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Completion Report of Two-Days International Conference on Bridging Innovation, Technology, and Clinical Excellence: Global Perspectives in Visual and Diagnostic Sciences

Organized by: School of Allied Health Sciences, Swami Vivekananda University
Mode: Blended
Conference Date: 19.01.2026-20.01.2026
Conference Time: 10:00 AM to 06:00 PM
Venue: Hall NND-315, Narendranath Dutta Block (NND), Swami Vivekananda University, Barrackpore

MISSION

The mission of this conference is to establish a premier interdisciplinary platform for clinicians, researchers, and innovators to explore the digital transformation of visual and diagnostic sciences. By bridging the gap between laboratory innovation and clinical practice, the event fosters global knowledge exchange in medical imaging and laboratory diagnostics while promoting AI-driven clinical excellence to enhance patient outcomes. Ultimately, the conference empowers a future-ready healthcare workforce and builds international networks to address modern medical challenges through a collaborative, global perspective.

VISION

Our vision for this conference was to establish a dynamic, forward-thinking platform that fosters the integration of technological breakthroughs into clinical practice. By highlighting the global significance of visual and diagnostic sciences, we provided a dedicated space for experts to explore the impact of AI and precision tools on modern healthcare. Through interdisciplinary dialogue, the event positioned diagnostic science as a primary driver of medical excellence—redefining the critical intersections between innovation, patient safety, and global health progress.

CONCEPT NOTE

Conceptualized to address the rapid digital transformation of modern healthcare, the international conference "Bridging Innovation, Technology, and Clinical Excellence" serves as a global hub for exploring advancements in medical imaging, laboratory diagnostics, and digital health. By uniting a diverse community of clinicians, researchers, and technology experts, the event delves into the multifaceted aspects of diagnostic excellence—from AI implementation to the refinement of precision medicine. This high-level exchange aims to bridge the gap between laboratory innovation and bedside application, ensuring that scientific progress translates directly into superior clinical outcomes and elevated global health standards.

SPEAKER DETAILS

Dr. Aritra Bhattacharyya (PhD)

Assistant Professor-I, Human Genetics Unit, Indian Statistical Institute (ISI), Kolkata

Dr. Aritra Bhattacharyya is an Assistant Professor-I at the Human Genetics Unit of the Indian Statistical Institute (ISI), Kolkata, where he leads advanced investigations into the genomic foundations of human health and the biological mechanisms of disease predisposition. His academic mission centers on deciphering the complex blueprint of the human genome to transition healthcare from a reactive model to a proactive, Personalized Medicine paradigm. By bridging the gap between theoretical biological sciences and clinical application, Dr. Bhattacharyya explores how genomic data can be utilized to identify risk factors for chronic and hereditary conditions long before clinical symptoms emerge, thereby revolutionizing the standards of preventive care.

A significant focus of his discourse involves the application of Biostatistics and Molecular Genetics to interpret large-scale sequencing data, ensuring that genetic findings are translated into meaningful diagnostic insights. He emphasizes that the future of healthcare lies in the ability to understand an individual's unique genetic variations, which allows for targeted therapeutic interventions and more accurate patient counseling. Through his research at ISI, Dr. Bhattacharyya continues to influence the global dialogue on how genomics and biotechnology can be combined to solve the most pressing challenges in human health and evolutionary biology.

Dr. Subrata Pramanik (PhD)

Assistant Professor-I, Human Genetics Unit, Indian Statistical Institute (ISI), Kolkata

Dr. Subrata Pramanik serves as an Assistant Professor-I within the prestigious Human Genetics Unit of the Biological Science Division at the Indian Statistical Institute (ISI), Kolkata, where his pioneering research focuses on the intricate intersection of protein engineering and industrial biocatalysis. His work addresses the critical limitation of natural enzymes, which, despite their biological efficiency, often fail to remain stable or active under the rigorous conditions required for pharmaceutical and chemical manufacturing, such as elevated temperatures or the presence of organic solvents. To overcome these barriers, Dr. Pramanik champions the methodology of Directed Evolution, a Nobel Prize-winning framework that allows for the precise tailoring of enzyme properties through iterative cycles of variation and selection.

By integrating high-level computational analysis with experimental design, his research has uncovered fundamental principles like disulfide bond engineering for enhanced thermostability and surface charge engineering to optimize lipase profiles. This synergy between "dry-lab" computational prediction and "wet-lab" molecular biology enables the efficient reengineering of enzymes like cellulases and lipases, turning them into robust tools for antibody production, biofuel synthesis, and sustainable chemical manufacturing. His presentation provides a roadmap for the biotechnological industry to leverage these engineered proteins to drive cost-effective and high-yield pharmaceutical innovations.

Dr. Soumil Dey (PhD)

Research Scientist, Lukasiewicz Research Network-PORT, Polish Center for Technology Development, Poland

Dr. Soumil Dey is a distinguished Research Scientist at the Lukasiewicz Research Network-PORT, located at the Polish Center for Technology Development in Wroclaw, Poland, where he spearheads international research initiatives at the crossroads of biotechnology and material science. His professional profile is defined by a commitment to fostering global scientific synergy, focusing on how advanced materials and biotechnological innovations can be engineered to create next-generation diagnostic and therapeutic tools. As a key representative of the European research community, Dr. Dey's work emphasizes the importance of international collaboration in accelerating the lifecycle of technology—from fundamental discovery in the laboratory to successful commercialization and clinical implementation.

His research delves into the development of smart bio-materials and nanobiotechnology, exploring how these technologies can enhance the precision of diagnostic imaging and the efficacy of targeted drug delivery systems. By analyzing successful models of international "Technology Transfer," Dr. Dey illustrates how collaborative networks between Europe and Asia can address global health crises, such as early-stage disease detection and the development of sustainable medical technologies. His insights offer a visionary perspective on how interdisciplinary research and cross-border partnerships are essential for driving the future of the global biotechnological and pharmaceutical landscape.

Dr. Arindam Seth(PT)

B.P.T. (M.A.H.E.); M.P.T. (Ortho) (W.B.U.H.S.); C.O.M.T. F.A.G.E.(Manipal) Founder of Physio Care Clinic

Dr. Arindam Seth is a highly skilled and compassionate physiotherapist dedicated to enhancing functional independence, physical performance, and overall quality of life across diverse patient populations. With a strong commitment to evidence-based practice and patient-centered care, Dr. Seth consistently delivers comprehensive rehabilitation solutions tailored to individual needs and clinical goals.

He possesses extensive expertise in injury rehabilitation, chronic pain management, sports performance enhancement, post-operative recovery, and pediatric physiotherapy. His clinical approach integrates advanced manual therapy techniques, therapeutic exercise prescription, and patient education to ensure safe, effective, and sustainable outcomes. By emphasizing personalized treatment planning, Dr. Seth empowers patients to actively participate in their recovery and long-term health management.

Dr. Seth has a robust foundation in anatomy, physiology, biomechanics, and movement science, enabling him to perform precise assessments and develop targeted interventions for a wide spectrum of conditions. His areas of clinical focus include musculoskeletal injuries and disorders, neurological conditions such as stroke, spinal cord injury, and Parkinson's disease, as well as cardiovascular, respiratory, pediatric, and geriatric rehabilitation.

Adopting a holistic and integrative rehabilitation philosophy, Dr. Seth utilizes a variety of therapeutic modalities, including joint mobilization, soft tissue techniques, progressive resistance training, functional and neuromuscular re-education, and physical agents such as heat, cold, and electrical stimulation. He also places strong emphasis on ergonomic advice, lifestyle modification, and preventive strategies to promote long-term well-being.

Recognized for his professionalism, clinical excellence, and empathetic communication style, Dr. Arindam Seth strives to create a supportive and motivating therapeutic environment where patients feel confident, informed, and inspired to achieve their highest potential.

Mr. Ram Gourab Adhikari

Senior Optometrist and Academic In-Charge at Netralayam

Mr. Ram Gourab Adhikari is a seasoned optometry professional with close to two decades of experience in comprehensive eye care, clinical optometry, and optometry education. With nearly 19 years of sustained involvement in the field of vision science, he has developed a strong reputation for clinical excellence, academic leadership, and patient-centered care.

He has undergone advanced fellowship training at the renowned Aravind Eye Hospital, where he specialized in Contact Lens Practice and Low Vision Aids (LVA). This fellowship provided him with rigorous hands-on exposure to evidence-based clinical protocols, specialty contact lens fitting, low vision rehabilitation, and multidisciplinary eye care practices in a high-volume tertiary care setting.

Earlier in his career, Mr. Adhikari served as an Optometrist at the prestigious Sankara Nethralaya, one of India's leading eye care institutions. During his tenure there, he gained extensive experience in advanced ophthalmic diagnostics, clinical decision-making, and collaborative care alongside ophthalmologists and sub-specialists. His time at Sankara Nethralaya significantly strengthened his expertise in managing complex visual disorders and delivering high-quality patient outcomes in demanding clinical environments.

Currently, Mr. Adhikari is working as a Senior Optometrist at Netralayam under the mentorship and leadership of Dr. Sagar Bhargava. In this role, he is actively involved in clinical services, patient assessment, specialty optometric care, and implementation of best practices in vision care delivery. His clinical approach emphasizes accuracy, ethical practice, and long-term visual rehabilitation.

In addition to his clinical responsibilities, Mr. Adhikari holds the crucial position of Academic In-Charge of Optometry at Netralayam. In this capacity, he oversees academic planning, curriculum coordination, student mentoring, and clinical training programs. He plays a key role in bridging theory with hands-on clinical practice, ensuring that optometry students and trainees develop strong professional competence and clinical confidence. His commitment to education and professional development has made him a respected mentor among students and junior optometrists.

With a rare combination of deep clinical expertise and academic leadership, Mr. Ram Gourab Adhikari continues to contribute meaningfully to both patient care and the advancement of optometry education. His work reflects a strong dedication to excellence, lifelong learning, and the growth of optometry as a vital healthcare profession.

Dr. Mantu Akon

Neuro Optometry and Binocular Vision Specialist, Professor and Director

Dr. Mantu Akon is a distinguished optometrist, academician, and clinical leader with specialized expertise in Neuro-Optometry, Binocular Vision, and Vision Therapy. With a career dedicated to understanding the complex relationship between vision and the brain, he has emerged as a prominent authority in the field of neuro-visual rehabilitation and functional vision care.

Currently serving as a Professor at Desh Bhagat University, Dr. Akon plays a vital role in optometry education through teaching, curriculum development, academic supervision, and research mentorship. His academic interests are deeply rooted in binocular vision anomalies, neuro-visual processing disorders, and rehabilitation-based optometric interventions. Through classroom instruction and clinical training, he actively mentors undergraduate and postgraduate students, preparing them to meet contemporary clinical and research challenges in optometry.

Beyond academia, Dr. Akon is the Director and driving force behind several specialized vision care and rehabilitation centers that focus on advanced diagnostic and therapeutic optometry:

- Nayan Disha Eye Foundation, Howrah
- Refocus Advanced Vision Therapy and Rehabilitation Studio, Gariahat
- Brainsight Neurovision Institute, Behala

Through these institutions, Dr. Akon has significantly contributed to the development and delivery of structured vision therapy and neuro-rehabilitation programs. His clinical work focuses on the assessment and management of binocular vision dysfunctions, accommodative disorders, visual perceptual deficits, traumatic brain injury–related visual symptoms, learning-related visual problems, and other neuro-visual conditions that require long-term rehabilitative care.

What distinguishes Dr. Akon's professional approach is his ability to bridge academic research with clinical innovation. He integrates evidence-based protocols with individualized therapy plans, ensuring that patients receive comprehensive and goal-oriented vision rehabilitation. His centers serve as both treatment facilities and learning environments, fostering collaboration between clinicians, therapists, and students.

Dr. Akon's contributions extend to professional training, interdisciplinary collaboration, and awareness of neuro-optometric care within the broader healthcare ecosystem. His work has helped strengthen the role of optometry in neuro-rehabilitation, emphasizing functional vision improvement and quality-of-life outcomes rather than symptom-based correction alone.

With a rare combination of academic depth, clinical specialization, and institutional leadership, Dr. Mantu Akon continues to play a pivotal role in advancing neuro-optometry and vision therapy in India. His ongoing commitment to education, research, and patient-centered rehabilitation positions him as a respected leader in contemporary optometric practice.

Mr. Tonmoy Chottopadhyay

Assistant Professor, Department of Optometry, Brainware University

Mr. Tonmoy Chottopadhyay is an experienced optometry educator and academic professional with over a decade of sustained involvement in optometry education, academic training, and student development. His career reflects a strong commitment to building foundational knowledge, clinical understanding, and professional ethics among aspiring optometrists.

He completed his undergraduate education in Optometry from Vidyasagar College of Optometry and Vision Science, where he developed a solid grounding in visual science, clinical optometry, and patient care principles. He further advanced his academic qualifications by completing his post-graduation from Bharati Vidyapeeth Medical College School of Optometry, an institution known for its structured academic rigor and integrated medical learning environment. His postgraduate training strengthened his understanding of advanced optometric concepts, clinical teaching methodologies, and evidence-based practice.

Throughout his academic career, Mr. Chottopadhyay has been associated with several reputed institutions, including Bharati Vidyapeeth, Vidyasagar College of Optometry and Vision Science, and Gopal Narayan Singh University. In these roles, he contributed extensively to classroom teaching, curriculum delivery, academic coordination, and hands-on clinical instruction. He has been actively involved in mentoring students, guiding them through both theoretical coursework and clinical exposure, helping bridge the gap between academic learning and real-world optometric practice.

Currently, Mr. Chottopadhyay is serving as an Assistant Professor at Brainware University, where he continues to play a key role in academic instruction, professional training, and institutional academic activities. His responsibilities include teaching core optometry subjects, supporting clinical skill development, and contributing to the academic growth of the department. He is also engaged in mentoring students for academic performance, clinical competence, and career readiness.

Mr. Chottopadhyay's academic journey is marked by consistency, institutional loyalty, and a student-centered teaching philosophy. His approach emphasizes conceptual clarity, disciplined clinical thinking, and ethical professional conduct. With experience across multiple academic environments, he brings a balanced perspective to optometry education, contributing meaningfully to both institutional development and the preparation of competent future optometry professionals.

Mr. Pablo Chandra

Assistant Professor, Teacher-in-Charge, Department of Allied Health Sciences

Mr. Pablo Chandra is an accomplished academician and optometry professional with more than 14 years of extensive experience in teaching, academic administration, and program development across reputed institutions in India and abroad. His professional journey reflects a sustained commitment to strengthening optometry education, allied health sciences, and interdisciplinary academic frameworks.

He completed his Master's degree in Optometry (M.Optom) from Bharati Vidyapeeth University in 2011. His postgraduate training provided him with a strong foundation in clinical optometry, visual sciences, and evidence-based healthcare education, shaping his long-term academic and professional outlook.

Currently, Mr. Chandra is serving as the Head of the Department of Allied Health Sciences at Adamas University. In this leadership role, he is responsible for academic planning, curriculum design and implementation, faculty coordination, student mentoring, and overall departmental development. He plays a key role in aligning academic programs with regulatory standards, industry expectations, and emerging trends in healthcare education. Alongside his administrative responsibilities, he remains actively engaged in teaching, ensuring academic continuity and quality in optometry and allied health science programs.

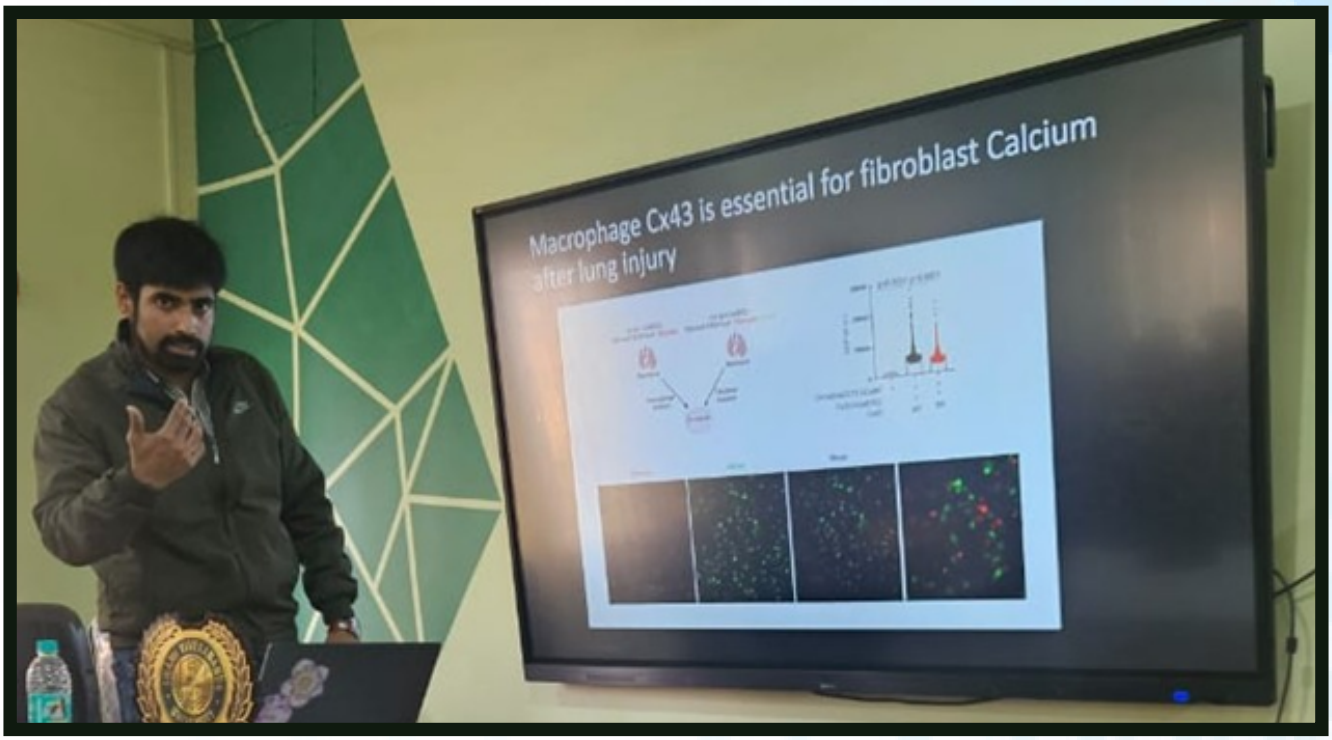

Fig 1. Dr. Aritra Bhattacharyya (PhD) Assistant Professor-I, Human Genetics Unit, Indian Statistical Institute (ISI), Kolkata

Dr. Aritra Bhattacharyya, an Assistant Professor-I within the Human Genetics Unit at the Indian Statistical Institute (ISI), Kolkata, conducts pivotal research into the cellular mechanisms of lung disease, specifically exploring the complex role of immune cells in the pulmonary fibrotic niche. Lung fibrosis is a devastating condition characterized by progressive parenchymal scarring with a low survival rate; while current FDA-approved treatments can slow disease progression, they cannot yet reverse it. Dr. Bhattacharyya's research identifies macrophages as central players in this fibrotic environment. His studies reveal a critical "macrophage-fibroblast crosstalk" where the anti-inflammatory cytokine IL10, through its receptor IL10RA, paradoxically drives the pro-fibrotic polarization of macrophages. Once polarized, these macrophages release key pro-fibrotic factors such as PDGFA and secrete ATP via the Cx43 connexin hemi-channel, both of which trigger fibroblast proliferation and myofibroblast activation through the P2rx4 purinergic receptor. To counteract this pathological cycle, Dr. Bhattacharyya's work demonstrates that post-injury treatment with AAV9-mediated sphingolipids (AAV-SGPL1) can significantly improve outcomes in pulmonary fibrosis models. By deciphering these intricate signaling pathways, his research provides a foundation for developing novel therapeutics that target immune-mediated scarring, offering new hope for the treatment of chronic respiratory diseases.

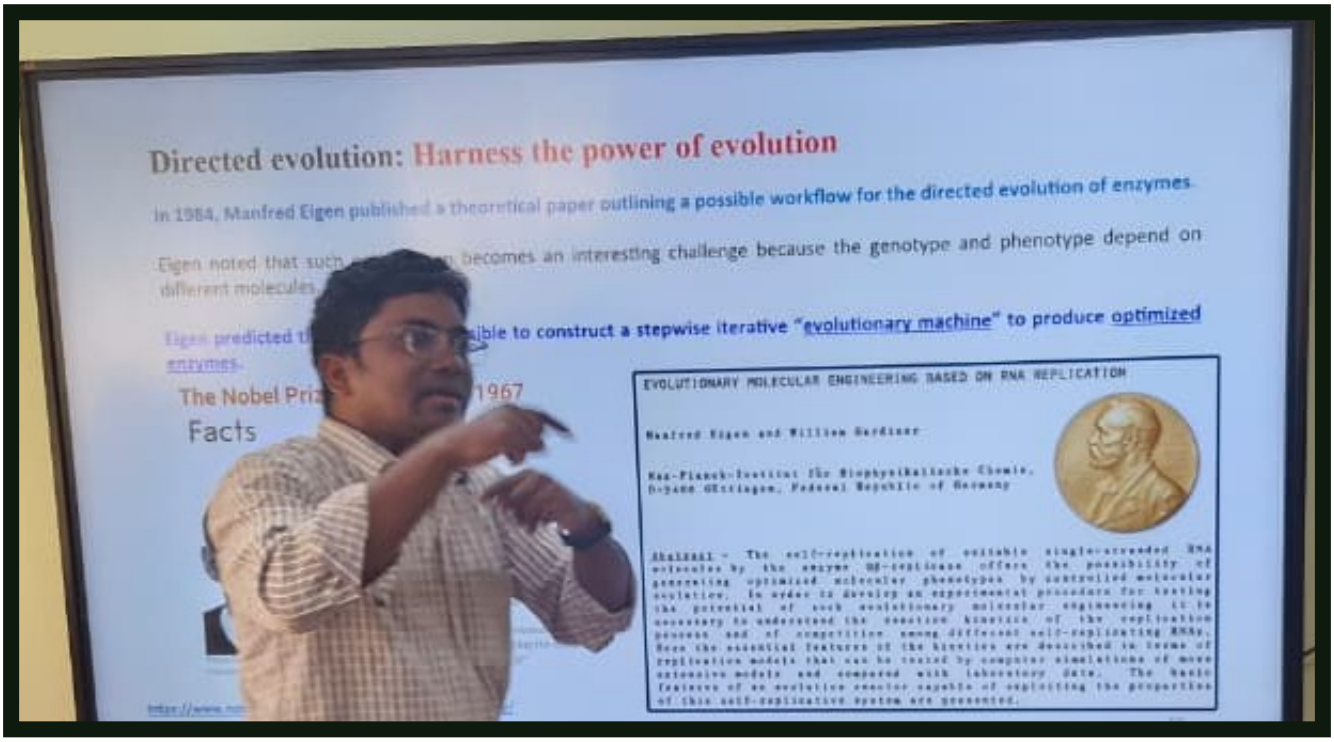

Fig 2. Dr. Subrata Pramanik (PhD), Assistant Professor-I, Human Genetics Unit, Indian Statistical Institute (ISI), Kolkata

Dr. Aritra Bhattacharyya, an Assistant Professor-I within the Human Genetics Unit at the Indian Statistical Dr. Subrata Pramanik serves as an Assistant Professor-I within the Human Genetics Unit of the Biological Science Division at the Indian Statistical Institute (ISI), Kolkata, where his research focuses on the transformative potential of Protein Engineering for the biotechnological and pharmaceutical industries. His work addresses a critical gap in industrial biocatalysis: while natural enzymes are essential for food processing, biofuels, and pharmaceutical synthesis, they often lack the robustness required to function efficiently under harsh industrial parameters, such as elevated temperatures or exposure to organic solvents. To solve this, Dr. Pramanik explores Directed Evolution—a Nobel Prize-winning methodology—which enables the precision tailoring of enzyme properties toward specific industrial goals without requiring exhaustive structural knowledge, provided the desired traits can be captured in a screening system. By strategically merging directed evolution with Computational Biology, his research highlights sophisticated design principles, including disulfide bond engineering to achieve superior thermostability and surface charge engineering to optimize the profiles of enzymes like lipases. Ultimately, his discussion focuses on efficient reengineering strategies for cellulases and lipases, aiming to meet the rigorous demands of modern chemical synthesis and high-yield antibody production in the global health sector.

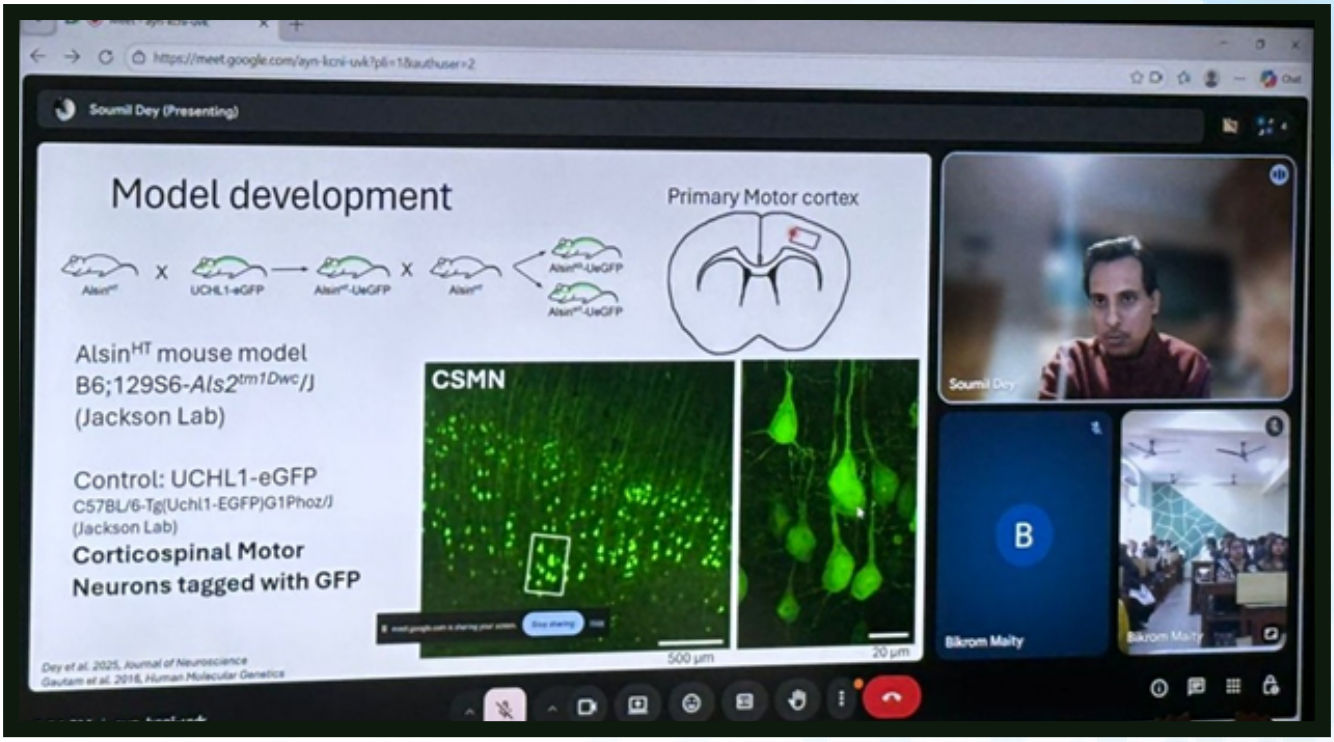

Fig 3. Dr. Soumil Dey (PhD) Research Scientist, Lukasiewicz Research Network-PORT, Polish Center for Technology Development, Poland

Dr. Soumil Dey is a distinguished Research Scientist at the Lukasiewicz Research Network-PORT, Polish Center for Technology Development in Wroclaw, Poland, where his research focuses on the complex neurobiological mechanisms underlying motor neuron diseases. In his current study, Dr. Dey investigates the Anatomical and Physiological Alterations of Upper Motor Neurons (UMN) using AlsinKO mice as a primary model for Juvenile Onset Amyotrophic Lateral Sclerosis (ALS). His work provides a critical breakthrough by enabling the direct visualization of corticospinal motor neurons (CSMNs), revealing a coherent disease trajectory that was previously overlooked. Dr. Dey's research highlights how the loss of the alsin protein leads to a selective, cell-autonomous vulnerability in CSMNs, characterized by early dendritic degeneration, axonal pathology along the corticospinal tract, and impaired intracellular homeostasis. This cellular decline is further exacerbated by systemic dysregulation at the motor cortex circuit level, where altered excitability and a shift in the excitation–inhibition balance destabilize motor output. By synthesizing structural degeneration with physiological circuit-level dysfunction, Dr. Dey's work offers a comprehensive model of how subcellular maintenance failures and cortical network imbalances converge to drive the progressive neurodegeneration seen in juvenile-onset ALS patients.

Fig 4. Dr. Arindam Seth PT , PhD Scholar, M.P.T. (Ortho), C.O.M.T. F.A.G.E.(Manipal) Founder of Physio Care Clinic

Dr. Arindam Seth presented a research paper titled "Effectiveness, Importance and Impact of Biofeedback-Based Training with Pheezee (a Wearable Device Measuring sEMG and ROM) in Patients with Non-Specific Low Back Pain." The study explored the clinical utility of biofeedback-based rehabilitation using surface electromyography (sEMG) and range of motion (ROM) measurements to enhance motor control and functional outcomes in individuals with non-specific low back pain.

The research highlighted the limitations of conventional biofeedback systems that primarily rely on audio-visual representations of muscle activity without incorporating condition-specific performance targets. To address this gap, an innovative, target-driven biofeedback training model using the Pheezee wearable device was implemented. Fourteen patients (9 females and 5 males) with non-specific low back pain underwent sEMG and ROM assessments of the rectus abdominis and multifidus muscles during lumbar flexion and extension. Participants followed an experimental rehabilitation protocol over an average duration of ten weeks, with periodic reassessment and automated target updates through a cloud-based software platform incorporating gamification elements to enhance motivation and engagement.

The findings demonstrated that 86% of participants showed clinical improvement, with 50% exhibiting gains in both sEMG activity and ROM, 36% improving in either sEMG or ROM, and 14% showing no significant change. These results support the effectiveness of Pheezee-based biofeedback training in facilitating neuromuscular re-education, improving movement control, and enhancing functional recovery.

Dr. Seth emphasized that this technology holds promising applications beyond low back pain, including musculoskeletal and neurological rehabilitation, pelvic floor muscle strengthening, and sports rehabilitation for improving strength, endurance, and agility. The presentation underscored the growing role of wearable technology and data-driven rehabilitation in advancing evidence-based physiotherapy practice.

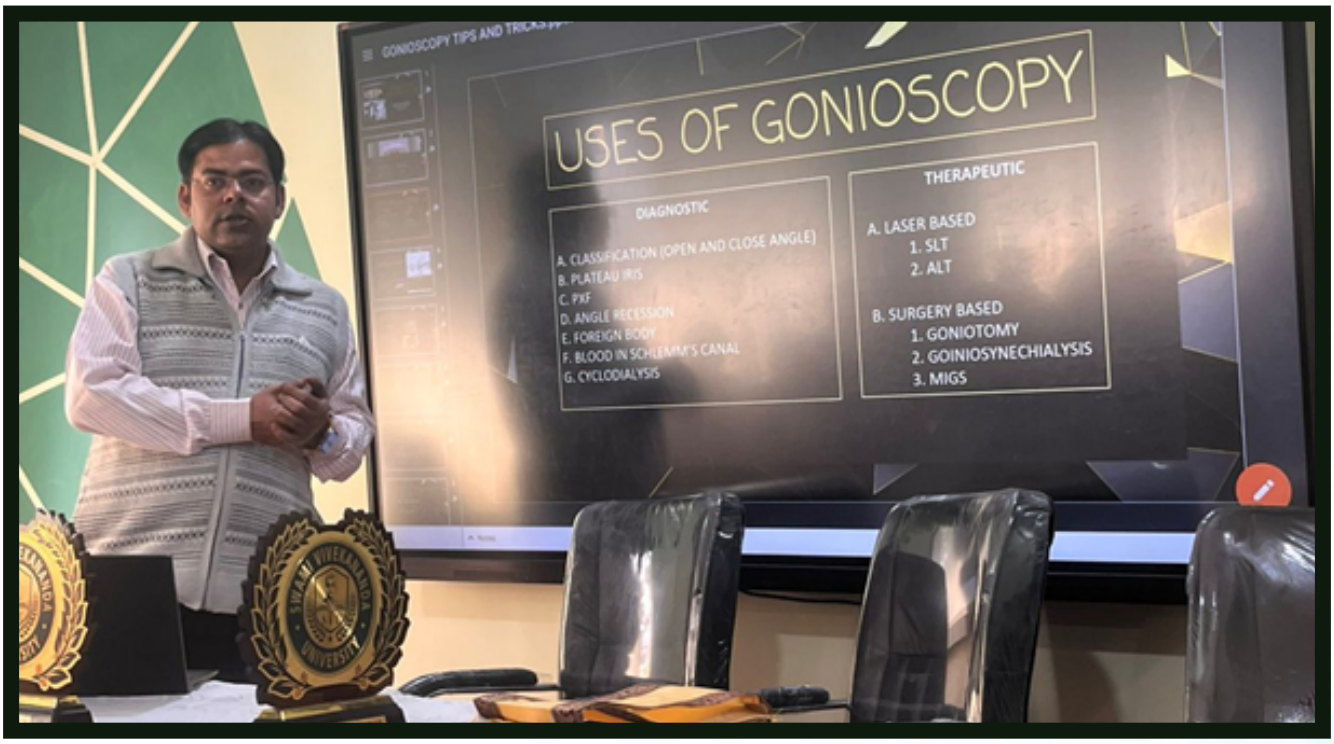

Fig 5. Mr. Ram Gourab Adhikari, Senior Optometrist and Academic In-Charge at Netralayam

Gonioscopy is a core clinical procedure for evaluating the anterior chamber angle of the eye, and its correct use is critical in the diagnosis and management of glaucoma and other angle-related disorders. The technique allows direct visualization of angle structures such as the trabecular meshwork, scleral spur, ciliary body band, and Schwalbe's line, which cannot be assessed by routine slit-lamp examination alone. Through gonioscopy, clinicians can differentiate between open-angle and angle-closure mechanisms, identify peripheral anterior synechiae, assess angle pigmentation, and detect secondary causes like neovascularization or angle recession following trauma. Proper patient positioning, choice of gonioscopy lens, control of illumination, and interpretation of findings are essential to avoid misdiagnosis. In clinical practice, gonioscopy guides treatment decisions such as laser iridotomy, medical management, or surgical intervention, making it an indispensable skill for optometrists and ophthalmic professionals.

Fig 6. Dr. Mantu Akon, Neuro Optometry and Binocular Vision Specialist Professor and Director

Adult amblyopia refers to reduced visual acuity resulting from abnormal visual development, persisting beyond the traditionally accepted critical period of childhood. Contrary to earlier beliefs that amblyopia is untreatable in adults, recent research indicates that neuroplasticity in the adult visual system can be harnessed through targeted therapies. These include perceptual learning, binocular vision therapy, dichoptic training, and digital or virtual reality–based interventions. Adult amblyopia often presents functional challenges such as reduced contrast sensitivity, poor depth perception, and visual fatigue, even when refractive errors are corrected. Early identification and individualized therapy plans can lead to meaningful improvements in visual function. Understanding adult amblyopia shifts the clinical mindset from limitation to rehabilitation, opening new avenues for vision restoration and functional enhancement.

Fig 7. Mr. Tonmoy Chottopadhyay, Assistant Professor Department of Optometry Brainware University

Optical aberrations are imperfections in the eye's optical system that prevent light from focusing precisely on the retina, leading to reduced image quality. These aberrations are broadly classified into lower-order aberrations, such as myopia, hyperopia, and astigmatism, and higher-order aberrations, including coma, spherical aberration, and trefoil. While lower-order aberrations are easily corrected with spectacles or contact lenses, higher-order aberrations require advanced diagnostic tools like wavefront aberrometry and are often addressed through customized contact lenses, refractive surgery, or specialized optical designs. Aberrations play a significant role in night vision problems, glare, halos, and reduced contrast sensitivity. A clear understanding of aberrations helps clinicians explain visual complaints that persist despite standard correction and supports the move toward more personalized, high-precision vision care.

Fig 8. Mr. Pablo Chandra, Assistant Professor Teacher-in-Charge Department of Allied Health Sciences

Dispensing of spectacles is a critical bridge between clinical refraction and functional vision correction, requiring both technical accuracy and patient-centered judgment. It involves precise measurement of pupillary distance, fitting height, frame selection, and lens choice based on prescription, facial anatomy, occupational needs, and lifestyle factors. Proper dispensing ensures optimal visual comfort, reduces adaptation issues, and enhances compliance. Knowledge of lens materials, coatings, optical centers, frame geometry, and ergonomic fitting is essential to minimize aberrations, prismatic errors, and cosmetic concerns. Effective spectacle dispensing also includes patient education on lens care, usage, and limitations. When done well, it transforms a prescription into a comfortable, usable visual solution that directly impacts the patient's daily visual performance and quality of life.

Papers Submission and Publication

Total number of papers submitted for publication: 245 (from students, research scholars and faculty members)

Programme Outcomes

International Conference on Vision, Diagnostic Imaging and Rehabilitation Sciences 2026

The one-day International Conference on "Vision, Diagnostic Imaging and Rehabilitation Sciences 2026" organized by Swami Vivekananda University was a landmark event. It yielded several high-impact outcomes that contribute to the academic, research, and clinical excellence of the institution:

1. Core Academic & Global Networking Outcomes

- Global Intellectual Exchange: By featuring research scientists from international networks like the Lukasiewicz Research Network (Poland), the conference established a global platform for exchanging ideas on genetics and biological sciences.

- Benchmarking with National Excellence: The presence of experts from AIIMS and the Indian Statistical Institute (ISI) allowed participants to align their clinical and academic practices with the highest national standards.
- Interdisciplinary Synergy: The event successfully broke departmental silos, fostering a dialogue between optometrists, radiologists, and therapists to create a "Patient-Centric" integrated healthcare model.

2. Stream-Specific Technical & Clinical Outcomes

A. Optometry & Vision Sciences

- Neuro-Visual Rehabilitation: Participants gained advanced insights into Neuro-Optometry, specifically the treatment of patients with brain-injury-related visual dysfunction.
- Binocular Vision Management: Experts highlighted new clinical protocols for diagnosing and treating binocular vision anomalies, which are crucial for pediatric and geriatric eye care.
- Digital Ocular Diagnostics: Training on the latest imaging tools for retinal assessment, allowing for earlier detection of glaucoma and diabetic retinopathy.

B. Radiology & Diagnostic Imaging

- Precision in Interventional Radiology: The conference provided a deep dive into minimally invasive image-guided procedures, enhancing the knowledge of radiology professionals.
- AI Integration: Outcome included a better understanding of how Artificial Intelligence and deep learning algorithms are assisting in the automated detection of abnormalities in CT and MRI scans.
- Radiation Safety & Optimization: Emphasis on "ALARA" (As Low As Reasonably Achievable) principles to ensure patient safety during diagnostic procedures.

C. Operation Theatre Technology (OTT)

- Perioperative Safety Protocols: Detailed discussions on maintaining a Zero-Infection environment through advanced sterilization and aseptic techniques in the OT.
- Critical Care & Anesthesia Assistance: The technologists learned updated protocols for intraoperative monitoring and assisting in complex anesthesia administrations.
- Equipment Lifecycle Management: Gained technical proficiency in handling and maintaining high-end surgical equipment like C-arm machines and laparoscopic towers.

D. Medical Laboratory Technology (MLT)

- Molecular Diagnostics & Genetics: A significant outcome was the understanding of the role of Human Genetics in personalized medicine and disease predisposition testing.
- Advanced Bio-Statistics: Lab professionals gained the skills to apply statistical models for quality control, ensuring the reliability of laboratory test results.
- Automated Pathology: Insights into the latest automation in hematology and clinical biochemistry to minimize human error and reduce turnaround time (TAT).

E. Physiotherapy & Rehabilitation Sciences

- Evidence-Based Therapeutic Interventions: Physiotherapists were introduced to new movement-science protocols and the use of biofeedback in physical rehabilitation.
- Sensory & Motor Integration: Focus on holistic rehabilitation strategies that combine physical exercises with sensory stimulation for patients with neurological disorders.
- Geriatric & Sports Rehabilitation: Understanding specialized recovery plans for athletes and the elderly, focusing on functional independence and quality of life.

3. Research, Innovation & Institutional Growth

- Future Publication Pipeline: The diverse range of research papers and technical posters presented has created a robust foundation for at least 15-20 potential peer-reviewed publications.
- Student Inspiration: For the students of Swami Vivekananda University, the conference served as a "Career Roadmap," showing them the vast specialized opportunities available in allied health sciences.
- Institutional Reputation: Successfully hosting an international event of this scale has enhanced the university's status as a hub for advanced medical research and professional training.

CONFERENCE COMMITTEE:

The committee was formed three months prior to this conference.

Convenor
Mrs. Dipanwita Ghosh, Assistant Professor & HOD, Department of Optometry

Jt. Convenor
Dr. Sourav Mitra, Assistant Professor & HOD, Department of Physiotherapy

Organizing Secretary
Dr. Oly Banerjee, Assistant Professor & HOD, Department of MLT

Members
Dr. Rajen Dey, Assistant Professor, Department of MLT
Mr. Manojit Bysack, Assistant Professor, Department of MLT
Mr. Rupak Bera, Laboratory Technologist, Department of MLT
Dr. Puja Roy, Assistant Professor, Department of MLT
Dr. Priya Nandy, Assistant Professor, Department of MLT
Mr. Bikrom Maity, Laboratory Technologist, Department of MLT
Mr. Wasim Firoz Molla, Laboratory Technologist, Department of MLT
Mr. Soumadip Sur, Laboratory Technologist, Department of MLT
Mr. Ankur Adak, Laboratory Technologist, Department of MLT
Ms. Puja Porel, Teaching Assistant, Department of MLT
Mr. Abhinaba Gupta, Teaching Assistant, Department of MLT
Ms. Barnini Bhattacharya, Teaching Assistant, Department of MLT
Mr. Bikram Dhali, Teaching Assistant, Department of AOTT
Ms. Priyanka Das, Teaching Assistant, Department of AOTT
Md Samim Ali, Teaching Assistant, Department of AOTT
Dr. Sunayana Ghosh Dostider (PT) - Assistant Professor, Department of Physiotherapy
Dr. Sanhita Bose (PT) - Assistant Professor, Department of Physiotherapy
Dr. Raveena Kothari (PT) - Assistant Professor, Department of Physiotherapy
Dr. Swarup Ghosh (PT) - Assistant Professor, Department of Physiotherapy
Dr. Saptarshi Mondal (PT) - Assistant Professor, Department of Physiotherapy
Dr. Paramita Biswas (PT) - Assistant Professor, Department of Physiotherapy
Dr. Aveek Nandy (PT) - Assistant Professor, Department of Physiotherapy
Dr. Sourangshu Bhattacharyya (PT) - Assistant Professor, Department of Physiotherapy
Dr. Samarth Gupta (PT) - Assistant Professor, Department of Physiotherapy
Dr. Krittika Pal (PT) - Teaching Assistant, Department of Physiotherapy
Dr. Shelina Jahan Tithi (PT) - Teaching Assistant, Department of Physiotherapy
Dr. Madhurima Saha (PT) - Teaching Assistant, Department of Physiotherapy
Dr. Soumi Das (PT) - Assistant Professor, Department of Physiotherapy
Dr. Prabirendra Nath Sinha - Assistant Professor, Department of Optometry
Mr. Arup Saha - Assistant Professor, Department of Optometry
Ms. Anusuya Das - Assistant Professor, Department of Optometry
Mr. Sourav Karmakar - Assistant Professor, Department of Optometry
Ms. Srimanti Sarkar - Assistant Professor, Department of Optometry
Dr. Manas Chakraborty - Assistant Professor, Department of Optometry
Ms. Aratrika Chail - Assistant Professor, Department of Optometry
Ms. Shreyashi Mahata - Teaching Assistant, Department of Optometry
Ms. Sourashree Mondal - Teaching Assistant, Department of Optometry
Ms. Prasansha Bardhan - Teaching Assistant, Department of Optometry

Conclusion

The two-day international conference successfully fulfilled its mission of integrating innovation, technology, and clinical practice across visual and diagnostic sciences by creating a truly interdisciplinary and globally connected academic platform. Through expert-led sessions spanning genomics, protein engineering, neurobiology, wearable rehabilitation technologies, optometry, imaging sciences, laboratory diagnostics, and physiotherapy, participants gained exposure to cutting-edge research and real-world clinical applications. The diverse speaker lineup—from national institutions such as ISI to international research centers in Poland—strengthened global knowledge exchange, while the submission of 245 research papers reflected strong scholarly engagement and a growing research culture within the university community.

Overall, the conference emerged as a catalyst for academic excellence, clinical modernization, and institutional growth. It enhanced technical competencies across allied health disciplines, promoted evidence-based and AI-driven healthcare practices, and fostered collaborations that are likely to translate into future publications and innovative clinical solutions. Beyond skill development, the event significantly elevated the university's academic profile and inspired students toward specialized, research-oriented career pathways, positioning Swami Vivekananda University as a forward-looking hub for interdisciplinary healthcare education and innovation.