



SMU SIKKIM
MANIPAL
UNIVERSITY

Established under Govt. of Sikkim, Act V of 1985, incorporated under 20 of the 1932 Act, 1956

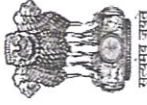


SDG 17

17 PARTNERSHIPS
FOR THE GOALS



Relationships with regional NGOs and government for SDG policy year: 2022



Government Of India



Certificate of Appreciation

This is to certify that Dr. Dechenla Tshering Bhutia, Professor and HoD from Sikkim Manipal Institute of Medical Sciences has worked as a State Nodal Officer of Sikkim for Verification of Sub-national claims for progress towards TB Free status in India, 2022 jointly conducted by Indian Association of Preventive & Social Medicine and ICMR - National Institute for Research in Tuberculosis and World Health Organization - India for the National Tuberculosis Elimination Program.

Chairperson
IAPSM NTEP
Committee

Secretary General
IAPSM

Chairperson
National Task Force
NTEP

Director
ICMR-NIRT
Govt. of India

DDG-TB
Central TB Division
MoHFW, Govt. of India



Certificate of Gratitude

Members of

Inner Wheel Club of Gangtok

feel privileged and honored to present this Certificate of Appreciation to

Prof. (Dr.) Yogesh Verma,

Medical Superintendent,

Central Referral Hospital, SMIMS,

for the medical support and encouragement provided in various social activities of the club, whenever requested.

We also take this opportunity to express our heartfelt gratitude to the nurses, paramedic staff and administrative team of CRH for their ever ready support and cooperation in our social projects.

(Amita Mundra)

District Chairman

Inner Wheel, Dist-324

Dated 27.03.2022

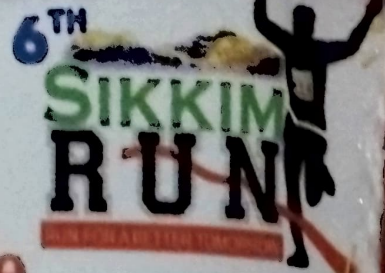
(Sunita Kiran)

President

Inner Wheel club of Gangtok



SERVICE TO MANKIND



Letter of Gratitude

We from the Service to Mankind team would like to place on record our heartfelt thanks and gratitude to

Central Referral Hospital, Gangtok, Sikkim

for the pertinent support lent to us in your own capacity to make the

6th SIKKIM RUN "Run for better tomorrow"

held on 31st October, 2021,

a grand success.

You trusted us and our motives and provided us with timely help to conduct this event efficiently.

We are reasserted to work for the betterment of our society with our fullest ability when we have the back of your esteemed self.

We can't thank you enough for the unparalleled support received.

We would like to extend our best wishes and prayers for every endeavors of yours and sound health.

Thank you and best regards.

All

Chief Event Coordinator

6th SIKKIM RUN

Cross sectoral dialogue about SDGs Year: 2022



GOVERNMENT OF SIKKIM
HEALTH CARE, HUMAN SERVICE & FAMILY WELFARE DEPARTMENT
GANGTOK

Memo no. 33 /NHM/HC & FW.

Dated 08/12/2020

To
The HOD (Community Medicine),
Central Referral Hospital ,
Tadong
Subject: Urban Task Force Meeting for introduction of COVID -19 Vaccine.

Sir/ madam,
As per the letter received from DG cum Secretary ,Health and family welfare ,Govt of Sikkim ,you have been nominated as one of the member for the Urban Task force for introduction of COVID -19 vaccine in Urban areas .The meeting for the urban task force will be chaired by the Municipal Commissioner ,Gangtok Municipal Corporation .

Therefore, you are requested to kindly attend the meeting for the same . The composition and details of the meeting has been enclosed.

Date : 8th Dec 2020

Time : 2:00 PM

Venue : Gangtok Municipal Corporation Hall.

Thanking you,

Yours faithfully,

Addl. Director (UPHC)
Dr. Rita Gautam
Deptt. of H.C., H.S&F.W.
Additional Director
Govt. of Sikkim
NUHM

4. Urban Task Force :-

(1). Composition :-

1	Municipal Commissioner, Gangtok Municipal Corporation	Chairperson
2	In-charge(s), Urban Primary Health Center (s)	Member Secretary
3	Medical Superintendent, Sir Thutop Namgyal Memorial Hospital	Member
4	Sub-Divisional Magistrate (Headquarter), District Administration Center, East	Member
5	Medical Superintendent, Central Referral Hospital, Ladang	Member
6	Head of Department (Community Medicine), Central Referral Hospital, Ladang	Member
7	Nursing Superintendent, Sir Thutop Namgyal Memorial Hospital	Member
8	Mission Director, Integrated Child Development Scheme	Member
9	Social Justice and Welfare Development	Member
10	Social Officer, National Health Mission	Member
11	State School Health Coordinator, Education Department	Member
12	Joint Secretary, Urban Development and Housing Department	Member
13	Health Education Officer, Urban Primary Health Center	Member
14	District Public Health Nursing Officer, Gangtok Urban Primary Health Center	Member
15	Programme Manager, Urban Primary Health Center	Member
16	Medical Officer, National Polio Surveillance Project, World Health Organization	Member
17	Reproductive Maternal Neonatal Child Health and Adolescent Coordinator, United Nation International Children Emergency Fund	Member
18	A representative from United Nation Development Programme	Member
19	A representative from Inner Wheel Club, Rotary Club & Lions Club	Member

(2). The terms of reference of the Urban Task Force shall be as under, namely :-

- (i) The Urban Task Force shall convene the fortnightly meeting with scope of additional meeting, if required;
- (ii) It shall be responsible for overall management of the entire process of introduction of COVID-19 vaccine in the Urban Area;
- (iii) It shall follow the preparatory and implementation phase activities as per the terms of reference of coordination mechanism for introduction of COVID-19 vaccine outlined for the District Task Force

By order and in the name of the Governor,

Sd/-

(Dr. Pempa Tshering Bhutia), MS.
Director General cum Secretary,
Health & Family Welfare Department,
Government of Sikkim,
[File No. 32/H & FW/Imm./20-21]

Copy to:-

1. All concerned member (s) above
2. Joint Secretary cum Staff Officer to the Chief Secretary
3. Senior Private Secretary to the Principal Secretary
4. File
5. Guard File



UNDER SECRETARY TO THE GOVERNMENT



SIKKIM STATE AIDS CONTROL SOCIETY

Gangtok, East Sikkim - 737 101

Department of Health & Family Welfare
Government of Sikkim

Memo No. : SSACS/P-III/502/NGO/6/2007

Date : 2/8/2022

To

The Dean
Sikkim Manipal Institute of Medical Sciences,
5th Mile, Ladang, Gangtok

Sub: - Meeting of State Steering Committee reg.

Respected,

Sir/Madam,

Greetings from Sikkim SACS,

This is to inform you that Sikkim State AIDS Control Society (SSACS) is organizing a meeting for the State Steering Committee for the discussion of the update on Programmatic Mapping & Population Size Estimation (PMPSE) exercise for the High Risk Group of population i.e. Injecting Drug Users, Commercial Sex Workers, MSM, IG etc. in the state. Therefore, in this regard you are kindly requested to depute one representative from your department/organization for the above meeting to provide your valuable suggestion and feedback please.

Date: 04/08/2022

Time: - 11:00 a. m.

Venue: SSACS Office – (PD's Chamber), New STNM Hospital Complex, Sochakgang Gangtok.

Thanking You

Yours Sincerely

K.P. Sharma

Assistant Director (TI)

K. P. Sharma
Assistant Director (TI)
Sikkim State AIDS Control Society
Gangtok, Sikkim

Dochenla to please attend
28-22

International Collaboration

Active MoU with International Institutes & Organizations:

SI No	Name of the Institutes & Organisation	Year of signing MoU
1	IARC WHO	2016-2017
2	“AUREL VLAICU” University of Arad, Romania	2017-2018
3	Backseok University(BU) Republic of Korea	2017-2018
4	College of Electrical Engineering and Computer Science (EECS), National Taipei University of Technology (Taipei Tech), Taiwan.	2017-2018
5	The university of Padova	2018-2019
6	Jan Wyżykowski University, Poland	2018-2019
7	National Taipei University of Technology	2018-2019
8	Firma Polkowski Comp Expert,Poland	2018-2019
9	National Chin-Yi University of Technology, Taiwan	2021-2022
10	Malayer University, Iran	2021-2022
11	University Malaya	2021-2022

Publication on Indexed Journal with International Collaboration

SMU incentivize faculty members who published their work in Indexed Journal considering the SDGs with International Collaboration

SI No	Title	Authors	Affiliations	Journal Name	Publisher	ISSN
1	Recent Advances in Cancer Vaccines: Challenges, Achievements, and Futuristic Prospects	Gupta M., Wahi A., Sharma P., Nagpal R., Raina N., Kaurav M., Bhattacharya J., Rodrigues Oliveira S.M., Dolma K.G., Paul A.K., de Lourdes Pereira M., Wilairatana P., Rahmatullah M., Nissapatorn V.	Department of Pharmaceutics, School of Pharmaceutical Sciences, Delhi Pharmaceutical Sciences and Research University, New Delhi, 110017, India; Department of Pharmaceutics, KIET Group of Institutions Delhi-NCR, Meerut Road (NH-58), Ghaziabad, 201206, India; School of Biotechnology, Jawaharlal Nehru University, New Delhi, 110067, India; CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, 3810-193, Portugal; Hunter Medical Research Institute, New Lambton Heights, NSW 2305, Australia; Department of Microbiology, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Gangtok, 737102, India; School of Pharmacy and Pharmacology, University of Tasmania, Hobart, TAS 7001, Australia; Department of Medical Sciences, University of Aveiro, Aveiro, 3810-193, Portugal; Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, 10400, Thailand; Department of Biotechnology	Vaccines	MDPI	2076393X

			& Genetic Engineering, University of Development Alternative, Dhaka, Lalmatia, 1207, Bangladesh; School of Allied Health Sciences and World Union for Herbal Drug Discovery (WUHeDD), Walailak University, Nakhon Si Thammarat, 80160, Thailand			
2	An Enhanced Hyper-Parameter Optimization of a Convolutional Neural Network Model for Leukemia Cancer Diagnosis in a Smart Healthcare System	Awotunde J.B., Imoize A.L., Ayoade O.B., Abiodun M.K., Do D.-T., Silva A., Sur S.N.	Department of Computer Science, Faculty of Information and Communication Sciences, University of Ilorin, Ilorin, 240003, Nigeria; Department of Electrical and Electronics Engineering, Faculty of Engineering, University of Lagos, Lagos, Akoka, 100213, Nigeria; Department of Electrical Engineering and Information Technology, Institute of Digital Communication, Ruhr University, Bochum, 44801, Germany; Department of Computing and Information Science, School of Pure Applied Sciences, College of Science, Bamidele Olumilua University of Education, Science Technology, Ikere-Ekiti, 361264, Nigeria; Department of Computer Science, Landmark University, Omu-Aran, 251103, Nigeria; Department of Computer Science and Information Engineering, College of Information and Electrical Engineering, Asia University, Taichung, 41354, Taiwan; Instituto de Telecomunicações (IT) and	Sensors	MDPI	14248220

			Departamento de Eletrónica, Telecomunicações e Informática (DETI), University of Aveiro, Aveiro, 3810-193, Portugal; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Sikkim, Rangpo, 737136, India			
3	Machine Learning Algorithms for understanding the determinants of under-five Mortality	Saroj R.K., Yadav P.K., Singh R., Chilyabanyama O.N.	Department of Community Medicine, Sikkim Manipal Institute of Medical Sciences-Sikkim Manipal University, Sikkim, Gangtok, 737102, India; Department of Biostatistics and Epidemiology, International Institute for Population Sciences, Mumbai, 400088, India; Department of Mathematics and Statistics, Banasthali Vidyapith, Vanasthali Rd, Aliyabad, Rajasthan, Tonk, 304022, India; Centre for Infectious Disease Research in Zambia, Lusaka, Zambia; African Centre of Excellency in Data Science (ACEDS), University of Rwanda, KK 737 Street, Gikondo, Kigali, Rwanda	BioData Mining	BioMed Central Ltd	17560381
4	Self-sustained non-equilibrium co-existence of fluid and solid states in a strongly coupled complex plasma system	Hariprasad M.G., Bandyopadhyay P., Nikolaev V.S., Kolotinskii D.A., Arumugam S., Arora G., Singh S., Sen A., Timofeev A.V.	Institute for Plasma Research, A CI of Homi Bhabha National Institute, Bhat, Gujarat, Gandhinagar, 382428, India; Moscow Institute of Physics and Technology, Moscow Region, Dolgoprudnyi, 141701, Russian Federation; Joint Institute for High Temperatures, Russian Academy of	Scientific Reports	Nature Research	20452322

			Sciences, Moscow, 125412, Russian Federation; Department of Physics, Sikkim Manipal Institute of Technology, Sikkim, Majitar, 737136, India; National Research University Higher School of Economics, Moscow, 123458, Russian Federation			
5	Improving depression and perceived social support enhances overall quality of life among myocardial infarction survivors: necessity for integrating mental health care into cardiac rehabilitation programs	Upadhyay V., Bhandari S.S., Rai D.P., Dutta S., García-Grau P., Vaddiparti K.	Department of Psychiatry, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Sikkim, 737102, India; Department of Cardiology, Sir Thutob Namgyal Memorial Multispecialty Hospital, Sikkim, 737102, India; Programa de Maestro de Educación Infantil, Universidad Católica de Valencia, San Vicente, Mártir, Valencia, Spain; Department of Epidemiology, University of Florida, Gainesville, United States	Egyptian Journal of Neurology, Psychiatry and Neurosurgery	Springer Science and Business Media Deutschland GmbH	11101083
6	In search of COVID-19 transmission through an infected prey	Natiq H., Saha A.	Information Technology Collage, Imam Ja'afar Al-Sadiq University, Baghdad, Iraq; Department of Mathematics, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Rangpo, East-Sikkim, Gangtok, 737136, India	European Physical Journal: Special Topics	Springer Science and Business Media Deutschland GmbH	19516355
7	An Improvised Deep-Learning-Based Mask R-CNN Model for	Sahoo P.K., Mishra S., Panigrahi R., Bhoi A.K., Barsocchi P.	School of Computer Engineering, KIIT Deemed to be University, Bhubaneswar, 751024, India; Department of Computer Applications, Sikkim Manipal Institute of	Sensors	MDPI	14248220

	Laryngeal Cancer Detection Using CT Images		Technology, Sikkim Manipal University, Majitar, Rangpo, 737136, India; KIET Group of Institutions, Delhi-NCR, Ghaziabad, 201206, India; Directorate of Research, Sikkim Manipal University, Gangtok, 737102, India; Institute of Information Science and Technologies, National Research Council, Pisa, 56124, Italy			
8	A lightweight asymmetric U-Net framework for acute ischemic stroke lesion segmentation in CT and CTP images	Kumar A., Ghosal P., Kundu S.S., Mukherjee A., Nandi D.	Department of Computer Science and Engineering, NIT Durgapur713209, India; Department of Information Technology, Sikkim Manipal Institute of Technology737136, India; Department of Computer Science and Engineering, SRM Institute of Science and Technology, Kattankulathur, 603203, India; Department of Interventional Radiology, Rashid Hospital, Dubai, 4545, United Arab Emirates	Computer Methods and Programs in Biomedicine	Elsevier Ireland Ltd	1692607
9	Qutrit-Inspired Fully Self-Supervised Shallow Quantum Learning Network for Brain Tumor Segmentation	Konar D., Bhattacharyya S., Panigrahi B.K., Behrman E.C.	IIT Delhi, Department of Electrical Engineering, New Delhi, 110016, India; Sikkim Manipal Institute of Technology, Department of Computer Science and Engineering, Sikkim, 737136, India; CHRIST (Deemed to be University), Department of Computer Science and Engineering, Bengaluru, 560029, India; Wichita State University, Department of Mathematics and Physics, Wichita, KS 67260, United States	IEEE Transactions on Neural Networks and Learning Systems	Institute of Electrical and Electronics Engineers Inc.	2162237X

10	Virulence Characteristics and Emerging Therapies for Biofilm-Forming <i>Acinetobacter baumannii</i> : A Review	Dolma K.G., Khati R., Paul A.K., Rahmatullah M., de Lourdes Pereira M., Wilairatana P., Khandelwal B., Gupta C., Gautam D., Gupta M., Goyal R.K., Wiart C., Nissapatorn V.	Department of Microbiology, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Sikkim, Gangtok, 737102, India; School of Pharmacy and Pharmacology, University of Tasmania, Hobart, TAS 7001, Australia; Department of Biotechnology & Genetic Engineering, University of Development Alternative, Dhaka, Lalmatia, 1207, Bangladesh; CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, 3810-193, Portugal; Department of Medical Sciences, University of Aveiro, Aveiro, 3810-193, Portugal; Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, 10400, Thailand; Department of Medicine, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Sikkim, Gangtok, 737102, India; Department of Biotechnology, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Sikkim, Gangtok, 737102, India; Department of Pharmaceutics, Delhi Pharmaceutical Sciences and Research University, New Delhi, 110017, India; Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah, Kota Kinabalu, 88400, Malaysia; School of Allied Health Sciences and World Union	Biology	MDPI	20797737
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			for Herbal Drug Discovery (WUHeDD), Walailak University, Nakhon Si Thammarat, 80160, Thailand			
11	A Frequency Reconfigurable MIMO Antenna with Bandstop Filter Decoupling Network for Cognitive Communication	Islam H., Das S., Ali T., Bose T., Prakash O., Kumar P.	Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Gangtok, 737136, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Gangtok, 737136, India; Department of Electronics and Communication Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, 576104, India; ECE Department, Sri Venkateswara College of Engineering & Technology, Chittoor, 517127, India; Discipline of Electrical, Electronic and Computer Engineering, University of KwaZulu-Natal, Durban, 4041, South Africa	Sensors	MDPI	14248220
12	A Review of Energy Efficiency and Power Control Schemes in Ultra-Dense Cell-Free Massive MIMO Systems for Sustainable 6G	Imoize A.L., Obakhena H.I., Anyasi F.I., Sur S.N.	Department of Electrical and Electronics Engineering, Faculty of Engineering, University of Lagos, Lagos, Akoka, 100213, Nigeria; Department of Electrical Engineering and Information Technology, Institute of Digital Communication, Ruhr University, Bochum, 44801, Germany; Department of Electrical and Electronics Engineering, Faculty of Engineering and Technology, Ambrose Alli University, Ekpoma,	Sustainability (Switzerland)	MDPI	20711050

	Wireless Communication		310101, Nigeria; Department of Electrical and Electronics Engineering, Faculty of Engineering, University of Benin, Benin City, 300283, Nigeria; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Gangtok, 737136, India			
13	Multiperiodic and chaotic wave phenomena of collective ion dynamics under KP-type equation in a magnetised nonextensive plasma	Saha A., Pradhan B., Natiq H.	Department of Mathematics, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, East-Sikkim, Rangpo, 737136, India; Information Technology College, Imam Ja'afar Al-Sadiq University, Baghdad, Iraq	Physica Scripta	Institute of Physics	318949
14	Crop Diversification in South Asia: A Panel Regression Approach	Singh P., Adhale P., Guleria A., Bhoi P.B., Bhoi A.K., Bacco M., Barsocchi P.	Department of Economics and Sociology, Punjab Agricultural University, Ludhiana, 141004, India; KIET Group of Institutions, Delhi-NCR, Ghaziabad, 201206, India; Directorate of Research, Sikkim Manipal University, Gangtok, 737102, India; AB-Tech eResearch (ABTeR), Burla, 768018, India; Institute of Information Science and Technologies, National Research Council, Pisa, 56124, Italy	Sustainability (Switzerland)	MDPI	20711050

15	Structural analysis and magnetic properties of cobalt-doped nanotitania	Misra K.P., Kumawat A., Bandopadhyay A., Modak B., Mukherjee S.K., Babu P.D., Kabi S., Chattopadhyay S., Misra R.D.K.	Department of Physics, School of Basic Sciences, Manipal University Jaipur, Rajasthan, Jaipur, 303007, India; Department of Physics, University of Gour Banga, West Bengal, Malda, 732103, India; Theoretical Chemistry Section, Chemistry Division, Bhabha Atomic Research Centre, Mumbai, 400085, India; Department of Physics, Birla Institute of Technology, Mesra, Jharkhand, Ranchi, 835215, India; UGC-DAE Consortium for Scientific Research, R5 Shed, Bhabha Atomic Research Centre, Mumbai, 400085, India; Department Physics, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, 737136, India; Metallurgical, Materials and Biomedical Engineering, University of Texas at El Paso, 500 W University, El Paso, TX 79968, United States	Materials Science and Engineering: B	Elsevier Ltd	9215107
16	Hybrid Precoding Algorithm for Millimeter-Wave Massive MIMO-NOMA Systems	Sur S.N., Kandar D., Silva A., Nguyen N.D., Nandi S., Do D.-T.	Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Gangtok, 737136, India; Department of Information Technology, North Eastern Hill University, Meghalaya, Shillong, 793022, India; Instituto de Telecomunicações (IT), Departamento de Eletrónica, Telecomunicações e Informática (DETI), University of	Electronics (Switzerland)	MDPI	20799292

			<p>Aveiro, Aveiro, 3810-193, Portugal; Faculty of Mechanical-Electrical and Computer Engineering, School of Engineering and Technology, Van Lang University, 69/68 Dang Thuy Tram Street, Ward 13, Binh Thanh District, Ho Chi Minh City, 70000, Viet Nam; Department of Computer Science, Indian Institute of Technology Guwahati, Assam, Guwahati, 781039, India; Department of Computer Science and Information Engineering, College of Information and Electrical Engineering, Asia University, Taichung City, 41354, Taiwan</p>			
17	<p>Performance of Machine Learning Classifiers in Classifying Stunting among Under-Five Children in Zambia</p>	<p>Chilyabanyama O.N., Chilengi R., Simuyandi M., Chisenga C.C., Chirwa M., Hamusonde K., Saroj R.K., Iqbal N.T., Ngaruye I., Bosomprah S.</p>	<p>African Centre of Excellence in Data Science, College of Business Studies Kigali, University of Rwanda, Gikondo—Street, KK 737, P.O. Box 4285, Kigali, Rwanda; Enteric Disease and Vaccines Research Unit, Centre for Infectious Disease Research in Zambia, P.O. Bo, x 34681, Lusaka, Zambia; Department of Community Medicine, Sikkim Manipal Institute of Medical Sciences (SIMMS) Sikkim Manipal University, Gangtok, 03592, India; Department of Paediatrics and Child Health, Biological and Biomedical Sciences, Aga Khan University Hospital, Karachi, 74800, Pakistan; College of Science of Technology, University of</p>	Children	<p>Multidisciplinary Digital Publishing Institute (MDPI)</p>	22279067

			Rwanda, KN 7 Ave, P.O. Box 4285, Kigali, Rwanda; Department of Biostatistics, School of Public Health, University of Ghana, P.O. Box LG13, Accra, Ghana			
18	Eco-friendly synthesis and characterizations of Ag/AgO/Ag ₂ O nanoparticles using leaf extracts of <i>Solanum elaeagnifolium</i> for antioxidant, anticancer, and DNA cleavage activities	Barwant M., Ugale Y., Ghotekar S., Basnet P., Nguyen V.-H., Pansambal S., Ananda Murthy H.C., Sillanpaa M., Bilal M., Oza R., Karande V.	Department of Chemistry, Sanjivani Arts, Commerce and Science College, Savitribai Phule Pune University, Maharashtra, Kopargaon, 423603, India; Department of Chemistry, Smt. Devkiba Mohansinhji Chauhan College of Commerce and Science, University of Mumbai, Dadra and Nagar Haveli (UT), Silvassa, 396230, India; Centre for Materials Science and Nanotechnology, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Gangtok, India; Faculty of Allied Health Sciences, Chettinad Academy of Research and Education (CARE), Tamilnadu, Kelambakkam, Chennai, 603 103, India; Department of Chemistry, Shri Saibaba College Shirdi, Savitribai Phule Pune University, Maharashtra, Shirdi, 423109, India; Department of Applied Chemistry, School of Applied Natural Sciences, Adama Science and Technology University, P.O. Box: 1888, Adama, Ethiopia; Department of Chemical Engineering, School of Mining, Metallurgy and Chemical Engineering, University of Johannesburg, P. O. Box	Chemical Papers	Springer Science and Business Media Deutschland GmbH	3666352

			17011, Doornfontein, 2028, South Africa; Chemistry Department, College of Science, King Saud University, Riyadh, 11451, Saudi Arabia; School of Life Science and Food Engineering, Huaiyin Institute of Technology, Huaian, 223003, China; Department of Chemistry, D.J.M. Commerce and B.N.S. Science College, Savitribai Phule Pune University, S.N. Arts, Maharashtra, Sangamner, 422605, India; Department of Botany, Yashavantrao Chavan Institute of Science, Maharashtra, Satara, 415001, India			
19	Application of MEREC in Multi-Criteria Selection of Optimal Spray-Painting Robot	Shanmugasundar G., Sapkota G., Čep R., Kalita K.	Department of Mechanical Engineering, Sri Sairam Institute of Technology, Chennai, 600 044, India; Department of Mechanical Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majhitar, 737 136, India; Department of Machining, Assembly and Engineering Metrology, Faculty of Mechanical Engineering, VSB-Technical University of Ostrava, Ostrava, 708 00, Czech Republic; Department of Mechanical Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, 600 062, India	Processes	MDPI	22279717
20	Internalized and Perceived Stigma and	Pradhan A., Koirala P., Bhandari S.S., Dutta S., García-	Department of Psychiatry, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Gangtok,	Frontiers in Psychiatry	Frontiers Media S.A.	16640640

	Depression in Pulmonary Tuberculosis: Do They Explain the Relationship Between Drug Sensitivity Status and Adherence?	Grau P., Sampath H., Sharma I.	India; Department of Respiratory Medicine, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Gangtok, India; Programa de Maestro de Educación Infantil, Universidad Católica de Valencia, Valencia, Spain			
21	Acinetobacter baumannii: An overview of emerging multidrug-resistant pathogen	Gautam D., Dolma K.G., Khandelwal B., Mitsuwan W., Mahboob T., Pereira M.L., Nawaz M., Wiart C., Ardebili A., Siyadatpanah A., Ehtesham H., Patra J.K., Kwanhian W., Nissapatorn V.	School of Allied Health Sciences and Research Excellence Centre for Innovation and Health Products (RECIHP), Walailak University, Nakhon Si Thammarat, Thailand; Department of Microbiology, Sikkim Manipal Institute of Medical Sciences (SMIMS), Sikkim Manipal University, Sikkim, India; Department of Medicine, Sikkim Manipal Institute of Medical Sciences (SMIMS), Sikkim Manipal University, Sikkim, India; Department of Medical Microbiology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; Department of Medical Sciences and CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal; Department of Nano-Medicine Research, Institute for Research and Medical Consultations (IRMC), Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia; School of Pharmacy, Nottingham	Medical Journal of Malaysia	Malaysian Medical Association	3005283

			University Malaysia Campus, Selangor, Malaysia; Laboratory Sciences Research Center, Golestan University of Medical Sciences, Gorgan, Iran; Ferdows School of Paramedical and Health, Birjand University of Medical Sciences, Birjand, Iran; Research Institute of Integrative Life Sciences, Dongguk University-Seoul, Goyang-Si, South Korea			
22	CFD Investigations of Cyclone Separators with Different Cone Heights and Shapes	Pandey S., Saha I., Prakash O., Mukherjee T., Iqbal J., Roy A.K., Wasilewski M., Brar L.S.	Mechanical Engineering Department, Birla Institute of Technology, Mesra, Ranchi, 835215, India; Chemical Engineering Department, University of Calcutta, Kolkata, 700073, India; Civil and Environmental Engineering Department, Birla Institute of Technology, Mesra, Ranchi, 835215, India; Mechanical Engineering Department, Sikkim Manipal University, Majitar, Rangpo, 737136, India; Faculty of Production Engineering and Logistics, Opole University of Technology, 76 Proszkowska St, Opole, 45-758, Poland	Applied Sciences (Switzerland)	MDPI	20763417
23	Intelligent Reflecting Surface Assisted Localization: Opportunities and Challenges	Sur S.N., Singh A.K., Kandar D., Silva A., Nguyen N.D.	Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, 737136, India; Department of Information Technology, North Eastern Hill University, Meghalaya, Shillong, 793022, India; Instituto de Telecomunicações (IT), Departamento de	Electronics (Switzerland)	MDPI	20799292

			Eletrónica, Telecomunicações e Informática (DETI), University of Aveiro, Aveiro, 3810-193, Portugal; Faculty of Mechanical-Electrical and Computer Engineering, School of Engineering and Technology, Van Lang University, 69/68 Dang Thuy Tram Street, Ward 13, Binh Thanh District, Ho Chi Minh City, 70000, Viet Nam			
24	Intrusion detection in cyber–physical environment using hybrid Naïve Bayes— Decision table and multi-objective evolutionary feature selection	Panigrahi R., Borah S., Pramanik M., Bhoi A.K., Barsocchi P., Nayak S.R., Alnumay W.	Department of Computer Applications, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, 737136, India; KIET Group of Institutions, Delhi-NCR, Ghaziabad, 201206, India; Directorate of Research, Sikkim Manipal University, Sikkim, Gangtok, 737102, India; AB-Tech eResearch (ABTeR), Burla 768018, Sambalpur, India; Institute of Information Science and Technologies, National Research Council, Pisa, 56124, Italy; Amity School of Engineering and Technology, Amity University Uttar Pradesh, Noida, India; Department of CS, King Saud University, Riyadh, Saudi Arabia	Computer Communications	Elsevier B.V.	1403664
25	Drug Delivery Strategies and Biomedical Significance of Hydrogels:	Raina N., Pahwa R., Bhattacharya J., Paul A.K., Nissapatorn V., Pereira M.L., Oliveira S.M.R., Dolma K.G.,	Department of Pharmaceutics, Delhi Pharmaceutical Sciences and Research University, New Delhi, 110017, India; Institute of Pharmaceutical Sciences, Kurukshetra University, Haryana, 136119, India; School of Biotechnology,	Pharmaceutics	MDPI	19994923

	Translational Considerations	Rahmatullah M., Wilairatana P., Gupta M.	Jawaharlal Nehru University, New Delhi, 110067, India; School of Pharmacy and Pharmacology, University of Tasmania, Hobart, 7001, Australia; School of Allied Health Sciences and World Union for Herbal Drug Discovery [WUHeDD], Walailak University, Nakhon Si Thammarat, 80160, Thailand; CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, 3810-193, Portugal; Department of Medical Sciences, University of Aveiro, Aveiro, 3810-193, Portugal; Hunter Medical Research Institute, New Lambton 2305, Australia; Department of Microbiology, Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, Gangtok, 737102, India; Department of Biotechnology & Genetic Engineering, University of Development Alternative, Lalmatia, Dhaka, 1207, Bangladesh; Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, 10400, Thailand			
26	Electrophoresis of soft particles with hydrophobic inner core grafted with pH-regulated and	Maurya S.K., Sarkar S., Mondal H.K., Ohshima H., Gopmandal P.P.	Department of Mathematics, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Rangpo, East Sikkim, India; Physics and Applied Mathematics Unit, Indian Statistical Institute, West Bengal, Kolkata, India; Department of Electronics and	Electrophoresis	John Wiley and Sons Inc	1730835

	highly charged polyelectrolyte layer		Communication Engineering, National Institute of Technology Durgapur, West Bengal, Durgapur, India; Faculty of Pharmaceutical Sciences, Tokyo University of Science, Chiba, Noda, Japan; Department of Mathematics, National Institute of Technology Durgapur, West Bengal, Durgapur, India			
27	Effect of optimization framework on rigid and non-rigid multimodal image registration	Chakraborty S., Pradhan R., Dey N., Crespo R.G., Tavares J.M.R.S.	Department of Computer Applications, Sikkim Manipal Institute of Technology, Sikkim, 737136, India; Department of Computer Science and Engineering, JIS University, West Bengal, Kolkata, 700109, India; Universidad Internacional de La Rioja, Logroño, 26006, Spain; Instituto de Ciência e Inovação em Engenharia Mecânica e Engenharia Industrial, Departamento de Engenharia Mecânica, Faculdade de Engenharia, Universidade do Porto, Porto, 4200-465, Portugal	ScienceAsia	Science Society of Thailand under Royal Patronage	15131874
28	Phytochemical, anti-Acanthamoeba, and anti-adhesion properties of Garcinia mangostana flower as preventive	Sangkanu S., Mitsuwan W., Mahboob T., Mahabusarakam W., Chewchanwuttiwong S., Siphakdi P., Jimoh T.O., Wilairatana P., Dolma K.G., Pereira M.D.L., Rahmatullah M., Wiart C.,	School of Allied Health Sciences, Southeast Asia Water Team (SEA Water Team), World Union for Herbal Drug Discovery (WUHeDD), Research Excellence Center for Innovation and Health Products (RECIHP), Walailak University, Nakhon Si Thammarat, Thailand; Akkhraratchumari Veterinary College, Walailak University, Nakhon Si Thammarat, Thailand; Division of Physical Science, Faculty of Science,	Acta Tropica	Elsevier B.V.	0001706X

	contact lens solution	Norouzi R., Siyadatpanah A., Mutombo P.N., Nissapatorn V.	Graduate School, Prince of Songkla University, Songkhla, 90110, Thailand; Faculty of Science and Industrial Technology, Prince of Songkla University, Surat Thani Campus, Makhanta, Surat Thani, Muang, Thailand; Department of Pharmacognosy and Pharmaceutical Botany, Faculty of Pharmaceutical Sciences, Chulalongkorn University, Bangkok, Thailand; Department of Biochemistry, Faculty of Health Sciences, Islamic University in Uganda, P. O. Box 7689, Kampala, Uganda; Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand; Department of Microbiology, Sikkim Manipal Institute of Medical Sciences Sikkim, India; Department of Medical Sciences, CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal; Department of Biotechnology & Genetic Engineering, University of Development Alternative, Lalmatia, Dhaka, Bangladesh; Institute for Tropical Biology & Conservation, University Malaysia Sabah, Malaysia; Department of Pathobiology, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran; Ferdows School of Paramedical and Health, Birjand University of Medical Sciences, Birjand,			
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			Iran; National Centre for Naturopathic Medicine, Faculty of Health Sciences, Southern Cross University, Lismore, NSW, Australia			
29	Space Settlement Design in The Moon's Quasi Frozen Orbit	Shambhavi A.S., Johnson A., Surya Vaibhav D.V.R., Pramanik S., Urmisha Reddy J., Mohanty U.	Department of Aeronautical Engineering, Nitte Meenakshi Institute of Technology, P.B.No.6429. Yelahanka, Karnataka, Bangalore, 560064, India; Department of Civil Engineering, Mar Athanasius College of Engineering, College Junction Road, Kerala, Kothamangalam, 686666, India; Department of Mechanical Engineering, B.M.S. College of Engineering, P.O.Box.No.1908. Bull Temple Road, Karnataka, Bangalore, 560019, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, Rangpo, 737136, India; Department of Electrical and Electronics Engineering, Vidya Jyothi Institute of Technology, Aziz Nagar gate, CB Post, Telangana, Hyderabad, 500075, India; Department of Biorefinery, Bio Technology, University of Technology of Troyes, 12 Rue marie Curie, Troyes, 10300, France	Proceedings of the International Astronautical Congress, IAC	International Astronautical Federation, IAF	741795
30	Cognitive Internet of Things (IoT) and computational intelligence for	Thapa S., Ghimire A., Adhikari S., Bhoi A.K., Barsocchi P.	Department of Computer Science and Engineering, Delhi Technological University, Delhi, Rohini, India; Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University,	Cognitive and Soft Computing Techniques for the Analysis of Healthcare Data	Elsevier	

	mental well-being		Sikkim, Majitar, India; Institute of Information Science and Technologies, National Research Council, Pisa, Italy			
31	Effects of EEG-sleep irregularities and its behavioral aspects: review and analysis	Satapathy S., Loganathan D., Bhoi A.K., Barsocchi P.	Department of Computer Science and Engineering, Pondicherry Engineering College, Puducherry, India; Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India; Institute of Information Science and Technologies, National Research Council, Pisa, Italy	Cognitive and Soft Computing Techniques for the Analysis of Healthcare Data	Elsevier	
32	Internet of medical things for enhanced smart healthcare systems	Awotunde J.B., Chakraborty C., AbdulRaheem M., Jimoh R.G., Oladipo I.D., Bhoi A.K.	Department of Computer Sciences, University of Ilorin, Kwara State, Ilorin, Nigeria; Department of Electronics and Communication Engineering, Birla Institute of Technology, Jharkhand, Mesra, India; KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, Ghaziabad, India; Directorate of Research, Sikkim Manipal University, Sikkim, Gangtok, India	Implementation of Smart Healthcare Systems using AI, IoT, and Blockchain	Elsevier	
33	Security and privacy concerns in smart healthcare system	AbdulRaheem M., Awotunde J.B., Chakraborty C., Adeniyi E.A., Oladipo I.D., Bhoi A.K.	Department of Computer Sciences, University of Ilorin, Kwara State, Ilorin, Nigeria; Department of Electronics and Communication Engineering, Birla Institute of Technology, Jharkhand, Mesra, India; Department of Computer Sciences, Landmark University, Kwara State, Omu-Aran, Nigeria; KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, Ghaziabad, India; Directorate of	Implementation of Smart Healthcare Systems using AI, IoT, and Blockchain	Elsevier	

			Research, Sikkim Manipal University, Sikkim, Gangtok, India			
34	An Enhanced DFFNN for Location-Based Services of Indoor Device-Free Submissive Localization	Awotunde J.B., Imoize A.L., Bhoi A.K., Jimoh R.G., Ojo S., Panigrahi R., Faruk N.	University of Ilorin, Faculty of Communication and Information Sciences, Department of Computer Science, Ilorin, Nigeria; University of Lagos, Department of Electrical and Electronics Engineering, Nigeria; Institute of Digital Communication, Ruhr University, Department of Electrical Engineering and Information Technology, Bochum, 44801, Germany; Sikkim Manipal University, Directorate of Research, Sikkim, Gangtok, 737102, India; AB-Tech EResearch (ABTeR), Sambalpur, Burla, 768018, India; Anderson University, Department of Electrical and Computer Engineering, Anderson, SC 29621, United States; Sikkim Manipal Institute of Technology, Department of Computer Applications, Sikkim Manipal University, Sikkim, Majitar, 737136, India; Sule Lamido University, Department of Physics, Nigeria; SLU, Directorate of ICT, Nigeria	Proceedings of the 5th International Conference on Information Technology for Education and Development: Changing the Narratives Through Building a Secure Society with Disruptive Technologies, ITED 2022	Institute of Electrical and Electronics Engineers Inc.	
35	Use of Deep Learning Application in Medical Devices	Marakala V., Sriramakrishnan G.V., Jakka G., Shingadiya C.J., Widiastuti H.P., Ortiz G.G.R.	College of Medicine, University of Bisha Kingdom of Saudi Arabia, Saudi Arabia; Sikkim Manipal Institute of Technology, Sikkim Manipal University, Computer Science and Engineering, India; Information Technology University of	4th International Conference on Inventive Research in Computing Applications,	Institute of Electrical and Electronics Engineers Inc.	

			the Cumberlands, United States; Computer Engineering R K University, India; Poltekkes Kemenkes Kaltim, Indonesia; Catholic University of Cuenca, Laboratory of Basic Psychology, Behavioral Analysis and Programmatic Development PAD-LAB., Ecuador, Ecuador	ICIRCA 2022 - Proceedings		
36	Cloud Computing for Suitable Data Management and Security within Organisations	Bhattacharyya L., Purohit S.G., Fatmawati E., Sunil D.M., Toktakynovna Z., Sriramakrishnan G.V.	Singhanian University, Science Information Security Domain, India; University Vtu, Computer Science & Engineering, Karnataka, Belagavi, India; Universitas Diponegoro, Indonesia; Reva University, Ece, India; Kobenkulova International Education Corporation, Almaty, Kazakhstan; Sikkim Manipal Institute of Technology, Sikkim Manipal University, Computer Science and Engineering, India	4th International Conference on Inventive Research in Computing Applications, ICIRCA 2022 - Proceedings	Institute of Electrical and Electronics Engineers Inc.	
37	Investigation into Linear Micropattern Generation using Electrochemical Micromachining	Kunar S., Das P.P., Tiwarly A.P., Itha V., Talib N., Sree S.R., Reddy M.S.	Department of Mechanical Engineering, Aditya Engineering College, Surampalem, India; Jawaharlal Nehru Technological University Kakinada, Kakinada, East Godavari, India; Department of Mechanical Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, India; Department of Manufacturing Engineering, Faculty of Mechanical and Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia, Johor, Batu Pahat, Malaysia; Department. of	Journal of Engineering Science and Technology Review	International Hellenic University - School of Science	17919320

			Computer Science & Engineering, Aditya Engineering College, Surampalem, India			
38	Cloud Computing for Suitable Data Management and Security within Organisations	Bhattacharyya L., Purohit S.G., Fatmawati E., Sunil D.M., Toktakynovna Z., Sriramakrishnan G.V.	Singhania University, Science Information Security Domain, India; University Vtu, Computer Science & Engineering, Karnataka, Belagavi, India; Universitas Diponegoro, Indonesia; Reva University, India; Kobenkulova International Education Corporation, Almaty, Kazakhstan; Sikkim Manipal University, Computer Science and Engineering, Sikkim Manipal Institute of Technology, India	3rd International Conference on Smart Electronics and Communication, ICOSEC 2022 - Proceedings	Institute of Electrical and Electronics Engineers Inc.	
39	Curcumin effect on Acanthamoeba triangularis encystation under nutrient starvation	Boonhok R., Sangkanu S., Phumjan S., Jongboonjua R., Sangnopparat N., Kwankaew P., Tedasen A., Lim C.L., de Lourdes Pereira M., Rahmatullah M., Wilairatana P., Wiart C., Dolma K.G., Paul A.K., Gupta M., Nissapatorn V.	Department of Medical Technology, School of Allied Health Sciences, and Research Excellence Center for Innovation and Health Products (RECIHP), Walailak University, Thai Buri, Nakhon Si Thammarat, Thailand; School of Allied Health Sciences, Southeast Asia Water Team (SEA Water Team) and World Union for Herbal Drug Discovery (WUHeDD), and Research Excellence Center for Innovation and Health Products (RECIHP), Walailak University, Thai Buri, Nakhon Si Thammarat, Thailand; Division of Applied Biomedical Science and Biotechnology, School of Health Sciences, International Medical University, Kuala Lumpur, Malaysia; CICECO-Aveiro Institute of Materials	PeerJ Computer Science	PeerJ Inc.	23765992

			and Department of Medical Sciences, University of Aveiro, Aveiro, Portugal; Department of Biotechnology and Genetic Engineering, University of Development Alternative, Dhaka, Bangladesh; Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Rachathewe, Bangkok, Thailand; The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah, Sabah, Kota Kinabalu, Malaysia; Department of Microbiology, Sikkim Manipal Institute of Medical Sciences, Sikkim, India; School of Pharmacy and Pharmacology, University of Tasmania, Hobart, TAS, Australia; Department of Pharmaceutics, Delhi Pharmaceutical Sciences and Research University, New Delhi, India			
40	Current scenarios, obstacles, possibilities, and innovations for sustainable municipal solid waste management following COVID-19 pandemic in	Shah K.B., Visalakshi S., Avinash Khatri K.C., Panigrahi R.	Pokhara University, Nepal Engineering College, Department of Computer Science & Engineering, Changunarayan, Bhaktapur, Nepal; Sikkim Manipal Institute Technology, Sikkim Manipal University, Department of Computer Application, Majitar, Sikkim, India; University of East London, Docklands Campus, London, United Kingdom	2022 2nd International Conference on Computer Science, Engineering and Applications, ICCSEA 2022	Institute of Electrical and Electronics Engineers Inc.	

	Kathmandu valley, Nepal					
41	A Feature and Parameter Selection Approach for Visual Domain Adaptation using Particle Swarm Optimization	Karn R.R.P., Sanodiya R.K., Sharma T., Sharan S., Garg K., Mathew J., Yao L.	Indian Institute of Information Technology Sri City, Department of Cse, Chittoor, India; Sikkim Manipal Institute of Technology, Sikkim, Majitar, 737136, India; Banasthali Vidyapith, Rajasthan, Tonk, Newai, 304022, India; Indian Institute of Technology, Department of Cse, Bihar, Patna, India; National Taipei University of Technology, Taipei, 10608, Taiwan	2022 IEEE Congress on Evolutionary Computation, CEC 2022 - Conference Proceedings	Institute of Electrical and Electronics Engineers Inc.	
42	Physical layer architecture of 5G enabled IoT/IoMT system	Le A.-T., Munochiveyi M., Sur S.N.	Industrial University of Ho Chi Minh City, Ho Chi Minh City, Viet Nam; Department of Electrical and Electronics Engineering, University of Zimbabwe, Harare, Zimbabwe; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Sikkim, Rangpo, India	5G IoT and Edge Computing for Smart Healthcare	Elsevier	
43	5G IoT and Edge Computing for Smart Healthcare	Bhoi A.K., de Albuquerque V.H.C., Sur S.N., Barsocchi P.	KIET Group of Institutions, Delhi-NCR, Ghaziabad, India; Federal University of Cear, Graduate Program on Teleinformatics Engineering, Fortaleza/CE, Brazil; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Sikkim, Rangpo, India; Institute of Information Science and Technologies, National Research Council, Pisa, Italy	5G IoT and Edge Computing for Smart Healthcare	Elsevier	

44	Cognitive and Soft Computing Techniques for the Analysis of Healthcare Data	Bhoi A.K., de Albuquerque V.H.C., Srinivasu P.N., Marques G.	Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India; Department of Teleinformatics Engineering, Federal University of Cear, Fortaleza/CE, Brazil; Department of Computer Science and Engineering, GIT, GITAM (Deemed to be University), Andhra Pradesh, Visakhapatnam, India; Polytechnic of Coimbra, ESTGOH, Rua General Santos Costa, Oliveira do Hospital, Portugal; University of Maia - ISMAI, Av. Carlos de Oliveira Campos, Maia, Portugal	Cognitive and Soft Computing Techniques for the Analysis of Healthcare Data	Elsevier	
45	An Intelligent Fusion Model with Portfolio Selection and Machine Learning for Stock Market Prediction	Padhi D.K., Padhy N., Bhoi A.K., Shafi J., Yesuf S.H.	School of Engineering and Technology, Department of Computer Science and Engineering, Giet University, Gunupur, India; Kiet Group of Institutions, Delhi NCR, Ghaziabad, 201206, India; Directorate of Research, Sikkim Manipal University, Gangtok, Sikkim, 737102, India; AB-Tech EResearch (ABTeR), Sambalpur, Burla, 768018, India; Department of Computer Science, College of Arts and Science, Prince Sattam Bin Abdulaziz University, Wadi Ad-Dawasir 11991, Saudi Arabia; Department of Computer Science, College of Informatics, University of Gondar, Maraki 196, Gondar, Ethiopia	Computational Intelligence and Neuroscience	Hindawi Limited	16875265

46	Preface	Mallick P.K., Bhoi A.K., González-Briones A., Pattnaik P.K.	School of Computer Engineering, Kalinga Institute of Industrial Technology(KIIT) Deemed to be University, Odisha, Bhubaneswar, India; KIET Group of Institutions Delhi-NCR Ghaziabad, India Directorate of Research Sikkim Manipal University, Sikkim, Gangtok, India; Research on Agent based, Social and Interdisciplinary Applications (GRASIA), Complutense University of Madrid, Madrid, Spain	Lecture Notes in Electrical Engineering	Springer Science and Business Media Deutschland GmbH	18761100
47	Preface	Mishra S., González-Briones A., Bhoi A.K., Mallick P.K., Corchado J.M.	School of Computer Engineering, Kalinga Institute of Industrial Technology, Odisha, Bhubaneswar, India; Grupo de Investigación BISITE Departamento de Informática y Automática, Facultad de Ciencias University of Salamanca, Instituto de Investigación Biomédica de Salamanca, Salamanca, Spain; KIET Group of Institutions Ghaziabad, Delhi-NCR, India Directorate of Research Sikkim Manipal University, Sikkim, Gangtok, India; IoT Digital Innovation Hub (Spain), Air Institute, Salamanca, Spain; Osaka Institute of Technology, Osaka, Japan; Universiti Malaysia Kelantan, Kelantan, Kota Bharu, Malaysia	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X
48	A fuzzy membership based comparison of	Hazarika R.A., Maji A.K., Sur S.N., Olariu I., Kandar D.	Department of Information Technology, North Eastern Hill University Shillong, Meghalaya, India; Department of Electronics and Communication	Journal of Intelligent and Fuzzy Systems	IOS Press BV	10641246

	the grey matter (GM) in cognitively normal (CN), mild cognitive impairment (MCI), and Alzheimer's disease (AD) using brain images		Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Rangpo, East Sikkim, Majitar, India; Faculty of Medicine, Vasile Goldis Western University of Arad, Arad, Romania			
49	Automatic fall detection using Orbbec Astra 3D pro depth images	Biswas A., Dey B., Poudyel B., Sarkar N., Olariu T.	Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India; Vasile Goldis Western University of Arad, Arad, Romania	Journal of Intelligent and Fuzzy Systems	IOS Press BV	10641246
50	Applications of Artificial Intelligence in Software Testing	Borah S., Aliliele K.C., Rakshit S., Vajjhala N.R.	Sikkim Manipal Institute of Technology, Majhitar, India; American University of Nigeria, Yola, Nigeria; University of New York Tirana, Tirana, Albania	Lecture Notes in Networks and Systems	Springer Science and Business Media Deutschland GmbH	23673370
51	Applications of Artificial Intelligence in Small- and Medium-Sized Enterprises (SMEs)	Borah S., Kama C., Rakshit S., Vajjhala N.R.	Sikkim Manipal Institute of Technology, Majhitar, India; American University of Nigeria, Yola, Nigeria; University of New York Tirana, Tirana, Albania	Lecture Notes in Networks and Systems	Springer Science and Business Media Deutschland GmbH	23673370

52	Managing migration in modern welfare states: One-size policy does not fit all	Bevelander P., Hollifield J.F.	Department of Global Political Studies, Sweden; Malmö Institute of Studies of Migration, Diversity and Welfare, Malmö University, Sweden; Tower Center, SMU, India; Wilson Center, United States	Handbook on Migration and Welfare	Edward Elgar Publishing Ltd.	
53	Nonlinear and supernonlinear ion-acoustic wave phenomena in an electron-positron-pair-ion quantum plasma	Pradhan B., Abdikian A., Saha A.	Department of Mathematics, Sikkim Manipal Institute of Technology, Sikkim Manipal University, East-Sikkim, Rangpo, India; Department of Physics, Malayer University, Malayer, Iran	Waves in Random and Complex Media	Taylor and Francis Ltd.	17455030
54	Hyperspectral Image Classification: Potentials, Challenges, and Future Directions	Datta D., Mallick P.K., Bhoi A.K., Ijaz M.F., Shafi J., Choi J.	School of Computer Engineering, Kalinga Institute of Industrial Technology, Deemed to Be University, Bhubaneswar, 751024, India; KIET Group of Institutions, Delhi-NCR, Ghaziabad, 201206, India; Directorate of Research, Sikkim Manipal University, Sikkim, Gangtok, 737102, India; AB-Tech EResearch (ABTeR), Burla, Sambalpur, 768018, India; Department of Intelligent Mechatronics Engineering, Sejong University, Seoul, 05006, South Korea; Department of Computer Science, College of Arts and Science, Prince Sattam Bin Abdul Aziz University, Wadi Ad-Dawasir11991, Saudi Arabia; School of Computing, Gachon University, Seongnam-si, 13120, South Korea	Computational Intelligence and Neuroscience	Hindawi Limited	16875265

55	An Approach to Discover Similar Musical Patterns	Chakrabarty S., Islam R., Pricop E., Sarma H.K.D.	Sikkim Manipal Institute of Technology, Department of Information Technology, Rangpo, Sikkim, 737136, India; Cloud Shine Global LLP, Assam, Guwahati, 781028, India; Petroleum-Gas University of Ploiesti, Department of Control Engineering, Computers and Electronics, Ploiesti, 100680, Romania; SRM University Andhra Pradesh (SRM AP), Department of Computer Science and Engineering, Amaravati, 522502, India	IEEE Access	Institute of Electrical and Electronics Engineers Inc.	21693536
56	Selection of electric vehicle using integrated Fuzzy-MCDM approach with analysis on challenges faced in hilly terrain	Pradhan P., Shabbiruddin, Pradhan S.	Department of Electrical and Electronics Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, India; Department of Electrical Engineering, Government Engineering College, Banka, , Department of Science and Technology, Aryabhatta Knowledge University, Bihar, India; Vendor Management, COTIVITI, Kathmandu, Nepal	Energy Sources, Part A: Recovery, Utilization and Environmental Effects	Taylor and Francis Ltd.	15567036
57	Application of Artificial Intelligence and Big Data for Fighting COVID-19 Pandemic	Awotunde J.B., Oluwabukonla S., Chakraborty C., Bhoi A.K., Ajamu G.J.	Department of Computer Science, University of Ilorin, Ilorin, Nigeria; Department of Mathematical Sciences, Olabisi Onabanjo University, Ago-Iwoye, Nigeria; Department of Computer Science and Engineering, Birla Institute of Technology, Jharkhand, Mesra, India; Department of Electrical and Electronics Engineering, Sikkim Manipal Institute of Technology (SMIT), Sikkim Manipal University (SMU), Sikkim, Majitar,	International Series in Operations Research and Management Science	Springer	8848289

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58	Preface	Borah S., Mishra S.K., Mishra B.K., Balas V.E., Polkowski Z.	Sikkim Manipal University Majhitar, Sikkim, Rangpo, India; GIET University, Odisha, Gunupur, India; Jan Wyzykowski University, Polkowice, Poland; Gandhi Institute for Education and Technology, Odisha, Bhubaneswar, India; Department of Automatics and Applied Software, Aurel Vlaicu University, Arad, Romania	Lecture Notes on Data Engineering and Communications Technologies	Springer Science and Business Media Deutschland GmbH	23674512
59	Symmetrical Performance Assessment of Large-Scaled Data Using Meta-heuristic Approach	Mishra J.P., Polkowski Z., Mishra S.K., Borah S.	Gandhi Institute for Education and Technology, Affiliated to Biju Patnaik University of Technology, Rourkela, Baniatangi, Bhubaneswar, India; Wroclaw University of Economics and Business, Wroclaw, Poland; Sikkim Manipal Institute of Technology, East Sikkim, Majitar, India	Lecture Notes on Data Engineering and Communications Technologies	Springer Science and Business Media Deutschland GmbH	23674512
60	SAR Image Classification: A Comprehensive Study and Analysis	Passah A., Sur S.N., Paul B., Kandar D.	Department of Information Technology, North-Eastern Hill University, Meghalaya, Shillong, India; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Rangpo, India; Institute for Intelligent Systems, University of Johannesburg, Johannesburg, South Africa	IEEE Access	Institute of Electrical and Electronics Engineers Inc.	21693536

61	Bandstop Filter Decoupling Technique for Miniaturized Reconfigurable MIMO Antenna	Islam H., Das S., Ali T., Bose T., Kumari S., Prakash O., Kumar P.	Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, India; Department of Electronics and Communication, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, India; Department of Electronics Engineering, University Polytechnic, Birla Institute of Technology, Jharkhand, India; ECE Department, Sri Venkateswara College of Engineering and Technology, Andhra Pradesh, India; Discipline of Electrical, Electronic and Computer Engineering, University of KwaZulu-Natal, Durban, South Africa	IEEE Access	Institute of Electrical and Electronics Engineers Inc.	21693536
62	Association of Smoking with the Blood Concentration of 25-Hydroxy Vitamin D and Testosterone at High and Low Altitudes	Zaman G.S., Al-Saleem Alshahrani S.A.S., Laskar N.B., Hadadi I., Alelyani M., Adam M., Babiker M., Musa M.J., Barua P., Mohammed M.E.A.	Department of Clinical Laboratory Sciences, College of Applied Medical Sciences, King Khalid University, Abha, Saudi Arabia; Family & Community Department, College of Medicine, King Khalid University, Abha, Saudi Arabia; Department of Community Medicine, Sikkim Manipal Institute of Medical Sciences, Sikkim, India; Department of Radiological Sciences, College of Applied Medical Sciences, King Khalid University, Abha, Saudi Arabia;	International Journal of General Medicine	Dove Medical Press Ltd	11787074

			Department of Clinical Biochemistry, College of Medicine, King Khalid University, Abha, Saudi Arabia; Department of Radiology, College of Applied Medical Sciences, Jeddah University, Jeddah, Saudi Arabia; Department of Statistics, J.B. College, Assam, Jorhat, India; Department of Chemistry, Faculty of Science, King Khalid University, Abha, Saudi Arabia			
63	Degenerative physiochemical events in the pathological intervertebral disc	Lama P., Tewari J., Adams M.A., Maitre C.L.	Sikkim Manipal Institute of Medical Sciences, Sikkim Manipal University, India; Centre for Clinical Anatomy, University of Bristol, United Kingdom; Biomolecular Science Research Centre, Sheffield Hallam University, United Kingdom	Histology and Histopathology	Histology and Histopathology	2133911
64	Fuzzy-Based Investigation of Challenges for the Deployment of Renewable Energy Power Generation	Shabbiruddin, Kanwar N., Jadoun V.K., Alotaibi M.A., Malik H., Nassar M.E.	Department of Electrical and Electronics Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Gangtok, 737136, India; Department of Electrical Engineering, Manipal University Jaipur, Jaipur, 303007, India; Department of Electrical & Electronics Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, 576104, India; Department of Electrical Engineering, College of Engineering, King Saud University, Riyadh, 11421, Saudi Arabia; BEARS, NUS Campus, University Town, Singapore, 138602, Singapore;	Energies	MDPI	19961073

			Department of Electrical and Computer Engineering, University of Waterloo, Waterloo, ON N2L 3G1, Canada			
65	A Framework for the Actualization of Green Cloud-Based Design for Smart Cities	Abiodun M.K., Adeniyi E.A., Awotunde J.B., Bhoi A.K., AbdulRaheem M., Oladipo I.D.	Department of Computer Science, Landmark University, Omu-Aran, Nigeria; Department of Computer Science, University of Ilorin, Ilorin, Nigeria; Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India	EAI/Springer Innovations in Communication and Computing	Springer Science and Business Media Deutschland GmbH	25228595
66	Design of Multiple Access Network by Enabling User Grouping and Energy Harvesting in Relaying System for Smart Cities	Nguyen M.-S.V., Sur S.N., Do D.-T.	Faculty of Electronics Technology, Industrial University of Ho Chi Minh City (IUH), Ho Chi Minh City, Viet Nam; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Sikkim, India; Department of Computer Science and Information Engineering, Asia University, Taichung, Taiwan	EAI/Springer Innovations in Communication and Computing	Springer Science and Business Media Deutschland GmbH	25228595
67	Machine Learning and Deep Learning Algorithms for Smart Cities: A Start-of-the-Art Review	Oladipo I.D., AbdulRaheem M., Awotunde J.B., Bhoi A.K., Adeniyi E.A., Abiodun M.K.	Department of Computer Science, University of Ilorin, Ilorin, Nigeria; Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India; Department of Computer Science, Landmark University, Omu-Aran, Nigeria	EAI/Springer Innovations in Communication and Computing	Springer Science and Business Media Deutschland GmbH	25228595

68	A Comprehensive Review on Physical Layer Design for Smart Cities	Nguyen M.-S.V., Sur S.N., Do D.-T.	Faculty of Electronics Technology, Industrial University of Ho Chi Minh City (IUH), Ho Chi Minh City, Viet Nam; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Sikkim, India; Department of Computer Science and Information Engineering, Asia University, Taichung, Taiwan	EAI/Springer Innovations in Communication and Computing	Springer Science and Business Media Deutschland GmbH	25228595
69	Preface	Sur S.N., Balas V.E., Bhoi A.K., Nayyar A.	Department of Electronics and Communication Engineering, Sikkim Manipal Institute of, Technology Sikkim Manipal University, Sikkim, Majitar, India; Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Sikkim, Majitar, India; Department of Automatics and Applied Software, Faculty of Engineering, Aurel Vlaicu University of Arad, Arad, Romania; Faculty of Information Technology, Duy Tan University, Da Nang, Viet Nam	EAI/Springer Innovations in Communication and Computing	Springer Science and Business Media Deutschland GmbH	25228595
70	Design of a Virtual Cybersecurity Lab	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X

			Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania			
71	Being Hidden and Anonymous	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X
72	Intrusion Detection Systems Fundamentals	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X

73	TOR—The Onion Router	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X
74	Introduction to Malware Analysis	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X
75	DarkNet and Hidden Services	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Science and Engineering, Institute of Technology,	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X

			Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania			
76	Introduction to Cybersecurity	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X
77	Importance of Cyberlaw	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X

78	Introduction to Digital Forensics	Dutta N., Jadav N., Tanwar S., Sarma H.K.D., Pricop E.	Department of Computer Science and Engineering, SRM University, Mangalagiri, Andhra Pradesh, India; Department of Computer Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India; Department of Information Technology, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India; Automatic Control, Computers and Electronics Department, Petroleum-Gas University of Ploiesti, Ploiești, Romania	Studies in Computational Intelligence	Springer Science and Business Media Deutschland GmbH	1860949X
79	Reconfigurable Intelligent Surface (RIS)-Assisted Wireless Systems: Potentials for 6G and a Case Study	Le C.-B., Do D.-T., Sur S.N.	Faculty of Electronics Technology, Industrial University of Ho Chi Minh City, Ho Chi Minh City, Viet Nam; Department of Computer Science and Information Engineering, College of Information and Electrical Engineering, Asia University, Taichung city, Taiwan; Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim Manipal University, Majitar, Sikkim, 737136, India	Lecture Notes in Electrical Engineering	Springer Science and Business Media Deutschland GmbH	18761100
80	Preface	Dhar S., Mukhopadhyay S.C., Sur S.N., Liu C.-M.	Department of Electronics and Communication Engineering Sikkim, Manipal Institute of Technology, Rangpo, Sikkim, India; Electronics and Communications Engineering	Lecture Notes in Electrical Engineering	Springer Science and Business Media Deutschland GmbH	18761100

		Department Sikkim Manipal Institute of Technology, Rangpo, India; School of Engineering (E6B1.11, Macquarie University, Sydney, NSW, Australia; Department of Computer Science and Information Engineering, National Taipei University of Technology, Taipei, Taiwan		
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Funding for Project by International Organisation21-22:

Sl No	Project Details	Organisation	Faculty Name	Amount in Lakhs
1	FOLLOW-UP OF THE PARTICIPANTS OF IARC'	World Health Organization	Dr.Yogesh Verma	21,92,622.00
2	INTERNATIONAL AGENCY: RESEARCH CANCER	World Helath Organization	Dr.Yogesh verma	7,96,609.75



SMU SIKKIM
MANIPAL
UNIVERSITY

Established under Govt. of Sikkim, Act 9 of 1994, recognised under 2(f) of the UGC Act, 1956

TMA Pai University Research Seed Grant – Major

2020-21

Sanction Letter

1. The University Research Committee (URC) is pleased to offer a sanction letter of Rs.10.00 lacs (one time research grant) for the project titled “A study on the Aspects related with Latent Tuberculosis Infection among the Ethnic Races of Sikkim, India: an ALTER study (focusing on the contact groups)” for period of two years from the date of sanction.
2. Principal Investigator: *Dr. Karma G. Dolma, Ph.D., Associate Professor, Department of Microbiology, SMIMS*

Co-Investigators (Internal):

- a) *Dr. Dechen C. Tshering, MD, Professor, Department of Microbiology, SMIMS*
- b) *Dr. Rinchen Bhutia, Ph.D. Assistant Professor, Department of Biochemistry, SMIMS*
- c) *Ms. Preety Choudhary, M.Sc., Research Assistant, Department of Microbiology, SMIMS*

Co-Investigators (National): *Dr. Tseten Y. Bhutia, State TB Officer/ Additional Director, Dept of Health and Family Welfare, Govt. of Sikkim.*

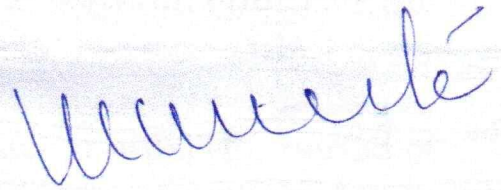
Co – Investigators (International):

- a) *Dr. Maria de Lourdes Pereira, Professor, Habilitation, CICECO-Aveiro Institute of Materials and Department of Medical Sciences, University of Aveiro, 3810-193, Aveiro, Portugal*
- b) *Dr. Chandramathi Samudi Raja, Senior Lecturer, Dept of Medical Microbiology, Faculty of Medicine, University of Malaya, Malaysia.*



c) *Dr. Tooba Mahboob, Research Assistant, Dept of Parasitology, Faculty of Medicine, University of Malaya, Malaysia.*

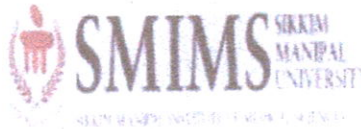
3. Principal Investigator (PI) shall regularly submit the utilization report and present the progress as laid in the SoP of SMU TMA Pai Research Fund Management.



Ref. No.: 176/SMU/REG/TMAPURF/177/2020 Vice Chancellor, SMU

Date: 30 June 2020





MEMORANDUM OF AGREEMENT

This **MEMORANDUM OF AGREEMENT** is made on by and between **Sikkim Manipal University**, acting through Department of Microbiology, Sikkim Manipal Institute of Medical Sciences, Sikkim, India, herein referred to as the "**SMU/ SMIMS**" (which expression unless included by or repugnant to the subject shall mean and include its successor-in-office and assigns) of the ONE PART

AND

Universiti Malaya, a university established under the laws of Malaysia and having an address at Lembah Pantai, 50603 Kuala Lumpur, Malaysia, hereinafter referred to as "**UM**" (which expression shall where the context so admits include its successor and permitted assigns) of the OTHER PART; whereas SMU decided to support a project submitted by Department of Microbiology, SMIMS for the attainment of the objectives, hereinafter described in Annexure I annexed hereto; This Memorandum of Agreement (MoA) defines the role and responsibility of the participating agencies, monitoring and other matters related to the fulfilling of the objectives.

NOW THE SMIMS, SMU AND UM HERETO AGREE AS FOLLOWS: -

1.0 ROLE OF SIKKIM MANIPAL UNIVERSITY, SIKKIM, INDIA

To provide funds to the extent of 10 Lakhs over a period of two (2) years from the date of sanction of the project, to Department of Microbiology, Sikkim Manipal Institute of Medical Sciences (SMIMS) for undertaking the activity as detailed in the Annexure I including travel and training for Department of Microbiology, SMIMS, Sikkim, India. Details of the funds to be provided are given in Annexure II

2.0 ROLE OF SIKKIM MANIPAL INSTITUTE OF MEDICAL SCIENCES, SIKKIM

- 2.1 To be responsible for accomplishing objectives identified and activities listed.
- 2.2 To provide their contribution of scientific and administrative support for two (2) years from the date of sanction of project.
- 2.3 To prepare and submit all periodical reports and other documents that would be required by SMU.

- 2.4 To submit an annual audited statement of expenditures incurred under the project.
- 2.5 To ensure effective utilization of the grant given by SMU for the purpose of which it was granted and to ensure timely progress of project work.

3.0 ROLE OF UNIVERSITI MALAYA (UM)

- 3.1 To provide their contribution of scientific and administrative support for two (2) years from the date of sanction of project.
- 3.2 To ensure effective utilization of the grant given by SMU for the purpose of which it was granted and to ensure timely progress of project work.
- 3.3 To provide academic collaboration in terms of supervised trainings (if required), expert reviews on papers/projects, exchange student policy (PhD). Enhancing knowledge sharing and research collaboration among academics for a fruitful result.

4.0 DURATION OF PROJECT

Duration of the project shall be two (2) years from the date of sanctioned by SMU.

5.0 SELECTION OF STAFF

No extra staff is required for the project.

6.0 RIGHTS OF OWNERSHIP/TECHNOLOGY TRANSFER AND UTILIZATION

- 6.1 "Background Intellectual Property" means any Intellectual Property owned by the Parties prior to the commencement of this Agreement and which is made available by a party or Parties to carry out the collaboration program or achieve the Intended Project Outcomes.
- 6.2 For the avoidance of doubt all Background Intellectual Property used in connection with the Project shall remain the property of the Party introducing the same. No Party will make any representation or do any act of that Party's Background Intellectual may be taken to indicate that it has any right, title or interest in or to the ownership or use of any of the Background Intellectual Property of the other parties except under the terms of this Agreement. Each Party acknowledge and confirms that nothing contained in this Agreement shall give it any right, title or interest in or to the Background Intellectual Property of the other Parties save as granted by this Agreement. The Parties agree that any improvements or modifications to a Party's Background Intellectual Property arising from the Project which are not severable from that Background Intellectual Property will be deemed to form part of that Party's Background Intellectual Property.
- 6.3 Each Party grants the other a royalty-free, non-exclusive licence for the duration of the Project to use its Background Intellectual Property for the sole purpose of carrying out the Project. No Party may grant any sub-licence over or in respect of the other's Background Intellectual Property.

- 6.4 Where any Project Intellectual Property is created or generated by two or more Parties jointly and it is impossible to segregate each Party's intellectual contribution to the creation of the Project Intellectual Property, the Project Intellectual Property will be jointly owned by those Parties in equal shares. The owners may take such steps as they may decide from time to time, to register and maintain any protection for that Project Intellectual Property, including filing and prosecuting patent applications for any Project Intellectual Property, and taking any action in respect of any alleged or actual infringement of that Project Intellectual Property. If one or more of the owners does not wish to take any such step or action, the other owner(s) may do so at their expense, and the owner not wishing to take such steps or action will provide, at the expense of the owner making the request, any assistance that is reasonably requested of it.
- 6.5 Each Party shall promptly disclose to the other(s) all Intellectual Property generated by it and each Party shall co-operate where required, in relation to the preparation and prosecution of patent applications and any other applications relating to Project Intellectual Property.
- 6.6 Each Party shall inform the other Parties promptly if it becomes aware of any infringement or potential infringement of the Background IP and/or Project Intellectual Property, and the Parties shall consult with each other to decide the best way to respond to such infringement.
- 6.7 If the Parties agree to jointly commence any infringement proceedings in respect of the Project Intellectual Property, all costs, charges and expenses of or incidental to or consequent upon such proceedings, shall be borne and paid by the Parties in proportion to their Intellectual Property share in the Project Intellectual Property, and all damages or other sums recovered in such proceedings shall also be divided among the Parties in proportion to their Intellectual Property share in the Project Intellectual Property after payment of all expenses in connection with arising out of the proceedings.
- 6.8 If any Party is unwilling to jointly participate in such infringement proceedings, such unwilling Party shall first obtain the consent of the remaining Parties ("Proceeding Parties") in the infringement proceedings, in which the said consent shall not be unreasonably withheld or delayed.
- 6.9 If such consent is given, the Proceeding Parties shall be allowed to use Party's name as co-claimant, and the Proceeding Party may at its own expense in all respects take proceedings and shall be solely entitled to all damages or other sums recovered, and to the full benefit of any judgement, but shall indemnify the other Party for any damages, costs, or penalty as may be awarded against the other Party or against the co-claimant, either jointly or severally.
- 6.10 Each Party is hereby granted an irrevocable, non-transferable, royalty-free right to use all Project Intellectual Property generated in the course of the Project for academic and research purposes.

7.0 CONFIDENTIALITY

7.1 "Confidentiality Information" means all information passing from the disclosing Party to the other Party relating to the Project including without limitation:

- (i) Financial information, business plans, reports or findings, investigative studies, consultations, methodologies, proposals, systems, programs, course content, techniques, trade secrets, drawings, know how, source and object code, arrangements and agreements with third parties, formulae, concepts not reduced to material form, designs plans and models whether given orally or in writing;
- (ii) Any derivations of any information or data which embodies, contains or describes the Confidential Information; and
- (iii) Any other data or information designated by the disclosing Party to be confidential or relating to current or prospective activities or business of the disclosing Party.

7.2 Where the data and information of this Project have been designated as Confidential Information by any of the Parties, neither Party shall not inform, announce or disclose to any third party other than its respective authorities, any data and information obtained through the implementation of this Agreement or any result of it, unless written approval is obtained from the other Party.

7.3 Where result of this Project have been designated as Confidential Information by any of the Parties, neither Party will inform, announce or disclose to any third party other than its respective authorities, any result obtained through the implementation of this Agreement, unless written approval is obtained from the other Party.

7.4 Notwithstanding the generality of the foregoing, the receiving Party shall not disclose all or any part of such Confidential Information to any third party or make any use of the same (except for the purpose of performing its obligations under this Agreement) without the prior written consent of the disclosing Party.

7.5 The receiving Party agrees to restrict access to all Confidential Information within its organization to only such information in connection with the receiving Party's obligations or otherwise obligated to keep such information confidential and are instructed to neither use nor disclose such information in a manner other than as permitted herein.

7.6 The obligations of confidentiality contained in this Agreement shall not apply to any Confidential Information which:

- (a) Has been made public by the Disclosing Party or by others with the permission of the Disclosing Party;
- (b) Is independently received from a third party who is free to disclose it,
- (c) Is in the public domain or is a compilation of material in the public domain; or

- (d) Is required to be disclosed by order of court or any applicable government authority or under any applicable law.

7.7 Upon termination of this Agreement, the Receiving Party shall, upon the request of the Disclosing Party, return all Confidential Information (including all copies thereof) to the Disclosing Party or destroy the same on Disclosing Party's instructions, within thirty (30) days after the termination or expiration of the term of this Agreement, whichever is earlier.

7.8 The obligation of confidentiality under this Agreement shall survive the expiry or earlier termination of this Agreement for a period five (5) years.

8.0 MONITORING

8.1 The progress of implementation of the project and proper utilization of grant shall be reviewed by the Monitoring Committee set up by Sikkim Manipal University (SMU).

8.2 The periodic progress of physical achievement and utilization of funds, statement of expenditure shall be evaluated by the Monitoring Committee.

8.3 The Sikkim Manipal University (SMU) may terminate the grant at any stage if it is convinced that the grant has not been properly utilized or appropriate progress has not been made. In the event, Sikkim Manipal University (SMU) terminates the grant, Department of Microbiology, Sikkim Manipal Institute of Medical Sciences (SMIMS) shall hand over all documents including technical details and equipment purchased related to the project.

9.0 TERM AND TERMINATION

9.1 This Agreement shall, shall be effective on and after the date of its signing by the authorized representatives of both Parties and remain in force for a period of five (5) years., unless sooner terminated in accordance with the provisions of this Clause ("Term"). The Parties hereto may, however, extend the Term of this Agreement for additional periods as desired under mutually agreeable terms and conditions, which the Parties shall reduce to writing and sign.

9.2 This Agreement may be terminated at any time by by serving a written notice to the other Party at least three (3) months before the date of such termination.

9.3 If due to circumstances beyond its control UM is unable to fulfill its obligations under this Agreement, UM shall notify SMU immediately.

9.4 If either Party commits a breach be remedied. If the Party committing the breach does not remedy it within 30 days then the other Party may terminate this Agreement immediately without further notice.

9.5 The Parties agree that any Party may immediately terminate this Agreement by notice in writing to the other Party in the following circumstances:

- (a) The making or filing of any application to liquidate or wind up of a Party (other than for the purpose of reconstruction or amalgamation) under any law or government regulation relating to bankruptcy or insolvency whether by third party or by the Party itself.
- (b) The appointment of a receiver or administrator over all or substantially all of the property of the Party; or
- (c) The making by the Party of assignment or attempted assignment for the benefit of its creditors.

9.6 Any termination of this Agreement pursuant to Clauses 9.4 or 9.5 shall be without prejudice to the rights of the Party terminating to seek and obtain damages for any breach of this Agreement by the other Party.

10.0 DISPUTE SETTLEMENT

If there is a dispute between the Parties then:

- (a) The Parties must discuss the dispute initially with a view to settling the dispute amicably;
- (b) If the parties fail to settle the dispute within 14 days of the dispute arising, then
- (c) The Parties must refer the dispute for meditation to a person appointed by agreement between the Parties who has at least two years' experience as a mediator;
- (d) The parties must co-operate to the extent necessary to enable the mediator to mediate the dispute within 30 days of his or her appointment;
- (e) The fees of the mediator shall be paid by the Parties in the proportion determined by the mediator;
- (f) Referral of a dispute for mediation under Clause 10 does not prevent a party from taking proceedings in court in relation to this agreement after the referral and participation under Clauses 10 (b) and (c).

11.0 GENERAL

- 11.1 No party shall assign all or any of its rights hereunder without the prior written consent of the other Party.
- 11.2 No Party shall mortgage, pledge, charge, assign by way of security or otherwise encumber any of its rights hereunder without the prior written consent of the other Party.
- 11.3 This Agreement shall be read and construed according to the laws for the time being in force in the Malaysia, and subject to Clause 11 the Parties agree to submit any dispute which may arise in relation to this Agreement to the jurisdiction of the Courts of Malaysia.

- 11.4 This Agreement may not be varied except in writing signed by the Parties.
- 11.5 Should any provision of this Agreement be held by a Court to be unlawful, invalid, and unenforceable or in conflict with any rule, statute, ordinance or regulation, the validity and enforceability of the remaining provisions shall not be thereby affected.
- 11.6 Any notice under this Agreement shall be served by hand delivery or by being forwarded by A.R. Registered post to the address of the Party shown Annexure III to such other address as may be notified in writing by the Party from time to time and in the case of service by post shall be deemed to have been received within seven (7) days after posting. Such notices may be served by facsimile provided that confirmation is served by hand or post as described in this clause.
- 11.7 No servant or agents of any Party shall by virtue of this Agreement be deemed to be employees of the other Party.
- 11.8 Each Party shall execute such agreements, deeds and documents and do or cause to be executed or done all such acts and things as shall be necessary to give effect to this Agreement.
- 11.9 In this Agreement except to the extent that the context otherwise requires:
- (a) words denoting the singular include the plural and vice versa;
 - (b) words denoting individuals or persons include bodies corporate and trusts and vice versa;
 - (c) heading are for convenience only and shall not affect interpretation;
 - (d) reference to any document or agreement includes reference to such document or agreement as amended, novated, supplemented, varied or replaced from time to time;
 - (e) words denoting any gender include all gender; and
 - (f) where any word or phrase is given a defined meaning in this Agreement any part of speech or other grammatical form in respect of such word or phrase has a corresponding meaning.
- 11.10 Neither Party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such Party, which causes such Party to be unable to perform its obligations under this Agreement, and which it has been unable to overcome by the exercise of due diligence. If any force majeure delays or prevents the performance of the obligations of either Party for a continuous period in excess of ninety (90) days the Party not so affected may give notice to the affected Party to terminate this Agreement specifying the date on which termination will take effect.
- 11.11 Time wherever mentioned in this Agreement shall be of the essence.

11.12 No Party shall use the name of the other Party in any advertising or other promotional material without the written permission of the other Party.

11.13 This Agreement shall be binding upon the Parties and their permitted legal assigns and successors-in-title by operation of law or otherwise.

11.14 This Agreement constitutes the entire agreement between the Parties. Any prior arrangements, agreements, representations or undertakings are hereby superseded.

12.0 COUNTERPARTS, EXECUTION

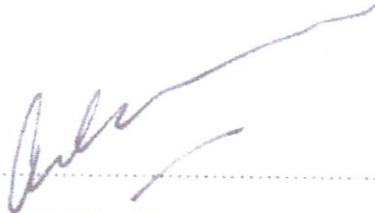
This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The Parties shall be entitled to rely upon delivery of an executed electronic copy of this Agreement, and such similar executed electronic copy shall be legally effective to create a valid and binding agreement between the Parties.

(THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK)

IN WITNESS THEREOF, the Parties have caused this MoU to be executed by their duly authorized representatives.

For and on behalf of

UNIVERSITI MALAYA



PROF. DR. APRIL CAMILLA ROSLANI

Dean, Faculty of Medicine

Date: 9 SEPTEMBER 2024

For and on behalf of

SIKKIM MANIPAL UNIVERSITY



DR. KARMA SONAM SHERPA

Registrar

REGISTRAR
SIKKIM MANIPAL UNIVERSITY
5TH MILE TADONG
SIKKIM 737102

Date: 16 SEPTEMBER 2021



Annexure I

- To diagnose for Latent Tuberculosis Infection (LTBI) among the contacts of tuberculosis cases (Pulmonary and Extra -Pulmonary Tuberculosis) in Sikkim using Tuberculin Skin Test (TST), Interferon Gamma Release Assay (IGRA) and RT-PCR.
- To further, evaluate for factors associated with the high-risk groups of tuberculosis patients.
- To identify the co-morbidities associated with LTBI in these cases

Project Duration: The duration of the project is two (2) years from the date of issue of sanction order.

Annexure-II**BUDGET:** Consolidated Budget (Rupees Lakhs)**Budget requirements (with detailed break-up and full justification):**

S.No.	Item	1 st Year	Total
1.	ELISA Reader	250000	250000

S.No.	Item	1 st Year	Total
1.	IGRA Kits	250000	250000
2.	RT-PCR Kits	300000	300000
3.	HBA1C, AntiCCP test, Nutritional Assessment, tuberculin syringe, etc.	100000	100000
4.	Travel, conference, Publications	100000	100000
	Total	700000	700000

Collaboration with NGOs for SDGs Year: 2022



PROGRESS REPORT ON TRANSFORMING EDUCATION IN REMOTE RURAL GOVT SCHOOLS OF SIKKIM

*A summary of activities and achievement made across the 3 adopted schools in North Sikkim -
December 2021 till date*



PROJECT DETAILS

PROJECT PERIOD: July 2021 – June 2024

REPROTING PERIOD: July 2021 – June 2023

PROJECT GEOGRAPHY: 3 Govt. schools in Mangan District, Sikkim

PROJECT OBJECTIVES

The project, supported by Manipal Foundation and Sikkim Manipal University, is aimed at creating access to quality and holistic learning in three adopted Govt. schools. As part of the Project, over a 3-year period, 17000ft will

- Improve infrastructure through the setup of outdoor playground to get children back to schools.
- Improve Learning Resources by setting up:
 - i. DigiLab – highly specialized offline Digital Learning Solution meant for areas with no mobile connectivity, that enables children to learn in school and at home.
 - ii. Library, with average 400 books across genres, levels and languages.
- Build capabilities of Headmasters and Teachers on implementing a Blended Learning program and an Active Library program in schools
- Improve Student Learning by implementing a Structured Library program and the DigiLab program in the 3 schools.

PROJECT PROGRESS

The first two years of the Project has been devoted to

- Setting expectations with the Department of Education
- Mobilizing and sensitizing parent and the communities
- Improving infrastructure in schools through the installation of the Playground
- Contextualizing the digital learning content for the DigiLab program
- Enhancing learning resources in schools through the setup of the DigiLab and Library
- Building capacity of HM and Teachers through annual training and periodic refresher training
- Supporting the schools through quarterly monitoring visits and calls
- Maintaining the provided hardware and troubleshooting, as required



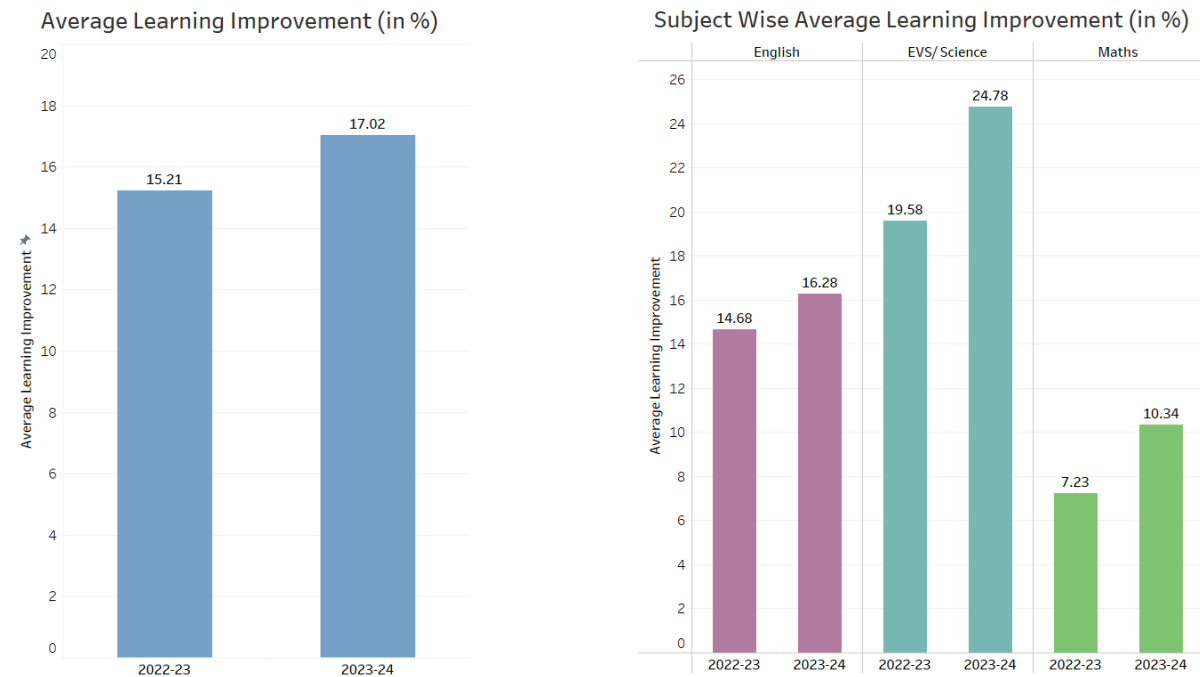


PROJECT RESULTS

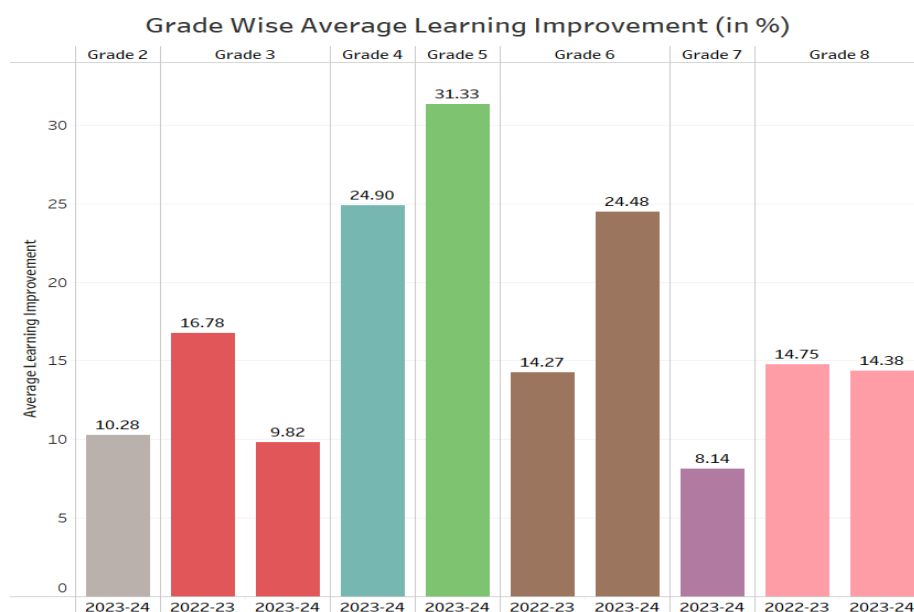
DigiLab

The overall **Average Learning Improvement (ALI)** across subjects is **16.63%**. In the current academic year, the overall ALI is higher (17.02%) as compared to the previous session (15.21%).

Children have demonstrated the highest learning improvement in EVS/ Science – 24.78% in the current academic year and 19.58% in the previous year. It is encouraging to see that in Maths, the children are displaying a higher improvement this year (10.34%) as against 7.23% displayed last year.



The Grade wise data for ALI is also extremely heartening as children across grades are demonstrating improvement in their learning. The data reveals that the highest Learning improvement has been achieved by children of Grade 5 followed by Grade 4 and Grade 6. There has been a marked increase in ALI for Grade 6 in the current session with an over 10% increase from the previous session.

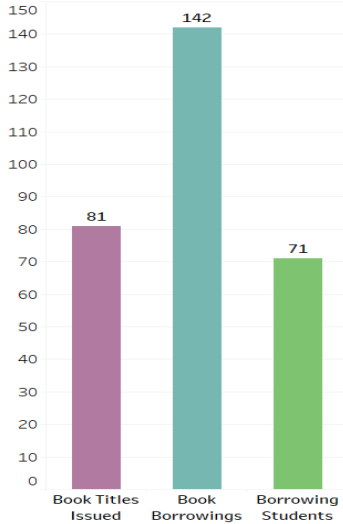




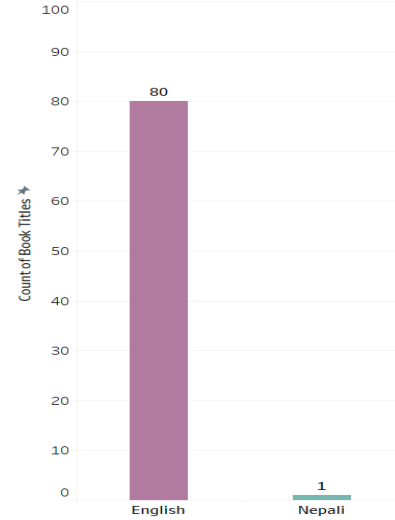
Library

It is immensely inspiring to note that children are borrowing and reading books. All the three schools have incorporated a Library period in their schedule and have allocated one period per week.

Details of Books Issued

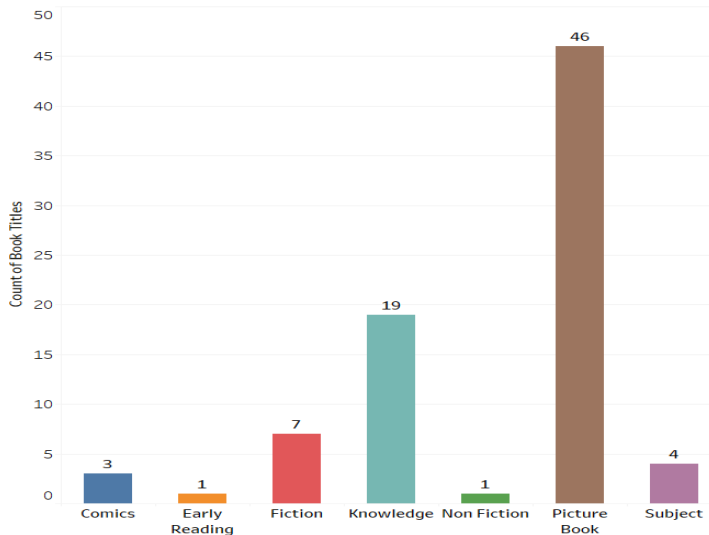


Book Titles Issued by Language

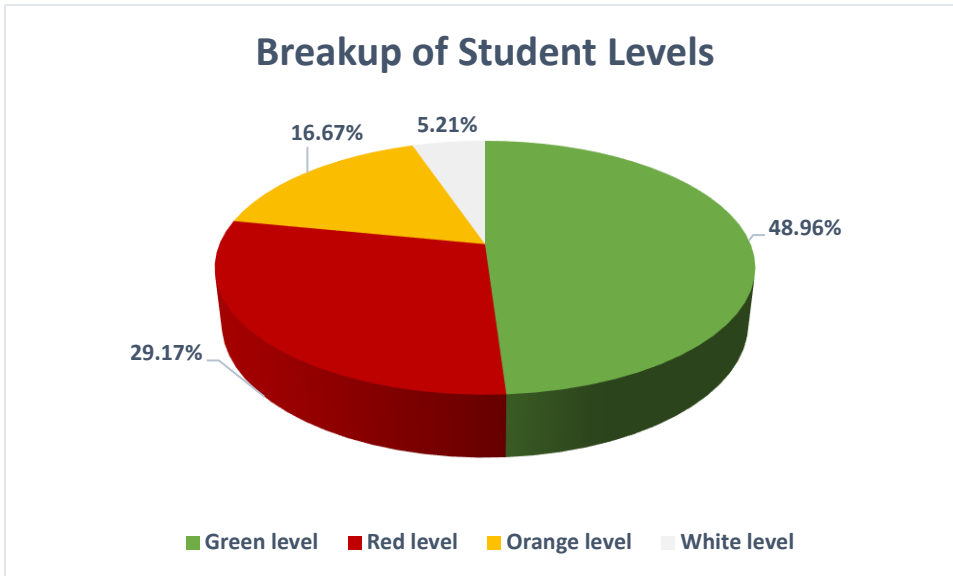


As can be seen in the above graph, a total of 81 book titles have been issued across the three schools to 71 students a total of 142 times. Almost all issued Book titles have been of English language; only 1 book in Nepali has been issued while there have no books issued in Hindi language.

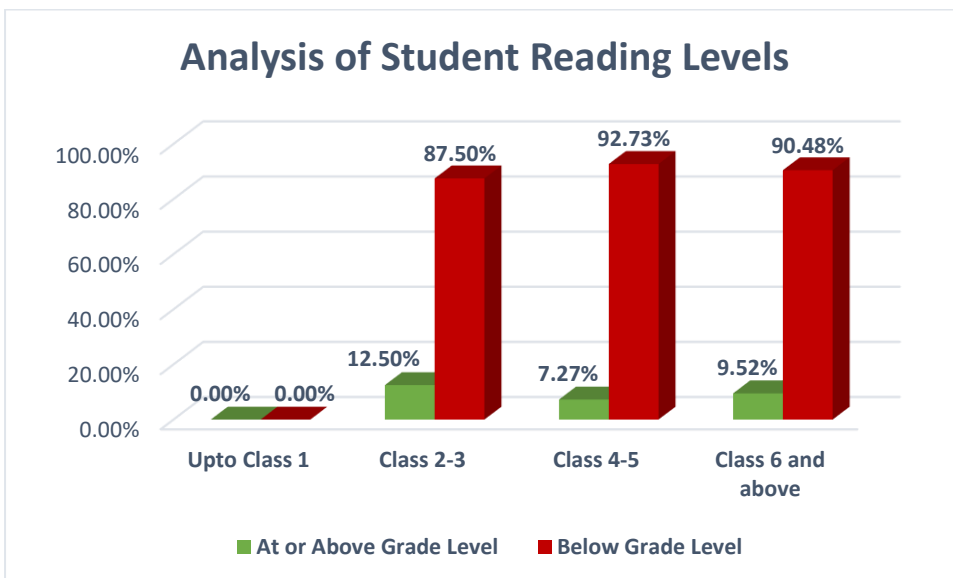
Book Titles Issued by Genre



It has been observed that majority of the books issued have been Picture Books which account for 56.8% of all book titles issued, followed by Knowledge genre books which account for 23.5% of all book titles issued. Children are being encouraged to explore other genres too.



Almost half (49%) of the students across the three schools were found to be in the basic ‘Green’ level with close to 30% in the ‘Red’ level. Just under 17% were in the ‘Orange’ level while only a little over 5% were in the most advanced level- ‘White’.



As can be seen above, the vast majority of students in the three schools are not reading at Grade level at the moment. To address this, 17000ft has conducted centralised & refresher training of HM & teachers on creating an active reading program in schools with the overall aim to inculcate a reading habit amongst children. We are confident that these measures will encourage children to read more and a larger proportion of students will start reading at Grade level.

Enrolment Updates

Even though the overall enrolment has declined in all the 3 schools, it has been observed that the overall students’ attendance across grades is over 90%.



Sl No	Name of School	Enrolment of Start of Year 1	Current Enrolment
1	UPS Lingzya	36	32
2	Ups Namprick	36	32
3	SS Tingvong	65	47

CHALLENGES FACED

Over the last two years of the Project, 17000ft has faced a few challenges which have been addressed as highlighted below:

- i. **Raspberry Pi stability issues:** A stability issue was observed in the Raspberry Pi setup in the 3 schools, as part of the DigiLab. It was noted that due to power fluctuations, when multiple devices would try to connect to the Raspberry Pi, the Pi was unable to take the load forcing the devices to drop off automatically. This caused issues in syncing data from the DigiLab sessions. To resolve this issue, 17000ft has now provided an additional 220V transformer in these schools which is converting the load from AC to DC, thus providing stability when multiple devices attempt to connect to the Pi.
- ii. **Power Supply issues:** Inconsistent power supply causing malfunctioning in the DigiLab was a major issue reported by the schools. In order to counter this, 17000ft provided Top Up boxes to stabilize power supply for the DigiLab and ensure continuous and uninterrupted power supply for all devices. This step has particularly helped increase DigiLab usage in the schools.
- iii. **Delays caused due to weather vagaries:** Due to the long monsoon season causing roads to be washed out and travel practically impossible, it was not possible make monitoring visits to the schools in each quarter; hence only 3 out of the planned 4 visits could be made. In address this challenge, 17000ft has ensured support to the schools through calls/ WhatsApp.

SUPPORT PROVIDED BY SMU

Health Camps

The Central Referral Hospital Manipal, in association with 17000ft Foundation, has organised a one-day free medical health camp for the benefit of community members at:

- Lingzya Village in Dec 2021
- Namong Arithang in July 2023

The medical camps were conducted on the grounds of the schools in the villages.

Specialist doctors from various department namely General Medicine, Paediatrics, Dental and Psychiatry conducted these camps. Both the camps were well attended by students, parents and teachers. Medical examination along with free blood pressure and blood sugar were also conducted. Few of the patients were referred by the doctors for further





treatment at Central Referral Hospital Manipal. The Central Referral Hospital also gave free medical treatment to the needy patients.



Hiring of Team

Before 17000ft started its full-fledged operations in Sikkim, the Sikkim Manipal University had provided space to the 17000ft senior team for conducting candidates' interviews for the role of Program Facilitators.

17000 ft's PRESENCE IN SIKKIM

17000ft started its operations in Sikkim in July 2021 by adopting 3 Govt. schools in collaboration with Manipal Foundation and Sikkim Manipal University. Since then, 17000ft has expanded its reach and has transformed a total of 85 Govt. schools across Mangan, Pakyong and Gangtok districts and will soon be expanding to the Soreng district.

In this journey, 17000ft has been supported by Manipal Foundation & Sikkim Manipal University, Axis Bank, HT Parekh Foundation and Cipla Foundation.

PHOTOGRAPHS FROM THE GROUND







Commitment to Meaningful education around the SDGs across the university, relevant and applicable to all students

Sikkim Manipal University (SMU) was established in 1995 to cater to the educational and healthcare needs of the state of Sikkim and northeastern states. Till 1995, people of Sikkim use to travel to other parts of the country for their educational and healthcare needs. The establishment of SMU helped Sikkimese to pursue higher education in the state of Sikkim. People from northeastern states are aspirants of medical and paramedical programs. The University offers medical, nursing, and engineering programs relevant to the needs of the state of Sikkim and northeastern states. Today, several hundred doctors, nurses, and engineers working in different parts of India and abroad are alumni of SMU constituent units. We feel that SMU has played an instrumental role in human development in the state of Sikkim and other northeastern states contributing to the national objective of increasing the Gross Enrollment Ratio (GER).

The curricula of various programs offered by SMU include courses that are relevant to local, national, regional, and global developmental needs.

SMU offers medical and nursing programs. As part of their clinical training, students of these programs spend their learning time in teaching hospitals/



SMU SIKKIM
MANIPAL
UNIVERSITY

Established under Govt. of Sikkim, Act 9 of 1985, recognized under 29 of the UGC Act, 1956



Primary Health Centre/ Urban Health Centre/Govt. Hospital interacting with patients from Sikkim.

To facilitate effective interaction between health professionals and patients, the Nepali language has been introduced as a value added course into all Medical and Nursing programs.

Compulsory course in “Eastern Himalayan Studies” for all BA Programmes provides issues revolving from the environment to economic aspects of the eastern region which not only include Sikkim & Darjeeling but also has a wider grip of nearby countries of eastern Himalaya such as Bhutan, Tibet, China and Nepal Compulsory Audit courses for all B.Tech Programme on Constitution of India

Open Elective on Entrepreneurship/ Compulsory Internship /research projects for more than 90% of programmes run by the university

SMU has integrated courses related to Human Values, Ethics, Environment, and Gender studies as part of the curriculum in various programs to ensure the holistic development of students.

Human Values and Professional Ethics course is being offered as Value Added course to B.Tech. Students in their first year.



Bioethics course is being offered as Value added course to students of medical, nursing and physiotherapy programs. This course is offered jointly with UNESCO Bioethics (Haifa) Chair, Sikkim Unit.

Ethics course is being offered as part of BPT curriculum.

Professional Development & Ethics (Prepared Based Upon the guidelines of Attitude, Ethics, and Communication (AETCOM) Competencies for the Indian Medical Graduate) for MBBS Students.

Environmental Studies is being offered as a mandatory course for B.Tech, BA, B.Com. programs.

Gender & Society is being offered as part of MA Sociology

Gender Studies in Literature as part of MA English Program.

Gender Equity Programs are being conducted for all the students. Gender Champion have been identified to sensitize students university for students & for faculty

The following are the list of courses that are prepared based upon considering SDGs

SI No	Course code	Course name	Linked to SDG
1	MAEC301	Gender Studies in Literature	SDG 5
2	BAS-E-503	Gender and Society	SDG 5
3	CH1191*	Environmental Science	SDG 6 & 7
4	CE 1407	Environmental Engineering – I	SDG 6 & 7
5	CE 1507	Environmental Engineering – II	SDG 6 & 7



6	CE 1564	Environmental Engineering Lab	SDG 6 & 7
7	CE 1632	Environment Impact Assessment	SDG 6 & 7
8	BA 2204	Global Economic Environment and Policy	SDG 6 & 7
9	BA 2446	International Business Environment and International Law & Export-Import Finance	SDG 6 & 7
10	CH 2435	Environmental Chemistry	SDG 6 & 7
11	CS 5105	Geographic Information Systems for Environmental Impact Assessment	SDG 6 & 7
12	MAEO304	Literature and Environment	SDG 6 & 7
13	BCAC02	Environmental Studies (AECC)	SDG 6 & 7
14	AECC –2	Environment Studies	SDG 6 & 7
15	EE 1605	Renewable Energy Systems	SDG 6 & 7
16	ME 1733	Energy Management	SDG 6 & 7
17	MAPSC403	Peace and Conflict In International Politics	SDG 16
18	CE 1307	Building Science & Concrete Technology	SDG 11
19	CE 1361	Planning & CA Drawing of Buildings	SDG 11
20	BA1721	Entrepreneurship for Engineers (In collaboration with Atal Incubation Centre)	SDG 9
21	BA 1303	Entrepreneurship and Small Business	SDG 9
22	MH2307	Entrepreneurship in healthcare	SDG 9
23	SEC- 2	Entrepreneurship Development	SDG 9
24	NR1102	Nutrition & Biochemistry	SDG 3
25	NUR303	Child Health Nursing	SDG 3
26	NR2104	Child Health Nursing(CS I)	SDG 3
27	NR2210	Child Health Nursing(CS II)	SDG 3
28	MB1101	Anatomy	SDG 3
29	MB1102	Physiology	SDG 3
30	MB1103	Biochemistry	SDG 3
31	MB1201	Pathology	SDG 3
32	MB1202	Pharmacology	SDG 3
33	MB1203	Microbiology	SDG 3
34	MB1204	FMT	SDG 3
35	MB1301	Ophthalmology	SDG 3
36	MB1302	ENT	SDG 3
37	MB1303	Community Medicine	SDG 3
38	MB1401	Medicine	SDG 3
39	MB1402	Surgery	SDG 3
40	MB1403	OBGY	SDG 3
41	MB1404	Paediatrics	SDG 3



Education for SDGs: specific courses on sustainability year: 2022

SMU provides academic flexibility through the Choice Based Credit System (CBCS)/Elective System. Constituent units lay emphasis on curriculum enrichment by introducing value-added courses relevant to the program.

Following are some highlights of the curricular aspects considering SDGs

- 83% of programs have been revised in the last 5 years.
- 89% of the courses have employability/ entrepreneurship/skill components.
- 40% of courses have been newly introduced in last 5 years.
- 73% of SMU programs have CBCS/Elective System.
- Open Elective on Entrepreneurship/ Compulsory Internship /research projects for more than 90% of programmes run by the university

Open Elective on Entrepreneurship was started to motivate student to become job giver than to become job seeker in today's world.

Description:

This course acquaints would be engineers with the foundation of business enterprise and its functional execution. It focuses on different stages related to start-up process, including business model innovation, monetization, small business management as well as strategies that improve performance of new



ventures. Centred around a blend of conceptual exploration as well as hands-on-exposure, students will develop an understanding of the benefits/advantages of being independent.

Learning Objectives:

1. To explore and inculcate innovative business ideas and surrounding opportunities.
2. To turn the market opportunities into a start-up plan.
3. To demonstrate understanding and application of the tools necessary to create a sustainable venture.

Orientation Modules

Introduction to Innovation: Link between changes and opportunities for launching a start-up. Current and future trends.

Entrepreneur and the Process: Critical factors for starting a new enterprise. Opportunities for new businesses. Resource potentials. Forms of financing. Technical Ingredients for a successful business.

Opportunity: Finalizing ideas, forming teams and brainstorming session.

Projected Financial Statements: Cash flow, balance sheet, profit and loss statement.



Market Analysis: Target market. Unique selling proposition. Feasibility analysis of the competitive environment. SWOT analysis. Porter's 5 forces model to identify competitive market threats.

Business Plan: Pitching for the Business Plan. Developing a business model around the core idea. Avenues to monetization depending on the characteristics of business idea.

Intellectual Property and Legal Aspects: Understanding the Intellectual property rights when operating a business. Legal and technical aspects of the business.

Evaluation Pattern *

1. 100 Marks

2. Weightage – 50 % with Internal Assessment and 50 % with External Assessment

3. External Assessment comprising of End Semester Examination

4. Allotted Credit : 2016 admitted batch – 4, 2017 and onwards admitted batch –

Reference Materials

1. Entrepreneurship, Shikha Sahai, HPH Publishing.

2. Entrepreneurship Development, Gordon and Natarajan, HPH Publishing.



3. Entrepreneurship and Small Business Management, BS Bhatia & G S Bhatia,
Deep & Deep Publications Pvt Ltd

NSS 7 DAYS SPECIAL CAMP



**Education for SDGs in the
wider community
Year: 2022**



Under the Guidance of
Mrs. Jhuma Sunuwar
Dr S. Visalakshi
(Assistant Professor SMIT)



SMIT SIKKIM
MANIPAL
UNIVERSITY
SIKKIM MANIPAL INSTITUTE OF TECHNOLOGY

The National Service Scheme team of Sikkim Manipal Institute of Technology has always believed in the Government of India's larger visionary to establish India as a clean and green country. To foster a healthy learning and growing environment within a society, a clean surrounding with proper educational guidance is of utmost necessity and this is the main motto of NSS SMIT "Not me but you" that is to work for the beings selflessly. From clean my campus drives to water conservation campaigns to blood donation campaigns to educational drives to health check-up campaigns to cloth and food donation for the old age home, the NSS SMIT fraternity has and will always prove that for us our good deeds comes first. The NSS SMIT team has always tried to bring about the best in everyone and everything, be it cleanliness or education and we as a proud NSS Team will keep working for the larger goal of humanity.



On 1st April first meeting was conducted to plan for 7 days special camp. Planning regarding possible dates for camp, number of volunteers to participate was decided. On 5th April follow up meeting was conducted to finalize the events to be done, budget and collection of requirements for conduction of event. Final meeting was done on 13th April to motivate all volunteers to execute the event successfully.

Day 1 – Inaugural Event

On 14th April 2022, the inauguration program was done at IBM Slum area, Rangpho with our NSS Volunteers along with the local people present there. With the welcome speech & felicitation offered by our NSS Co-ordinator Dr.S. Vishalakshi to the honourable guest Mr. Gopal Sharma (Principal, ITI Mining) and motivational awareness speech by Mrs. Jhuma Sunwar, Nodal Officer NSS SMIT, we started our inaugural program with volunteers performing and singing songs as well as addressing the people about the 7-day special camp, the program details, about the plans to educate them about various concurrent occurrences around them.



Picture showing Mr.Gopal Sharma sir (Chief Guest), Members of IBM-Society and Mrs.Radha Pradhan (Vice President Rangpho Nagar Panchayat) during the inaugural function.

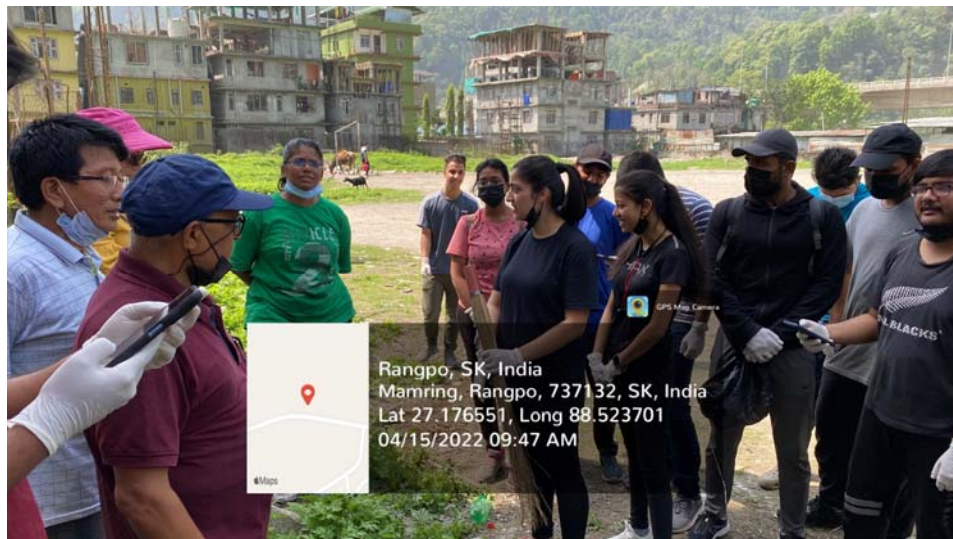


IBM-Slum area- People gathering for the inaugural event

Day 2 : Cleanliness Drive & Cleanliness Awareness Program

On the early morning of 15th of April, the NSS SMIT team started the day with the motivational “Yuva Geet” led by our chief Guest Mr. Gopal Sharma (Principal, ITI Mining) to motivate the team to start the day with good deeds and serving the people with the teaching of being a good human and serving the society.

The motivated team started the cleanliness drive at IBM-Slum area cleaning the drainage, ground and village area and its surrounding. NSS volunteers picked up the non-biodegradable, especially the plastic wastes thrown around along the roadsides and talked to the local shop owners for providing a dustbin at their doorstep to prevent the spreading of garbage. From sweeping to picking up rags and plucking weeds, volunteers gave their every bit in contributing for such noble cause.





Volunteers motivated local resident to keep the surroundings clean and educated them regarding dry waste and wet waste.



Day 3: Door to Door Interaction with villagers and filling of Survey form

To understand the problem and issues of the villagers of IBM-Slum area a survey was conducted. The survey helped us to identify the average education background, annual income, number of children , number of female members and number of working members etc.



NSS volunteers of Sikkim Manipal Institute of Majhitar on Sunday held a cleanliness drive and educated villagers about the importance of a clean environment. In a survey, it was found that people were facing issues with water supply as well as poor infrastructure for drainage systems which had turned into breeding grounds for mosquitoes.
— SANJAY AGARWAL

Day 4: Cleanliness Awareness Rally

NSS SMIT team took to the streets of the surrounding IBM Slum area to bring out a rally spreading the awareness of having a clean and green society. Along with the NSS Volunteers, the local people, kids, teachers and local students also participated in great numbers in order to make this event a big success.

Saying rhythmic slogans and carrying around beautiful placards and banners exclaiming the virtues of cleanliness, the group took a round of the entire area, attracting the attention of the residents and the passers-by as well. After the march, they cleaned around the streets and drains be-fronting IBM Area, thus implementing words to actions.



Young Minds joining us for the rally to spread awareness for environmental protections.

Day 4 Awareness Program for Banking Safety & Online Transactions

The local people were educated with the banking concepts and its digital usage, the motto of digital India and its aim to spread digital awareness in the community was created. The volunteers taught about the usage of UPI and net banking services and also helped them with the digital banking services which could be proven beneficial for them which they aspired to use in day to day life. Thus, Modernizing the living quality and standards.



Day 5 Engaging Local talents into competitions

We engaged the local talents by providing them platform to showcase their talents in the form of ART, Music, Sports, The Moral Ethics.

Young Minds from the village came forward to showcase the talents they acquired and self-learned from the internet and their schools. The Active participation of the little minds encouraged the team to arrange for more competitiveness among the young minds to inculcate team spirit, discipline and curiosity to learn and acquire knowledge that they gain.





Day 6 Menstrual Hygiene Awareness & Pad Distributions

Menstrual Hygiene awareness was carried out by the volunteers to increase awareness among adolescent girls on Menstrual Hygiene, to increase access to the use of high-quality sanitary napkins to adolescent girls in rural areas, ensuring safe disposal of Sanitary Napkins in an environmentally friendly manner. Apart from educating them the volunteers distributed 120 packets of sanitary napkins to female population of IBM-slum area.



Day 7: Prize Distribution and Valedictory

Valedictory function saw the presence of Mrs. Sanju Mangar, Councillor Majitar Bagheykhola ward as guest of honour; Mrs. Radha Pradhan, Vice President Rangpho Nagar Panchayat and Mr. Ganga Gurung active social worker who is renowned for his anti-corruption movement as invited guests and Dr.A.P Tiwari Associate Director (Student Affairs) SMIT.

The program started by welcoming guest of honour, invited guests and Associate Director by offering khada and memento. Address by Guest of honour, invited guests who appreciated the work done by NSS volunteers and hoped to see more such events in future.

The winners of the Local Talent Competitions were awarded with certificates and various prizes under Sports, Music, Dance & Painting Competitions. The ending of program was addressed by Associate Director (Students Affairs) Dr A.P Tiwari sir to the young talents with his words of wisdom and motivation also encouraging the fellow students to be an asset to society.



Conclusions

We the NSS volunteers would like to acknowledge and thank the **Ek Bharat Shrestha Bharat Mission** for giving us the opportunity to participate in such a great event to celebrate **Azadi ka Amrit Mahotsav**. Further we would also like to thank Director, Dr. G.L Sharma, Associate Director Dr. A.P Tiwari for providing us the platform to learn social responsibility and engagement, NSS teacher coordinator, Mrs. Jhuma Sunuwar , Dr. S. Visalakshi for guiding throughout the conduction of the camp and all NSS volunteers for actively participating in the 7 days special camp. Lastly this aamp gave us the opportunity to learn a sense of responsibility towards our Mother Nature and showed us how to lead a good life in future with motto “NOT ME BUT YOU”.



List of Volunteers Participated for NSS 7 Days Special Camp

Sl. No.	Name	Reg. No.	Unit
1	Abhinav Raj Jha	201900068	NSS SMIT
2	Ayushman Chakraborty	201900224	NSS SMIT
3	Anirban Barman	202000009	NSS SMIT
4	Shirsh Khandelia	202000366	NSS SMIT
5	Swagata Das	202000412	NSS SMIT
6	Shreya Shree	201900278	NSS SMIT
7	Matta Ysaswi	201900408	NSS SMIT
8	I. Adhi Surya Kiran	201900429	NSS SMIT
9	Rishi Raj Sharma	202000038	NSS SMIT
10	Harsha Ranjan	202000406	NSS SMIT
11	Kshitiz Prakash	202000441	NSS SMIT
12	Aridip Chatterjee	202000470	NSS SMIT
13	Mokshada Tewari	201900148	NSS SMIT
14	Prakash Chettri	201900299	NSS SMIT
15	Kaushik Gupta	201900318	NSS SMIT
16	Kshitij Pathak	201900328	NSS SMIT
17	Kushan Bhuyan	202000002	NSS SMIT
18	Satyam Sahil	202000198	NSS SMIT
19	Riya Bazgain	202000533	NSS SMIT
20	Mehersa Sharma	202000563	NSS SMIT
21	Masoom Alam	202100285	NSS SMIT
22	Pawan Kumar Pareek	202100290	NSS SMIT
23	Barsa Subba	201906002	NSS SMCPT
24	Denisha Singh	201906003	NSS SMCPT
25	Bidhya Bhattarai	201906011	NSS SMCPT
26	Anisha Anand Mishra	201906022	NSS SMCPT
27	Rikshita Thapa	201906037	NSS SMCPT
28	Kunal Dutta	202001070	NSS SMCPT
29	Bhavna Rai	202001009	NSS SMIMS
30	Nandan kr. Yadhav	202001093	NSS SMIMS
31	Nidhisha Basnet	202001040	NSS SMIMS
32	Raqqam Subayyil	202001071	NSS SMIMS
33	Avinash kr. Yadhav	202001079	NSS SMIMS