

भारत सरकार GOVERNMENT OF INDIA विज्ञान एवं प्रौद्योगिकी विभाग DEPARTMENT OF SCIENCE AND TECHNOLOGY



#### Augmenting Writing Skills for Articulating Research

AWARD 2018





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#### (Augmenting Writing Skills for Articulating Research)

**Unleash the Spirit of Science Communication** 

3 विसर (शोध की अभिव्यक्ति के लिए लेखन कौशल), विज्ञान एवं प्रौद्योगिकी विभाग (डीएसटी), भारत सरकार की एक पहल है। इसका उद्देश्य भारत में विज्ञान, प्रौद्योगिकी और नवोन्मेष के क्षेत्र में पीएचडी शोध छात्रों और पोस्ट—डॉक्टरल फैलो द्वारा वैज्ञानिक शोधों की जानकारी का प्रसार लोकप्रिय विज्ञान लेखन प्रारूप में किया जाना है।



#### AwsAR (Augmenting Writing Skills for Articulating Research) is an initiative of Department of Science and Technology (DST), Government of India. It attempts to disseminate Indian research in Science, Technology & Innovation being pursued by Ph.D. Scholars and Post Doctoral Fellows in popular science writing format.



AWSAR Awardee (Post Doctoral Fellow Category) **Dr. Paulomi Sanghavi** is a Post Doctoral researcher from Tata Institute of Fundamental Research, Mumbai in the field of Cell Biology and Biophysics. She is broadly interested in studying how tiny cellular particles move over larger distances inside living cells. Her doctoral work dealt with studying transport of messenger RNAs in Drosophila, which is essential for proper embryogenesis. Currently, she is investigating the mechanism by which immune cells bring about degradation of engulfed pathogens during various infections. Apart from research, she enjoys reading novels, writing and artwork.

# Dr. Paulomi Sanghavi Post Doctoral Fellow

**OUTSTANDING** 

**STORY** 

#### About AWSAR story:

Her popular science story entitled "Coin tossing explains activity of opposite motors on phagosomes" addresses how motion of organelles might be regulated in cellular environment. Cellular environment is extremely crowded and busy. Cells have several smaller compartments called 'organelles' and various biomolecules of varying shapes and sizes. These organelles are constantly moving from one place to another to carry out their respective function. Failure to do so results in various health conditions. She studied this movement from infection perspective. She has been successful in revealing the mechanism of bidirectional cargo transport during early stages of phagosome motion as well as during infection. AWSAR Awardees (Ph.D. Category) **Mr. Ashish Suresh Srivastava**, a Research Scholar at Anjuman-I-Islam's Kalsekar Technical Campus, School of Engineering and Technology, University of Mumbai, India is an enthusiastic and highly motivated individual who has a clear understanding of the role and responsibilities associated with being a civil engineer. He possesses wide-ranging experience in the field of sustainability, architecture, renewable energy and solid waste management using plasma gasification technology. He has published more than 8 research papers in international and national journals and presented these papers in various national and international conferences.

#### About AWSAR story:

His popular science story entitled "Adoption of Green Building for Sustainable Growth of Rural India" is a story which narrates the adoption of technology for rural India. A visit to the countryside to meet his grandfather was an eye-opener. During his visit he realized the stark contrast of services and commodities offered to people in villages and towns. This eventually enforced him to think about the wastage of resources in urban areas and how Green Buildings are truly the need of the hour for sustainable development. It made him delve profoundly into the topic and encouraged him to develop software that makes Green Buildings more accessible and simplifies the complexities associated with it for general population.





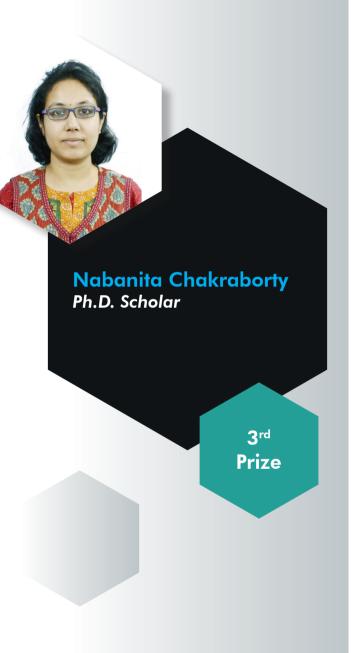
**Mr. Ajay Kumar** is a Research Scholar in the area of Development of Materials for Solid Oxide Fuel Cells (SOFCs) at IIT Madras, Chennai, India. He has developed a novel thermo mechanical processing route (Reverse Friction Deposition) for fabrication of metallic interconnects for SOFCs, which has been published in reputed international journals viz. Materialia and Oxidation of Metals. Prior to this, he also worked on ZnO nanostructures at NPL, Delhi.

#### **About AWSAR story:**

His popular science story entitled "Tales of fixing the tails" is a routine conversation between a father and his curious teenager son, discussing severe environmental pollution and the contribution of father's research in mitigating the same. It details the anatomy, functioning and promises of an efficient and modular clean energy producing device, named Solid Oxide Fuel Cells, which is the research interest of his father. The punch lines of teen's brother and mother makes it realistic and witty. **Ms. Nabanita Chakraborty** is a Research Scholar in the field of Plant Natural Products, at ICAR-Central Inland Fisheries Research Institute, Barrackpore, Kolkata, India. She received Women Scientists Fellowship (WOS-A) from Department of Science and Technology (DST), for pursuing her PhD on allelochemicals from aquatic plants and their application in fish disease management of wetland ecosystem. She has received Young Scientist Award in Biotechnology from Aufau International Awards, 2016. She has 9 publications, 1 book chapter and is a reviewer of International Journal of Agriculture Sciences.

#### About AWSAR story:

The popular science story entitled "Population and Ecology Symbiosis–Wetland, Macrophyte and Fish" tells us about the symbiotic relation that ecology shares with its inhabiting population. The inorganic salt of the leaf extract of a well-known aquatic vegetable, "Kalmi Shak" was found to provide a post infection immunity for more than half a month against bacterial infection to country's one of the most extensively harvested aquaculture fish, "Pangas". She is leading towards development of economically cheap, indigenous technology for the benefit of fish farming community.



#### **AWSAR Awardees (PDF Category)**

**AWARDEES OF 20 BEST STORIES** 

**Dr. Sujata Pramanik**, Post Doctoral Fellow from Dibrugarh University, Dibrugarh, Assam, is pursuing her research on "Biomimetic Preparation of Iron Oxide based Bionanocatalyst using Marine Waste Biomass and its Catalytic Activity in Environmental Remediation and C-C Bond Functionalization." Her popular science story entitled "Embarking towards 'Swachh Bharat': Ek Kadam Swachhata Ki Aur" has been selected for AWSAR Award.

**Dr. Sreedevi Padmanabhan**, Post Doctoral Fellow from Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, is pursuing her research on "Autophagy and Unconventional Protein Secretion." Her popular science story entitled "The Mystery behind Unconventional Protein Secretion and Secretory Autophagy" has been selected for AWSAR Award.

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**Dr. Manvi Sharma**, Post Doctoral Fellow from Ashoka Trust for Research in Ecology and the Environment, Bangalore, is pursuing her research on "Investigating and Mitigating Risks of Rabies Spillover across Human-Dog-Wild Carnivore Spectrum: An Integrated Approach from Movement and Disease Ecology." Her popular science story entitled "Tackling Rabies in a Rapidly Urbanising World" has been selected for AWSAR Award.

**Dr. Suchibrata Borah**, Post Doctoral Fellow from Indian Institute of Technology, Bombay, is pursuing her research on "Water Soluble N-Heterocyclic Carbene based Catalysts." Her popular science story entitled "How I Met My Auto-Reusable Fluoride Receptors" has been selected for AWSAR Award.

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**Dr. Dhananjay Chaturvedi**, Post Doctoral Fellow from National Center for Biological Sciences, Tata Institute of Fundamental Research, Bangalore, is pursuing his research on "Muscle Repair through Adult Stem Cells in Drosophila." His popular science story entitled "Your Muscles and Fruit Fly Stem Cells" has been selected for AWSAR Award.

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**Dr. Ulfat Baig**, Post Doctoral Fellow from Indian Institute of Science Education & Research, Pune, is pursuing her research on "Maharashtra Gene Bank Project." Her popular science story entitled "Stalking Streptomyces on Hunt" has been selected for AWSAR Award.

**Dr. Swati Verma**, Post Doctoral Fellow from National Institute of Plant Genome Research, New Delhi, is pursuing her research on "Possible Role of Small RNAs in Regulating Gene Expression during various stages of Bud Dormancy Release in Apple." Her popular science story entitled "An 'AWSAR' to Devise a Protocol for Laser based Excision of Microscopic Woody Apple Bud Meristem for Tissue Specific Expression Analysis" has been selected for AWSAR Award.

# **Dr. Pavithra Rajagopalan**, Post Doctoral Fellow from Institute of Bioinformatics, Bangalore, is pursuing her research on "Effect of Chronic Exposure to Cigarette Smoke and Chewing Tobacco in Oral Keratinocytes." Her popular science story entitled "A Journey from Chronic Tobacco Exposure to Cancer" has been selected for AWSAR Award.

## **Dr. Shiny K S**, Post Doctoral Fellow from Institute of Wood Science and Technology, Bangalore, is pursuing her research on "Wood Preservation." Her popular science story entitled "Wood Protectant from Coconut Shell: New Biobased Product for a Safe Future" has been selected for AWSAR Award.

**Dr. Shaunak Chakraborty**, Post Doctoral Fellow from Indian Institute of Science, Bangalore, is pursuing his research on "Cocrystals." His popular science story entitled "Designer Crystals" has been selected for AWSAR Award.

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**Dr. Anu Renjith**, Post Doctoral Fellow from Indian Institute of Sciences, Bangalore, is pursuing her research on "Ortable Electrochemical Analyzer using Nanocomposites based Chemically Modified Electrodes for Rapid Detection of Adulterants and other Contaminations in Food and Beverages." Her popular science story entitled "Electrochemical Studies Carried out in Deep Eutectic Solvents and Colloidal Suspensions" has been selected for AWSAR Award.

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**Dr. Ummer Zargar,** Post Doctoral Fellow from Central University of Kashmir, Jammu & Kashmir, is pursuing his research on "Evaluating the Impact of Pollutants, Disease and Fish Nutrition on Threatened Schizothoracine Fishes of North West Himalaya (Teleostei: Cyprinidae) by using Integrative Biomarker-GIS Approach." His popular science story entitled "Fish-Parasite Sentinel System-An Emerging Integrated Biomonitoring Tool in the Offing" has been selected for AWSAR Award.

**Dr. Megha Mathur,** Post Doctoral Fellow from Indian Institute of Technology, New Delhi, is pursuing her research on "Conversions of Microalgal Biomass for Fuel and Value Added Products." Her popular science story entitled "Pre- and Post Digestion of Microalgae makes an Efficient Energy Product (Biogas)" has been selected for AWSAR Award.

# **Dr. Naveen Kumar Venkata Gundala**, Post Doctoral Fellow from National Institute of Pharmaceutical Education and Research, Guwahati, is pursuing his research on "Related to Diabetes, Metabolic Syndromes and Cancer." His popular science story entitled "Anti-Inflammatory and Anti Diabetic Action of Arachidonic Acid and its Metabolite Lipoxin A4" has been selected for AWSAR Award.

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**Dr. Neha Singh**, Post Doctoral Fellow from University of Delhi, New Delhi, is pursuing her research on "Calcium and Auxin Signaling during Adventitious Root Development and Analysis of Possible Nitric Oxide Crosstalk." Her popular science story entitled "Relieving Stress? Plants and Human beings Engage Similar Molecular Crosstalk" has been selected for AWSAR Award.

**Dr. Adhish Walvekar,** Post Doctoral Fellow from Institute for Stem Cell Biology and Regenerative Medicine, Bangalore, is pursuing his research on "Identifying Mechanisms of Amino Acid Sensing and Regulation of the Eukaryotic tRNA Thiolation Pathway." His popular science story entitled "Check Met!" has been selected for AWSAR Award.

## **Dr. Joyshree Chanam**, Post Doctoral Fellow from National Centre for Biological Sciences, TIFR, Bangalore, is pursuing her research on "Effect of Climate Warming on Plant-Insect Interactions." Her popular science story entitled "The Curious Case of the Ants in My Plants Friends" has been selected for AWSAR Award.

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**Dr. Swati Bhomia**, Post Doctoral Fellow from Space Applications Centre, ISRO-Ahmedabad, is pursuing her research on "Future Projection of the Indian Summer Monsoon using Multi Model Ensemble Approach." Her popular science story entitled "Predicting Indian Summer Monsoon Rainfall: Moving from Multiple to Single Forecast" has been selected for AWSAR Award.

**Dr. Nuzhat Ahsan,** Post Doctoral Fellow from Institute of Life Sciences, Bhubaneshwar, Odisha, is pursuing her research on "Deciphering the Role of Trim Family of Proteins in Neurodegeneration and Neuroinflammation." Her popular science story entitled "A Hope for Brain Cell Death in Parkinson's Disease -Modified Curcumin (Haldi)" has been selected for AWSAR Award.

**Dr. Shuvasree Sarkar,** Post Doctoral Fellow from Visva Bharati University, West Bengal, Kolkata, is pursuing her research on "Functional Analysis of Zebrafish C-Reactive Protein (Crp) in Bacterial Pathogenesis: Interaction with Macrophage and Cytokines." Her popular science story entitled "Role of Zebrafish C-Reactive Protein in Infiltration of Macrophages during Bacterial Pathogenesis" has been selected for AWSAR Award.

#### AWSAR Awardees (Ph.D. Category)

#### **AWARDEES OF 100 BEST STORIES**

**Mr. Vikram Thakur,** Ph.D. Scholar from Postgraduate Institute of Medical Education and Research , Chandigarh, is pursuing his research on "Study of Inflammasomes in the Pathogenesis of Viral Hepatitis E Infection." His popular science story entitled "Structural Prediction of Hepatitis E Virus X Domain to Limit Viral Infection: My Experience" has been selected for AWSAR Award.

**Ms. Tanushree Agarwal,** Ph.D. Scholar from University of Calcutta, West Bengal, is pursuing her research on "Cloning, Characterisation and Functional Validation of Dehydrin Proteins from Physcomitrella Patens." Her popular science story entitled "Moss: Little Things Which can fill the Huge Glitch in Agriculture" has been selected for AWSAR Award.

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**Mr. Suresh Bandi,** Ph.D. Scholar from Visvesvaraya National Institute of Technology, Mumbai, is pursuing his research on "Metal Oxide Nanostructures for Gas Sensing Applications." His popular science story entitled "Necessity of Gas Sensing in Daily Life: Graphene/Metal Oxide Nanocomposites for Carbon Monoxide Sensing" has been selected for AWSAR Award.

**Ms. Aparna J S**, Ph.D. Scholar from Indian Institute of Technology, Mumbai, is pursuing her research on "Computational Study of Dynamic Properties of Microtubule Filaments." Her popular science story entitled "The Enterprising Life of a Microtubule: "Ups" and "Downs" and some Peaceful Times" has been selected for AWSAR Award.

## **Ms. Divya Divkaran,** Ph.D. Scholar from Homi Bhabha National Institute, BARC, Mumbai, is pursuing her research on "Neutrino Physics." Her popular science story entitled "Solving the Particles' Game using Machine Learning" has been selected for AWSAR Award.

## **Ms. Astha Tyagi**, Ph.D. Scholar from Indian Institute of Technology, Mumbai, is pursuing her research on "Design and Development of Passivated Carrier Selective Contact (CSC) based Silicon Solar Cells." Her popular science story entitled "Solar Cells – Let's Brighten the World" has been selected for AWSAR Award.

**Ms. Payal Gupta**, Ph.D. Scholar from University of Calcutta, Kolkata, West Bengal, is pursuing her research on "Inflammation, Pancreatic Disorders, Breast Cancer, Dietary Polyphenols." Her popular science story entitled "Naturally inspired: Understanding how Pomegranate Prevents Pancreatic Disorders" has been selected for AWSAR Award.

**Mr. Joseph Jose Thottacherry,** Ph.D. Scholar from National Centre for Biological Sciences, Tata Institute for Fundamental Research, Karnataka, is pursuing his research on "Regulation of Endocytosis and Membrane Tension in Single Cells." His popular science story entitled "Mechanochemical Feedback Control of Dynamin Independent Endocytosis Modulates Membrane Tension in Adherent Cells" has been selected for AWSAR Award.

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**Ms. Pinky Moni Bhuyan,** Ph.D. Scholar from Dibrugarh University, Dibrigarh, Assam, is pursuing her research on "Study on the Gut Bacteria of Antheraea Assamensis Helfer with Special Reference to Formulation of Microbial Consortium to Enhance the Silk Productivity." Her popular science story entitled "Improving the Immune Health of the Muga Silkworm: In a Natural Way- the Probiotic Way" has been selected for AWSAR Award.

**Mr. Abhishek Albert,** Ph.D. Scholar from Madurai Kamaraj Universty, Madurai, Tamil Nadu, is pursuing his research on "Studies on the Molecular Pathogenesis of Hyperoxaluria and Expression of Oxalate Decarboxylase in Hek293 Cells for Evaluation of Therapeutic Potential against Calcium Oxalate Stone Disease." His popular science story entitled "Kidney Stones: A Stone that Never Roll Away" has been selected for AWSAR Award.

# **Mr. Ankit Goyal,** Ph.D. Scholar from Malaviya National Institute of Technology, Jaipur, is pursuing his research on "Development of Nanocrystalline Silicon Thin Film Solar Cells via Powder Metallurgy." His popular science story entitled "Indian Scientists Developed Functionally Graded Nanocrystals for Improved Solar Cells" has been selected for AWSAR Award.

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**Ms. Yoghitha Ramamoorthi,** Ph.D. Scholar from Indian Institute of Technology, Hyderabad, is pursuing her research on "Resource Allocation and Energy Efficiency in Cellular Networks." Her popular science story entitled "Resource Allocation and Energy Efficiency in Cellular Networks in Comparison with How to Raise a Happy and Good Child ?" has been selected for AWSAR Award.

**Ms. Manobala T,** Ph.D. Scholar from Department of Applied Science & Technology, Anna University, Chennai, is pursuing her research on "Studies on Deinococcus Radiodurans R1 Biofilm formation and its Implications in Bioremediation." Her popular science story entitled "I can Eat Uranium-My Name is Deinococcus Radiodurans" has been selected for AWSAR Award.

**Ms. Eira Choudhary,** Ph.D. Scholar from Symbiosis international, Pune, is pursuing her research on "In vivo Characterisation of the Role of DNA Gyrase in Mtb." Her popular science story entitled "Knock Down Punch to Tuberculosis" has been selected for AWSAR Award.

**Ms. Navjot Kaur,** Ph.D. Scholar from Indian Institute of Science, Bengaluru, is pursuing her research on "Automatic Paper Machines for Rapid Detection of Tuberculosis at the Point-of-care." Her popular science story entitled "Paper Machines for Rapid and inexpensive, Point-of- care Diagnosis of Tuberculosis" has been selected for AWSAR Award.

**Mr. Aditya,** Ph.D. Scholar from Bidhan Chandra Krishi Visva Vidyalaya, West Bengal, is pursuing his research on "Role of Traditional and Emerging Media in Agricultural Development in the State of Bihar, India." His popular science story entitled "Community Radio for the Upliftment of Farming and the Rural Communities in India" has been selected for AWSAR Award.

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**Mr. Piyush Garg,** Ph.D. Scholar from Jawaharlal Nehru Centre for Advanced Scientific Research, Karnataka, is pursuing his research on "Pattern formation in Flow of Complex Fluids." His popular science story entitled "Making Oil Flow Faster for Cheaper" has been selected for AWSAR Award.

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**Ms. Mahadevi Nagralli,** Ph.D. Scholar from Dr. M.G.R. Fisheries College and Research Institute, Ponneri, Tamil Nadu, is pursuing her research on "Captive Breeding and Mass Rearing of Native Ornamental Fishes of Western Ghats Through Live Feed and Culture System based Interventions." Her popular science story entitled "A Way Forward in Ornamental Fish Farming" has been selected for AWSAR Award. **Ms. Nikita Zachariah,** Ph.D. Scholar from Indian Institute of Science, Bengaluru, is pursuing her research on "Building Mud Castles: Ecological, Engineering and Biochemical Aspects of Termite Mound Construction." Her popular science story entitled "We the Termites of IISc" has been selected for AWSAR Award.

**Mr. Prasanna Karthik Vairam,** Ph.D. Scholar from Indian Institute of Technology, Madras, is pursuing his research on "Applications of Approximate Data Structures in Storage Constrained Untrusted Distributed Networks." His popular science story entitled "Concerned about Privacy Leaks from IoT Devices? IIT Madras Researchers may have a Solution!" has been selected for AWSAR Award.

**Mr. Ajinkya Sirsat,** Ph.D. Scholar from Indian Institute of Technology, Ropar, is pursuing his research on "Micro Mechanics of Smart Composite Structure in Stochastic Framework." His popular science story entitled "Air Vehicle which Flaps its Wing and Fly" has been selected for AWSAR Award. **Ms. Antara Dasgupta,** Ph.D. Scholar from Indian Institute of Technology, Mumbai, is pursuing her research on "Towards Improved Operational Flood Forecasting using Data Assimilation." Her popular science story entitled "Missing not Dead: the Horrifying Story of Man-Made Flood Disasters" has been selected for AWSAR Award.

#### **Ms. Bipasha Bhattacharjee**, Ph.D. Scholar from CSIR-Institute of Himalayan Bioresource Technology, Palampur, is pursuing her research on "Ascertaining the Role of Gapdh in Viral Pathogenesis." Her popular science story entitled "Role-Mining the Moonlighting Gapdh Proteins in Cucumber Mosaic Virus Resistance in Plants" has been selected for AWSAR Award.

**Ms. Nithya Subramaniam**, Ph.D. Scholar from Indian Institute of Technology, Madras, is pursuing her research on "Study of Speech Intelligibility Issues in Naturally Ventilated Classrooms." Her popular science story entitled "Teaching and Learning in Acoustical Darkness'" has been selected for AWSAR Award.

**Mr. Abhishek Vats,** Ph.D. Scholar from Sir Ganga Ram Hospital, New Delhi, is pursuing his research on "Role of Protein Homeostasis Pathways in Amyotrophic Lateral Sclerosis." His popular science story entitled "Damage of Brain Wiring in Amyotrophic Lateral Sclerosis" has been selected for AWSAR Award.

**Ms. Divyashree Arvind,** Ph.D. Scholar from BMS College of Engineering, Bengaluru, is pursuing her research on "Fabrication of Supercapacitors from Carbon Nanospheres Synthesized from Bio-Waste Materials." Her popular science story entitled "Diffusing Bomb of Energy Scarcity" has been selected for AWSAR Award.

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**Ms. Sayani Sarkar,** Ph.D. Scholar from Bose Institute, Kolkata, is pursuing her research on "Structural and Biochemical insights into Ubiquitination Activities by Ring E3 Ligases." Her popular science story entitled "The Decline and Death of the Protein Empire: Molecular investigations in Ubiquitination Pathway" has been selected for AWSAR Award.

**Ms. Seema Prasad,** Ph.D. Scholar from University of Hyderabad, Hyderabad, is pursuing her research on "Attention and Unconscious Processing." Her popular science story entitled "The Changing Brain - Neuroplasticity in the Deaf" has been selected for AWSAR Award.

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**Ms. Preethi Ravi,** Ph.D. Scholar from National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bengaluru, is pursuing her research on "Molecular and Cellular Components Underlying Dopaminergic Regulation of Flight in Drosophila Melanogaster." Her popular science story entitled "Fly Marathons" has been selected for AWSAR Award.

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**Mr. Biswajit Sahoo**, Ph.D. Scholar from Indian Institute of Technology, Kharagpur, is pursuing his research on "Fault Diagnosis and Prognosis using Machine Learning Techniques." His popular science story entitled "Fault Diagnosis of Machines" has been selected for AWSAR Award.

**Ms. Anjali Raj,** Ph.D. Scholar from JSS College of Pharmacy, Mysuru, is pursuing her research on "Alzheimer's Disease and Olfaction." Her popular science story entitled "The Smoke that Kills Smell and Fade Memories" has been selected for AWSAR Award.

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**Ms. Neetha Nirupam Jathanna,** Ph.D. Scholar from N.M.A.M. Institute of Technology, NITTE, Karnataka, is pursuing her research on "Bio Degradation of Complex Organics by Endophytic Bacteria." Her popular science story entitled "Bacterial Endophytes: Nature's Hidden Battalion against Environmental Pollution" has been selected for AWSAR Award.

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**Mr. Jastej Singh,** Ph.D. Scholar from Sant Longowal Institute of Engineering & Technology, Punjab, is pursuing his research on "Weld Procedural Effects on Metallurgical, Impact Toughness and Corrosion Behavior of AISI 2205 Duplex Stainless Steel Electron Beam Welds." His popular science story entitled "Welding Research: Effect of Joint Design on the Corrosion Resistance of Welds" has been selected for AWSAR Award.

**Ms. Sneha Mondal,** Ph.D. Scholar from Department of Chemistry, Siksha Bhavana, West Bengal, is pursuing her research on "Enzyme Immobilization." Her popular science story entitled "Application of a Biomaterial (Urease) in Medicinal Field and other industries to Remove Urea from Synthetic and Real Sample" has been selected for AWSAR Award.

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**Ms. Gunjan Verma,** Ph.D. Scholar from Indian Institute of Science Education and Research, Pune, is pursuing her research on "Dynamics of Bose-Einstein Condensate in Linear and Nonlinear Regime." Her popular science story entitled "Journey of Solitary Waves in Quantum World" has been selected for AWSAR Award.

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**Mr. Panini Singam,** Ph.D. Scholar from Indian Institute of Astrophysics, Bengaluru, is pursuing his research on "Development of Multilayer Mirrors for Space based Astronomical Applications." His popular science story entitled "Multilayer Mirrors: A New Horizon for Astronomical X-Ray Optics" has been selected for AWSAR Award. **Mr. Yoganand Knr,** Ph.D. Scholar from Indian Institute of Technology, Guwahati, is pursuing his research on "Functional Characterization of Adaptation Stage of CRISPR-Cas System." His popular science story entitled "Unravelling the Mysteries of Crispr Memory Generation." has been selected for AWSAR Award.

#### **Ms. Archana Natarajan**, Ph.D. Scholar from National Institute of Mental Health & Neurosciences, Bengaluru, is pursuing her research on "Mass Spectrometry-Based Targeted Metabolomics for the Diagnosis of X-Linked Adrenoleukodystrophy." Her popular science story entitled "Screening for X-Ald by Tandem Mass Spectrometry using Dried Blood Spots" has been selected for AWSAR Award.

# **Ms. Aarti Kumari,** Ph.D. Scholar from Academy of Scientific & Innovative Research, CSIR-NML, Jamshedpur, is pursuing her research on "Studies on Hydro and Electro-Chemical Dissolution of Scrap Wind Turbines Magnets for the Recovery of Rare Earths and other Valuable Products." Her popular science story entitled "Today's Waste is Tomorrow's Wealth: Recovery of Rare Earths from Waste Magnets of Wind Turbine" has been selected for AWSAR Award.

**Ms. Swati Gupta,** Ph.D. Scholar from Defence Institute of Physiology and Allied Sciences -DRDO, Timarpur, Delhi, is pursuing her research on "Anti-Chikungunya Effects of andrographolide: Inhibition of Viral Replication and Mitigation of Associated inflammation." Her popular science story entitled "A Wonder Drug Discovered for Chikungunya Treatment" has been selected for AWSAR Award.

# **Ms. Harini Gunda,** Ph.D. Scholar from Indian Institute of Technology, Gandhinagar, is pursuing her research on "Synthesizing 2D Boron Nanosheets Analogs to Graphene and Developing Energy based Applications." Her popular science story entitled "Catastrophe in the Nanoworld: Noah's Ark to the Rescue" has been selected for AWSAR Award.

# **Mr. Ajoy Aloysius,** Ph.D. Scholar from National Centre for Biological Sciences-TIFR, Bengaluru, is pursuing his research on "Muscle Stem Cells." His popular science story entitled "Satellite Cells - the Unsung Soldiers of the Skeletal Muscle" has been selected for AWSAR Award.

**Mr. Tirthankar Ghosal,** Ph.D. Scholar from Indian Institute of Technology, Patna, is pursuing his research on "Investigating AI Techniques in Various Aspects of Academic Peer Review." His popular science story entitled "Towards an Artificial intelligence Assisted Peer Review System" has been selected for AWSAR Award

**Ms. Soumita Boral,** Ph.D. Scholar from Indian Institute of Technology, Kanpur, is pursuing her research on "River Linkages to the Glaciers and Oceans." Her popular science story entitled "The Missing Link: Contribution of small Floodplain Tributaries to the Nutrient Budget of Ganga River" has been selected for AWSAR Award.

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**Mr. Dibyajyoti Saha**, Ph.D. Scholar from Indian Association for the Cultivation of Science, Kolkata, is pursuing his research on "Investigation of Reaction Mechanism of Heme and Non Heme Based Electrocatalyst Relevant to Clean Energy and Environment." His popular science story entitled "The Mother of all Problems" has been selected for AWSAR Award.

**Ms. Ishani Chakrabartty,** Ph.D. Scholar from Applied Biodiversity Lab, Indian Institute of Technology, Guwahati, is pursuing her research on "Physicochemical and Pharmacological Study of Labdane Diterpene from the Seeds of Alpinia Nigra." Her popular science story entitled "The Life-Changing 'Pullei'" has been selected for AWSAR Award.

## **Ms. Manjula Thorainellore,** Ph.D. Scholar from Sri Padmavati Mahila Visvavidyalayam, Andhra Pradesh, is pursuing her research on "Cognitive Plant Disease Detector." Her popular science story entitled "Cognitive Plant Disease Detector" has been selected for AWSAR Award.

## **Mr. Sourav Sengupta,** Ph.D. Scholar from Indian Institute of Technology, Kharagpur, is pursuing his research on "Membrane Separation." His popular science story entitled "Novel Designing of Reactors can help in Producing Natural Fruit Juice without Any Preservatives" has been selected for AWSAR Award.

**Mr. Abhirup Ghosh,** Ph.D. Scholar from International Centre for Theoretical Sciences, Bengaluru, is pursuing his research on "Testing General Relativity using Observations of Gravitational Waves from the Inspiral, Merger and Ringdown of Binary Black Holes." His popular science story entitled "Einstein's Legacy and Songs from the Stellar Graveyard" has been selected for AWSAR Award.

#### **Ms. Gargi Mitra,** Ph.D. Scholar from Indian Institute of Technology, Madras, is pursuing her research on "Evaluating and Alleviating Privacy Leakage on the Internet." Her popular science story entitled "Worried about Being Watched Online? Cryptanalytica is Here to Address Your Privacy Concerns" has been selected for AWSAR Award.

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**Mr. Mudit Kapoor,** Ph.D. Scholar from Indian Institute of Technology, Roorkee, is pursuing his research on "Solar Potential Assessment, Cloud Computing, Big Data, GIS, Remote Sensing." His popular science story entitled "A Novel approach for Solar Potential Assessment using Geoinformatics for Rural India" has been selected for AWSAR Award.

**Ms. Pooranachithra M,** Ph.D. Scholar from Alagappa University, Chennai, is pursuing her research on "Identification and Characterization of Targets Involved and Ability of Natural Compounds in Wound Healing Process using Model Nematode Caenorhabditis Elegans." Her popular science story entitled "Wound Research: Insights from a Mighty Miniature Model, Caenorhabditis Elegans" has been selected for AWSAR Award.

## **Ms. Namrata Varkekar,** Ph.D. Scholar from CSIR-Central Food Technological Research Institute, Mysuru, is pursuing her research on "Processing of Parkia Biglandulosa Wt. & Arn. (Tree Bean) for Ready-to-Prepare (RTP) Traditional Food Formulations of Manipur." Her popular science story entitled "Parkia Tree Bean-Just Another Bean or Future Food?" has been selected for AWSAR Award.

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**Mr. Aditya P. Rathore,** Ph.D. Scholar from Division of Marine Biotechnology & Ecology, CSIR- Central Salt & Marine Chemicals Research Institute, Gujarat, is pursuing his research on "Study of Nutrient Cycling, Phenology and Population Dynamics of Halophytes in Coastal Saline Ecosystem of Gujarat." His popular science story entitled "Importance of Halophyte Community in Refining Saline Soil Quality and Maintaining Healthy Coastal Ecosystem" has been selected for AWSAR Award.

**Ms. Jyothi R,** Ph.D. Scholar from Indian Institute of Technology, Delhi, is pursuing her research on "Algorithms for Problems in Signal Processing and Machine Learning." Her popular science story entitled "Automated Bird Monitoring by Machine Learning Based Algorithms" has been selected for AWSAR Award.

**Ms. Ankita Desai,** Ph.D. Scholar from Maliba Pharmacy College, Surat, is pursuing her research on "formulation and Evaluation of Therapeutic Contact Lenses for Ophthalmic Drug Delivery." Her popular science story entitled "Chip-Implant-Contact Lens as a Device for Drug Delivery: A Reality" has been selected for AWSAR Award.

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**Mr. Balajii Muthusamy,** Ph.D. Scholar from PSG College of Technology, Tamil Nadu, is pursuing his research on "A Novel Study on Biodiesel Production from Non-Edible Oils using Heterogeneous Catalytic System." His popular science story entitled "Musa "Pisang Awak" (Banana Peel) – A Novel Renewable Heterogeneous Catalyst for Biodiesel Production" has been selected for AWSAR Award.

**Mr. Sayantan Das,** Ph.D. Scholar from University of Mysore, Mysuru, is pursuing his research on "Epimeletic Behavior in Nonhuman Primates." His popular science story entitled "Maternal Responses to Offspring Death-insights from Studies on Anthropoids" has been selected for AWSAR Award.

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**Ms. Kavita Mitkari,** Ph.D. Scholar from Punjab Engineering College, Chandigarh, is pursuing her research on "Methodology for Mapping, Change Detection and Velocity of Glaciers from High Resolution Remote Sensing Images." Her popular science story entitled "High Spatial Resolution Data for Mapping High-Altitude Glacial Lakes" has been selected for AWSAR Award.

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**Ms. Dhanashree**, Ph.D. Scholar from CSIR - Central Food Technological Research Institute, Mysuru, is pursuing her research on "Understanding the Pleomorphic Nature of Bifidobacteria." Her popular science story entitled "It is Time to know your Gut Microbe: Bifidobacteria" has been selected for AWSAR Award.

**Mr. Sumit Bawari,** Ph.D. Scholar from Tata Institute of Fundamental Research, Hyderabad, is pursuing his research on "Catalysis and Transport Properties of Molecular Junctions." His popular science story entitled "The Power of Hydrogen" has been selected for AWSAR Award.

**Mr. Surojit Ranoo**, Ph.D. Scholar from Indira Gandhi Centre for Atomic Research, Homi Bhabha National Institute, Mumbai, is pursuing his research on "Magnetic Field Induced Heating of Magnetic Nanoparticles for Magnetic Hyperthermia Applications." His popular science story entitled "Magnetic Nanoparticles Hyperthermia: An Emerging Cancer Therapy Sans Side Effects" has been selected for AWSAR Award.

**Mr. Jayesh Phadtare,** Ph.D. Scholar from Indian Institute of Science, Bengaluru, is pursuing his research on "Cloud Dynamics." His popular science story entitled "Why Floods Occur over Tamil Nadu Coast?" has been selected for AWSAR Award.

**Mr. Pravat Utpal Acharjee,** Ph.D. Scholar from Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, is pursuing his research on "From Waste to Asset : Use of Yellow Gypsum as a Source of Sulphur in Agriculture." His popular science story entitled "From Waste to Asset: Use of Yellow Gypsum as a Source of Sulphur in Agriculture" has been selected for AWSAR Award.

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**Ms. Smita Naik,** Ph.D. Scholar from Goa University, Goa, is pursuing her research on "Last Glacial to Holocene Changes in Carbonate Ion Content of Deep Waters of the Eastern Arabian Sea." Her popular science story entitled "Once Upon a Time in Arabian Sea" has been selected for AWSAR Award.

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**Mr. Sudhir Sindagi,** Ph.D. Scholar from Indian Institute of Technology, Madras, is pursuing his research on "Investigation of Reduction in Frictional Drag of Ship using Injection of Micro Bubbles Below the Hull." His popular science story entitled "India Develops a Methodology to Reduce Drag of Ships by 43%" has been selected for AWSAR Award. **Ms. Namrata Dhar,** Ph.D. Scholar from University of Calcutta, Kolkata, is pursuing her research on "Material Physics/ Condensed Matter Physics." Her popular science story entitled "Low-Dimensional Materials : Unusual Properties and Applications in Nano-Electronics Devices" has been selected for AWSAR Award.

# **Mr. Arun K M,** Ph.D. Scholar from Sree Chitra Tirunal Institute for Medical Sciences and Technology, Kerala, is pursuing his research on "Functional Near Infrared Spectroscopic (FNIRS) Imaging for Resting State Functional Connectivity Analysis in Post Stroke Motor Recovery." His popular science story entitled "A Ray of Light could be the Answer to How the Brain Recovers from an Insult" has been selected for AWSAR Award.

**Ms. Rujuta Parlikar,** Ph.D. Scholar from National Institute of Mental Health and Neurosciences, Bengaluru, is pursuing her research on "High Definition Transcranial Direct Current Stimulation (Hd-TDCS) for Treatment of Auditory Verbal Hallucinations in Schizophrenia." Her popular science story entitled "Weak Electric Stimulation: An Answer to the Unremitting Voices in a Patient with Schizophrenia?" has been selected for AWSAR Award.

**Mr. Bholanath Pakhira,** Ph.D. Scholar from Indian Institute of Engineering Science and Technology, West Bengal, is pursuing his research on "Graphene and Nano Carbons from Coal and their Use as Cargo for Drug Delivery including Passage through Blood Brain Barrier." His popular science story entitled "From Coal to Nanocarbon to Cross Blood Brain Barrier to Treat Alzheimer, Parkinson and Brain Tumour" has been selected for AWSAR Award.

**Ms. Reema Mitra,** Ph.D. Scholar from Chandigarh University, Chandigarh, is pursuing her research on "Related to Diabetic Nephropathy." Her popular science story entitled "Treatment of Kidney Stones using Diosgenin" has been selected for AWSAR Award.

**Ms. Mouboni Dutta**, Ph.D. Scholar from University of Hyderabad, Hyderabad, is pursuing her research on "Characterization of Genes Identified through Activation Tagging in Oryza Sativa Ssp. Indica Cv. Samba Mahsuri for Abiotic Stress Tolerance." Her popular science story entitled "Tailor-Made Rice Varieties for a Food Secure Future" has been selected for AWSAR Award.

**Mr. Sourabh Soni,** Ph.D. Scholar from CSIR-Institute of Himalayan Bioresource Technology, Palampur, is pursuing his research on "Elucidating the Role of Mapkapk2 as a Potential Anticancer Target in the Pathogenesis of Head and Neck Squamous Cell Carcinoma." His popular science story entitled "Kinases: the Heroes without Capes in Cancer Research" has been selected for AWSAR Award.

**Ms. Bhavyasree R K,** Ph.D. Scholar from Tamil Nadu Agricultural University, Tamil Nadu, is pursuing her research on "Exploiting Wild Genetic Resources to Broaden the Genetic base for Yield and Stress Tolerance in Cultivated Rice." Her popular science story entitled "Hunting of Treasures in the Wild" has been selected for AWSAR Award.

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**Ms. Sobiya Zafar,** Ph.D. Scholar from School of Pharmaceutical Education & Research, Jamia Hamdard, Delhi, is pursuing her research on "Nanocarrier Approach for Combinatorial Delivery of Docetaxel and a Nutraceutical Agent for Solid Tumor Management." Her popular science story entitled "Synergy to Fight the Monster" has been selected for AWSAR Award.

**Ms. Minal,** Ph.D. Scholar from Academy of Scientific & innovative Research, Delhi, is pursuing her research on "Integrated Travel Demand Modelling for Evaluation of Sustainable Transport." Her popular science story entitled "'Diversity is the Road to Transport Sustainability" has been selected for AWSAR Award.

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**Mr. Sreyajit Saha**, Ph.D. Scholar from Birla Institute of Technology, Jharkhand, is pursuing his research on "Nano-Layer fortification of Rice and Rice based Products." His popular science story entitled "Traditional Indian Cereal and its Preparation as a Potent Micronutrient Vehicle" has been selected for AWSAR Award.

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**Mr. Arunvinthan S,** Ph.D. Scholar from Sastra Deemed to be University, Thanjavur, Tamil Nadu, is pursuing his research on "Aerodynamic Characteristics of Leading-Edge Protuberanced Wing." His popular science story entitled "Aerodynamic Optimization of Humpback Whale based Leading-Edge Protuberanced Aircraft Wing" has been selected for AWSAR Award.

**Mr. Arka Ghosh,** Ph.D. Scholar from Indian Institute of Technology, Kanpur, is pursuing his research on "Developing an Automated Online Tool to Help People with Depressive Symptoms." His popular science story entitled "Treadwill, A Website for Treating Depressive Symptoms" has been selected for AWSAR Award.

# **Ms. Ramya Sri Mullapudi,** Ph.D. Scholar from Indian Institute of Technology, Kharagpur, is pursuing her research on "Healing Characteristics of Asphalt Mixtures Containing Recycled Asphalt Pavement Material." Her popular science story entitled "Investigation on Self-Healing of Recycled Asphalt Mixes – A Method to incorporate Mixture Properties into the Pavement Design" has been selected for AWSAR Award.

**Ms. Priyanka Jahagirdar,** Ph.D. Scholar from Institute of Chemical Technology, Mumbai, is pursuing her research on "Nano Drug Delivery Systems for Targeted Delivery of Anti-infective Agents." Her popular science story entitled "Nanocurcumin: A Point of Care Formulation to Treat Tuberculosis" has been selected for AWSAR Award.

**Ms. Anusree Saha,** Ph.D. Scholar from University of Hyderabad, Hyderabad, is pursuing her research on "Genome Wide Identification of Rice Ribosomal Protein Small Subunit Genes (RPS) Genes for Extraribosomal Functions and Characterization of the Significant RPS Genes." Her popular science story entitled "Manipulation of Genes - A Promising Avenue for Improved Rice Productivity" has been selected for AWSAR Award.

**Ms. Meenaxi Sharma,** Ph.D. Scholar from Indian Institute of Technology, Kanpur, is pursuing her research on "Statics and Dynamics of Aqueous Drops on Lubricating Fluid Coated Slippery Surfaces." Her popular science story entitled "Slippery Coatings for Highly Viscous Complex Fluids on Solid Surfaces" has been selected for AWSAR Award.

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**Mr. Jaspreet Singh,** Ph.D. Scholar from Sant Longowal Institute of Engineering and Technology, Punjab, is pursuing his research on "Thermographic Evaluation of Superficial Organs for Various Diseases using Active and Passive Thermal Imaging." His popular science story entitled "A Non-Contact approach to Evaluate the Effect of Mindfulness Meditation" has been selected for AWSAR Award.

**Mr. Krishnaroop Chaudhuri,** Ph.D. Scholar from CSIR-National Chemical Laboratory, Pune, is pursuing his research on "Blends of Ultra-High Molecular Weight Polyethylene and High-Density Polyethylene: Dissolution, Rheology, and Modeling." His popular science story entitled "A Quicker Method for Blending Polyethylenes" has been selected for AWSAR Award.

**Mr. Aranganathan Lakshmi Narayanan**, Ph.D. Scholar from Sathyabama Institute of Science and Technology, Chennai, is pursuing his research on "Development of Slow Release Fertilizer using Industrial Fish Processing Waste." His popular science story entitled "Utilization of Marine Fish Processing Bio-Waste for Organic Fertilizer Preparation" has been selected for AWSAR Award.

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**Mr. Nabeel K,** Ph.D. Scholar from JSS College of Pharmacy, JSS Academy of Higher Education & Research, Mysuru, is pursuing his research on "Evaluation of Anti-Oxidants for their Ameliorative Effects in Diabetes induced Cognitive Dysfunction." His popular science story entitled "Diabetes and Absentmindedness" has been selected for AWSAR Award.

**Mr. Namshad Thekkethil,** Ph.D. Scholar from Indian Institute of Technology, Mumbai, is pursuing his research on "CFSI Development, Application, and Analysis for Hydrodynamics of Different Types of Flexible & Rigid Fishes-Like Locomotion." His popular science story entitled "Unified Study for Various types of Fishes-Like Locomotion: Hydrodynamic Characteristics and Propulsive Performance under the Effect of Muscles and Flow-Induced Flexibility" has been selected for AWSAR Award.

**Ms. Kumud Madan,** Ph.D. Scholar from Department of Pharmaceutical Sciences, Rohtak, is pursuing her research on "Development and Evaluation of a Broad Spectrum Sunprotective Topical formulation using Novel Delivery System of Safranal." Her popular science story entitled "Development of a Broadspectrum Sunprotective formulation for Indian Skin using Natural Ingredients" has been selected for AWSAR Award.

**Ms. Nidhi Gupta,** Ph.D. Scholar from All India Institute of Medical Sciences, Delhi, is pursuing her research on "Exploring the role of Versican and its Regulation by Mirna in Multiple Myeloma." Her popular science story entitled "Journey of Versican in Multiple Myeloma : From Diagnosis to Therapeutics" has been selected for AWSAR Award.

**Ms. Jis Sebastian,** Ph.D. Scholar from Saraswathi Narayanan College, Madurai, Tamil Nadu, is pursuing her research on "Influence of Phorophyte, Climate and Habitat on the Diversity, Spatial Distribution and Community Structure of Epiphytic Orchids in the Southern Western Ghats." Her popular science story entitled "Into the World of Orchids in the Mystic Canopies of the Western Ghats" has been selected for AWSAR Award.

## **Ms. Urmila Jagtap,** Ph.D. Scholar from CSIR-Institute of Genomics and Integrative Biology, Delhi, is pursuing her research on "Developing a Framework for Dissecting Liver Regeneration using Zebrafish Model." Her popular science story entitled "To Live or Not to Live: Liver Decides!" has been selected for AWSAR Award.

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**Ms. Swati Kumari,** Ph.D. Scholar from Amity University, Lucknow, is pursuing her research on "Genetic Engineering of Papaya (Carica Papaya L.) with Tr-Cp Gene for Conferring Resistance against Papaya Ring Spot Virus." Her popular science story entitled "Tailoring Papaya Resistant to Papaya Ringspot Virus" has been selected for AWSAR Award.

**Mr. Awanish Pandey,** Ph.D. Scholar from Indian Institute of Science, Bengaluru, is pursuing his research on "Integrated Wavelength Selective Devices on Silicon and their Applications." His popular science story entitled "The Future of Communication: Nanotechnology and Light!" has been selected for AWSAR Award.

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**Ms. Neenu Jacob,** Ph.D. Scholar from Post Graduate Institute of Medical Education & Research, Chandigarh, is pursuing her research on "Suppression of Type 1 Diabetes in Non Obese Diabetic (NOD) Mice by the Induction of Colonic Regulatory T Cells." Her popular science story entitled "Doctor of Mice" has been selected for AWSAR Award.

### **Ms. Tanushree Parsai,** Ph.D. Scholar from Indian Institute of Technology, Delhi, is pursuing her research on "Fate of Nanoparticles in Different Environmental Matrices." Her popular science story entitled "Is Nanotechnology-Related Pollution a Threat to Environment?" has been selected for AWSAR Award.

**Mr. Omkar Powar,** Ph.D. Scholar from Indian Institute of Technology, Madras, is pursuing his research on "Wind Tunnel Evaluation of Glazed Building Facades with Various Edge Configurations." His popular science story entitled "Glass: Superhero in the World of Construction Materials" has been selected for AWSAR Award.

**Ms. Chitra Nair,** Ph.D. Scholar from Bits Pilani Goa Campus, Goa, is pursuing her research on "Blood Coagulation and Platelet Aggregation Inhibiting Toxins of Naja Naja (Indian Spectacled Cobra) Venom." Her popular science story entitled "The Serpents' Grace" has been selected for AWSAR Award.

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**Ms. Nishtha Agrawal,** Ph.D. Scholar from K Banerjee Centre for Atmospheric and Ocean Studies, Allahabad, is pursuing her research on "Simulation and Projection of Climate Change using Regional Climate Models." Her popular science story entitled "A Unified Modeling Approach to Improve the Atmospheric Predictability" has been selected for AWSAR Award.

**Mr. Prasit Kumar Dutta,** Ph.D. Scholar from Indian Institute of Technology, Mumbai, is pursuing his research on "Sulphide based Anode and Interface Studies for Sodium-Ion and Lithium-Ion Batteries." His popular science story entitled "Ultra-Safe Lithium Ion and Lithium Polymer Batteries" has been selected for AWSAR Award.

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