

47TH National Junior Science & Humanities Symposium – Student Research Session
Session I – Environmental sciences/Earth & space (Pueblo Room)
Moderator: Greg Neuschafer, Ph.D., Office of Naval Research

4/30/2009 9:00:00 AM	4/30/2009 9:18:00 am	<i>Gulf Hypoxic Zones: Forecasting with Laboratory and Mathematical Simulations</i>	Bonnie J. McLindon, St. Joseph's Academy, Baton Rouge, LA; Louisiana JSHS; Teacher/Mentor/Sponsor: Linda Messina, St. Joseph's Academy
4/30/2009 9:20:00 AM	4/30/2009 9:38:00 AM	<i>Low Cost Microbial Fuel Cell for Harvesting Energy and Cleansing Wastewater</i>	Ashutosh Patra, Sunset High School, Portland, OR Oregon JSHS; Teacher/Mentor/Sponsor: Kirk Soule, Sunset High School
4/30/2009 9:40:00 AM	4/30/2009 9:58:00 AM	<i>Natural Organics Control Aggregation of Mercury Sulfide Nanoparticles in Freshwater Systems</i>	Eileen K. Jang, North Carolina School of Science and Mathematics (NCSSM), Cary, NC; North Carolina JSHS; Teacher/Mentor/Sponsor: Dr. Myra Halpin, NCSSM; Dr. Helen Hsu-Kim, Duke University; Leslie Brinson, NCSSM
4/30/2009 10:00:00 AM	4/30/2009 10:18:00 AM	<i>The Use of Antenna Pigments from Marine Algae for the Sensitization of Photovoltaic Cells</i>	Ashiyah M. Vesterby, Sequim Senior High, Sequim, WA Washington JSHS; Teacher/Mentor/Sponsor: Debra Beckett, Sequim Middle School; Mary Omberg, WSSEF Board; Ron Tognazzini, Tognazzini and Associates
4/30/2009 10:40:00 AM	4/30/2009 10:58:00 AM	<i>A Study of Radon Incidence in the Pordenone Province of Italy</i>	Samuel L. Hillestad, Aviano High School, APO, AE DoD Dependent Schools (Europe) JSHS; Teacher/Mentor/Sponsor: Louis Lucidi, Aviano High School; Laura Corder, Aviano High School
4/30/2009 11:00:00 AM	4/30/2009 11:18:00 AM	<i>Analyzing Arctic Solar Flux and Ice Extent Loss Projections</i>	Gwyneth R. Glissmann, Boulder High School, Boulder, CO Wyoming, Eastern Colorado JSHS; Teacher/Mentor/Sponsor: Adam DiGiacomo, Peak to Peak Charter School
4/30/2009 11:20:00 AM	4/30/2009 11:38:00 AM	<i>Sustainable Aquaculture: Maximizing Duckweed Protein Content Through Fertilization</i>	Jane Luceno, Yorktown High School, Yorktown Heights, NY New York (Upstate) JSHS; Teacher/Mentor/Sponsor: Michael Blueglass/William Mebane, Yorktown High School
4/30/2009 11:40:00 AM	4/30/2009 11:58:00 AM	<i>Antioxidants in Green Tea and their Effects on Diminishing Tumor Growth in <i>Ceratopteris richardii</i>.</i>	Milana Fuzaylova, Forest Hills High School, Forest Hills, NY New York City (Metro) JSHS; Teacher/Mentor/Sponsor: Karl Hoffman, Forest Hills High School
4/30/2009 1:20:00 PM	4/30/2009 1:38:00 PM	<i>The Transfer of Ampicillin Resistance in the Plum Island Wastewater Treatment Plant</i>	Sarah C. Plowden, Heathwood Hall Episcopal School, Columbia, SC South Carolina JSHS; Teacher/Mentor/Sponsor: Sean Norman, University of South Carolina; Lisa Norman, Heathwood Hall Episcopal School
4/30/2009 1:40:00 PM	4/30/2009 1:58:00 PM	<i>Retention of Sorbed Hydrophobic Pollutant by Organoclay in the Presence of Hydrocarbon-Degrading Bacterial Isolates</i>	Laurie A. Rumker, Oregon Episcopal School, Portland, OR Oregon JSHS; Teacher/Mentor/Sponsor: Dr. Parmely H. Pritchard, Oregon Episcopal School; Ellen Reynolds, Oregon Episcopal School
4/30/2009 2:00:00 PM	4/30/2009 2:18:00 PM	<i>Tsunami Mitigation as Function of Sea Floor Slope and Undersea Trench Depth and Width</i>	Julia H. Benson, Deerfield High School, Deerfield, IL Illinois JSHS; Teacher/Mentor/Sponsor: Mrs. Judi Luepke, Deerfield High School; Dr. Michael Benson, Northwestern University, Department of Obstetrics and Gynecology

47TH National Junior Science & Humanities Symposium – Student Research Session

Session 2 –Life science (Academy)

Moderator: Captain Dianne Johnson, U.S. Naval Reserve

4/30/2009 9:00:00 AM	4/30/2009 9:18:00 AM	<i>The Effect of Gathering Bark from Wiigwaasi-mitig (Paper birch)</i>	Joseph DePerry, Bayfield High School, Bayfield, WI Western Wisconsin, Upper Michigan JSHS; Teacher/Mentor/Sponsor: Richard Erickson, Bayfield High School
4/30/2009 9:20:00 AM	4/30/2009 9:38:00 AM	<i>Transforming Ipomoea batatas via Direct Inoculation with Agrobacterium rhizogenes</i>	Randall S. Ray, II, Wentzville Holt High School, Wentzville, MO; Missouri JSHS; Teacher/Mentor/Sponsor: Jennifer Berendzen, Wentzville Holt High School; Dr. Christopher Taylor, Donald Danforth Plant Science Center
4/30/2009 9:40:00 AM	4/30/2009 9:58:00 AM	<i>Cloning and Expression of a Putative Non-Specific Phospholipase C in Arabidopsis (PLC523)</i>	Bridget Waller, Cor Jesu Academy, St. Louis, MO Missouri JSHS; Teacher/Mentor/Sponsor: Dr. Xuemin (Sam) Wang, Donald Danforth Plant Science Center; Carlotta Peters, University of Missouri-St. Louis
4/30/2009 10:00:00 AM	4/30/2009 10:18:00 AM	<i>Adaptive Resistance of Candida albicans to Fluconazole</i>	Disha Bora, Detroit Country Day School, Beverly Hills, MI Michigan (Southeastern) JSHS; Teacher/Mentor/Sponsor: Gene Menton, Detroit Country Day School; Dr. Robert Akins, Wayne State University School of Medicine
4/30/2009 10:40:00 AM	4/30/2009 10:58:00 AM	<i>The identification of enzymes used in Salvia divinorum to produce salvinorin A</i>	Angela M. Schlegel, Tucson High Magnet School, Tucson, AZ Arizona JSHS; Teacher/Mentor/Sponsor: Margaret Wilch, Tucson High Magnet School; Dr. David R. Gang, University of Arizona
4/30/2009 11:00:00 AM	4/30/2009 11:18:00 AM	<i>Growth of the Amphibian Pathogen Batrachochytrium dendrobatidis in Response to the Chemical Properties of Aquatic Environments</i>	Scott P. Boisvert, Basha High School, Chandler, AZ Arizona JSHS; Teacher/Mentor/Sponsor: Dr. Elizabeth Davidson, Arizona State University; Christina Jahr, Basha High School
4/30/2009 11:20:00 AM	4/30/2009 11:38:00 AM	<i>A Molecular Phylogenetic Study of Archaea from a Muskeg in Southeast Alaska</i>	Stephanie A. Thompson, Mt. Edgecumbe High School, Kotzebue, AK; Alaska JSHS; Teacher/Mentor/Sponsor: Chohla Moll, Marty Johnson, Mount Edgecumbe High School; Kitty LaBounty, University of Alaska Southeast
4/30/2009 11:40:00 AM	4/30/2009 11:58:00 AM	<i>The Onion Thrip Trick: The Use of Heterorabditis Bacteriophora as a Biological Control Agent for Thrips Tabaci, Phase Two</i>	Lindsey M. Denison, Paonia High School, Paonia, CO Intermountain (Colorado, Montana, Idaho, Nevada) JSHS; Teacher/Mentor/Sponsor: Lindsay Molitor, Paonia High School; Lindsay Molitor, Paonia High School
4/30/2009 1:20:00 PM	4/30/2009 1:38:00 PM	<i>The Effects of Euschistus servus on Regulating Leptinotarsa decemlineata</i>	Sadik Uddin, Townsend Harris High School, Flushing, NY New York City (Metro) JSHS; Teacher/Mentor/Sponsor: Mrs. Cooper, Townsend Harris High School; Dr. Mitchell Baker, Queens College; Mrs. Brustein, Townsend Harris
4/30/2009 1:40:00 PM	4/30/2009 1:58:00 PM	<i>A Comparison of "Hard" Versus "Soft" Water on Eggshell Strength"</i>	Hyrum A. Booth, Upton High School, Upton, WY Wyoming, Eastern Colorado JSHS; Teacher/Mentor/Sponsor: Donald Booth, Upton High School
4/30/2009 2:00:00 PM	4/30/2009 2:18:00 PM	<i>Physical Parameters Related To Seed Selection For The Commercial Culture Of The Papaya Tree (Carica papaya)</i>	Abdiel Ortiz, Radians School, Cayey, PR Puerto Rico JSHS; Teacher/Mentor/Sponsor: De Jesus Aponte J., Radians School
4/30/2009 2:20:00 PM	4/30/2009 2:38:00 PM	<i>The Effect of Honey Hydrogen Peroxide Concentration on Small Hive Beetle (Aethina tumida) Survival</i>	Lydia L. McCormick, Jefferson County International Baccalaureate, Birmingham, AL; Alabama JSHS; Teacher/Mentor/Sponsor: Dr Catherine Shields, Jefferson County International Baccalaureate

47TH National Junior Science & Humanities Symposium – Student Research Session
 Session 3 – Life sciences (Palmer Room)

Moderator: Harold Gilbert, Ph.D., U.S. Air Force Academy Preparatory School

4/30/2009 9:00:00 AM	4/30/2009 9:18:00 AM	<i>Effect of Incubation Temperature on Sex of Neonatal Elaphe g. guttata</i>	Johanna Severson, La Crosse Central High School, La Crosse, WI; Western Wisconsin, Upper Michigan JSHS; Teacher/Mentor/Sponsor: Mike Bechtel, La Crosse Central High
4/30/2009 9:20:00 AM	4/30/2009 9:38:00 AM	<i>A Novel Regulatory Network of The Tumor Suppressor PTEN</i>	Kui Tang, Iowa City West High School, Iowa City, IA Iowa JSHS; Teacher/Mentor/Sponsor: Hongli Wang, University of Arkansas at Little Rock; Weijiu Liu, University of Central Arkansas
4/30/2009 9:40:00 AM	4/30/2009 9:58:00 AM	<i>Display of Specific and Random Peptides on Virus-like Particles of MS2 Bacteriophage for Materials Science and Biomedical Applications</i>	Adam Akkad, Albuquerque Academy, Albuquerque, NM New Mexico (Southwest) JSHS; Teacher/Mentor/Sponsor: Kevin Fowler
4/30/2009 10:00:00 AM	4/30/2009 10:18:00 AM	<i>IL-10 Inhibits Inflammation Mediated Cardiac Dysfunction Post Myocardial Infarction</i>	Yaseen A. Jamal, Illinois Math and Science Academy, Glen Ellyn, IL; Illinois (Chicago) JSHS; Teacher/Mentor/Sponsor: Dr. Raj Kishore, Feinberg Cardiovascular Research Institute, Northwestern University
4/30/2009 10:40:00 AM	4/30/2009 10:58:00 AM	<i>Novel Treatment Of Hemoglobinopathies By Modulating Testis-Specific Protein, Y-encoded Like 1 (TSPYL1) And Fetal Globin Inducing Factor (FGIF) Gene Expression</i>	Prarthana J. Dalal, Shawnee Mission East High School, Prairie Village, KS; Kansas-Nebraska-Oklahoma JSHS; Teacher/Mentor/Sponsor: Cole Ogdon, Shawnee Mission East High; Kenneth Peterson, Ph.D, Univ of Kansas Medical Center
4/30/2009 11:00:00 AM	4/30/2009 11:18:00 AM	<i>Comparisons of Tea Decaffeinated by Ethyl Acetate and Supercritical Carbon Dioxide</i>	Rachel P. Volquartsen, Kadena High School, APO DoD Dependent Schools (Pacific) JSHS; Teacher/Mentor/Sponsor: Steven Belnap, Kadena High School
4/30/2009 11:20:00 AM	4/30/2009 11:38:00 AM	<i>Anti- Cancer Activity of Scutellaria on Akt/PKB Signaling</i>	Johnny Fells, III, Northside High School, Warner Robins, GA Georgia JSHS; Teacher/Mentor/Sponsor: Urleaka Woodard (Sponsor), Northside High School
4/30/2009 11:40:00 AM	4/30/2009 11:58:00 AM	<i>Proliferation or Annihilation: The Role of Integrins in Prostatic Cellular Development</i>	Nicholas A. Cernek, Lincoln Park, Chicago, IL Illinois (Chicago) JSHS; Teacher/Mentor/Sponsor: Ms. Riley of CPS; Dr. Kenneth Ilio, Dr. Zafra Lerman and Marija Kovacevic, Columbia College Science Institute
4/30/2009 1:20:00 PM	4/30/2009 1:38:00 PM	<i>Microscale Platform for Determining Human Pluripotent Stem Cell Fate</i>	Jane Y. Suh, Palos Verdes Peninsula High School, Rolling Hills Estates, CA; California (Southern) JSHS; Teacher/Mentor/Sponsor: Peter Starodub, Palos Verdes Peninsula High School; Dr. Hsian-Rong Tseng, University of California, Los Angeles
4/30/2009 1:40:00 PM	4/30/2009 1:58:00 PM	<i>A Study On The Neuroprotective Properties Of Green Tea Epigallocatechin-3-gallate (egcg) In Relation To P25-activated Cyclin-dependent Kinase 5 (cdk5): Implications For Alzheimer'S Disease</i>	Shivani B. Agarwal, Spring Valley High School, Columbia, SC South Carolina JSHS; Teacher/Mentor/Sponsor: Michelle Spigner, Spring Valley High School
4/30/2009 2:00:00 PM	4/30/2009 2:18:00 PM	<i>Adult Hippocampal Arctic Ground Squirrel Neuron Experiments</i>	Laura G. Mather, West Valley High School, Fairbanks, AK Alaska JSHS; Teacher/Mentor/Sponsor: Dr. Kelly Drew, Kimberley Iceman, University of Alaska Fairbanks; Cynthia Beale, West Valley High School
4/30/2009 2:20:00 PM	4/30/2009 2:38:00 PM	<i>Glutamate Transporter (GLT-1) Overexpression Attenuates Excitotoxicity in vitro and in vivo</i>	Ping T. Yeh, Centennial High School, Ellicott City, MD Maryland JSHS; Teacher/Mentor/Sponsor: Yun Wang, PhD, National Institute on Drug Abuse; Brandon Harvey, PhD, National Institute on Drug Abuse; Michelle Bagley, Centennial High School
4/30/2009 2:40:00 PM	4/30/2009 2:58:00 PM	<i>A Stable Cell Model of Huntington's Disease-Like 2</i>	Kayleigh B. Horst, Baltimore Polytechnic Institute, Baltimore, MD; Maryland JSHS; Teacher/Mentor/Sponsor: Dr. Rudnicki, Johns Hopkins Hospital; Mr. Nelson, Baltimore Polytechnic Inst

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Session 4 – Medicine & health/Behavioral (Douglas Room)

Moderator: Commander Mark Murray, U.S. Naval Reserve

4/30/2009 9:00:00 AM	4/30/2009 9:18:00 AM	<i>Too Busy To Sleep? The Impact of Academic And Social Activities On Sleep Deprivation Among Adolescents</i>	Qiushuang Jin, West High School, Iowa City, IA Iowa JSHS ; Teacher/Mentor/Sponsor: Qian Shi, Mayo Clinic
4/30/2009 9:20:00 AM	4/30/2009 9:38:00 AM	<i>Novel Roles Of Dyx1c1 In Neuronal Migration And Dendritic Arborization: Implications In Human Dyslexia</i>	Inar P. Zhang, Mercer Island High School, Mercer Island, WA Washington JSHS ; Teacher/Mentor/Sponsor: Dr. Glenn D. Rosen, Beth Israel Deaconess Medical Center; Brian Hampsch, Mercer Island High School
4/30/2009 9:40:00 AM	4/30/2009 9:58:00 AM	<i>Workplace Adaptations for People with ADHD: A Feasibility Study</i>	Janelle C. Thixton, Eastern High School, Pekin, IN Indiana JSHS ; Teacher/Mentor/Sponsor: Sharon McElroy, Eastern High School
4/30/2009 10:00:00 AM	4/30/2009 10:18:00 AM	<i>Protection of Neurons Against Injury Using Neuroreceptor-Targeting Nanoparticles</i>	Jonathan Wang, Oak Hall School, Gainesville, FL Florida JSHS ; Teacher/Mentor/Sponsor: Mr. Perlette, Oak Hall
4/30/2009 10:40:00 AM	4/30/2009 10:58:00 AM	<i>Lowered Alcohol Tolerance Is Detected In Alcohol Dehydrogenase Mutants Using The Polymerase Chain Reaction (PCR)</i>	Edward V. Strecker, Shepton High School, Plano, TX Texas JSHS ; Teacher/Mentor/Sponsor: Deanna Shea, Shepton High School
4/30/2009 11:00:00 AM	4/30/2009 11:18:00 AM	<i>Correlation Between Cytoplasmic Vacuoles And Ataxin-1 Nuclear Inclusions In Purkinje Cells In Sca1</i>	Eshan Safaya, Murrah High School, Jackson, MS Mississippi JSHS ; Teacher/Mentor/Sponsor: Dr. Parminder JS Vig, University of Mississippi Medical Center; Jeffery Stokes, Murrah High School
4/30/2009 11:20:00 AM	4/30/2009 11:38:00 AM	<i>Prosopagnosia: Developing A Screening Test For Children</i>	Kaci L. Kottemann, Lamar Christian School, Purvis, MS Mississippi JSHS ; Teacher/Mentor/Sponsor: Lisa Browning, Lamar Christian School
4/30/2009 11:40:00 AM	4/30/2009 11:58:00 AM	<i>DNA Methylation Inhibits Cholinergic Promoter Activity in Reporter Gene Assays</i>	Nina Jreige, Newton Country Day School, Westwood, MA Southern New England (Massachusetts, Rhode Island) JSHS ; Teacher/Mentor/Sponsor: Dr. Brygida Berse, Boston University Department of Pathology and Laboratory Medicine; Mary-Louise Coates, Newton Country Day School
4/30/2009 1:20:00 PM	4/30/2009 1:38:00 PM	<i>Third-Year Comparative Study of the Effect of Camellia sinensis Herbal Teas on the Lifespan of Drosophila melanogaster</i>	Martha B. Trevino, Sr., Franklin High School, El Paso, TX New Mexico (Southwest) JSHS ; Teacher/Mentor/Sponsor: Alicia Stevens, Franklin High School
4/30/2009 1:40:00 PM	4/30/2009 1:58:00 PM	<i>Effectiveness of Bispecific Cytotoxin (DTEGFATF) in Ameliorating Human Glioblastoma Tumors</i>	Travis M. Spangler, Breck School, Golden Valley, MN North Central (Minnesota, N. & S. Dakota) JSHS ; Teacher/Mentor/Sponsor: Lois Fruen, Breck School; Dr. Daniel Vallera, University of Minnesota Masonic Cancer Research
4/30/2009 2:00:00 PM	4/30/2009 2:18:00 PM	<i>Aquaporin-4 Channels Regulate CA1 Hippocampal Long-term Potentiation</i>	Ian B. Mathews, Irvington High School, Irvington, NY New York (Upstate) JSHS ; Teacher/Mentor/Sponsor: Geraldine Winterroth, Irvington High School; Helen Scharfman, Nathan S. Kline Institute for Psychiatric Research
4/30/2009 2:20:00 PM	4/30/2009 2:38:00 PM	<i>The Effect of the Primary Colors (Blue, Red, Yellow) on the Memory Retention of Children from 4th to 6th Grade.</i>	Hector Martinez, Guamani Private School, Patillas, PR Puerto Rico JSHS ; Teacher/Mentor/Sponsor: Jorge Rodriguez, Guamani Private School
5/2/2009 2:40:00 PM	5/2/2009 3:00:00 PM	<i>Programming a Network Approach to Contain the Spread of Epidemics</i>	Nolan M. Kamitaki, Waiakea High School, Hilo, HI Hawaii JSHS ; Teacher/Mentor/Sponsor: Mrs. Jamie Nekoba, Waiakea High School

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Session 5 – Medicine & health/Behavioral (El Paso Room)

Moderator: MSG Ralph Brewer, Army Research Laboratory

4/30/2009 9:00:00 AM	4/30/2009 9:18:00 AM	<i>Synthesis of Cathepsin B Degradable Peptidic Dendrimers</i>	Sneha Kannan, Montgomery Blair High School, Potomac, MD Greater Washington, D.C. Area JSHS ; Teacher/Mentor/Sponsor: Dr. Rohit Kolhatkar, University of Maryland Baltimore, School of Pharmacy; Mrs. Susan Ragan, Montgomery Blair
4/30/2009 9:20:00 AM	4/30/2009 9:38:00 AM	<i>Use of Novel Structured RNA Molecules to Block HIV-1 Replication</i>	Swathi Krishnan, Rye Country Day School, Rye, NY Connecticut JSHS ; Teacher/Mentor/Sponsor: Dr. Vinayaka Prasad, Albert Einstein College of Medicine; Dr. Mary Krasovec, Rye Country Day School
4/30/2009 9:40:00 AM	4/30/2009 9:58:00 AM	<i>The Use of Methylseleninic Acid as Adjuvant Cancer Therapy for a New Platinum Variant Drug</i>	Akash Mirchandani, DuPont Manual High School, Louisville, KY; Kentucky JSHS ; Teacher/Mentor/Sponsor: Dr. William Deines, DuPont Manual; Dr. Teresa Fan, University of Louisville
4/30/2009 10:00:00 AM	4/30/2009 10:18:00 AM	<i>Isolating a Novel Antibiotic from Bacillus flexus, a Bacterium Found in the Human Microbiome</i>	Andrew Macgregor, Butte High School, Butte, MT Intermountain (Colorado, Montana, Idaho, Nevada) JSHS ; Teacher/Mentor/Sponsor: Dr. Andrea Stierle, Montana Tech
4/30/2009 10:40:00 AM	4/30/2009 10:58:00 AM	<i>Heparan Sulfate Glycosaminoglycans are Critical Determinants of Podocyte-Matrix Interactions and Adhesion</i>	Cooper D. Cain, Airline High School, Bossier City, LA Louisiana JSHS ; Teacher/Mentor/Sponsor: Kevin McCarthy, Ph.D., Airline High School
4/30/2009 11:00:00 AM	4/30/2009 11:18:00 AM	<i>The Effects of LOX-1 on Cellular Senescence</i>	Samuel Ivanovsky, Little Rock Central High School, Little Rock, AR; Arkansas JSHS ; Teacher/Mentor/Sponsor: Caleb Williams/ Dr. Magomed Khaidakov, Little Rock Central High
4/30/2009 11:20:00 AM	4/30/2009 11:38:00 AM	<i>Nanotechnology Based Anti-cancer Drug Therapy For Targeting Uveal Melanoma Cells In Retinoblastoma</i>	Monica Roy Chowdhury, Blue Valley High School, Stilwell, KS; Kansas-Nebraska-Oklahoma JSHS ; Teacher/Mentor/Sponsor: Larry Hare, Blue Valley High
4/30/2009 11:40:00 AM	4/30/2009 11:58:00 AM	<i>The Cardiac C-Port Distal Anastomotic Device: Mid-Term Evaluation with 64-Slice CT Angiography</i>	Kimberly Maciolek, Divine Savior Holy Angels, Hubertus, WI Wisconsin JSHS ; Teacher/Mentor/Sponsor: Husam H Balkhy, MD, The Wisconsin Heart Hospital; Mrs. Betty Jo Azpell, Divine Savior Holy Angels High School
4/30/2009 1:20:00 PM	4/30/2009 1:38:00 PM	<i>Development of a Urine Test for the Early Detection of Cancer</i>	Janet Song, Methacton High School, Audubon, PA Pennsylvania JSHS ; Teacher/Mentor/Sponsor: Robert Helm, Methacton High School; Dr. Timothy Block, Hepatitis B Foundation and Drexel University
4/30/2009 1:40:00 PM	4/30/2009 1:58:00 PM	<i>Down-regulation of hTERT Sensitizes Chemotherapeutic Effects of Docetaxel in Human Prostate Cancer Cells</i>	Ashoka S. Rajendra, Loudoun County Academy of Science, Sterling, VA; Virginia JSHS ; Teacher/Mentor/Sponsor: Duke Writer, Loudoun County Academy of Science; Partha P. Banerjee, Georgetown University; Sarva Rajendra, N/A
4/30/2009 2:00:00 PM	4/30/2009 2:18:00 PM	<i>Anti-biofilm Effect of Trans-cinnamaldehyde on Uropathogenic Escherichia coli</i>	Amoolya V. Narayanan, Glastonbury High School, Glastonbury, CT; Connecticut JSHS ; Teacher/Mentor/Sponsor: Veronica Hanlon, Glastonbury High School; Dr. Kumar Venkitanarayanan, University of Connecticut
4/30/2009 2:20:00 PM	4/30/2009 2:38:00 PM	<i>Novel Nanotubes- New Agent for Photothermal Therapy for Cancer</i>	Sunil C. Bodapati, Schmahl Science Workshop, Saratoga, CA California (Northern & Western Nevada) JSHS ; Teacher/Mentor/Sponsor: Adam de la Zerda, Stanford University
4/30/2009 2:40:00 PM	4/30/2009 2:58:00 PM	<i>Determination of the Intramolecular Bonds in a Pneumococcal Pilus Protein</i>	Ashish Gandhi, Woodward Academy, Atlanta, GA Georgia JSHS ; Teacher/Mentor/Sponsor: Dr. Tom Rounds, Woodward Academy; Dr. Dorothea Zahner, Emory University, Division of Infectious Diseases

47TH National Junior Science & Humanities Symposium – Student Research Session

Session 6 – Engineering (Academy)

Moderator: Commander Mark Murray, USNR and U.S. Naval Academy

5/2/2009 9:00:00 AM	5/2/2009 9:18:00 AM	<i>The Effect of Angled Winglets on Aerodynamic Lift</i>	Morgan J. Watson - Morris, John Jay Science and Engineering Academy, Helotes, TX Texas JSHS ; Teacher/Mentor/Sponsor: La Rhonda Nolan, John Jay Science and Engineering Academy
5/2/2009 9:20:00 AM	5/2/2009 9:38:00 AM	<i>Anaerobic Co-digestion Of Grease Trap Waste With Municipal Sludge Waste For Alternative Waste Disposal</i>	Michael K. Hsueh, Farragut High School, Knoxville, TN Tennessee JSHS ; Teacher/Mentor/Sponsor: Dr. Qiang He, University of Tennessee Knoxville; Mr. Zhenwei Zhu, University of Tennessee Knoxville; Mrs. Kristin Baksa, Farragut High School
5/2/2009 9:40:00 AM	5/2/2009 9:58:00 AM	<i>Virtual Mechanical Snake Analog Models the Relationship between the Period of the Sine Graph Representative of the Snake's Movement and the Snake's Speed</i>	Jacqueline R. Sly, Woodbridge High School, Irvine, CA California (Southern) JSHS ; Teacher/Mentor/Sponsor: Michael Antrim, Woodbridge High School
5/2/2009 10:00:00 AM	5/2/2009 10:18:00 AM	<i>Fine Control Of Electromagnetic Levitation: A Second Year Study</i>	Christopher J. King, Creek Wood High, Charlotte, TN Tennessee JSHS ; Teacher/Mentor/Sponsor: Terrill Johnson, Creek Wood High School
5/2/2009 10:40:00 AM	5/2/2009 10:58:00 AM	<i>The Effects of Ultraviolet Radiation on Dusty Plasma: A Multiyear Project in Experimental Design</i>	Luqi Chen, Watchung Hills Regional High School, Warren, NJ; Eric Liu, Watchung Hills Regional High School, Warren, NJ; New Jersey (Northern) JSHS ; Teacher/Mentor/Sponsor: Dr. Sophia Gershman, Watchung Hills Regional High School
5/2/2009 11:00:00 AM	5/2/2009 11:18:00 AM	<i>Electr-yeast-ity; Construction and Optimization of a Yeast Based Microbial Fuel Cell (MFC)</i>	Arfa N. Aijazi, South Lakes High School, Herndon, VA Greater Washington, D.C. Area JSHS ; Teacher/Mentor/Sponsor: Johanna Starkey, South Lakes High School; Katherine Offutt, South Lakes High School
5/2/2009 11:20:00 AM	5/2/2009 11:38:00 AM	<i>Design and Fabrication of Low Cost Nano-Structured Solar Cell</i>	Siteng Ma, Little Rock Central High School, Little Rock, AR Arkansas JSHS ; Teacher/Mentor/Sponsor: Mrs. Melissa Donham, Little Rock Central; Dr. Yunjun Wang, Mesolight, LLC
5/2/2009 11:40:00 AM	5/2/2009 11:58:00 AM	<i>Insulation Density</i>	Caroline E. Jones, Nile. C. Kinnick High School, Yokosuka Naval Base; DoD Dependent Schools (Pacific) JSHS
5/2/2009 1:20:00 PM	5/2/2009 1:38:00 PM	<i>Parallel Combinatorial Chemical Synthesis Using Single-Layer Poly(dimethylsiloxane) Microfluidic Devices</i>	Joseph P. Dexter, Green Mountain Union High School, Chester, VT; Northern New England (Maine, New Hampshire, Vermont) JSHS ; Teacher/Mentor/Sponsor: Jonathan A. Rice, Ph.D., Green Mountain Union High School; Bill Parker, Creative MicroSystems Corporation
5/2/2009 1:40:00 PM	5/2/2009 1:58:00 PM	<i>Growth and Imaging of Bismuth Nanowires</i>	Moyukh Chatterjee, High Technology High School, Manalapan, NJ; New Jersey (Monmouth) JSHS ; Teacher/Mentor/Sponsor: Michael T. Roche, High Technology High School
5/2/2009 2:00:00 PM	5/2/2009 2:18:00 PM	<i>The Effect of Pre-heating a Fuel-Air Mixture on its Combustion Heat Yield</i>	John M. Helfer, Jr., Bishop Donahue Memorial High School, McMechen, WV; West Virginia JSHS ; Teacher/Mentor/Sponsor: Dr. Bob Ball DDS, Bishop Donahue Memorial High School; Dr. Bob Ball DDS, Bishop Donahue Memorial High School
4/30/2009 2:20:00 PM	4/30/2009 2:38:00 PM	<i>Calcium Carbonate As An Acetate Replacement For Large-scale Cultivation Of Algae For Energy Production</i>	Caroline J. Lang, Independence Homeschool, Yardley, PA Pennsylvania JSHS ; Teacher/Mentor/Sponsor: Cynthia Lang, Independence Homeschool

47TH National Junior Science & Humanities Symposium – Student Research Session
 Session 7 – Mathematics & computer science (Palmer Room)
 Moderator: 2ndLt. Whitney A. Camp, Air Force Office of Scientific Research

5/2/2009 9:00:00 AM	5/2/2009 9:18:00 AM	<i>A New Model of See-through Vision: Image Reconstruction in Scattering Media from Quantum Exit Probabilities for Aerial, Terrestrial, and Underwater Robot Inspection</i>	Lucia Mocz, Mililani High School, Mililani, HI Hawaii JSHS ; Teacher/Mentor/Sponsor: Dr. Namthip Sitachitta, Mililani High School
5/2/2009 9:20:00 AM	5/2/2009 9:38:00 AM	<i>Automated Wired Equivalent Privacy and RC4 Encryption Protection Through 802.11 Wireless Packet Injection</i>	Karson M. Miller, Great Neck North HS, Great Neck, NY New York (Long Island) JSHS ; Teacher/Mentor/Sponsor: Mr. Schorn, Great Neck North HS
5/2/2009 9:40:00 AM	5/2/2009 9:58:00 AM	<i>microRNA Expression Patterns in Mouse Lung Development and Cancer</i>	Kevin K. Hawkins, GlenOak High School, Canton, OH Ohio JSHS ; Teacher/Mentor/Sponsor: Dr. Carol J. Bult, The Jackson Laboratory
5/2/2009 10:00:00 AM	5/2/2009 10:18:00 AM	<i>Dynamic Visual Pattern Recognition of Spoken Vowels: An Experiment in Automated Lip Reading</i>	Joseph K. Jachowski, Thomas Jefferson High School For Science and Technology, Alexandria, VA Virginia JSHS ; Teacher/Mentor/Sponsor: Doug Jachowski
5/2/2009 10:40:00 AM	5/2/2009 10:58:00 AM	<i>Engineering and Validating Predictive Infection Surveillance Strategies for Methicillin-resistant Staphylococcus aureus (MRSA)</i>	Stephen Trusheim, Breck School, Golden Valley, MN North Central (Minnesota, N. & S. Dakota) JSHS ; Teacher/Mentor/Sponsor: Lois Fruen, Breck School; Dr. Ronald McGlennen, Access Genetics LLC
5/2/2009 11:00:00 AM	5/2/2009 11:18:00 AM	<i>Improving Statistical Machine Translation Through Template-based Phrase-table Extensions</i>	Hayden Metsky, Millburn High School, Millburn, NJ New Jersey (Northern) JSHS ; Teacher/Mentor/Sponsor: Dr. Paul Gilmore, Millburn High School
5/2/2009 11:20:00 AM	5/2/2009 11:38:00 AM	<i>Simple Quadratic Fields</i>	Patrick Tenorio, North Carolina School of Science and Math, Chapel Hill, NC; North Carolina JSHS ; Teacher/Mentor/Sponsor: Philip Rash, North Carolina School of Science and Math (NCSSM); Dan Teague, NCSSM; Glenn Stevens, Boston University
5/2/2009 11:40:00 AM	5/2/2009 11:58:00 PM	<i>Development of Criteria for Accurately Predicting Passive RFID Tag Performance in Various Metal Packing Arrangements</i>	Jeffrey A. Hart, High Technology High School, Lincroft, NJ New Jersey (Monmouth) JSHS ; Teacher/Mentor/Sponsor: Michael T. Roche, High Technology High School
5/2/2009 1:20:00 PM	5/2/2009 1:38:00 PM	<i>Odd-Order, Bordered Prime Magic Square</i>	Sarah L. Sellers, Hedgesville High School, Hedgesville, WV West Virginia JSHS ; Teacher/Mentor/Sponsor: Scott McNemar, Hedgesville High School
5/2/2009 1:40:00 PM	5/2/2009 1:58:00 PM	<i>Accelerating Epistasis Analysis in Human Genetics with Consumer Graphics Hardware</i>	Nicholas A. Sinnott-Armstrong, Hanover High School, Hanover, NH; Casey S. Greene, Dartmouth Medical School; Fabio Cancare, Politecnico di Milano; Jason Moore, Dartmouth Medical School; Northern New England (Maine, New Hampshire, Vermont) JSHS ; Teacher/Mentor/Sponsor: Jeannie Kornfeld, Hanover High School; Casey Greene, Dartmouth Medical School; Jason Moore, Dartmouth Medical School

47TH National Junior Science & Humanities Symposium – Student Research Session
 Session 8 – Physical sciences (Pikes Peak)
 Moderator: Colonel Robert Fredell, Ph.D., U.S. Air Force Academy

5/2/2009 9:00:00 AM	5/2/2009 9:18:00 AM	<i>A Time-Dependent Impact Parameter Model Sheds Light on the Evolution of Galaxy Morphology in Compact Clusters of Galaxies.</i>	Keith A. Hawkins, GlenOak, Canton, OH Ohio JSHS; Teacher/Mentor/Sponsor: Dr. Steven Cederbloom, Mount Union College
5/2/2009 9:20:00 AM	5/2/2009 9:38:00 AM	<i>Measuring the Difference in Partition Coefficient for Oil Extracted from Wet and Dried Algae</i>	Nadine P. Currie, Lake Brantley High School, Altamonte Springs, FL; Florida JSHS; Teacher/Mentor/Sponsor: Dr. Paul Jennings, Florida Institute of Technology; Mrs. Shirley Nieto, Lake Brantley High School
5/2/2009 9:40:00 AM	5/2/2009 9:58:00 AM	<i>Quantitative HPLC Analysis of Potency of Chinese Herbs</i>	Jamie (Jia Jia) R. Zhang, Battle Creek Area Math Science Center, Battle Creek, MI; Michigan (Southeastern) JSHS; Teacher/Mentor/Sponsor: Walt Erhardt, Battle Creek Area Math Science Center
5/2/2009 10:00:00 AM	5/2/2009 10:18:00 AM	<i>A Relativistic Generalization of the Navier-Stokes Equations to Quark-Gluon Plasmas</i>	Nilesh Tripuraneni, Clovis West High School, Fresno, CA California (Northern & Western Nevada) JSHS; Teacher/Mentor/Sponsor: Dr. Krishna Rajagopal, MIT Center for Theoretical Physics
5/2/2009 10:40:00 AM	5/2/2009 10:58:00 AM	<i>X-Ray Fluorescence on Toys' Paints</i>	Colin C. Leader, Marian High School, Mishawaka, IN Indiana JSHS; Teacher/Mentor/Sponsor: Ken Andrzejewski, Marian High School; Ed Stech, Notre Dame Nuclear Science Laboratory; Dave Grabowski, Saint Mary of the Woods College
5/2/2009 11:00:00 AM	5/2/2009 11:18:00 AM	<i>Vaska's Complex: A Study of Carbonyl Bond Stretching</i>	Peter Johnsen, Altamont, Hoover, AL Alabama JSHS; Teacher/Mentor/Sponsor: Donna Kentros, M.D.
5/2/2009 11:20:00 AM	5/2/2009 11:38:00 AM	<i>Fundamental Insight into Solvent/Carbon Nanotube Interactions Leads to Discovery of Novel Method for Maximizing Solubilities in General</i>	Philip V. Streich, Home School, Platteville, WI Wisconsin JSHS; Teacher/Mentor/Sponsor: Dr. James P. Hamilton, University of Wisconsin - Platteville
5/2/2009 11:40:00 AM	5/2/2009 11:58:00 AM	<i>Water Electrolysis Efficiencies with Variable Concentrations of $\text{Co}_3(\text{PO}_4)_2$ Using Platinum Electrodes</i>	David K. Brunell, Heidelberg High School, APO, AE DoD Dependent Schools (Europe) JSHS; Teacher/Mentor/Sponsor: Ray Smola
5/2/2009 1:20:00 PM	5/2/2009 1:38:00 PM	<i>Mylanta®, Alka-Seltzer® or Tums®? Use of Halogen Scavengers to Prevent Chlorine Degradation of Swimwear</i>	Shweta P. Kitchloo, North Attleboro High School, North Attleboro, MA; Southern New England (Massachusetts, Rhode Island) JSHS; Teacher/Mentor/Sponsor: Tara Bennet, N. Attleboro High School; Robert Checkosky, Essilor; Prof. S. C. Ugolue, UMass Dartmouth
5/2/2009 1:40:00 PM	5/2/2009 1:58:00 PM	<i>Detection of Muon Flux and Muon Lifetime Using a High Resolution Muon Detector</i>	Lori Wilson, duPont Manual High School, Louisville, KY Kentucky JSHS; Teacher/Mentor/Sponsor: Dr. Bill Deines, duPont Manual High School; Dr. Akhtar Mahmood, Bellarmine University
5/2/2009 2:00:00 PM	5/2/2009 2:18:00 PM	<i>Design and Development of Ozone Equivalents for the Oxidative Cleavage of Alkenes</i>	Prem P. Thottumkara, Macomb Senior High School, Macomb, IL; Illinois JSHS; Teacher/Mentor/Sponsor: Thomas Johnson, Macomb Senior High School; Dr. T.K. Vinod, Western Illinois University
5/2/2009 2:20:00 PM	5/2/2009 2:38:00 PM	<i>Uncovering Elusive Ultra High Energy Particles: Development of A Method For Cosmic Ray Detection</i>	Glen A. Meyerowitz, Northport High School, Northport, NY New York (Long Island) JSHS; Teacher/Mentor/Sponsor: Helio Takai, Brookhaven National Laboratory; Bryan Horan, Northport High School