

***SMART* Use of NASA Space Grants: Recent Examples of West Virginia NASA Space Grants**

by

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**SMART-Center & SMART Centre Market,
Near Earth Object Foundation &
West Virginia-Handle On Science**

November 11, 2011

2011 Mid-Atlantic Regional Space
Grant Meeting, Princeton, NJ, Nov. 3

Who We Are & What We Do

- **Near Earth Object Foundation**
 - 501(c)(3) scientific research
 - and 509 (a)(2) public education
 - Astronomical research and educational outreach programs
 - Main field of research:
 - asteroid/comet threats,
 - mitigation,
 - and utilization
 - NEO Foundation serves as the fiscal agent for WV Space Grants
 - NEO Foundation was started in Wheeling, WV in 1996
- **SMART-Center**
 - 501(c)(3) organization
 - SMART :
 - **S**cience,
 - **M**athematics,
 - **A**rt,
 - **R**esearch, and
 - **T**echnology
 - Educational outreach programs
 - School groups, educator workshops, summer science camps, and public science education regionally since 1994

The Rest of the Partners

- **Brooke Hills Park**
 - First “Dark Park” in West Virginia
 - Location of “Rural” StarWatch events, 3rd Friday of each month
- **SMART Centre Market**
 - Wheeling’s interactive science store
 - Location of “Urban” StarWatch events, 1st Friday of each month
- **Radio Science News**
 - Live, local, science based call-in radio program
- **West Virginia-Handle On Science**
 - RESA 6, K-6 grade, hands-on science kit-based curriculum program
 - Serving 11,000 students and 450 teachers
- **ASTROLABE Astronomy Club**

Recent Examples of WV Space Grants

- Using Science Notebooks in Elementary Science Inquiry
- NanoScale PlanetWalk
- Macro to Micro Tools of Science Work Shop
- Urban & Rural Sky Project
- Science Activity Enrichment Workshop
- GEMS: Girls Enjoying Math & Science

Using Science Notebooks in Elementary Science Inquiry

- K-12 Outreach / 2009 - 2010
- Teacher workshop
- Coupled with “READ Science” workshop
- Integration techniques focus on literacy and use of science note books in the Elementary Classroom
- Educators teaching K-2, 3-5, and 6-8



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NanoScale PlanetWalk

- Community Outreach / 2009 - 2010 (through the present)
 - Change in trail location has extended the expected timelines for the NanoScale PlanetWalk project
- 1 to 1 billionth scale PlanetWalk
 - NanoScale of Solar System objects - distance / size
- Along a local walking trail just south of Wheeling



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Macro to Micro

Tools of Science Work Shop

- K-12 Outreach / 2010
- Educator workshop focusing on use of science tools
 - Telescopes
 - each teacher makes and uses a “Galileoscope”
 - Microscopes
 - Spring scales
 - Balances
 - Specialized tools and techniques of Paleontology



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Urban & Rural Sky Project

- Community Outreach / 2011 - 2012
- Total of 30 “Sky” events
- Astronomy events in
 - “Urban” setting (downtown Wheeling, WV) in conjunction with monthly First Friday events
 - “Rural” setting (Brooke Hills Park - West Virginia’s first “Dark Park”) on 3rd Friday
- 7th WV Kite Festival

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Science Activity Enrichment Workshop

- K-12 Outreach / 2011
- 3 day summer teacher workshop and 2 follow up days involving PreK through 6th grade teachers in:
 - Project Need
 - Project Wild
 - Astronomy Enrichment
- Tied to WV state Science Standards and regional WV-HOS kit based curriculum



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GEMS: Girls Enjoying Math & Science

- Summer of Innovation/2011
- 2 day specialized Summer Science Camp for girls in grades 5 to 8
- Incorporated NASA educational curriculum materials
- 2 overarching themes:
 - Exobiology
 - Comparative Planetology



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Advertising for NASA Space Grant Events

- **Wheeling Newspapers**
 - Occasional news articles
 - Monthly calendar of events
 - Weekly / daily reminders
- **Ohio Valley Parent Mag.**
 - Monthly “SMART Science”
 - 40,000 issues given out
- **Radio Science News**
 - Wide local audience WVLY 1370 AM and Internet
 - Saturday mornings 11:05-11:58
- **West Virginia-Handle On Science (WV-HOS) Listserv**
 - notifies 450 K-8 grade educators in 5 counties of WV’s Northern Panhandle and their 11,000 students of science enrichment events
- **SMART-Center**
 - Webpages and FaceBook
- **SMART Centre Market**
 - Store fliers to customers, signs, and word of mouth