



## Link Summer Science Explorations - 2009

**Overview:** For the seventeenth summer, the *Kopernik Observatory & Science Center* in Vestal, New York is offering weeklong science programs for young people in grades 1-12 as part of our Kopernik Talent Search. Sponsored by the Edwin A. and Marion C. Link Foundation in memory of inventor/explorer Ed Link, *Link Summer Science Explorations* introduces students to hands-on, high-tech science. The Kopernik Link Residential Institutes provides students the opportunity to learn about various aspects of astronomy. Professional grade instruments are used to study and learn about astronomical objects. Black and white photography as well as digital photography is used to record and preserve observations for further study and presentation. Residential students are housed on campus at Binghamton University and attend nighttime programs at Kopernik Observatory. **Commuter options are available for the residential programs** and include a program fee adjustment. Call for details. All students who are new to Kopernik Talent Search (except Link 5 level) are required to have a nomination form completed by a teacher.

**Application/nomination and financial assistance forms are due by April 20, 2009 (later applications will be considered if space is available)** Course Outlines on the Link Residential Programs are available upon request. Payment is not required at this time.

### **Link 1 Residential Astronomy: The Sun, the Solar System, and Star Systems (9<sup>th</sup>-12<sup>th</sup> graders—08/09 school year)**

How did our Sun and the Solar System form? Are there planets around other stars? Students will study and examine our own Star – its birth, life and death. Next, we will also look beyond our own Sun, to the stars and star systems in our galaxy. Labs will include spectral analysis using the Observatory's new spectroscope. Participants will be learning astrophotography skills using DSLR cameras to capture images of stars, nebula, and the Milky Way. All students will visit Cornell's Space Science Imaging Facility and will be trained in basic sky watching with binoculars and various telescopes. Session A: July 19-25 **and/or** Session B: July 26-August 1. Fee: \$925 (1 week) **or** \$1750 (2 weeks) **Commuter Option: \$515 per week**

### **Link 2 Residential Space Science: Planets in the Solar System (current 7<sup>th</sup> & 8<sup>th</sup> grade—08/09 school year)**

Students will study the planets and moons of our solar system. We will look at the similarities and differences between the planets and review some of the latest discoveries. Problems and solutions of robotic missions to the planets will be investigated. Participants will attend a special solar astrophotography daytime session with Kopernik Observatory's 6" refractor and other instruments. Students may choose one-week or two-week institutes. Session A: July 5-11 **and/or** Session B: July 12-18. Fee: \$825 (1 week) **or** \$1550 (2 weeks) **Commuter Option: \$465 per week**

### **Link 3 Earth Science: Violent Weather and Its Effects (current 5<sup>th</sup> & 6<sup>th</sup> graders—08/09 school year)**

Tornadoes, hurricanes and other forms of violent weather change the Earth in many ways. Discover how the many changing forces in the atmosphere wreak havoc around the world. Students will use computer simulations, the Internet, and hands on labs to discover the secrets of violent weather and its effects on humanity. Labs will also include erosion studies, building weather instruments and advanced digital photography. Session A: July 20-24 **or** Session B: Aug 10-14, 9AM-3PM; Non-Member Fee: \$200 (Kopernik Observatory Member Fee: \$170)

### **Link 4 Junior Astronomers: Mars, Gas Giants, Extra-Terrestrial Moons, and Space Travel (current 3<sup>rd</sup> & 4<sup>th</sup> —08/09)**

Students will research Mars, Jupiter, Saturn, and the Moons of Jupiter. Space Travel and Space Technology will be explored. Activities include constructing models, planetary studies, extensive rock and mineral labs, making of ocean topographical maps, modeling sea creatures from the frozen seas of Europa, and designing and exploring how space suits work. Session A: July 13-17 **or** Session B: Aug 3-7, 9AM-3PM; Non-Member Fee: \$200 (Kopernik Observatory Member Fee: \$170)

### **Link 5 Young Scientists: Super Science Explorers (current 1<sup>st</sup> & 2<sup>nd</sup> graders—08/09 school year)**

Your child will love every minute of Kopernik Observatory's awesome and fun science activities! Budding geologists will explore the Earth by creating edible rocks and erupting volcanoes. Engineers of tomorrow will design and build spacecraft and launch actual rockets. Young Biologists will explore living things as we hike the nature trails in Kopernik's surrounding woods. Youthful astronomers will use Kopernik Observatory's telescopes to bring heavenly objects close to home! Session A: July 6-10 **or** Session B: July 27-31, 9AM-3PM; Non-Member Fee: \$200 (Kopernik Observatory Member Fee: \$170)

**For more information: Contact 607-748-3685 or visit our website at [www.kopernik.org](http://www.kopernik.org)**