



# *The Joint Agency Commercial Imagery Evaluation (JACIE) Civil Commercial Imagery Evaluation Workshop*

April 12, 2016

# Welcome to the 15<sup>th</sup> Annual JACIE Civil Commercial Imagery Workshop

- JACIE Packet
  - 3 day Agenda
  - Abstract and Bios
  - Recommendations and Comments Survey
  - High level agenda
- Logistics and Support
  - Exits and Restrooms
  - Registration, breaks, and lunch
  - Picture at lunch time today

Tuesday 4/12	Wednesday 4/13	Thursday 4/14
Registration/Breakfast 7:15 - 8:00 AM	Registration/Breakfast 7:30 - 8:10 AM	Registration/Breakfast 7:30 - 8:10 AM
<b><u>Session 1 - U.S. Agency Talks w/ Q&amp;A</u></b> <b>8:00 - 9:50 (110 minutes)</b> <b>Moderators: Stensaas/Hartpence</b> Welcome - Greg Stensaas, Glenn Bethel - USDA, Peter Doucette - USGS, Kurt Thome - NASA, Mitch Goldberg - NOAA	<b><u>Session 5 - Hi Resolution Sensor Assessment 8:10 - 9:50 (100 minutes)</u></b> <b>Moderators: Case/Thome</b> <b>Paul Bresnahan - 16.012/16.047, Chris Comp - 16.018, Michele Kuester - 16.019</b>	<b><u>Session 9 - Hyperspectral Systems and Processing</u></b> <b>8:10 - 9:50 (100 minutes)</b> <b>Moderators: Reynolds/Mah</b> <b>Lewis Graham - 16.008, Ray Perkins - 16.013/16.014, Janja Avbelj - 16.005</b>
Break 9:50 - 10:10 AM	Break 9:50 - 10:10 AM	Break 9:50 - 10:10 AM
<b><u>Joint ASPRS/JACIE Session 2 - New Space Panel</u></b> <b>10:10 - 12:10 (120 minutes)</b> <b>Moderators: Mah/Christoperson</b> - Gov't Panel: Needs, - Industry Panel: Plans, Q& A Session	<b><u>Session 6 - Calibration and Assessment 10:10 - 12:10 (120 minutes)</u></b> <b>Moderators: Case/Thome</b> <b>Dennis Helder - 16.032, Kurt Thome - 16.030, Sara Bahloul - 16.015, Robert Ryan - 16.003, Cibele Teixeira Pinto - 16.045</b>	<b><u>Session 10 - Calibration Processes and Data</u></b> <b>10:10 - 11:40 (90 minutes)</b> <b>Moderators: Reynolds/Mah</b> <b>David Allen - 16.037, Tom Cecere - 16.041, Shawana Johnson - 16.040, Jim Storey - 16.021</b>
Lunch 12:10 - 1:10 PM	Lunch 12:10 - 1:10 PM	Lunch/Poster Session 11:40 - 1:10 PM
		Lunch 11:40 - 12:20 PM
<b><u>Session 3 - Satellite Geometric Calibration 1:10 - 3:10 (120 minutes)</u></b> <b>Moderators: Goldberg/Christopherson</b> <b>DongHan Lee - 16.044/16.043, Byron Smiley - 16.025, David Mulawa - 16.038, Sung-Hwan Park - 16.034</b>	<b><u>Session 7 - Radiometric Calibration 1:10 - 3:10 (120 minutes)</u></b> <b>Moderators: Thome/Goldberg</b> <b>Mary Pagnutti - 16.010, Brian Wenny - 16.027, Jeff Czapl-Meyers - 16.026, Kurt Thome - 16.029, Stephen</b>	<b><u>Session 11 - Camera and Sensor Calibration 1:10-3:10 (120 minutes)</u></b> <b>Moderators: Christopherson/Stensaas</b> <b>DooChun Seo - 16.042, Christian Muller - 16.002, Michael Gruber - 16.009, Wei Sun - 16.046</b>
Break 3:10 - 3:30 PM	Break 3:10 - 3:30 PM	Break 3:10 - 3:30 PM
<b><u>Session 4 - Lidar Data Quality 3:30 - 5:00 (90 minutes)</u></b> <b>Moderators: Christopherson/Stensaas</b> <b>Minsu Kim - 16.022, Ajit Sampath - 16.023, Michael Sitar - 16.035, Qassim Abdulla - 16.020</b>	<b><u>Session 8 - Sensor Calibration and Techniques</u></b> <b>3:30 - 5:00 (90 minutes)</b> <b>Moderators: Thome/Goldberg</b> <b>Jennifer Kyle</b> <b>Joseph Warga - 16.007, Ignacio Zuleta - 16.004, Dennis Helder - 16.031</b>	<b><u>Session 12 - Future of Earth Observation</u></b> <b>3:30-5:00 (90 minutes)</b> <b>Moderators: Stensaas/Hartpence</b> <b>Zhouting Wu - 16.017, Jon Christopherson - 16.024, JACIE Question and Answer, Survey, Closing Remarks</b>

# Core Planning Team

- JACIE co-chairs and team
  - USGS: Gregory Stensaas
  - NASA: Kurt Thome
  - USDA: Curt Reynold
  - NOAA: Mitch Goldberg
  - NGA: Dave Case
  - ASPRS: Pricilla Weeks/ Michael Hauck/Jerry Lenczowski
  - Others: Jon Christopherson and Anya Hartpence (SGT, contractor to the USGS EROS)

# JACIE History

- Started in 2000 via NASA Commercial Data Buy and the need for better understanding of calibration and data quality
- 15<sup>th</sup> Annual Workshop (1 year - Hurricane delay)
- USGS JACIE leadership Role in 2006
- JACIE Information Page – Everything back to 2001
  - <http://calval.cr.usgs.gov/jacie/>



**JACIE 2015 – Tampa, FL**

# Why JACIE

- An understanding and characterization of new sensors and technology is especially important:
  - a) Civil and Commercial imagery availability and use is expanding significantly by both Government and Industry
  - b) Technology continues to grow at an exceptional rate and the way things were done is changing rapidly
    - Integrated Sensors, data fusion, software and processing, storage, many pieces are coming together to allow many integrated information products
- Therefore, a strong cal/val/quality base is a must!

# Value of JACIE

- Direct support of National Space Policy and National Plan for Civil Earth Observations
  - [http://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/national\\_plan\\_for\\_civil\\_earth\\_observations\\_-\\_july\\_2014.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/national_plan_for_civil_earth_observations_-_july_2014.pdf)
- U.S. Government leadership team with industry on establishing Cal/Val and QA base information
- Supports the strong Government need for common quality assurance processes
- Provides an independent assessment and validation model with respect to product quality and usability

# Value of JACIE

- Provides a calibration and validation baseline and forum needed for data and science interoperability
  - 15+ year calibration/characterization record
  - Research showcase for cal/val uses in applications
- Leverages JACIE agencies' and industry expertise for unbiased system assessments
  - Provides cost efficiencies and improves communication for both Gov't and Industry users

# Government Speakers and Panel Members

- Glenn Bethel - USDA
- Peter Doucette - USGS
- Kurt Thome - NASA
- Mitch Goldberg - NOAA
- Frank Avila - NGA/Office of Sciences & Methodologies (ATS)

# Closing

- **Highlights**
  - **New sensors**
  - **New products**
  - **New applications and services**
  - **Do we need to look at what is needed to track quality related to integrated source data/products and algorithms?**
  - **Error and Uncertainty traceability**
    - **Do we let users define what is good enough (“fit for purpose”), and JACIE just provides methodology and source capability assessment?**
    - **What about science products and applications?**
  - **Next JACIE, new thoughts?**
- **Thank You!**

# JACIE – The Way Forward

- Stakeholders meeting – 10/27/15
  - Move back to DC area to Gov't facility
    - USGS Reston, VA (Date to be determined)
  - Enhanced characterization and reporting
  - JACIE to work requirements based process
- Survey Results and Presentations – on-line shortly - <http://calval.cr.usgs.gov/jacie/>
  - Notification via email
- You are now on the JACIE email list so new information will come via email