2015 North Central Regional JSHS Award Winners

Award	Winner, School	Project Title
1st Place	Carolyn Jons, Eden Prairie High School	*Improved Efficiency of Seawater Steam Generation - Year 2*
2nd Place	Tim Renier, Duluth East High School	*The Development of an Inexpensive Hand Hygiene Monitoring System With a Raspberry Pi Computer: Applications for Healthcare and Beyond*
3rd Place	Alanna Bram, John Marshall High School	*Optimizing Human Machine Interfaces for Improving Object Detection Assistive Devices*
4th Place	Ishita Kamboj, Wayzata Senior High School	*Methamphetamine Compromises the Phagocytic Activity of BV2 Murine Microglia Without Compromising Cellular Viability*
5th Place	Karsten Salveson & Eve Zelickson, Breck School	*Zebra Mussel (Dreissena polymorpha) Preference for Colonization on Macrophytes*
AJAS	Brandon Kasprick, Lincoln High School, Thief River Falls	*An Innovative Analysis Used to Determine the Efficacy of Multi-Level Management Guides for the Prevention of Rhizoctonia solani Infestation in Beta vulgaris*
Outstanding Achievement Award	Amrita Mohanty, Woodbury Senior High School	*Schwann Cell Differentiation from Stem Cells of Neurofibromatosis 1 Patients and Normal Controls*
Outstanding Achievement Award	Annie McFarland & Grace Kirkpatrick, Breck School	*Long-term Effects of Hyperglycemia on Dendtrites in the CA1 Region of the Hippocampus*
Outstanding Achievement Award	Siddarth Eswarachari & Moira Southern, Breck School	*Cleaner Water: Genomic Analysis of the Homogentisate Catabolic Pathway in Pseudomonas putida F1 for Bioremediation of Aromatic Hydrocarbons*
Outstanding Achievement Award	Elizabeth Tangney, Burnsville High School	*Correlation Between Musical Training and Pitch Perception*
Outstanding Achievement Award	Rahul Parhi, Wayzata Senior High School	*Fault-Tolerant Arithmetic Computing Using Partial Triple Modular Redundancy (PTMR)*
Outstanding Achievement Award	Maya Khanna, Mayo High School	*Use of Auxin to Overcome the Effects of Microgravity on Plant Root Growth*
Graduate Women in Science 9th Grade	Frances Slater, Cloquet High School	*The Use of Growth and Dissolved Oxygen Consumption Per Mass of Fish to Determine the Impact of Gender, Transgenes (Wild-Type Vs. Florescence), and Zygosity (Hemizygous Vs. Homozygous) on the Fitness and Impact in the Wild of Transgenic Fluorescent Zebrafish*
Graduate Women in Science 10th Grade	Harini Kethar, Minnetonka High School	*Investigating Functions of Fanconi Anemia (FA) Proteins in Cellular Checkpoint Signaling: A Novel Role for the FANCD2 Protein*

Graduate Women in Science 11th Grade	Christine Neumann & Crystal Moynan, Cloquet High School	*The Effect of Benthic Substrate and Location Within the Lake Superior Estuary, As Well As Gender, Tone, and Sound Location on the Response Behavior of Neogobius melanostomus (Round Gobies) and the Possibility of Future Trapping of This Invasive Species—Phase III*
Graduate Women in Science 12th Grade	Sweta Bhoopatiraju, Wayzata Senior High School	*Relationship Between UHRF2 and 5hmC in Normal and Tumor Tissue*
Asa E. Johnson Award for Medicine and Health	Kit Chow, Burnsville High School	*The Effects of Temperature and Humidity on the Crystal Size of Paclitaxel*
Curtis D. Motchenbacher Award for Engineering and Technology	Drew Folie, Alden Conger High School	*Diesel Efficiency*
Frank R. Verbrugge Award for Mathematics and Computer Science	Darartu Gamada & Zhuang Miao, Breck School	*Molecular Dynamics Simulations of Copolymers As Molecular Band-Aids Against Duchenne Muscular Dystrophy*
Henry F. Nachtrieb Award for Life Sciences	Nathaniel Farmer, Stillwater Area High School	*Light Stimulated Startle Response in Daphnia magna*
J.W. Buchta Award for Physics and Astronomy	Leighton Zhao, Wayzata Senior High School	*Normal Mode Analysis of a Seven-Particle Hexagonal Mini-Crystal System*
Walter O. Lundberg Award for Chemistry	Max Ylitalo, Stillwater Area High School	*Landfill to Car Fuel: Using Surfactants to Increase Cellulosic Ethanol Production From Waste Paper*
Wiliam S. Cooper Award for Environmental Science	Sean Wittenberg, Winona High School	*Using Offshore Wind Turbines to Reduce Wind Speed and Storm Surge of a Hurricane*