



**GREEN BANK STAR QUEST X  
PROGRAM SCHEDULE**

**2013**

**<http://caacwv.com/>**

**<http://greenbankstarquest.org/>**

<b>WEDNESDAY- JULY 10, 2013</b>		
<b>All Day</b>	<b>Camping</b>	<b>Your Site</b>
<b>9:00am-7:00pm</b>	<b>Registration</b>	<b>Registration Desk</b>
<b>9:00am-6:00pm</b>	<b>Vendor Area Open</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>NRAO Hourly Tours / Gift Shop</b>	<b>Visitor Center</b>
<b>10:00am-2:00pm</b>	<b>Welcome to Star Quest-Orientation</b>	<b>Registration Desk</b>
<b>10:00am-11:00am</b>	<b>Introduction To Astronomy Pam Casto-NASA</b>	<b>Classroom</b>
<b>10:00am-11:30am</b>	<b>Children's Activities</b>	<b>Star Lab Room</b>
<b>11:00am - 12:00pm</b>	<b>Sketching the Night Sky Michael Rosalina</b>	<b>Classroom</b>
<b>12:00am-1:00pm</b>	<b>Lunch Break</b>	
<b>1:00pm-2:00pm</b>	<b>Meteorites 101 David Holden</b>	<b>Classroom</b>
<b>1:30pm-2:30pm</b>	<b>Children's Activities Rocket Making Workshop Parent Required Sign Up Sheet</b>	<b>Star Lab Room</b>
<b>2:30pm</b>	<b>By NRAO Staff Member 40' Radio Dish Orientation #1 (sign-up sheet)</b>	<b>40' Dish Site</b>
<b>2:30pm-3:30pm</b>	<b>Introduction To Radio Astronomy Sue Ann Heatherly</b>	<b>Classroom</b>
<b>4:00pm-5:30pm</b>	<b>"It's Not the Plane, It's the Pilot" Warren Keller</b>	<b>Classroom</b>
<b>4:00pm-5:30pm</b>	<b>Introduction To Astrophotography Brent Maynard</b>	<b>Faraday Computer Lab</b>
<b>5:00pm-7:00pm</b>	<b>Dinner Break</b>	
<b>7:00pm-8:00pm</b>	<b>THE STRUCTURE OF THE MILKY WAY Dr. Loren Anderson - Keynote</b>	<b>Auditorium</b>
<b>10:00pm</b>	<b>Visitor Center Closed</b>	
<b>8:30pm-10:00pm</b>	<b>Astrophotography Field Session Brent Maynard</b>	<b>Field</b>
<b>11:00pm-3:00am</b>	<b>40' Dish Observation Sessions</b>	<b>40' Radio Dish</b>
<b>Dusk till Dawn</b>	<b>Observing</b>	<b>Your Site</b>
<b>BUY STAR QUEST LOGO PINS / PENS</b>	<b>Reminder: Please check at the registration desk for daily schedule updates / revisions and cafeteria meal forms</b>	<b>BUY STAR QUEST LOGO T-SHIRTS / HOODIES</b>
<b>Visit Vendors</b>	<b>Don't forget to purchase Raffle Tickets!</b>	<b>Visit Vendors</b>

	<b>THURSDAY- JULY 11, 2013</b>	
<b>All Day</b>	<b>Camping</b>	<b>Your Site</b>
<b>9:00am-7:00pm</b>	<b>Registration</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>Vendor Area Open</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>NRAO Hourly Tours / Gift Shop</b>	<b>Visitor Center</b>
<b>10:00am-2:00pm</b>	<b>Solar Observing (Weather Permitting)</b>	<b>Visitor Center</b>
<b>10:00am-4:00pm</b>	<b>Welcome to Star Quest - Orientation</b>	<b>Registration Desk</b>
<b>9:00am-10:00am</b>	<b>Introduction To Radio Astronomy Sue Ann Heatherly</b>	<b>Star Lab Room</b>
<b>9:30am-10:30am</b>	<b>Astrophotography Workshop Warren Keller</b>	<b>Classroom</b>
<b>11:00am-12:00pm</b>	<b>Growing Up In An Astronomy Club Caitlin Ahrens, Jeremy Bumgardner, &amp; Stas Edel</b>	<b>Classroom</b>
<b>10:00am-11:30am</b>	<b>Children's Activities</b>	<b>Star Lab Room</b>
<b>11:00am</b>	<b>By NRAO Staff Member 40' Radio Dish Orientation #2 20 person max. (sign-up sheet)</b>	<b>40' Dish Site</b>
<b>11:00am-1:00pm</b>	<b>Lunch Break</b>	
<b>1:15pm-2:15pm</b>	<b>Deep Sky Image Processing Brent Maynard</b>	<b>Faraday Computer Lab</b>
<b>1:15pm-2:15pm</b>	<b>Children's Activities</b>	<b>Star Lab Room</b>
<b>1:30pm-2:30pm</b>	<b>Meteorites 101 David Holden-Sky Stones</b>	<b>Classroom</b>
<b>2:30pm</b>	<b>By NRAO Staff Member 40' Radio Dish Orientation #3 20 person max. (sign-up sheet)</b>	<b>40' Dish Site</b>
<b>3:00pm-4:30pm</b>	<b>Pam Casto</b>	<b>Classroom</b>
<b>4:00pm</b>	<b>High Tech Tour of the GBT Control Room (Sign-up Sheet)</b>	<b>Jansky Lab</b>
<b>5:00pm-7:00pm</b>	<b>Dinner Break</b>	<b>-</b>
<b>7:00pm-8:00pm</b>	<b>Exploring the Nature of Matter Along the High Intensity Frontier Dr. Michelle Shinn Keynote</b>	<b>Auditorium</b>
<b>8:00pm-8:30pm</b>	<b>Children's Rocket Launch</b>	<b>Field</b>
<b>8:30pm-10:00pm</b>	<b>Astrophotography Field Session Brent Maynard</b>	<b>Field</b>
<b>11:00pm-3:00am</b>	<b>40' Dish Observation Sessions</b>	<b>40' Radio Dish</b>
<b>Dusk till Dawn</b>	<b>Observing</b>	<b>Your Site</b>
<b>BUY STAR QUEST LOGO PINS / PENS</b>	<b>Reminder Please check at the registration desk for daily schedule updates / revisions and cafeteria meal forms</b>	<b>BUY STAR QUEST LOGO T-SHIRTS / HOODIES</b>

	<b>FRIDAY- JULY 12, 2013</b>	
<b>All Day</b>	<b>Camping</b>	<b>Your Site</b>
<b>9:00am-7:00pm</b>	<b>Registration</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>Vendor Area Open</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>NRAO Hourly Tours / Gift Shop</b>	<b>Visitor Center</b>
<b>9:00am-10:00am</b>	<b>Geology Of Mars Caitlin Ahrens</b>	<b>Classroom</b>
<b>9:00am-10:00am</b>	<b>Tom Crowley</b>	<b>Basement</b>
<b>10:00am-11:30am</b>	<b>Children's Activities</b>	<b>Star Lab Room</b>
<b>10:00am-2:00pm</b>	<b>Solar Observing (Weather Permitting)</b>	<b>Visitor Center</b>
<b>10:00am-11:30am</b>	<b>Introduction To Astrophotography Brent Maynard</b>	<b>Faraday Computer Lab</b>
<b>10:30am-11:30</b>	<b>Meteorites 101 David Holden-Sky Stones</b>	<b>Classroom</b>
<b>11:00am</b>	<b>By NRAO Staff Member 40' Radio Dish Orientation #4 20 person max. (sign-up sheet)</b>	<b>40' Dish Site</b>
<b>11:00am-1:00pm</b>	<b>Lunch Break</b>	
<b>1:15pm-2:15pm</b>	<b>Modifying a DSLR For Astrophotography Brent Maynard</b>	<b>Faraday Computer Lab</b>
<b>1:30pm-2:30pm</b>	<b>Children's Activities</b>	<b>Star Lab Room</b>
<b>1:00pm-3:00pm</b>	<b>Sketching the Night Sky Michael Rosalina</b>	<b>Classroom</b>
<b>2:30pm</b>	<b>By NRAO Staff Member 40' Radio Dish Orientation #5 20 person max. (sign-up sheet)</b>	<b>40' Dish Site</b>
<b>3:15pm-4:45pm</b>	<b>Meteorites 102 David Holden</b>	<b>Classroom</b>
<b>4:00pm</b>	<b>High Tech Tour of the GBT Control Room (sign-up sheet)</b>	<b>Jansky Lab</b>
<b>5:00pm-7:00pm</b>	<b>Dinner Break</b>	
<b>7:00pm-8:00pm</b>	<b><b>"FOR THE WORLD HAS HOLLOWES AND I HAVE TOUCHED THE ICE" Mark "Indy" Kochte - Keynote</b></b>	<b>Auditorium</b>
<b>8:30pm-10:00pm</b>	<b>Astrophotography Field Session Brent Maynard</b>	<b>Field</b>
<b>11:00pm-3:00am</b>	<b>40' Dish Observation Sessions</b>	<b>40' Radio Dish</b>
<b>Dusk till Dawn</b>	<b>Observing</b>	<b>Your Site</b>
<b>BUY STAR QUEST LOGO PINS / BUTTONS &amp; KEYCHAINS</b>	<b>Reminder Please check at the registration desk for daily schedule updates / revisions and cafeteria meal forms</b>	<b>BUY STAR QUEST LOGO T-SHIRTS / HOODIES</b>

	<b>SATURDAY- JULY 13, 2013</b>	
<b>SAT. 1:00am-6:00am (NOTE TIME)</b>	<b>Radio Telescope Observing 40 foot dish</b>	<b>40 Foot Dish</b>
<b>All Day</b>	<b>Camping</b>	<b>Your Site</b>
<b>9:00am-1:00pm</b>	<b>Registration</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>Vendor Area Open</b>	<b>Visitor Center</b>
<b>9:00am-6:00pm</b>	<b>NRAO Hourly Tours / Gift Shop</b>	<b>Visitor Center</b>
<b>9:00am-10:00am</b>	<b>Time Lapse Photography Mark "Indy" Kochte</b>	<b>Classroom</b>
<b>10:00am-2:00pm</b>	<b>Solar Observing (Weather Permitting)</b>	<b>Visitor Center</b>
<b>10:00am</b>	<b>By NRAO Staff Member 40' Radio Dish Orientation #6 20 person max. (sign-up sheet)</b>	<b>40' Dish Site</b>
<b>10:00am-11:00am</b>	<b>Growing Up In An Astronomy Club Caitlin Ahrens, Jeremy Bumgardner, &amp; Stas Edel</b>	<b>Classroom</b>
<b>10:00am-11:30am</b>	<b>Children's Activities LEGO WE-DO</b>	<b>Star Lab Room</b>
<b>11:00am-12:00pm</b>	<b>Rocket Boy Jimmy Carroll</b>	<b>Classroom</b>
<b>Visit Vendors</b>	<b>Don't forget to purchase RAFFLE Tickets</b>	<b>Visit Vendors</b>
<b>11:30am-1:00pm</b>	<b>Lunch Break</b>	
<b>1:00pm</b>	<b>GROUP PHOTO PLEASE MEET IN THE FIELD</b>	<b>Field</b>
<b>2:15pm-3:30pm</b>	<b>Dark Energy Dr. Michelle Shinn</b>	<b>Classroom</b>
<b>3:30pm-4:30pm</b>	<b>Deep Sky Image Processing Brent Maynard</b>	<b>Faraday Computer Lab</b>
<b>3:30pm-4:30pm</b>	<b>Acid Etching Meteorites David Holden</b>	<b>Basement</b>
<b>5:00pm-6:00pm</b>	<b>MERAL Annual Meeting Library Loaner Program John Goss</b>	<b>Auditorium</b>
<b>4:00pm</b>	<b>High Tech Tour of the GBT Control Room (sign-up sheet)</b>	<b>Jansky Lab</b>
<b>4:30pm-5:30pm</b>	<b>Modifying a DSLR for Astrophotography Brent Maynard</b>	<b>Faraday Computer Lab</b>
<b>5:00pm-6:00pm</b>	<b>MERAL Annual Meeting Library Loaner Program John Goss</b>	<b>Auditorium</b>
<b>5:30pm-7:00pm</b>	<b>Dinner Break</b>	
<b>7:15pm-8:30pm</b>	<b>TOPIC Robert Naeye Editor, Sky &amp; Telescope Keynote</b>	<b>Auditorium</b>
<b>8:30pm-10:00pm</b>	<b>Raffle Drawing / Certificate Awards</b>	<b>Auditorium</b>

<b>10:00pm</b>	<b>Visitor Center Closed</b>	
<b>Dusk till Dawn</b>	<b>Observing</b>	<b>Your Site</b>

	<b>SUNDAY- JULY 14, 2013</b>	
<b>7:00-10:30am</b>	<b>Sunday Morning Breakfast Star Quest Activities End</b>	<b>Visitor Center</b>

**Dr. Loren Anderson – Keynote**

**WEDNESDAY- JULY 10, 2013**

**7:00 – 8:00**

**BIO**

## **Dr. Michelle Shinn – Keynote**

**THURSDAY- JULY 11, 2013**

**7:00 pm – 8:00 pm**

**BIO**



Dr. Michelle Shinn, Chief Optical Scientist of the Free-Electron Laser Division, has been at Jefferson Lab since 1995. Jefferson Lab's Free-Electron Laser, often referred to by its acronym FEL, is created using an underground particle accelerator and the laser is directed to laboratory rooms above ground. The FEL is the world's highest-power, tunable laser.

As Chief Optical Scientist, Dr. Shinn sets the specifications and analyzes the performance of the FEL's complex optics systems. In addition, she has led design, procurement, and installation activities for upgrades to the Free-Electron Laser. She also collaborates with other scientists who use the FEL, and in particular, pursues her own research on laser applications, as well as on the laser-induced damage of optical components.

Before coming to Jefferson Lab, she was a physicist in the Laser Division at Lawrence Livermore National Lab (1984-1990), and Associate Professor of Physics at Bryn Mawr College (1990-1995).

Recently, Dr. Shinn was named a Fellow of the American Physical Society in recognition of her contributions to the application of lasers in society. In her free time, she enjoys time spent outdoors as an amateur astronomer, birdwatcher and beekeeper.



# **MARK “INDY” KOCHTE**

**FRIDAY- JULY 12, 2013**

**7:00 pm – 8:00 pm**

**BIO**



\*Knowing that astronomy and space exploration was in his future during the first week of his 8th grade Earth Science classes, Mark 'Indy' Kochte went on to obtain a degree in astronomy from The Ohio State University in 1987.

In 1988 he joined the Hubble Space Telescope project at the Space Telescope Science Institute in Baltimore, Maryland, doing the acquisition, processing, and archiving of Hubble data. During his time with the project Indy was afforded the opportunity to do research on extrasolar planets, and helped define the evidence of an atmosphere around the first known transiting planet in the star system HD 209458b. He also was heavily involved in the grassroots project UMBRAS, a spacecraft design that would enable space telescopes to actually visually detect extrasolar planets the size of Jupiter or Saturn. After 17 years with Hubble, Indy moved on to the Far Ultraviolet Spectroscopic Explorer project (FUSE) as a Mission Planner, taking on the immense challenges of how to deal with a satellite that has only one remaining reaction wheel. In the fall of 2006 he was offered the opportunity to join the MESSENGER team at the Johns Hopkins University Applied Physics Lab as a Payload Operations Specialist for the Mercury Atmospheric and Surface Composition Spectrometer instrument (MASCS). Since joining the Mission he supported two successful flybys of Venus and three exciting flybys of Mercury during the Cruise Operations of the spacecraft.

In March 2011 Indy and the rest of the team transitioned to Mercury Orbital Operations when MESSENGER became the first ever spacecraft to orbit the planet Mercury. Recently he took on the role of Mission Planner, and his duties have expanded from not only generating the command sequences for the MASCS instrument, but for generating the weekly command loads of daily activities for the spacecraft as a whole. Throughout his tenure in space mission operations Indy has published a half a dozen papers on space mission design and mission operations, as well as co-authored a half a dozen additional papers on space mission design and science analysis results.

\*Not being an all-work/no-play kinda guy, in his spare time when not staring at the stars, Indy can be found out exploring our planet. In addition to having authored the rock climbing guidebook "Climb Maryland!", he is often out scaling cliffs from Maryland to Thailand, mapping cave systems in West Virginia, mountain climbing in Colorado, California and Washington, diving for fossilized Megalodon shark teeth (or to just look at the pretty fish) in the Atlantic or Caribbean, working on various time-lapse and astro-lapse photography projects, or generally capturing moments in time by photographing the world we live in. No moss gathers under his feet!\*

**ROBERT NAEYE**  
**SATURDAY- JULY 13, 2013**  
**7:00 pm – 8:00 pm**  
**BIO**



Robert Naeye is Editor in Chief of Sky & Telescope, the world's most respected and influential popular astronomy magazine. Robert earned a master's degree in science journalism from Boston University in 1992, and later worked on the editorial staffs of Discover and Astronomy magazine. He served as Editor in Chief of Mercury magazine (published by the Astronomical Society of the Pacific) from 2000 to 2003. He worked as a Senior Editor at Sky & Telescope from 2003 to 2007, before moving to NASA's Goddard Space Flight Center to work as a Senior Science Writer for the Astrophysics Science Division. He returned to Sky & Telescope in June 2008 to serve as Editor in Chief.

Robert is the author of two books: *Through the Eyes of Hubble: The Birth, Life, and Violent Death of Stars* (Kalmbach, 1997) and *Signals from Space: The Chandra X-ray Observatory* (Turnstone, 2000). He has contributed to two other books, and has won several awards for his writing and outreach activities.

## NOTES

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