAC Conference - Innovative Problem Solving Challenges, Cape Town, South Africa (2011)

- Panelist Collaborative Innovation Business Cluster Forum IAC Conference - Innovative Problem Solving Results, Cape Town, South Africa (2011)
- Panelist CoDevelopment and Open Innovation Conference - Open Innovation Tools and Methods, Scottsdale, Arizona (2011)
- Panelist WebCom Conference - The Wisdom of the Crowd Goes to Space, Montreal, Canada (2010)
- IAC Conference Proceedings Publication - Investment in Open Innovation Service Providers: NASA's Innovative Strategy for Solving Space Exploration Challenges, Prague, Czech Republic (2010)
- ICES Conference Proceedings Publication - Lunar and Mars Exploration: The Autonomy Factor, San Francisco, CA (2008)
- HFES Conference Proceedings Publication - Use of Cautions and Warnings within International Space Station Procedures: When Too Much Information Becomes Risky, Baltimore, MD (2007)
- HFES Conference Proceedings Publication - Habitability in Space, Orlando, FL (2005)
- IIE Conference Proceedings Publication - Orientation and Position Effects On Wrist Posture in Powered Screwdriver Use, Atlanta, GA (2005)
- AIAA Conference Proceedings Publication - Habitability and Human Factors: Lessons Learned in Long Duration Space Flight, San Diego, CA (2004)
- HFES Conference Proceedings Publication - Differences in Remote Versus In-Person Communications While Performing a Driving Task, Denver, CO (2003)