

45th National Junior Science & Humanities Symposium
Student Research Presentations

Session 1 – Environmental sciences, Grand Ballroom, Salon E

Moderator:

SessionStart	SessionEnd	Title	Author
5/4/2007 9:00:00 AM	5/4/2007 9:18:00 AM	<i>The Levels of Nitrates and Phosphates in Freshwater Systems.</i>	Shala A. Hawes, Central Lee High School, Montrose, IA Iowa JSHS; Teacher/Mentor/Sponsor: Ms. Alicia Schiller, Central Lee High School
5/4/2007 9:20:00 AM	5/4/2007 9:38:00 AM	<i>Quantification, Removal and Recovery of the Teflon® Surfactant APFO</i>	Kelydra E. Welcker, Parkersburg South High School, Parkersburg, WV West Virginia JSHS; Teacher/Mentor/Sponsor: Susan Smith, Parkersburg South High School
5/4/2007 9:40:00 AM	5/4/2007 9:58:00 AM	<i>Decline of the North American Lesser Scaup: Phase 3 - Composition and Trace Element Concentrations in Eggs and Prey Foods</i>	Mitch D. Weegman, Winona Senior High School, Winona, MN; Matt M. Weegman, Winona Senior High School, Winona, MN North Central (Minnesota, N. & S. Dakota) JSHS; Teacher/Mentor/Sponsor: Ken Mann, Winona Senior High School
5/4/2007 10:00:00 AM	5/4/2007 10:18:00 AM	<i>Bioremediation of Acid Mine Drainage using Elodea canadensis</i>	Jeffrey Atkinson, Morgantown High School, Morgantown, WV West Virginia JSHS; Teacher/Mentor/Sponsor: Mr. Eric Kincaid, Morgantown High School; Dr. Martin Christ, Friends of Deckers Creek
Break			
5/4/2007 10:40:00 AM	5/4/2007 10:58:00 AM	<i>Effects of Petroleum Hydrocarbons on Salt Marsh Sediments</i>	Matthew Pickart, Falmouth Academy, Falmouth, MA Southern New England (Massachusetts, Rhode Island) JSHS; Teacher/Mentor/Sponsor: Dr. James Johnson, Falmouth Academy; Ms. Jennifer Culbertson, Marine Biological Laboratory
5/4/2007 11:00:00 AM	5/4/2007 11:18:00 AM	<i>Breakthrough Substitutions Of Synthetic Polymers With Natural Chitosan In The Prevention Of Soil Erosion</i>	Dhanur Damodar, Dupont Manual, Louisville, KY Kentucky JSHS; Teacher/Mentor/Sponsor: Dr. William Deines, Dupont Manual
5/4/2007 11:20:00 AM	5/4/2007 11:38:00 AM	<i>The Effect of Drugs that Bind to Estrogen Receptors on Phenotype in Developing Apterous Drosophila melanogaster</i>	Elizabeth H. Engoren, Sylvania Southview High School, Toledo, OH Ohio JSHS; Teacher/Mentor/Sponsor: Mrs. Penny Cobau, Sylvania Southview High School; Dr. Milo Engoren, St. Vincent Mercy Medical Center
5/4/2007 11:40:00 AM	5/4/2007 11:58:00 AM	<i>A Multivariate Study of Impacts of Snow Fences on Water Conservation for Reclamation</i>	Erica E. David, Pinedale High School, Pinedale, WY Wyoming, Eastern Colorado JSHS; Teacher/Mentor/Sponsor: Elizabeth David, Pinedale High School
Lunch			
5/4/2007 1:20:00 PM	5/4/2007 1:38:00 PM	<i>Identification and Quantification of Estrogen Receptor Agonists in Maine Lakes</i>	Jennifer M. Rowe, Bangor High School, Bangor, ME Northern New England (Maine, New Hampshire, Vermont) JSHS; Teacher/Mentor/Sponsor: Cary James, Bangor High School; Brian Perkins, University of Maine
5/4/2007 1:40:00 PM	5/4/2007 1:58:00 PM	<i>Human Factor IV: Biodiversity in a Nuclear Reactor's Intake and Discharge Creeks - Benthic, Plankton and Biofouling Communities</i>	Anastasia N. Roda, Lancaster Catholic High School, Lancaster, PA Pennsylvania JSHS; Teacher/Mentor/Sponsor: Mrs. Vasantha Kittappa, Lancaster Catholic High School
5/4/2007 2:00:00 PM	5/4/2007 2:18:00 PM	<i>Bioprospecting for Effective Mosquito Larvicides and Adulticides</i>	Daya Raman, Presentation High School, San Jose, CA California (Northern & Western Nevada) JSHS; Teacher/Mentor/Sponsor: Dr. John C. Howe
5/4/2007 2:20:00 PM	5/4/2007 2:38:00 PM	<i>A Four Year Investigation for the Improvement of Global Communication by Means of Statistically Determining the Factors that Produce the Aurora Borealis</i>	Humberto G. Mendoza, Sr., Homer Hanna High School, Brownsville, TX Texas JSHS; Teacher/Mentor/Sponsor: Nellie Arizmendi, Homer Hanna High School

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Student Research Presentations

Session 2 – Life sciences, Grand Ballroom, Salon F
Moderator:

SessionStart	SessionEnd	Title	Author
5/4/2007 9:00:00 AM	5/4/2007 9:18:00 AM	<i>Effects of 17α-ethinylestradiol on Male Competitive Courtship Behaviors and Secondary Sexual Characteristics in Fathead Minnows (<i>Pimephales promelas</i>)</i>	Jordyn M. Wolfand, Montgomery Blair High School, Bethesda, MD Greater Washington, D.C. Area JSHS; Teacher/Mentor/Sponsor: Dr. Andrew Kane & Dr. James Salierno, University of Maryland Aquatic Pathobiology Center
5/4/2007 9:20:00 AM	5/4/2007 9:38:00 AM	<i>To Diet Or Not To Diet: The Effects Of Aspartame On Mortality Rate And Memory Retention In Planaria</i>	Nathan P. Marquez, Miami High School, Miami, OK Kansas-Nebraska-Oklahoma JSHS; Teacher/Mentor/Sponsor: Saly Fenska, Miami High School
5/4/2007 9:40:00 AM	5/4/2007 9:58:00 AM	<i>Biological Control of a Common Corn Criminal: the effects of heterorhabditis nematode on the dusky sap beetle</i>	Douglas R. Horton, Jr., Hotchkiss High, Hotchkiss, Colorado, Hotchkiss, CO Intermountain (Colorado, Montana, Idaho, Nevada) JSHS; Teacher/Mentor/Sponsor: Dr. Douglas Horton, Hotchkiss High School
5/4/2007 10:00:00 AM	5/4/2007 10:18:00 AM	<i>The Effects of Lichen Extracts on B. cereus and E. coli</i>	Clare R. Gamlin, JCIB/Shades Valley High School, Birmingham, AL Alabama JSHS; Teacher/Mentor/Sponsor: Baskin, JCIB/Shades Valley High School; Beeton, JCIB/Shades Valley High School; Shields, JCIB/Shades Valley High School
Break			
5/4/2007 10:40:00 AM	5/4/2007 10:58:00 AM	<i>Rain-Stimulated Touch Response in Arabidopsis thaliana</i>	Hayley A. Tobin, Rye High School, Rye, NY New York (Upstate) JSHS; Teacher/Mentor/Sponsor: Prof. Hilary Callahan, Barnard College, Columbia University; Dr. Jaime Zung, Rye High School
5/4/2007 11:00:00 AM	5/4/2007 11:18:00 AM	<i>Hybridization of Edible Diploid Eumusa Varieties and Wild Rhodochlamys Musa Species</i>	Gabriel L. Sachter-Smith, Nederland Middle Senior, Nederland, CO Wyoming, Eastern Colorado JSHS; Teacher/Mentor/Sponsor: Al Real, Nederland Middle Senior High School
5/4/2007 11:20:00 AM	5/4/2007 11:38:00 AM	<i>Organic Tomato Plant Productivity</i>	Derek Dickman, Cashton, Cashton, WI Western Wisconsin, Upper Michigan JSHS; Teacher/Mentor/Sponsor: Mr. Fernholz, Cashton High School
5/4/2007 11:40:00 AM	5/4/2007 11:58:00 AM	<i>Determining the New Coccinellid Filler of New York's Vacant Arthropodic Ecological Niche</i>	Samuel D. Ramsey, Crossland High School, Temple Hills, MD Maryland JSHS; Teacher/Mentor/Sponsor: Ricardo Menjivar, Crossland High School; Dr. John Losey, Cornell University; Oluwatosin Alao, Crossland High School
Lunch			
5/4/2007 1:20:00 PM	5/4/2007 1:38:00 PM	<i>Effects Of Codon Bias And Choice Of Regulatory Small Subunit On Expression Of Zebrafish Calpain Activity In E. Coli</i>	Mara N. Shapero, Bangor High School, Bangor, ME Northern New England (Maine, New Hampshire, Vermont) JSHS; Teacher/Mentor/Sponsor: Cary James, Bangor High School; Dorothy Croall, University of Maine
5/4/2007 1:40:00 PM	5/4/2007 1:58:00 PM	<i>DNA Methylation Regulates MicroRNA Expression</i>	Emily C. Casey, Saint Francis Preparatory School, Flushing, NY New York City (Metro) JSHS; Teacher/Mentor/Sponsor: Ms. Mary Ann Spicijaric, Saint Francis Preparatory School; Dr. Saraswati Sukumar, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
5/4/2007 2:00:00 PM	5/4/2007 2:18:00 PM	<i>Epigenetic Effects of Differential DNA Methylation</i>	Nathan J. Nakatsuka, Kamehameha, Honolulu, HI Hawaii JSHS; Teacher/Mentor/Sponsor: Dr. Carmen Sapienza, Temple University Medical School; Dr. Lawrence Mordan, Kamehameha
5/4/2007 2:20:00 PM	5/4/2007 2:38:00 PM	<i>An Analysis of the Mold-Specific M46 gene in the Dimorphic Fungus Histoplasma capsulatum</i>	Hana K. Ali, Oak Grove High School, Hattiesburg, MS Mississippi JSHS; Teacher/Mentor/Sponsor: Dr. Glen Shearer, University of Southern Mississippi; Mrs. Helen Peterson, Oak Grove High School

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Session 3 – Life sciences, Discovery Room
Moderator:

SessionStart	SessionEnd	Title	Author
5/4/2007 9:00:00 AM	5/4/2007 9:18:00 AM	<i>Bt Corn vs. Insecticide</i>	Kelsey A. Hammer, Central Lee High School, Donnellson, IA Iowa JSHS; Teacher/Mentor/Sponsor: Alicia Schiller, Central Lee High School
5/4/2007 9:20:00 AM	5/4/2007 9:38:00 AM	<i>Tyrannosaurid Predation Biostratigraphy Re-Creation</i>	Nathan R. Carroll, Carter County High School, Ekalaka, MT Intermountain (Colorado, Montana, Idaho, Nevada) JSHS; Teacher/Mentor/Sponsor: Jane Frye, Carter County High School
5/4/2007 9:40:00 AM	5/4/2007 9:58:00 AM	<i>Population Survival of CED-3 Deficient C. elegans in a Soil Environment</i>	Tatiana R. Cooke, Greenwich High School, Old Greenwich, CT Connecticut JSHS; Teacher/Mentor/Sponsor: Andrew Bramante, Greenwich High School; Dr. Shai Shaham, Rockefeller University
5/4/2007 10:00:00 AM	5/4/2007 10:18:00 AM	<i>Using Associative Learning and Olfactory Senses of Heliothis virescens to Identify and Locate Methamphetamine Laboratories</i>	Lei'La' R. Bryant, School of the Osage HS, Lake Ozark, MO Missouri JSHS; Teacher/Mentor/Sponsor: Christopher Reeves, School of the Osage HS
Break			
5/4/2007 10:40:00 AM	5/4/2007 10:58:00 AM	<i>The Determination of Gender in Pacific and Atlantic Salmon for Improved Management of Threatened and Endangered Stocks</i>	Susannah L. Clary, Los Lunas High School, Los Lunas, NM New Mexico (Southwest) JSHS; Teacher/Mentor/Sponsor: Eric C. Brown, Los Lunas High School
5/4/2007 11:00:00 AM	5/4/2007 11:18:00 AM	<i>Detecting Evolutionary Forces in Populations of White-tailed Deer</i>	Ethan D. Sperry, Terre Haute South Vigo High School, Terre Haute, IN Indiana JSHS; Teacher/Mentor/Sponsor: Rusty A. Gonser, Ph.D., Indiana State University; Mr. David E. Drake, Terre Haute South Vigo High School
5/4/2007 11:20:00 AM	5/4/2007 11:38:00 AM	<i>How Safe Is Your Salad? A Test of Bacterial Growth on Spinach with Various Packaging and Growing</i>	Camryn Sorg, Yokota High School, APO AP, AE DoD Dependent Schools (Pacific) JSHS; Teacher/Mentor/Sponsor: Darrell Rahn, Yokota High School
5/4/2007 11:40:00 AM	5/4/2007 11:58:00 AM	<i>The Identification of Chromatin Domains Interacting with the Hox Gene Clusters by a Novel Genome-wide Approach</i>	Victoria Yao, Montgomery Blair High School, Silver Spring, MD Greater Washington, D.C. Area JSHS; Teacher/Mentor/Sponsor: Keji Zhao, National Institutes of Health; Glenda Torrence, Montgomery Blair High School
Lunch			
5/4/2007 1:20:00 PM	5/4/2007 1:38:00 PM	<i>Allele-Specific Polymerase Chain Reaction - Can A Standard PCR Procedure Be Used for DNA-Screening?</i>	Annie R. London, High Tech High School, North Bergen, NJ New Jersey (Northern) JSHS; Teacher/Mentor/Sponsor: James Bean, Rockefeller University; Nina Lavlinskaia, High Tech High School
5/4/2007 1:40:00 PM	5/4/2007 1:58:00 PM	<i>The Interaction Between Transcription Factors Tef-4 and Olig 2 in Motoneurons and Oligodendrocytes</i>	Rachel S. Greenberg, The Winsor School, Boston, MA Southern New England (Massachusetts, Rhode Island) JSHS; Teacher/Mentor/Sponsor: Dr. Charles Stiles, Dana-Farber Cancer Institute; Marie Espanol, The Winsor School
5/4/2007 2:00:00 PM	5/4/2007 2:18:00 PM	<i>Enzymatic Hydrogen Production: Expression of Hydrogenases from the Hyperthermophile Pyrococcus furiosus</i>	Joseph Stunzi, Clarke Central High School, Athens, GA Georgia JSHS; Teacher/Mentor/Sponsor: Dr. Frank Jenney, University of Georgia; Mrs. Sukla Bhattacharyya, Clarke Central High School
5/4/2007 2:20:00 PM	5/4/2007 2:38:00 PM	<i>The Effects of Configural and Elemental Properties on Odor Mixture Perception</i>	Aparna K. Ramakrishnan, Naperville Central High School, Naperville, IL Illinois JSHS; Teacher/Mentor/Sponsor: Ms. Katherine Seguino, Naperville Central

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Session 4 – Medicine & Health/Behavioral sciences, Atlantis Room
Moderator:

SessionStart	SessionEnd	Title	Author
5/4/2007 9:00:00 AM	5/4/2007 9:18:00 AM	<i>Gasoline Markets and Hurricane Rita</i>	Henry J. Neilson, Webb School of Knoxville, Knoxville, TN Tennessee JSHS; Teacher/Mentor/Sponsor: Robert Brown, Webb School of Knoxville
5/4/2007 9:20:00 AM	5/4/2007 9:38:00 AM	<i>Correlation Between Mental Math Ability and Symptoms of Dyscalculia</i>	Alfreda M. Smith, Heidelberg High School, APO, AE DoD Dependent Schools (Europe) JSHS; Teacher/Mentor/Sponsor: Sponsor Ray Smola, Heidelberg High School
5/4/2007 9:40:00 AM	5/4/2007 9:58:00 AM	<i>Cramping Makes Scents</i>	Sarah E. Clayton, Jefferson County International Baccalaureate, Irondale, AL Alabama JSHS; Teacher/Mentor/Sponsor: Catherine Shields, Jefferson County International Baccalaureate School
5/4/2007 10:00:00 AM	5/4/2007 10:18:00 AM	<i>Efficacy of the Modified Conditioned Defeat Model in Odor Recognition</i>	Rajasree Roy, Chamblee Charter High School, Chamblee, GA Georgia JSHS; Teacher/Mentor/Sponsor: Dr. Chris Markham, Kim Huhman Lab, Georgia State University; Dr. Kim Huhman, Kim Huhman Lab, Georgia State University; Mrs. Patricia Mote, Chamblee Charter High School
Break			
5/4/2007 10:40:00 AM	5/4/2007 10:58:00 AM	<i>A Study of Context Effect of Sense Stimuli on Declarative Memory</i>	Samuel Jang, Nicolet High School, Glendale, WI Wisconsin JSHS; Teacher/Mentor/Sponsor: Eliot Scheuer, Nicolet High School
5/4/2007 11:00:00 AM	5/4/2007 11:18:00 AM	<i>Sensitive Detection of Rare Mutations in Melanoma Cells Circulating in Blood</i>	Monica S. Liu, Palos Verdes Peninsula High School, Rancho Palos Verdes, CA California (Southern) JSHS; Teacher/Mentor/Sponsor: Dr. Michael S. Kolodney, Harbor-UCLA Medical Center; Mr. Peter Starodub, Palos Verdes Peninsula High School
5/4/2007 11:20:00 AM	5/4/2007 11:38:00 AM	<i>Evaluation of Targeting Efficiency of RGD-conjugated Fluorescent Liposomes in Solid Tumors Using Bio-imaging</i>	Anuj A. Shukla, White Station High School, Memphis, TN Tennessee JSHS; Teacher/Mentor/Sponsor: Mrs. Angel Perkins, White Station High School
5/4/2007 11:40:00 AM	5/4/2007 11:58:00 AM	<i>Effects of Atomoxetine on the Serotonin-Mediated Proliferation of Vascular Smooth Muscle Cells</i>	Clarice S. Bayer, Caddo Parish Magnet High School, Shreveport, LA Louisiana JSHS; Teacher/Mentor/Sponsor: Dr. Tammy R. Dugas, Ph.D., Louisiana State University Health Sciences Center - Shreveport
Lunch			
5/4/2007 1:20:00 PM	5/4/2007 1:38:00 PM	<i>Role Of Tissue Transglutaminase Type 2 In Calbindin-d28k Interaction With Ataxin-1</i>	La'Mont Sutton, Murrah, Jackson, MS Mississippi JSHS; Teacher/Mentor/Sponsor: Jeff Stokes, Murrah High School; Dr. Parminder Vig, University of Mississippi Medical Center; Dr. Robin Rockhold, University of Mississippi Medical Center
5/4/2007 1:40:00 PM	5/4/2007 1:58:00 PM	<i>Mice Selected for Excessive Nest-building Behavior as a Potential Animal Model of Obsessive Compulsive Disorder (OCD)</i>	Harpreet K. Sangha, West Valley High School, Fairbanks, AK Alaska JSHS; Teacher/Mentor/Sponsor: Ms. Dana Greene, University of Alaska, Fairbanks; Ms. Cyndie Beale, West Valley High School
5/4/2007 2:00:00 PM	5/4/2007 2:18:00 PM	<i>The Effects of Polyphenolic Antioxidants in Broccoli on Women with Menstrual Migraines</i>	Kathrina Orozco, Guam High School, Santa Rita, GU DoD Dependent Schools (Pacific) JSHS; Teacher/Mentor/Sponsor: Denise Chaco, Guam High School
5/4/2007 2:20:00 PM	5/4/2007 2:38:00 PM	<i>The Effect of Dimethyl Sulfoxide on Antinociception Induced by Microinjection of Morphine into the Periaqueductal Gray of the Rat</i>	Mark J. Lisowski, Columbia River High School, Vancouver, WA Oregon JSHS; Teacher/Mentor/Sponsor: Dr. Michael Morgan, Washington State University at Vancouver; Mrs. Kelly Cameron, Columbia River High School
5/4/2007 2:40:00 PM	5/4/2007 2:58:00 PM	<i>An Extra Spin on Nerve Regeneration Scaffolds: Synthesis of an Electrospun Spinal Cord Nerve Conduit</i>	Amardeep S. Grewal, Detroit Country Day School, Beverly Hills, MI Michigan (Southeastern) JSHS; Teacher/Mentor/Sponsor: Mr. Joseph Lowery, Institute for Soldier Nanotechnologies

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Session 5 – Medicine & Health, Columbia Room
Moderator:

SessionStart	SessionEnd	Title	Author
5/4/2007 9:00:00 AM	5/4/2007 9:18:00 AM	<i>Identification and Characterization of Mutations Causing Familial and Sporadic Amyotrophic Lateral Sclerosis</i>	Arti V. Virkud, Pine Crest School, Boca Raton, FL Florida JSHS; Teacher/Mentor/Sponsor: Ms. Jennifer Gordinier, Pine Crest School; Dr. John E. Landers, Cecil B. Day Lab; Dr. Barbara Grosz, Pine Crest School
5/4/2007 9:20:00 AM	5/4/2007 9:38:00 AM	<i>Virus Based Multifunctional Platform for in vivo Cancer Diagnostics</i>	Christina C. Liang, Millburn High School, Millburn, NJ New Jersey (Northern) JSHS; Teacher/Mentor/Sponsor: Professor Angela Belcher, Massachusetts Institute of Technology; Dr. Paul Gilmore, Millburn High School
5/4/2007 9:40:00 AM	5/4/2007 9:58:00 AM	<i>Inhibition of Dimerization: Functional Studies of HIV Co Receptor CCR5</i>	Julian T. Otis, Walter Payton College Preparatory High School, Chicago, IL Illinois (Chicago) JSHS; Teacher/Mentor/Sponsor: Marilyn Havlik
5/4/2007 10:00:00 AM	5/4/2007 10:18:00 AM	<i>Curcumin Inhibits $\alpha6\beta4$ Integrin-Dependent Breast Carcinoma Cell Motility</i>	Huang Huang, Caddo Parish Magnet High School, Shreveport, LA Louisiana JSHS; Teacher/Mentor/Sponsor: Mrs. Kris Clements, Caddo Parish Magnet High School; Dr. Jun Chung, Louisiana State University Health Sciences Center; Ms. Jackie Johnson, Louisiana Junior Science and Humanities Symposium
Break			
5/4/2007 10:40:00 AM	5/4/2007 10:58:00 AM	<i>Biotinylation Turnover Assay of the A33 Antigen</i>	Vivek Raman, Libertyville High School, Libertyville, IL Illinois JSHS; Teacher/Mentor/Sponsor: Margaret Ackerman, Massachusetts Institute of Technology; Mr. Kurt Anderson, Libertyville High School
5/4/2007 11:00:00 AM	5/4/2007 11:18:00 AM	<i>Potential Chemo-preventative Properties in Relation to Polyphenolic Contents of Bitter Melon (<i>Momordica charantia</i> L.)</i>	Intisar Islam, Little Rock Central High School, Little Rock, AR Arkansas JSHS; Teacher/Mentor/Sponsor: Professor Ali U. Shaikh, University of Arkansas at Little Rock; Dr. Shahidul Islam, University of Arkansas at Pine Bluff; Mellisa Donham, Little Rock Central High School
5/4/2007 11:20:00 AM	5/4/2007 11:38:00 AM	<i>Cellular translation factors are essential for the Virion Host Shutoff (Vhs) function of Herpes Simplex Virus: Use of siRNA-induced depletion of cellular factors to test involvement in Vhs activity</i>	Nandini Sarma, Shawnee Mission East High School, Prairie Village, KS Kansas-Nebraska-Oklahoma JSHS; Teacher/Mentor/Sponsor: Dr. G Sullivan Read, University of Missouri- Kansas City
5/4/2007 11:40:00 AM	5/4/2007 11:58:00 AM	<i>Studies of a Compound Having the Potential to Reverse Diabetic Cataract</i>	Theresa Edattukaren, Theresa Edattukaren, Cabot, AR Arkansas JSHS; Teacher/Mentor/Sponsor: Mrs. Donham, Little Rock Central Highschool; Ms. Steadman, Little Rock Central Highschool; Dr. Edathera C. Abraham, UAMS Department of Biochemistry
Lunch			
5/4/2007 1:20:00 PM	5/4/2007 1:38:00 PM	<i>Aquatic Species as Models for Aging, Cancer, and Tissue Regeneration</i>	Sohini Sircar, Maggie L. Walker Governor's School, Richmond, VA Virginia JSHS; Teacher/Mentor/Sponsor: Dr. Shawn E. Holt, Medical College of Virginia; Dr. Lynne W. Elmore, Medical College of Virginia
5/4/2007 1:40:00 PM	5/4/2007 1:58:00 PM	<i>Identifying Anticancer Drug Targets through a Novel Synthesis of RNAi and Microarray Technology</i>	Leah A. Libresco, The Wheatley School, Mineola, NY New York (Long Island) JSHS; Teacher/Mentor/Sponsor: Mr. Paul Paino, The Wheatley School; Dr. Ken Chang, Cold Spring Harbor Lab
5/4/2007 2:00:00 PM	5/4/2007 2:18:00 PM	<i>The Effect of Green Tea Epigallocatechin-3-Gallate (EGCG) on the Ability of P25-activated Cyclin-dependent Kinase 5 (cdk5) to Induce Cell Death in cos-7 Kidney Cells: Implications for Alzheimer's Disease</i>	Shivani B. Agarwal, Spring Valley High School, Columbia, SC South Carolina JSHS
5/4/2007 2:20:00 PM	5/4/2007 2:38:00 PM	<i>The Structure of Adult and Neonatal Mouse Pancreatic Epithelium Analyzed with Fluorescent Antibody Binding Patterns</i>	Rachelle H. Cobb, Columbia River High School, Vancouver, WA Washington JSHS; Teacher/Mentor/Sponsor: Dr. Philip Streeter, Oregon Health & Science University; Kelly Cameron, Columbia River High School

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*Session 6 – Engineering, Grand Ballroom, Salon E
Moderator:*

SessionStart	SessionEnd	Title	Author
5/5/2007 9:00:00 AM	5/5/2007 9:18:00 AM	<i>Balancing Bot</i>	Timothy R. Jenks, The Academy of Science and Technology, The Woodlands, Texas, TX Texas JSHS
5/5/2007 9:20:00 AM	5/5/2007 9:38:00 AM	<i>Optimizing the Structural Stability of Model Buildings through the use of a Biaxial Shaker Table and the Taguchi Method – A Third Year Continuation</i>	Jonathan B. Bell, R. Nelson Sinder High School, Fort Wayne, IN Indiana JSHS; Teacher/Mentor/Sponsor: Barbara Gabet, R. Nelson Sinder High School
5/5/2007 9:40:00 AM	5/5/2007 9:58:00 AM	<i>Design of a Novel Wave Reactor for Large-scale in situ Culturing of Chlamydomonas reinhardtii Phase I. Effect of Wave Mixing</i>	Caroline J. Lang, Independence HS, Yardley, PA Pennsylvania JSHS; Teacher/Mentor/Sponsor: Cynthia Lang, Homeschool Educational Supervisor
5/5/2007 10:00:00 AM	5/5/2007 10:18:00 AM	<i>A Simulated Study of Material Properties at Supersonic Velocities</i>	Nathan Hall, Gilbert High School, Gilbert, AZ Arizona JSHS; Teacher/Mentor/Sponsor: Al Bridges, Gilbert, High School
Break			
5/5/2007 10:40:00 AM	5/5/2007 10:58:00 AM	<i>Towards Making the Smallest Tool Machine for Nanotechnology: Engineering an Aberration Corrector for Focused Ion Beam (FIB) Microscopes</i>	Franz Sauer, High Technology High School, Manalapan, NJ New Jersey (Monmouth) JSHS; Teacher/Mentor/Sponsor: Dr. Nan Yao, Princeton University; Michael T. Roche, High Technology High School; Dr. Charles Christoe, High Technology High School
5/5/2007 11:00:00 AM	5/5/2007 11:18:00 AM	<i>Developing a Nanofiber Filter to Eliminate Copper Ions from Water</i>	Jyotiraditya Sinha, Hoover High School, North Canton, OH Ohio JSHS; Teacher/Mentor/Sponsor: Ms. Connie Hubbard, Hoover High School
5/5/2007 11:20:00 AM	5/5/2007 11:38:00 AM	<i>A Random Trimming Approach for Obtaining High-Precision Embedded Resistors</i>	Phillip Sandborn, Wilde Lake High School, Columbia, MD Maryland JSHS; Teacher/Mentor/Sponsor: Peter Sandborn, University of Maryland
5/5/2007 11:40:00 AM	5/5/2007 11:58:00 AM	<i>Exhaust Plume Analysis of BHT-200 Hall Effect Thrusters: Finding Plasma Potential by Method of Emissive Probe</i>	Rachael N. Nelson, West Salem High School, Salem, OR Oregon JSHS; Teacher/Mentor/Sponsor: Mr. Steve Holman, West Salem High School; Dr. Lee Johnson, Jet Propulsion Laboratory
Lunch			
5/5/2007 1:20:00 PM	5/5/2007 1:38:00 PM	<i>Propellantless Propulsion: Theoretical and Experimental Evidence for EHD Flow in Asymmetrical Capacitors</i>	Steve J. Trettel, New Prague High School, Jordan, MN North Central (Minnesota, N. & S. Dakota) JSHS
5/5/2007 1:40:00 PM	5/5/2007 1:58:00 PM	<i>The Relationship Between Group Size and Rim Thickness of a .22 Bullet</i>	Taylor Q. Heckman, Bayfield High School, Bayfield, WI Western Wisconsin, Upper Michigan JSHS; Teacher/Mentor/Sponsor: Richard Erickson, Bayfield High School
5/5/2007 2:00:00 PM	5/5/2007 2:18:00 PM	<i>A Comparison Of Aerodynamic Drag Due To Turbulent Flow Between A Regular Golf Ball And A Ball With A Square Dimple Pattern</i>	Joshua P. Allen, Odessa High School, Odessa, WA Washington JSHS; Teacher/Mentor/Sponsor: Mr. Wehr, Odessa High School
5/5/2007 2:20:00 PM	5/5/2007 2:38:00 PM	<i>The Effect of Soundboard Surface Area on the Sustain of Acoustic Guitars</i>	Dylan Hillestad, Aviano High School, APO, AE DoD Dependent Schools (Europe) JSHS; Teacher/Mentor/Sponsor: Laura Corder, Aviano High School

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*Session 7 – Mathematics and computer sciences, Grand Ballroom, Salon F
Moderator:*

SessionStart		SessionEnd	Title	Author
5/5/2007 9:00:00 AM	5/5/2007 9:18:00 AM		<i>Analysis of 2D Perfect Maze Creation and Formation of Mazes Generated by Maze Algorithms</i>	Todd K. Yamakawa, Kealakehe High School, Kailua-Kona, HI Hawaii JSHS; Teacher/Mentor/Sponsor: Sharon Chern, Kealakehe
5/5/2007 9:20:00 AM	5/5/2007 9:38:00 AM		<i>The Effect of U.S. Macroeconomic Reports on the Volatilities of Unlinked Foreign Exchange Rates</i>	Mahbub Rasul, Bronx High School of Science, Bronx, NY New York City (Metro) JSHS; Teacher/Mentor/Sponsor: Andrea Haney, Bronx High School of Science
5/5/2007 9:40:00 AM	5/5/2007 9:58:00 AM		<i>Construction of Mutually Orthogonal Latin Squares Using Modular Systems</i>	Timothy A. Tusing, Oak Hall School, Gainesville, FL Florida JSHS; Teacher/Mentor/Sponsor: Jim Margerum, Oak Hall School
5/5/2007 10:00:00 AM	5/5/2007 10:18:00 AM		<i>Engineering Synthetic Oscillatory Gene Networks on the Population Level</i>	Nicholas C. Tang, North Carolina School of Science and Mathematics, Cary, NC North Carolina JSHS; Teacher/Mentor/Sponsor: Myra Halpin, North Carolina School of Science and Mathematics; Jingdong Tian, Duke BioMedical Engineering; Lingchong You, Duke BioMedical Engineering
<i>Break</i>				
5/5/2007 10:40:00 AM	5/5/2007 10:58:00 AM		<i>Acceleration of Training Times of a Kohonen-Backpropagation Dual Neural Network System for Facial Recognition Using Distributed Processing</i>	Asif Khan, Spring Valley High School, Columbia, SC South Carolina JSHS; Teacher/Mentor/Sponsor: Michelle Sutton, Spring Valley High School
5/5/2007 11:00:00 AM	5/5/2007 11:18:00 AM		<i>Quantum Cluster Algorithms: Unsorted Database Search and Factorization</i>	Gabriel J. Mendoza, Americas High School, El Paso, TX New Mexico (Southwest) JSHS; Teacher/Mentor/Sponsor: Mr. Craig Peters, Americas High School
5/5/2007 11:20:00 AM	5/5/2007 11:38:00 AM		<i>Improving the Information Transfer Rate of the Speller Brain Computer Interface</i>	John A. Granata, Byrman Hills High School, Armonk, NY New York (Upstate) JSHS; Teacher/Mentor/Sponsor: Theresa Vaughan, B.A.; Dean Krusienski, Ph.D., Wadsworth Center; Peter Brunner, Ph.D., Wadsworth Center
5/5/2007 11:40:00 AM	5/5/2007 11:58:00 AM		<i>Effect of Rogue Stars on the Orbits of Binary Star Systems</i>	Benjamin Simon, Evanston Township High School, Evanston, IL Illinois (Chicago) JSHS; Teacher/Mentor/Sponsor: Dr. Mark Vondracek, Evanston Township High School

45th National Junior Science & Humanities Symposium
Student Research Presentations

Session 8 –Physical sciences, including astronomy, Discovery
Moderator:

SessionStart	SessionEnd	Title	Author
5/5/2007 9:00:00 AM	5/5/2007 9:18:00 AM	<i>Biocompatible Silver Nanoparticles for Potential Tumor Imaging Applications</i>	Meghna Srinath, David H. Hickman High School, Columbia, MO Missouri JSHS; Teacher/Mentor/Sponsor: Dr. Pamela Close, David H. Hickman High School
5/5/2007 9:20:00 AM	5/5/2007 9:38:00 AM	<i>A Novel Chlorophyll-based Nanocrystalline Photoelectrochemical Cell: A Promising Approach to Hydrogen Production via the Light-driven Redox of Seawater</i>	Nilesh Tripuraneni, Clovis West High School, Fresno, CA California (Northern & Western Nevada) JSHS; Teacher/Mentor/Sponsor: Wayne Garabedian, Clovis West High School
5/5/2007 9:40:00 AM	5/5/2007 9:58:00 AM	<i>Determining Carbon Nanotubes' Thermodynamic Solubility: The Missing Link to a Practical Supermaterial?</i>	Philip V. Streich, Homeschool, Platteville, WI Wisconsin JSHS; Teacher/Mentor/Sponsor: Dr. James P. Hamilton, University of Wisconsin - Platteville
5/5/2007 10:00:00 AM	5/5/2007 10:18:00 AM	<i>The Electrocatalysis of ssDNA-Wrapped Carbon Nanotubes</i>	Anna J. Parker, John T. Hoggard High School, Wilmington, NC North Carolina JSHS; Teacher/Mentor/Sponsor: Lawson Greenwood, John T. Hoggard High School; Myra Halpin, NC School of Science and Mathematics
Break			
5/5/2007 10:40:00 AM	5/5/2007 10:58:00 AM	<i>A Novel Method of Drug Delivery: The Use of Cyclodextrins to Optimize Absorption of Insoluble Drugs</i>	Soumya Nettimi, Thomas Jefferson High School for Science and Technology, Alexandria, VA Virginia JSHS; Teacher/Mentor/Sponsor: Mr. Robert Latham, Thomas Jefferson High School for Science and Technology
5/5/2007 11:00:00 AM	5/5/2007 11:18:00 AM	<i>Quantifying the Effect of Skyglow on the Visibility of Stars</i>	Jacob Rucker, Canyon Crest Academy, San Diego, CA California (Southern) JSHS; Teacher/Mentor/Sponsor: Roxanne Hunker, The Rhoades School
5/5/2007 11:20:00 AM	5/5/2007 11:38:00 AM	<i>Neutron Activation Analysis using an Inertial Electrostatic Confinement Fusion Reactor</i>	Thiago D. Olson, Stoney Creek High School, Rochester, MI Michigan (Southeastern) JSHS; Teacher/Mentor/Sponsor: Eric Thuma, Stoney Creek High School
5/5/2007 11:40:00 AM	5/5/2007 11:58:00 AM	<i>Images of Active Galactic Nuclei in the MUSYC Survey</i>	Antonella C. Lisanti, Staples High School, Westport, CT Connecticut JSHS; Teacher/Mentor/Sponsor: Dr. A.J. Scheetz, Staples High School; Dr. Meg Urry, Yale University; Carie Cardamone, Yale University
Lunch			
5/5/2007 1:20:00 PM	5/5/2007 1:38:00 PM	<i>Modeling the Effects of Orbital Eccentricity, Obliquity, and Albedo on the Polar Ice Caps of Mars</i>	Logan R. Daum, West Valley High School, Fairbanks, AK Alaska JSHS; Teacher/Mentor/Sponsor: Ms. Cyndie Beale, West Valley High School; Dr. Scott Bailey, Virginia Polytechnic Institute
5/5/2007 1:40:00 PM	5/5/2007 1:58:00 PM	<i>GEONET: A Demonstration of Networked Optical Satellite Tracking with Applications to Science, Engineering, and National Security</i>	Daniel A. Handlin, High Technology High School, Lincroft, NJ New Jersey (Monmouth) JSHS; Teacher/Mentor/Sponsor: Michael T. Roche, High Technology High School
5/5/2007 2:00:00 PM	5/5/2007 2:18:00 PM	<i>The Mechanisms Of Proton Transport In One-dimensional Water Chains</i>	Yin Y. Wu, Atherton, Louisville, KY Kentucky JSHS; Teacher/Mentor/Sponsor: George Pack, University of Louisville; Sandra Forrest-Terrell, Atherton High School; Thomas A. Gregory, Atherton High School
5/5/2007 2:20:00 PM	5/5/2007 2:38:00 PM	<i>The Effects of Cosmic Microwave Background Radiation and Hawking Radiation on the Mass of a Schwarzschild Black Hole</i>	Taylor M. Sullivan, Hamilton High School, Chandler, AZ Arizona JSHS; Teacher/Mentor/Sponsor: Teresa Clark, Hamilton High School; Debbie Nipar, Hamilton High School
5/5/2007 2:40:00 PM	5/5/2007 2:58:00 PM	<i>Conserving History: Using a Ferrozine/Hydroquinone Treatment to Inhibit Cellulose Oxidation in Iron Gall Ink</i>	Samuel R. Breidbart, Syosset High School, Syosset, NY New York (Long Island) JSHS; Teacher/Mentor/Sponsor: Mrs. Angela Lukaszewski, Syosset High School; Dr. Joseph Landesberg, Adelphi University

*45th National Junior Science & Humanities Symposium
Student Research Presentations*

*Session 9 – Run-off session, Life sciences and Medicine & Health/Behavioral
Atlantis*

Moderator: