

No.BDID/01/23/2014-HSRS
Govt of India
Ministry of Science & Technology
Department of Science & Technology
(Big Data Initiatives Division)

Technology Bhavan,
Saheed Jagjit Singh Marg,
New Delhi-110016.
Date:18.03.2016

Sanction Order

Subject: Financial support for the networked project on “Big Data Analytics-Hyperspectral Data (BDA-HSRS)” Regarding.

PI: Prof D Ramakrishnan, IITBombay, Mumbai (National Co-ordinator, BDA-HSRS), Co-PI: Dr Rabi Narayan Sahoo, IARI, New Delhi (National Co-ordinator, BDA-HSRS)

Sanction of the President is hereby accorded for “**Big Data Analytics – HSRS Data (BDA-HSRS)**”, a cluster based multi-institutional networked project consisting of 37 R&D projects, 4 Region-wise Central Laboratory Facility, HSRS Group Trainings, Data Acquisition, Data Portal and Project Coordination Cell at a total cost of **Rs 2059.570 lakhs (Rupees Two Thousand Fifty Nine Lakh and Fifty Seven Thousands only)** to IITBombay, Mumbai for a duration of 3 years as per details given below:

S No.	PI, Affiliation & Project Title	Budget (Rs. in Lakhs)			
		1 st Yr	2 nd Yr	3 rd Yr	Total
I	Theme: Geology				
1.	PI: Prof D Ramakrishnan, IITBombay “Development of Spectral library for mineral exploration and geological mapping & Establishment of Central instrumentation facility on Spectral Acquisition and Characterisation”	14.630	14.630	13.464	42.724
2.	PI: Prof S Anbazhagan. Periyar University, Salem “Hyperspectral Remote Sensing Study in Lithological Mapping of Alkaline complex terrain & Reflectance spectral study of Platinum Group of Elements”	11.990	11.165	11.290	34.445
3.	PI: Dr K N Kusuma, Pondicherry University, Pondichery “Methodology Development for Exploring Precious Metals (Gold) Using Imaging Spectroscopic Technique”	12.375	11.935	12.665	36.975
4.	PI: Dr S Aravindan, Annamalai University, Chidambaram “Methodology development for	11.660	11.110	11.431	34.201

S No.	PI, Affiliation & Project Title	Budget (Rs. in Lakhs)			
		1 st Yr	2 nd Yr	3 rd Yr	Total
	exploring bauxite ore using Hyperspectral Remote Sensing Technique”				
5.	PI: Dr P Udayaganesan, Alagappa Govt. Arts College, Karaikudi “Development of Methodology for Exploring Nuclear Minerals in the Coastal Placer Deposits using Hyperspectral and Radiometric Techniques”.	12.760	11.660	11.431	35.851
6.	PI : Dr Debashish Chakravarty, IIT Kharagpur “Hyperspectral image feature based characterization of coal and coal measured rocks occurring in BCCL and ECL areas for better management of the energy demand of India”	10.560	11.660	12.531	34.751
II	Theme: Agriculture				
7.	PI: Dr Rabi Narayan Sahoo, IARI, New Delhi “Hyperspectral Remote Sensing for Precision Agriculture”	14.630	14.630	13.464	42.724
8.	PI: Dr M Prabhakar, ICAR-CRIDA, Hyderabad “Hyperspectral remote sensing for crop condition assessment in dry land crops”	12.430	11.330	12.364	36.124
9.	PI: Dr Santanu Kumar Bal, NIASM, Baramati “Characterizing sugarcane stress responses to abiotic and biotic stresses through hyper-spectral remote sensing”	13.310	13.310	11.981	38.601
10	PI: Dr B U Choudhury, ICAR Research Complex for NEH Region “Characterization of Acid Soils under different land use pattern and its impact on Crop Growth: A Hyperspectral approach”.	11.110	11.660	13.081	35.851
11.	PI: Dr M Mohanty, IISc., Bhopal “Hyper-spectral remote sensing approaches to evaluate soil quality and crop productivity of central India”	13.695	12.485	10.795	36.975
12.	PI: Dr Rajeev Srivastava, NBSS&LUP, Nagpur “Hyperspectral Remote Sensing in Characterization and Mapping of Red and Associated Soils of Southern India”	12.595	12.595	12.445	37.635

S No.	PI, Affiliation & Project Title	Budget (Rs. in Lakhs)			
		1 st Yr	2 nd Yr	3 rd Yr	Total
III	Theme: Water				
13.	PI: Dr Bhabani Sankar Das, IITKharagpur "Assessment of Suspended Sediments Concentration and phytoplankton contents in the Chilika Lagoon using Hyperspectral Remote Sensing"	13.310	13.310	11.981	38.601
14.	PI: Dr R Sivakumar, SRM University, Chennai "Water quality studies of Rivers and Reservoirs/lakes using Hyperspectral remote sensing"	12.155	11.605	12.364	36.124
15.	PI: Dr T Thangaradjou, Annamalai University, Chidambaram "Collection of hyperspectral radiometric profile data in case I oceanic waters of the Bay of Bengal and Rebuilding the regional bio-optical algorithm for the retrieval of Suspended Sediment Concentration (SSC) in the North Indian Ocean region"	11.110	10.560	10.606	32.276
16.	PI: Prof P Shanmugam, IITMadras "Development of atmospheric correction algorithm and up-scaling of in-situ measurements to derive hyperspectral remote sensing products over River Ganga"	15.730	13.530	13.464	42.724
17.	PI: Dr M Thanikachalam, Prathyusha Institute of Technology, Chennai "Detection and Discrimination of Coral Reefs Using Hyper Spectral Data"	9.515	8.965	8.107	26.587
IV	THEME: FORESTRY				
18.	PI: Dr Amit Kumar, CSIR-Institute of Himalayan Bioresource Technology, Palampur "Preparation of spectral library of forest tree species of Himalayan region"	10.285	9.735	10.606	30.626
19.	PI: Dr P Rama Chandra Prasad, IIT, Hyderabad "Canopy spectral biochemical analysis of forest species using hyperspectral remote sensing – A case study from Eastern Ghats forest ecosystems"	13.530	12.430	13.189	39.149
20.	PI: Prof N S R Krishnaya, M.S. University, Baroda	11.495	11.770	11.345	34.610

S No.	PI, Affiliation & Project Title	Budget (Rs. in Lakhs)			
		1 st Yr	2 nd Yr	3 rd Yr	Total
	"Precision monitoring of changes in the growth cycle of forest "				
21.	PI: Prof P K Joshi, JNU, New Delhi "Detection and quantification of forest structure and function in the Himalayan foothills using in situ and remotely sensed HSRS data"	14.080	13.530	13.464	41.074
V	THEME: SNOW & GLACIER				
22.	PI: Dr Snehmani, DRDO-SASE, Chandigarh "Generation of a spectral library of different types of snow and ice media"	12.320	12.320	12.720	37.360
23.	PI: Dr R A A J Ramsankaran, IITBombay "Characterization & Modelling of Physical Properties of Different Forms of Snow and Ice using Field and Remote Sensing Observations"	15.180	12.980	13.464	41.624
24	PI: Dr P K Garg, UTU, Derhadun "Development of methodologies to compensate effect of contamination and adjacency factors"	12.870	12.320	11.620	36.810
25	PI: Dr Mohd Anul Haq, NIIT University, Manesar, Haryana "Modeling the snow properties for their classification and identification"	11.110	11.110	11.981	34.201
26	Dr Onkar Dixit, IITKanpur Information fusion of Hyperspectral and other data sets for modeling of snow hydrological potential	11.770	11.220	12.170	35.160
VI.	THEME: MATERIAL & TERRAIN				
27	PI: Dr L K Sinha, DRDO-DTRL, DELHI "Creation of spectral library using reflective and emissive spectra for delineating terrain features and associated materials in hyper-spectral domain"	13.805	11.055	12.364	37.224
28	PI: Prof K C Tiwari, DTU, Delhi "Detection and Identification of Engineered Surfaces and Objects using HSRS Data"	12.155	11.055	11.814	35.024
29	PI: Dr S N Mohapatra, Jiwaji University, Gwalior "Hyperspectral Remote Sensing for off road Mobility"	11.495	10.395	11.070	32.960
30	PI: Dr Sulochana Shekhar, Central University of	11.495	10.395	11.070	32.960

S No.	PI, Affiliation & Project Title	Budget (Rs. in Lakhs)			
		1 st Yr	2 nd Yr	3 rd Yr	Total
	Karnataka, Gulbarga "Mitigating and Managing Urban Heat Islands Through Social Forestry -Using Hyper & Multi-Spectral Remote Sensing"				
31	PI: Dr Barun Roy Chaudhuri, Presidency University, Kolkata "Development of methodology for bathymetry of inland water using hyperspectral remote sensing technique"	13.255	11.055	11.814	36.124
VII	THEME: ALGORITHMS				
32	PI: Prof Ritesh Gautam, IITBombay "Quantification of Atmospheric Correction and Snow Contamination using Hyperspectral Remote Sensing data over India: Special Reference to the Complexity of Atmospheric Aerosols"	12.155	11.055	11.814	35.024
33	PI: Dr Rajiv Ranjan Sahay, IITKharagpur "Development of Evolutionary Algorithms for Hyperspectral Image Processing and Analysis"	10.835	9.735	10.331	30.901
34	PI: Dr Somdatta Chakravorty, Govt College of Eng & Ceramic Tech, Kolkata "Development of algorithms for spectral unmixing and sub pixel classification of hyperspectral image data"	12.155	11.055	11.814	35.024
35	PI: Dr K V Kale, Dr B A Marathwada University, Aurangabad "Design and Development of Hyperspectral data Analysis Tools and algorithms for end member identification"	11.495	10.395	11.070	32.960
36	PI: Prof Krishna Mohan Buddhiraju, IITBombay, Mumbai "Algorithms for Classification of Hyperspectral Images"	12.155	11.055	11.814	35.024
37	PI: Dr N Rama Rao, IIST, Thiruvananthapuram, Kerala "Development of a stand-alone atmospheric correction module for hyperspectral data for Indian context"	12.870	11.495	12.445	36.810
A	Subtotal of all R&D Projects	460.075	432.300	441.450	1333.830
B	Airborne Data Acquisition & Web Portal (Prof D	44.000	16.000	14.000	74.000

S No.	PI, Affiliation & Project Title	Budget (Rs. in Lakhs)			
		1 st Yr	2 nd Yr	3 rd Yr	Total
	Ramakrishnan, IITBombay)				
C	Central Laboratory Facility (CLF)				
	1. Western Region: IITBombay, Mumbai (Prof D Ramakrishnan)	142.560	5.560	4.560	152.680
	2. Northern Region: IARI, Delhi (Dr Rabi N Sahoo)	145.560	5.560	4.560	155.680
	3. Southern Region: IIST, Thiruvanthapuram (Dr N Rama Rao)	95.560	5.560	4.560	105.680
	4. Eastern Region: IITKharagpur (Prof B S Das)	170.560	5.560	4.560	180.680
	CLF Sub total	554.240	22.240	18.240	594.720
D	Training & Capacity building Program (Dr Rabi N Sahoo, IARI, New Delhi)	16.500	0.000	0.000	16.500
E	Project Management Unit (PMU) & Group Co-ordination (Prof D Ramakrishnan, IITBombay & Dr R N Sahoo, IARI, New Delhi)	12.840	14.840	12.840	40.520
	Grand Total (A to E)	1087.655	485.380	486.530	2059.570

2. Sanction of the president is also accorded to the release of **Rs 1087.655 lakh (Rupees One Thousand Eighty Seven lakh Sixty Five Thousand Five Hundred Only)** to IITBombay, Mumbai as first instalment of Grants-in-Aid for the financial year 2015-16. IIT Mumbai, in turn shall release the 1st Year amount to the component institutes as mentioned against each project and as per details given above within seven working days from the date of receipt of funds from DST.

3. The expenditure involved is debitable to **Demand No.86**, Department of Science and Technology:

3425 Other Scientific Research (Major Head)
60 Others (Sub Major Head)
60.200 Assistance to other Scientific Bodies (Minor Head)
63 Super Computing Facility & Capacity Building
63.01 Grant-in-aid for Super Computing Facility & Capacity Building
63.01.31 Grants-in-aid for the year 2015-2016 (Plan)
(Super Computing - BDI Division)

4. The Drawing and Disbursing Officer, Department of Science & Technology will draw the amount of **Rs 1087.655 lakhs (Rupees One Thousand Eighty Seven lakhs Sixty Five Thousand and Five Hundred Only)** and disburse to the "Indian Institute of Technology, Mumbai" through RTGS in **Account No 10725729173, State Bank of India, IIT Powai Branch, IFSC Code: SBIN0001109.**

5. IITBombay, Mumbai and the Host Institutes shall maintain separate audited accounts for the releases. It is found expedient to keep a part or whole of the grant in a bank account earning interest, the interest so accrued should be accounted and reported to DST while submitting UC/SE. The interest thus earned will be treated as a credit to IIT/Host Institutes to be adjusted towards further instalment of the grant. The project-wise, Year-wise and Head-wise detailed break-up is given in the Annexure-B
6. As per rule 211(1) of GFR, the accounts of the grantee institution shall be open to inspection by the sanctioning authority / Audit whenever the institution is called upon to do so.
7. This is certified that **no UC** is pending against the grantee organizations, as per details in the PFMS also.
8. IITBombay, Mumbai shall submit a consolidated UC & SE to DST immediately after closure of the every financial year i.e. 31st of March every year, till completion of the project. The sanction of the above amount is subject to terms and conditions as contained in the Annexure-A.
9. BDA-HSRS being a multi-institutional networked project, the start date of the project shall be six months from the date of receipt of funds from DST, i.e., after completion of project staff recruitment, procurment of equipment, group training etc. However, completion of above activities or 6 months whichever is earlier shall be construed as the start date of the project. All JRF's selected as part of the project shall be registered for Ph.D, either in the host institute or any UGC recognised University/ Institutions. The registration process be completed within 6 months of selection.
10. This sanction issues in exercise of the powers conferred on this Department and in consultation with the IFD vide their **Concurrence Dy. No.C/5930/IFD/2015-16** dated 17.03.2016.
11. It has been entered at **SI. No.19** in the Register of Grants (2015-16).

(K R Murali Mohan)
Scientist-G & Head, BDI Division

To

The Pay and Accounts Officer, PAO, DST, New Delhi

Copy forwarded for information and necessary action to:

1. The Director of Audit (CW & M-II), Indraprastha Estate, AGCR Building, New Delhi.

2. The Drawing and Disbursing Officer, DST with one spare copy, for making necessary payment to Grantee.
3. IF Division, DST, New Delhi.
4. Sanction Folder.
5. Dr Rajiv Sharma, Head, TMD, DST with a request to forward the copy to Dr Milind Kulkarni, Scientist-G, DST, Co-ordinator, NSM.
6. The Registrar, Indian Institute of Technology (IIT), Mumbai.
7. Prof. D. Ramakrishnan, Coordinator, IITBombay, Mumbai.
8. The Registrar, Periyar University, Salem, Tamil Nadu.
9. Prof. S Anbazhagan, Periyar University, Salem, Tamil Nadu.
10. The Registrar, Pondicherry Central University, Pondicherry.
11. Dr. K. N. Kusuma, Pondicherry Central University, Pondicherry.
12. The Registrar, Annamalai University, Chidambaram, Tamil Nadu.
13. Dr. S. Aravindan, Annamalai University, Chidambaram, Tamil Nadu.
14. The Principal, Alagappa Govt. Arts College, Karaikudi, Tamil Nadu.
15. Dr. P. Udayaganesan, Alagappa Govt. Arts College, Karaikudi, Tamil Nadu.
16. The Registrar, , IIT Kharagpur, Kharagpur, West Bengal.
17. Dr. Debashish Chakravarty, IIT Kharagpur, Kharagpur, West Bengal.
18. The Director, IARI, New Delhi.
19. Dr. Rabi N Sahoo, IARI, New Delhi.
20. The Director, CRIDA-ICAR, Hyderabad.
21. Dr. Mathyam Prabhakar, CRIDA-ICAR, Hyderabad.
22. The Director, National Institute of Aboitic Stress Management (NIASM), Baramati.
23. Dr. Santanu Kumar Bal, National Institute of Aboitic Stress Management (NIASM), Baramati.
24. The Director, ICAR Research Complex for NEH Region.
25. Dr. B.U. Choudhury , ICAR Research Complex for NEH Region.
26. The Director, IISc., Bhopa.
27. Dr. M. Mohanty, IISc., Bhopal.
28. The Director, NBSS & LUP, Nagpur.
29. Dr. Rajeev Srivastava, NBSS & LUP, Nagpur.
30. The Registrar, IITKharagpur, Kharagpur, West Bengal.
31. Dr Bhabani Sankar Das, IITKharagpur, Kharagpur, West Bengal.
32. The Registrar, SRM University, Chennai.
33. Dr. R. Sivakumar, SRM University, Chennai.

34. The Registrar, Annamalai University, Chidambaram, Tamil Nadu.
35. Dr. T. Thangaradjou, Annamalai University, Chidambaram, Tamil Nadu.
36. The Registrar, IITMadras, Chennai.
37. Prof. P. Shanmugam, IITMadras, Chennai.
38. The Principal, Prathyusha Institute of Technology , Chennai.
39. Dr. M. Thanikachalam, Prathyusha Institute of Technology , Chennai.
40. The Director, , CSIR IHBT, Palampur, Himachal Pradesh.
41. Dr. Amit Kumar, CSIR IHBT, Palampur, Himachal Pradesh.
42. The Registrar, IIIT, Hyderabad, Telangana.
43. Dr. P. Rama Chandra Prasad, IIIT, Hyderabad, Telangana.
44. The Registrar , M S University, Baroda, Gujarat.
45. Prof. N. S. R. Krishnayya , M S University, Baroda, Gujarat.
46. The Registrar, J.N. University, New Delhi.
47. Prof. P. K. Joshi, J.N. University, New Delhi.
48. The Director, SASE-DRDO, Chandigarh.
49. Dr. Snehmani, SASE-DRDO, Chandigarh.
50. Dr. R. A. A. J. Ramsankaran, IITBombay, Mumbai .
51. Dr. L.N Sharma, PEC, Chandigarh.
52. The Registrar, UT University, Dehradun.
53. Dr. P. K. Garg, UTU, Derhadun.
54. The Registrar, NIIT University, Alwar, Rajasthan.
55. Dr. Mohd Anul Haq, NIIT University, Alwar, Rajasthan.
56. The Registrar, IITKanpur, Kanpur, UP.
57. Dr. Onkar Dixit, IITKanpur, Kanpur, UP.
58. The Director, DTRL-DRDO, New Delhi.
59. Dr. L. K. Sinha, DTRL-DRDO, New Delhi.
60. The Registrar, Delhi Technological University, Delhi.
61. Prof. K. C. Tiwari, Delhi Technological University, Delhi.
62. The Registrar, Jiwaji University, Gwaliorm M.P.
63. Dr. S. N. Mohapatra, Jiwaji University, Gwaliorm M.P.
64. The Registrar, Central University of Karnataka, Gulbarga.
65. Dr. Sulochana Shekhar, Central University of Karnataka, Gulbarga.
66. The Registrar, Presidency University, Kolkata.
67. Dr. Barun Roy Chaudhuri , Presidency University, Kolkata.

68. Prof. Ritesh Gautam, IITBombay, Mumbai.
69. Dr. Rajiv Ranjan Sahay, IITKharagpur, Kharagpur.
70. The Principal, Govt. College of Eng. & Ceramic Technology, Kolkata, West Bengal.
71. Dr. Somdatta Chakravorty, Govt. College of Eng. & Ceramic Technology, Kolkata, West Bengal.
72. The Registrar, Dr. B A Marathwada University, Aurangabad, Maharashtra.
73. Prof. K.V. Kale, Dr. B A Marathwada University, Aurangabad, Maharashtra.
74. Prof. Krishna Mohan Buddhiraju, IITBombay, Mumbai.
75. The Director, IIST-ISRO, Thiruvanthapuram.
76. Dr. Rama Rao Nidamanuri, IIST-ISRO, Thiruvanthapuram.
77. Dr. N. Rama Rao Affiliation : IIST, Thiruvanthapuram
78. Prof. B. S. Das, IITKharagpur, West Bengal.
79. Dr. R. N. Sahoo, IARI, New Delhi.
80. File

(K R MURALI MOHAN)
Scientist-G & Head, BDI Division

Received on 22/3/2018

ब. No.B.19013/19/2016-Sec.2
भारत सरकार/GOVERNMENT OF INDIA
अंतरिक्ष विभाग/DEPARTMENT OF SPACE

Antariksh Bhavan,
New BEL Road,
Bengaluru - 560 231.

March 15, 2018

Registrar,
NIIT University,
NH-8, Delhi-Jaipur Highway,
Neemrana, Alwar,
Rajasthan - 301 705.

Sir,

Sub: **Grant-in-aid - Space Science Promotion** - Release of grant for the ongoing project entitled "**Understanding the geomorphology of Martian surface using MOM datasets**" - reg.

In continuation of this Department's letter of even number dated 23.08.2016 on the subject mentioned above, I am directed to convey the sanction of the President to a grant of ₹2,39,406/- (Rupees Two lakh thirty nine thousand four hundred and six only) to meet the expenditure towards the ongoing project entitled "**Understanding the geomorphology of Martian surface using MOM datasets**" by NIIT University during the second year of the project and also for the following:

- Renewal of the project for the second year
- Utilisation of unspent balance of ₹3,18,344/-

2. The amount of ₹2,39,406/- (Rupees Two lakh thirty nine thousand four hundred and six only) will be paid to you by the Pay & Accounts Officer, Department of Space, Antariksh Bhavan, New BEL Road, Bengaluru - 560 231 on receipt of the bill.

3. The grant-in-aid sanctioned shall be subject to the terms and conditions mentioned in the Annexure enclosed to this Department's letter of even number dated 23.08.2016.

4. A separate account for the grant-in-aid sanctioned will have to be maintained which are subject to the scrutiny by the Indian Audit and Accounts Department who will also have the right of access to the Book of Accounts.

5. Accounts of expenses incurred out of grant should be prepared, maintained and authenticated by approved auditors. The final accounts statement in duplicate duly audited should be sent to the Pay & Accounts Officer, Department of Space, Bengaluru-560 231 at the end of each financial year of support.

...2/-



To Whom It May Concern

This is to certify that Dr. Vivek Srivastava, NIIT University, Neemrana has successfully completed the project titled “Internationalized master’s degree Education in Nanoelectronics in Asian Universities” as Co-Project in charge.

Grant Received: ERASMUS*

Project No. 573828-EPP-1-2016-1-BG-EPPKA2-CBHE-JP

Project Duration:

Start date: Oct 15th, 2016

End date: July 31st, 2021

Amount received by NIIT University: INR 49,06,495.00

Project in charge: Prof. Slava Tzanova, Technical University of Sofia, Sofia, Bulgaria.

Email: slavka.tzanova@tu-sofia.bg

04 April 2022
Sofia




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(Prof. DSc. Slavka Tzanova)



Erasmus+ Programme

Capacity-Building projects in the field of Higher Education (E+CBHE)

Partnership Agreement

573828-EPP-1-2016-1-BG-EPPKA2-CBHE-JP

**Internationalised Master Degree Education in Nanoelectronics in Asian
Universities (NanoEI)**

The present Partnership Agreement, hereinafter referred to as "the Agreement", is made and entered into by and between,

Technical University of Sofia

8 Kliment Ohridsky Bd.

B G - 1000 SOFIA,

VAT NUMBER: BG831917834

hereinafter referred to as the "coordinator", represented for the purposes of signature of the Agreement by Prof. DSc. Georgy Mihov, Rector, the legal representative as defined in the Grant Agreement 573828-EPP-1-2016-1-BG-EPPKA2-CBHE-JP,

and the following beneficiary:

NIIT University – established in India

NH-8 Delhi- Jaipur Highway, Neemrana, Rajasthan, Pin Code-301705

hereinafter referred to as the "beneficiary", represented for the purposes of signature of this Agreement by their legal representatives, according to the Mandates previously signed and attached to the Grant Agreement.

Where a provision applies without distinction to the "coordinator" and the "beneficiary", for the purpose of this Agreement they will be collectively referred to as the "beneficiaries".

The parties hereby have agreed as follows:

Article 1

Subject of the Partnership Agreement

1.1 This Agreement defines the terms that govern the relations between the parties, by establishing their rights and obligations, and lays down the rules of procedure for the work to be carried out in

order to successfully implement the Erasmus+ CBHE action "Internationalised Master Degree Education in Nanoelectronics in Asian Universities" (hereinafter referred to as the "project").

1.2 The coordinator and the beneficiaries, undertake to do everything in their power to carry out the work programme forming the subject of this Agreement, which falls within the framework of the Grant Agreement 573828-EPP-1-2016-1-BG-EPPKA2-CBHE-JP, concluded between the coordinator and the Education, Audiovisual and Culture Executive Agency (hereinafter referred to as the "Executive Agency"), related to the above-mentioned project.

1.3 The subject matter of this Agreement and the related work programme are detailed in the annexes of the Grant Agreement. The respective Grant Agreement terms and conditions, related annexes and guidelines, shall form an integral part of the present Agreement, and take precedence over it (see Article 20 of the present Agreement for the list of annexes).

1.4 The coordinator and the beneficiaries shall be bound by the terms and conditions of this Agreement, the Grant Agreement and any further amendments of the latter.

Article 2 Duration

2.1 This Agreement shall enter into force on the date the last party signs, but shall have retroactive effect from the starting date of the eligibility period laid down in the Grant Agreement.

2.2 The period of eligibility of the activities and the costs shall be in accordance to the dispositions of the Grant Agreement or any subsequent amendments of it.

2.3 The present Agreement shall remain in force until the coordinator has been discharged in full of his obligations arising from the Grant Agreement signed with the Executive Agency.

Article 3 Obligations and responsibilities

3.1 General obligations and role of the beneficiaries (including the coordinator).

The beneficiaries:

- (a) are jointly responsible for carrying out the activities attributed to them, and shall conduct the work in accordance with the work programme and schedule set forth in the Grant Agreement and approved application, working to the best of their abilities to achieve the defined results and taking full responsibility for their work in accordance with accepted professional principles;
- (b) undertake to comply with all the provisions of the Grant Agreement and its annexes, with all the provisions of this Agreement, as well as with EU and national legislation;
- (c) are jointly responsible for complying with any legal obligations incumbent on them jointly or individually;
- (d) shall provide staff, facilities, equipment and material to the extent needed for executing the activities as specified in the work programme;
- (e) shall be responsible for the sound financial management and cost efficiency of the funds allocated to the project.

3.2 Specific obligations and role of the coordinator.

The coordinator undertakes to:

- (a) be responsible for the overall coordination, management and implementation of the project in accordance with the Grant Agreement;
- (b) be the intermediary for all communication between the beneficiaries and the Executive Agency, and inform the beneficiaries of any relevant communication exchanged with the Executive Agency;
- (c) inform the beneficiaries of any changes connected to the project or to the Grant Agreement, or of any event likely to substantially affect the implementation of the action;
- (d) as the sole recipient of payments on behalf of all beneficiaries, transfer funds to the beneficiaries without unjustified delay and in accordance with the dispositions for payments laid down in Article 5 of this Agreement;
- (e) manage and verify the appropriate spending of the funds in accordance with the dispositions of the Grant Agreement and this Agreement;
- (f) comply with all reporting requirements *vis-à-vis* the Executive Agency, as per the dispositions of Article 1.4 of the Grant Agreement. The coordinator shall not delegate any part of this task to any party;
- (g) establish payment requests on behalf of the beneficiaries, as per the dispositions of Article 1.4 of the Grant Agreement;
- (h) provide one copy of this Agreement duly signed to each beneficiary and to the Executive Agency within 6 months of the signature of the Grant Agreement.
- (i) provide the beneficiaries with official documents related to the project, such as the signed Grant Agreement and its annexes, the Guidelines for the Use of the Grant, the various reports templates and any other relevant document concerning the project.
- (j) transmit to the beneficiaries copies of all reports submitted to the Executive Agency, as well as copies of any feedback letters received from the Agency following report assessment and field monitoring visits.

3.3 Specific obligations and role of each beneficiary (excluding the coordinator).

Each beneficiary undertakes to:

- (a) ensure adequate communication with the coordinator and with the other beneficiaries;
- (b) support the coordinator in fulfilling its tasks according to the Grant Agreement;
- (c) submit in due time to the coordinator all relevant data needed to draw up the reports, financial statements and any other documents provided for in the Grant Agreement, as well as all necessary documents in the events of audits, checks or evaluations;
- (d) provide the coordinator with any other information or documents it may require and which are necessary for the management of the project;
- (e) notify the coordinator of any event likely to substantially affect or delay the implementation of the action, as well as of any important deviation of the project (e.g. replacement of the project contact person, changes in partner's budget, deviations from work plan etc.);
- (f) inform the coordinator of any change in its legal, financial, technical, organisational or ownership situation and of any change in its name, address or legal representative.

Article 4 Financing the action

4.1 The maximum Erasmus+ grant contribution to the project for the contractual period covered by the Grant Agreement amounts to EUR 999 640,00 and shall take the form as stipulated in Annex III of the Grant Agreement.

4.2 The Erasmus+ grant contribution is awarded to the partnership under the form of:

- a "reimbursement of actual costs" for Equipment and Subcontracting costs

- a "unit contribution" to the costs incurred for Staff costs, Travel costs and costs of Stay

4.3 The grant contribution to the project is intended to cover only part of the costs actually incurred by the beneficiaries in carrying out the activities foreseen. The beneficiaries commit to provide additional resources to the project so as to ensure its full implementation in accordance with the Grant Agreement.

4.4 Full details of the estimated budget breakdown per funding source, beneficiary and budget category is given in Annex I of this Agreement.

Article 5 **Payment arrangements**

5.1 The coordinator will transfer the part of the Erasmus+ grant contribution corresponding to each individual beneficiary to the following institutional bank account:

[Name of Bank-YES BANK]
[Address of branch-Ground Floor, 166/177, RIICO Industrial Area, Shopping Complex, Opp Liberty Ceramic, Alwar 301701]
[Name and address of account holder-NIIT University, NH-8, Delhi-Jaipur Highway, Neemrana, Rajasthan, 301705]
[IBAN (Account Number)- 013194600000089]
[SWIFT code-YESBINBB]

5.2 The transfer of the Erasmus+ grant contribution to individual beneficiaries will be implemented in accordance with the following timetable and procedure:

The coordinator shall pay the partner for work completed satisfactorily according to the description and schedule of this work. Payment to the partner shall be made according to the following planned schedule:

- First instalment of pre-financing: The coordinator will transfer 50% of the partner's total direct costs budget, after the signing of the present contract, provided that the coordinator has received the pre-financing from the Executive Agency and bank details are correctly provided by the partner.
- Second instalment of pre-financing: The coordinator will transfer 30% of partner's direct costs budget, provided that the partner provides eligible and full supporting documentation on project expenditure of at least 90% of the first instalment and the coordinator has received the second pre-financing from the Executive Agency.
- Balance payment: All outstanding payments to cover actual eligible expenditures that have not been received in previous instalments (see above), taking into account the co-financing share, will be paid to the partner within 30 days after the coordinator receives the final payment from the Executive Agency, on condition that the partner has provided the requested eligible supporting documentation and submitted the financial table to the coordinator within the foreseen deadline. In case that actual eligible expenditure is lower than previously received instalments and parts of the funds have not been consumed until the end of the project, these funds are to be reimbursed to the coordinator at the end of the project.
- Only expenditure in accordance with the project, declared eligible by EACEA and for which supporting documents have been provided, will be financed.

5.3 Beneficiaries are obliged to use the Erasmus+ grant contribution exclusively for the purposes defined by the project, and in accordance with the terms and provisions of the present Agreement and the Grant Agreement and its annexes. Erasmus+ grant amounts received in advance and not used by

the beneficiaries will be reimbursed to the coordinator at the latest 30 days after the end of the project's contractual period.

5.4 If there is a difference between the amount of the Erasmus+ grant contribution actually used by the partnership and the amount of expenditure declared eligible by the Executive Agency at the end of the project, the beneficiary (ies) responsible for the expenditure declared ineligible will reimburse the corresponding amount to the coordinator.

5.5 The costs of financial transfers shall be charged to the bank of the beneficiary.

Article 6 Reporting

6.1 The coordinator is responsible for submitting in due time to the Executive Agency all reports and financial statements as required in the Grant Agreement. For this purpose and in a timely manner, the beneficiaries commit to provide the coordinator with all necessary information and, if applicable, copies of supporting documents needed for drawing up reports, financial statements and any other documents required in the Grant Agreement.

6.2 The coordinator shall provide the beneficiaries with the appropriate reporting forms for the declaration of expenses/activities and the respective instructions for their completion. These reports must be drawn up in EURO.

6.3 The beneficiaries shall keep a record of any expenditure/activity incurred under the project and all proofs and related documents for a period of 5 years after the payment of the final balance under the Grant Agreement. The coordinator may reject any item which cannot be justified in accordance with the rules set out by the Executive Agency in the Grant Agreement and in the Guidelines for the Use of the Grant.

Article 7 Budgetary and financial management

7.1 The Erasmus+ grant contribution to the project's staff costs, travel costs and costs of stay will be calculated on the basis of "unit contributions" whose individual amounts are specified in the Erasmus+ Programme Guide, in the Guidelines for the Use of the Grant.

7.2 The Erasmus+ grant contribution to the project's equipment and subcontracting costs will be based on the justification of the costs actually incurred. This justification will take the form of the support documentation specified in the relevant section of the Guidelines for the Use of the Grant.

7.3 The beneficiaries confirm that they respect the social and labour legislation of their country regarding the costs of staff contributing to the project.

7.4 Each beneficiary is responsible for ensuring adequate insurance arrangements for their staff and students while participating in project activities.

Article 8 General administrative provisions

8.1 Any important project related communication between the parties shall be done in writing and addressed to the appointed project manager of each beneficiary, as per the details below:

For the coordinator:

Prof. Slavka Tzanova

Technical University of Sofia, 8 Kliment Ohridski bul., BG 1000 Sofia

For the beneficiary:

Prof. Vijay V. Mandke

NIIT University, NH-8, Delhi-Jaipur Highway, Neemrana, Rajasthan, Pincode-301705

Vijay.Mandke@niituniversity.in

8.2 Any changes to the above information should be communicated in a timely manner.

Article 9 Promotion and visibility

9.1 The coordinator and the beneficiaries shall ensure adequate promotion of the project and commit to playing an active role in any actions organised to capitalise on, exploit / disseminate the results of the project.

9.2 Any notice or publication by the project, including at a conference or a seminar, must specify that the project is being co-financed by EU funds within the framework of the Erasmus+ Programme, and must comply with the visibility rules laid down in Articles I.10.8 and I.10.9 of the Grant Agreement, as well as in section 1.6 of the Guidelines for the Use of the Grant.

Article 10 Confidentiality and data protection

10.1 The coordinator and the beneficiaries undertake to preserve the confidentiality of any document, information or other material directly related to the subject of the Agreement that is duly classed as confidential, if disclosure could cause prejudice to the other party. The parties shall remain bound by this obligation beyond the closing date of the action.

10.2 All personal data contained in or relating to this Agreement shall be processed in accordance with the dispositions of Article II.6 of the Grant Agreement.

Article 11 Ownership and property rights

11.1 The ownership of all project results, including copyrights and intellectual property rights, as well as all reports and other documentation resulting from the action, shall be vested in the beneficiaries, in compliance with Article I.7 of the Grant Agreement.

11.2 Materials already developed and brought in may be only used within the scope of the project as templates of good practice. Copyrights shall be strictly safeguarded and permission for reproduction and scale of production has to be settled beforehand.

Article 12 Liability

12.1 Each of the contracting parties discharges the other of any civil liability for any damages suffered by itself or its staff/students as a result of the performance of this Agreement, insofar as such damages are not due to serious or intentional negligence or fault of the other party or its staff/students.

Article 13 Conflict of interest

13.1 The coordinator and beneficiaries must undertake all necessary precautions to prevent any risk of conflicts of interest which could affect their impartial and objective performance of the Agreement.

Such conflict of interest could arise in particular as a result of economic interest, political or national affinity, family or emotional reasons, or any other shared interest.

13.2 Any situation constituting or likely to lead to any such conflict should be brought to the attention of the coordinator without delay, and the beneficiary in cause shall undertake to take all necessary measures to rectify this situation at once.

13.3 The coordinator will decide if it is deemed necessary to inform the Executive Agency as provided for in Article II.4 of the Grant Agreement.

Article 14 **Working languages**

14.1 The working language of the partnership shall be English.

14.2 Both parties commit in allocating to the project staff with enough knowledge of the working language, allowing a smooth communication and understanding of the matters discussed.

Article 15 **Conflict resolution**

15.1 In case of conflict between the project partners resulting from the interpretation or the application of this Agreement, or in connection with the activities contained within, the parties involved shall make the effort to come to an amicable arrangement rapidly and in the spirit of good cooperation.

15.2 Disputes should be addressed in writing to the project Steering Committee (or a body consisting of representatives of all the project partners), that will try to mediate in order to resolve the conflict.

Article 16 **Applicable law and jurisdiction**

16.1 This Agreement is governed by the Bulgarian law, being the law of the coordinator's country.

16.2 In case of any disputes on matters under this Agreement, which cannot be resolved by an amicable settlement, the matter shall have to be decided in accordance with the jurisdiction of the coordinator's country.

16.3 If any provision of this Agreement or the application of any such provision shall be considered invalid or unenforceable in whole or in part for legal requirements, all other stipulations remain valid and binding to both parties.

16.4 If any provision in this Agreement should be wholly or partly ineffective, the parties to this Agreement undertake to replace the ineffective provision by an effective provision which comes as close as possible to the purpose of the ineffective provision.

16.5 This Agreement is concluded in English. In the event of translation of this Agreement and its annexes, the English version shall prevail.

Article 17 **Termination of the Agreement**

17.1 In the event that any of the beneficiaries fail to perform any obligations under the present Agreement or the Grant Agreement, the coordinator may terminate their participation in the project, upon formal written authorisation by the Executive Agency.

17.2 The coordinator shall notify the beneficiary in cause by registered letter. The beneficiary has one month to supply all relevant information to appeal the decision.

Article 18 Force Majeure

18.1 If either parties face a case of *force majeure* (as per defined in article II.14 of the Grant Agreement), it shall promptly notify the other party in writing, specifying the nature, probable duration and expected effects of this event.

18.2 Neither of the parties shall be deemed in breach of its obligations if it has been prevented from performing its tasks due to *force majeure*. The parties shall take all necessary measures to minimise possible damage to successful project implementation.

Article 19 Amendments

19.1 Any amendments to this Agreement must be made in writing by means of a Supplementary Agreement, and become effective when signed by the authorised legal representatives of both parties. No oral agreement may bind the parties to this effect.

19.2 The amendment may not have the purpose or the effect of making changes which might call into question the dispositions of the Grant Agreement.

Article 20 Annexes

Annex I – Budget/Expenditure/Co-financing breakdown per partner and budget category.

Annex II - Copy of the Grant Agreement signed between the coordinator and the Executive Agency.

Annex III - link to Guidelines for the Use of the Grant:

https://eacea.ec.europa.eu/erasmus-plus/beneficiaries-space/capacity-building-in-higher-education_en

We, the undersigned, declare to have read and accepted the terms and conditions of this Agreement as described here before, including the annexes thereto.

For the Coordinator
The legal representative
Georgy Mihov

Signature and stamp
Done in Sofia

Date



For the Beneficiary
The legal representative

Prof. Vijay V. Mandke

Signature and stamp
Done in Neemrana

Date 12/12/2016



PACE EDUCATION PRIVATE LIMITED
GRANT COMMITTEE

Dated: March 1, 2018

To
Dr. Vivek Srivastava
Director, Industry Sponsored Projects
NIIT University, Neemrana

Subject: Approval of PACE grant for Undergraduate Research

Dear Dr. Srivastava

We are pleased to inform you that, PACE grant research funding for the following year has been approved for the following Projects.

The amount should be used generously for the purchase of consumables and a limited amount for faculty traveling. You are advised not to use the PACE grant for any remuneration or salary purpose.

Project No.	Name of Faculty	Title of the Project	Amount (INR)
1	Abdul Mazid	Facial expression recognition System	10000
2	Abdul Mazid	Security System for DNS using Cryptography	10000
3	Akhlesh Agarwal & Vikas Malviya	NU LAN/WIFI/Internet traffic analysis for increasing throughput	10000
4	Amit Kumar	Relevance Search of Study material using Semiautomatic Evolutionary Graph Model	10000
5	Amit Kumar	Mining Software repositories using Graphical Models	10000
6	Arghya Guchhait	Development of WiMAX based Cognitive Communication Technology	10000
7	Arijit Karati	IoT devices authenticity through IBC in secure CoT enabled environment	10000
8	Arijit Karati	Mutual authentication in vehicular communication	10000
9	Ashwini Chauhan	Potential of antibiotics with N-Acetyl Cysteine (NAC) to eradicate persister bacteria	25000
10	Ashwini Chauhan	Evaluation of anti-biofilm efficacy of ZnO nanoparticles and nanorods	25000
11	Debajyoti Ghosh	Efficient algorithm for generating all the spanning trees of weighted undirected and directed graphs	10000
12	Debajyoti Ghosh	An efficient algorithm for list coloring problem of a graph	10000
13	Deeksha	Secure Data Sharing on Public Cloud	10000
14	Deeksha	Securing the V2V and V2I communication in Intelligent Transportation System	10000
15	Divya Aggarwal	3-D Image Steganography Technique	10000
16	Divya Aggarwal	Reversible Data hiding Technique	10000
17	Gaurav Sharma	Face recognition using deep learning	10000
18	Gaurav Sharma	Object detection and recognition using deep learning	10000
19	Jetendra Joshi	P-Agri : Pervasive Agriculture	10000
20	Jetendra Joshi	Sign Realization of Multimedia Sequences	10000
21	Jetendra Joshi	Energy-Efficient Approach Towards Network Intelligence in Cooperative Communication in Vehicle Environment	10000
22	Kumar Nitesh	Designing a metaheuristic approach for energy efficient clustering and routing algorithms for wireless sensor networks.	10000
23	Kumar Nitesh	Relay Node Deployment for assuring coverage and connectivity in a wireless sensor network.	



24	Kumar Nitesh	Trajectory formulation for multiple mobile sink in a delay bound environment of wireless sensor networks.	10000
25	Mandeep Dadhwal	Isolation of novel antibiotics genes from environmental samples by metagenomic approach	25000
26	Manoj Kumar	Secure group communication using elliptical curve cryptography	10000
27	Manoj Kumar	A secure and dynamic auditing protocol for data storage in cloud computing	10000
28	Manoj Kumar	Prevention of unauthorised access in social Networks using authentication	10000
29	Manoj Kumar	Secured Data sharing for single public blockchain between decentralised network and centralised network	10000
30	Meera S Dutta	Self-Acquisition of Critical Skills using Mobile Apps for Adolescents with Learning Disabilities	10000
31	Meera S Dutta	Improving Social and Academic skills acquisition ability of Educable students using technology and yoga exercises	10000
32	Mohd Anul Haq	:: Assessment of ANN, SVM and RF classifiers for Hyperspectral Imagery	10000
33	Narayan Kumar	Characterization of Promiscuous plasmids from natural isolates of lactic acid bacteria	25000
34	Narayan Kumar	Prediction of compound-target interactions of natural products to select natural herb based drug candidates.	25000
35	Navin Kapur	Design and hardware realization of Semiconductor Parameter Analyzer	10000
36	Navin Kapur	Study of Semiconductor Power Devices	10000
37	Neha Tiwari	Design analysis of Rectennas for wireless energy harvesting	10000
38	Pragya Verma	Argument Mining	10000
39	Pragya Verma	Named Entity Recognition and Mention Detection	10000
40	Pranav Ranjan	Analysis of the decisive pattern of the consumers for buying pattern of the consumers towards FMCG products	1000
41	Prosenjit Gupta	Scalable Algorithms for Cross-Network Recommendation Systems	10000
42	Prosenjit Gupta	Scalable Algorithms for Cross-Domain Recommendation Systems	10000
43	Raj K. Kovid	Identifying potential target and acquirer firms in a sector	1000
44	Raj K. Kovid	Valuation of a sector/industry	1000
45	Ram Narayan Yadav	An energy efficient scheme for data collection in wireless sensor networks using public transportation vehicles	1000
46	Ram Narayan Yadav	An Energy-aware and Buffer-aware Routing Protocol for Opportunistic Smart Traffic Management	1000
47	Sanjay Gupta	Designing and Implementing a field-usable microcontroller using FPGA	10000
48	Shalini	A Distributed Approach for Graph Mining in Massive Networks	10000
49	Shalini	On recommendation of graph mining algorithms for different data	10000
50	Shalini	Healing Partitioned Wireless Sensor Networks	10000
51	Shweta R Malwe	Cross-layer Design for Wireless Ad hoc Networks	10000
52	Shweta R Malwe	Efficient medium access control (MAC) protocol for Wireless Sensor Networks	10000
53	Shweta R Malwe	Detection of Misbehaving nodes in mobile ad hoc networks (MANETs)	10000
54	Siddhartha Khare	Spatial Monitoring of Urban Growth Using GIS and Remote Sensing: A case study of Neemrana	10000
55	Siddhartha Khare	Phenology Analysis of Ranthambore National Park of Rajasthan using Landsat-8 Satellite data	10000
56	Siddhartha Khare	Interactive Forest Biodiversity Map of NIIT University Campus	10000
57	Sunil Khanna	Metal sequestration in ecosystem by genetically modified microbes	25000
58	Supratik Banerjee	To design power aware routing for Ad-Hoc networks in disaster recovery	10000
59	Supratik Banerjee	To design efficient dynamic routing protocol	10000
60	Sushil Kalyani	The challenges and potentials for the Crypto-currency system from a financial inclusion perspective .	1000
61	Trupil Limbasiya	Design of a secure smart card-based multi-server authentication scheme	10000

62	Trupil Limbasiya	Effective end-to-end authentication scheme for wearable health monitoring systems	10000
63	Vijayant Pawar	Text summarization	10000
64	Vijayant Pawar	Text Search Engine	10000
65	Vikas Malviya	A kernel level implementation of Hadoop	10000
66	Vikas Malviya	Disease Identification and Risk Stratification	10000
67	Vikas Malviya	Understanding Climate Change using Data Analysis	10000
68	Vikas Malviya	IoT + Big Data	10000
69	Vikas Upadhyaya	Fire alarming and evacuation system	10000
70	Vikas Upadhyaya	Detection of the size of any body part using image Processing	10000
71	Vikas Upadhyaya	Segregating photographs based of face detection	10000
72	Vinay Sharma	Exploring hydration properties of aqueous transition metal and alkali/ alkali-earth ionic solutions.	10000
		Total	756000

The amount that can be utilized from this grant should not exceed Rs. Seven Lakhs Fifty-Six Thousand only. We are also expecting that you will submit some significant research outcomes (in the format of a comprehensive report) in due course of time.

With Best Wishes


 Chairman
 Pace Education Private Limited
 Grant Committee

PACE EDUCATION PRIVATE LIMITED
GRANT COMMITTEE

Dated: December 18, 2019

To
Dr. Vivek Srivastava
Director, Industry Sponsored Projects
NIIT University, Neemrana.

Dear Dr. Srivastava,

We are delighted to notify you that the PACE grant research funding for the upcoming year has been successfully approved for the following Projects.

Project No.	Name of Faculty	Title of the Project	Amount (INR)
1	Abhisek Dutta	Tourism and the smartphone app adoption in India	1000
2	Abhisek Dutta	Adoption of IoT based services/ devices in India: An empirical study of impact of existing brand reputation on adoption	1000
3	Akhlesh Agarwal	NU LAN/WiFi/Internet configuration and traffic analysis for increasing throughput	12500
4	Arghya Guchhait	DSRC Based Hybrid Communication Technology: Scope & Possibilities	5000
5	Gaurav Sharma	Run time conversion of speech from one language to other language like(hindi to english and vice versa.) using Deep Learning	12500
6	Gaurav Sharma	Walker for Blind people using Deep Learning.	12500
7	Gaurav Varshney	Understanding and Analyzing Cyber Threats via Malicious Browser Extensions	12500
8	Gaurav Varshney	Controlling Data Movement On the Web	12500
9	Gaurav Varshney	Domain Expressiveness over Internet	12500
10	Gaurav Varshney	IOT Security	12500
11	Gaurav Varshney	Cyber Crime: How to deal with it?	12500
12	Gurendra Nath Bhardwaj	Economic and Financial Feasibility of Solid Waste Management	12500
13	Gurendra Nath Bhardwaj	Ultra-Rich Vs. Financial Stability of Banks (With special reference to Indian Banking)	1000
14	Gurendra Nath Bhardwaj	An Assessment of Skill India Programme & creating bridge between demand and supply of labour	1000
15	Gurendra Nath Bhardwaj	Intrinsic value of Bank Loan	1000
16	Gurendra Nath Bhardwaj	Market Risk Assessment of selected Mutual Funds of India	1000
17	Gurendra Nath Bhardwaj	Issues and Challenges of NPA Management in Indian Banking	1000
18	Gurendra Nath Bhardwaj	Impact of Liquidity Adjustment Facility (LAF) on Indian Banking Sector (During last decade)	1000
19	Ipseeta Nanda	Architecture design for Internet of Things for Smart Home Interface	5000
20	Jetendra Joshi	V2G and Ride sharing services for Electric vehicles	5000
21	Jetendra Joshi	Security and Trustness in SDN- VANET	5000



22	Jetendra Joshi	Remote sensing of Asset by various communication technology	5000
23	Kumar Nitesh	Designing a metaheuristic approach for energy efficient clustering and routing algorithms for wireless sensor networks.	12500
24	Kumar Nitesh	Relay Node Deployment for assuring coverage and connectivity in a wireless sensor network	12500
25	Kumar Nitesh	Algorithm design for mobile element in wireless sensor networks	12500
26	Meera S Datta	Using Social Network Analysis to model Computer-Supported Collaborative Learning	5000
27	Meera S Datta	Self-Acquisition of Critical Skills using Mobile Apps as Tools for Adolescents with Learning Disabilities	5000
28	Meera S Datta	Using Human Posture Detection for Yoga Posture Identification in Educable Adolescents	5000
29	Mohd Anul Haq	Deep Learning based statistical downscaling and future projection of temperature in Himachal Pradesh	12500
30	Mohd Anul Haq & Jeetendra Joshi	Development of Indoor Navigation System	12500
31	Mohd Anul Haq & Jeetendra Joshi	Development of UAV Spoofing System	12500
32	Neha Tiwari	Wide range Electronic pest and rodent repellent	5000
33	Nidhi Chahal	2D to 3D Conversion by combining multiple depth cues using Machine Learning Approach	12500
34	Nidhi Chahal	Face Recognition based attendance system using Machine Learning	12500
35	Nidhi Chahal & Mohd Anul Haq	AI and ML based Analysis of Environmental Factors	12500
36	Nidhi Chahal & Mohd Anul Haq	Deep Learning based Hyperspectral image super-resolution	12500
37	Nidhi Chahal & Mohd Anul Haq	Deep Learning based Plant identification in Natural Environment	12500
38	Nidhi Chahal & Mohd Anul Haq	Deep Learning based LDA identification and detection on Mars	12500
39	Nitin Bhatia	Laser Broadcasting using Fiber bragg gratings	5000
40	Nitin Bhatia	Multimode interference methods with vector modes of an optical fiber	5000
41	Nitin Bhatia	Generating Multimode optical beams using optical fibers	5000
42	Nitin Bhatia	Methods for measuring the modal weights in an optical fiber beam	5000
43	Nitin Bhatia	Sensors for seismic activity detection	5000
44	Nitin Bhatia & Soumyadeep Chakraborty	Enzyme based biosensor for glucose detection	5000
45	Prashant Srivastava	Person Identification through Face Detection and Recognition in Real-Time Video	12500
46	Prashant Srivastava	Human Behaviour Identification in Real-Time Videos	12500

47	Prashant Srivastava	Image Classification	12500
48	Prashant Srivastava	Activity-Based Image Retrieval	12500
49	Sanjay Gupta	Development of a portable device for monitoring hydrogen sulfide, methane and ammonia	5000
50	Sanjay Gupta	Development of a microprocessor learning system with bus signal observation facility	5000
51	Shweta Malwe	Efficient Medium Access Control (MAC) protocol for Wireless Ad hoc Networks	12500
52	Shweta Malwe	Improving network performance using cross-layer design in Wireless Ad hoc Networks.	12500
53	Supratik Banerjee	Caching in Information Centric Networking	12500
54	Vikas Malviya	Security of Android Applications	12500
55	Vikas Malviya	Detection of maliciousness in Android Apps	12500
56	Vikas Upadhyaya	Fire alarming and evacuation system	5000
57	Vikas Upadhyaya	Detection of the size of any body part using Image Processing	5000
58	Vikas Upadhyaya	Courier Robot	5000
59	Vikas Upadhyaya	Designing website for Centre for Innovation Incubation and Entrepreneurship	5000
60	Vinay Sharma	Exploring solvation properties of various alkali and alkali-earth metal ions in liquid medium using spectroscopic method.	5000
		Total	493000

We trust that this financial support will aid in furthering your research endeavors. The sanctioned amount should be utilized judiciously, primarily for the acquisition of consumables, and a limited portion may be allocated for faculty travel expenses. We kindly request that the PACE grant is not utilized for any remuneration or salary purposes.

We would like to emphasize that the utilization of this grant must not exceed Rs. FOUR LAKHS NINETY-THREE THOUSAND only. We are satisfied with your previous year's progress.

Wishing you all the best for your research endeavors.

With Best Wishes



Chairman

Pace Education Private Limited
Grant Committee

PACE EDUCATION PRIVATE LIMITED
GRANT COMMITTEE

Date : January 2, 2020

To
Dr. Vivek Srivastava
Director, Industry Sponsored Projects
NIIT University, Neemrana.

Subject: Approval of PACE grant for undergraduate research

Dear Dr. Srivastava,
We are delighted to notify you that the PACE grant research funding for the upcoming year has been officially approved as per the list attached herewith.

Project No	Name of Faculty	Title of the Project	Sanctioned Money (in INR)
1	Akhlesh Agarwal	Network monitoring tool	15000
2	Arghya Guchhait	Wireless Communication protocol and sensing system development for vehicular communication network.	5000
3	Deepika Prakash	Development of Requirements Engineering tool for IoT applications	15000
4	Eswaran Narasimhan	Exploration of heuristics approaches for examination scheduling.	15000
5	Ganapathirao Maradana	Solution of Block-Tridiagonal Systems Arising from Certain Finite-Difference Equations	1000
6	Gaurav Gupta	Role of Probiotics in regulation of Host Immunity	30000
7	Gyanesh Jain	Indexation of commodity derivatives in India	1000
8	Ipseeta Nanda	Recognition of Facial Expression and Detection using python	5000
9	Jetendra Joshi	V2G and Ride sharing services for Electric vehicles	5000
10	Jetendra Joshi	System for Monitoring the Loss of Attention in Automotive Drivers	5000
11	Jetendra Joshi & Mohd Anul haq	Development of cellular based UAV security System	5000
12	Jetendra Joshi & Mohd Anul haq	Development of Indoor and Outdoor Navigation System	5000
13	Kumar Nitesh	Attack Detection and prevention Schemes in Wireless Sensor Network / IoT	15000
14	Kumar Nitesh	Coverage and Connectivity Issues in Wireless Sensor Networks	15000
15	Meera S Datta	Designing and prototyping a IoT-enabled Medicine Prescription System	5000
16	Meera S Datta	Using Human Posture Detection for Yoga Posture Identification in Educable Adolescents	5000
17	Meera S Datta	Self-Acquisition of Critical Skills using Mobile Apps as Tools for Adolescents with Learning Disabilities	5000
18	Meera S Datta	Using Social Network Analysis to model Computer-Supported Collaborative Learning	5000
19	Narayan Kumar	In-silico Drug-Design against Zika Virus	30000
20	Neha Tiwari	Study of Carbon Nano Tubes	5000
21	Nidhi Chahal	Artificial Intelligence in Games	15000
22	Nidhi Chahal	Intelligent Analysis On Satellite Imagery	15000
23	Prashant Srivastava	Human Pose Estimation In Real-Time Videos	15000
24	Prashant Srivastava	Object Detection and Recognition in Video	15000



25	Sanjay Gupta	Development System for Controller Area Network (CAN) Communication Protocol	5000
26	Sanjay Gupta	Non-Invasive Tourist Guidance App for Monuments	5000
27	Shweta R Malwe	Gateway selection for throughput optimization in multi-hop wireless networks	15000
28	Soumyadeep Chakraborty	Characterization of Glucose-Methanol-Chlorine oxidoreductase from bacterial origin	30000
29	Soumyadeep Chakraborty	Identification of Carbohydrate Binding Modules (CBM) to study surface glycoprotein interaction	30000
30	Soumyadeep Chakraborty & S N Sharan	Enzyme based biosensor for glucose detection	30000
31	Sudeep Goswami	Developing antimicrobial nanocomposites as an efficient drug delivery system	30000
32	Sudeep Goswami	Green synthesis of silver nanoparticle / Iron nanoparticles under various parameters and probing its antimicrobial potency	30000
33	Suman Sanyal	Data Extraction from Graphs	15000
34	Suman Sanyal	Visualization of High Dimensional Data	15000
35	Supratik Banerjee	Information-centric networking(ICN)	15000
36	Sweta Sharma	Feature Selection & Classification for Multi-label Learning	15000
37	Sweta Sharma	Early diagnosis and Prediction of Alzheimer's Disease	15000
38	Tapan Naskar	Domain Decomposition	1000
39	Utkarsh Raj	Computational approach to identify potential biomarker for the early detection of oral cancer	30000
40	Utkarsh Raj	Virtual Screening, Molecular Docking & Simulation studies towards the discovery of HPV16/18-E7 natural inhibitors for Cancer	30000
41	Vaishali J. Shinde	Digital Marketing Communication	1000
42	Vikas Malviya	Fraud Detection	15000
43	Vikas Malviya	Use of block chain technology in Healthcare	15000
44	Vikas Malviya	Study of Malnutrition in Children	15000
45	Vikas Upadhyay	Tourist guided tour	5000
		Total	614000

We have allocated a total amount of Rs. 6,14,000 to support your projects. This generous grant should primarily be utilized for the acquisition of consumables, and a limited portion may be allocated for faculty travel expenses. We would like to emphasize that the PACE grant should not be utilized for any remuneration or salary purposes. Please be mindful that the total expenditure from this grant should not exceed Rs. SIX LAKHS FOURTEEN THOUSAND only. We commend your dedication to involving young graduates in research activities, which undoubtedly contributes to the growth of academic knowledge and enhances the overall research community. Thank you for your commitment to advancing research in your field. We look forward to witnessing the positive impact of your endeavors.


Pace Education Private Limited
 Chairman
 Grant Committee

PACE EDUCATION PRIVATE LIMITED
GRANT COMMITTEE

Dated: January 5, 2021

To
Dr. Vivek Srivastava
Director, Industry Sponsored Projects
NIIT University, Neemrana.

Subject: PACE Grant Research Funding Approved

Dear Dr. Srivastava,
We are delighted to inform you that your application for PACE grant research funding for the following year has been approved as per the list of projects.

Project No	Name of Faculty	Title of the Project	Sanctioned Money (in INR)
1	Ajay Kumar Singh & Narayan Kumar	Renewable and Sustainable energy harvesting from Living Plants	5000
2	Akhlesh Agarwal	Network traffic data probing using open tools and traffic analysis for possible failures	10000
3	Chandan Medatwal	A Study of Effective Performance Appraisal system and its impact on employee morale	1000
4	Eswaran Narasimhan	Look Ahead Analytics in Airlines Schedules	10000
5	Gaurav Gupta	Characterization of novel bacteria isolated from Cow dung and its effect on cancer cells	35000
6	Jetendra Joshi & Prashant srivastava	Application of IOT in Smart navigation	10000
7	Jetendra Joshi & Prashant srivastava	IOT in retail advertisement	10000
8	Kartikay Gupta	Handwritten Digit Classification	10000
9	Kartikay Gupta	Stock Prices Forecasting	10000
10	Kumar Nitesh	Efficient mobile sink trajectory design in wireless sensor networks	10000
11	Kumar Nitesh	Energy efficient clustering and routing protocol for Internet of Things	10000
12	Meera S Datta	QR-Code based Visitor Self-Navigation System for University Campuses	10000
13	Meera S Datta	Designing and prototyping a IoT-enabled Medicine Prescription System	5000
14	Meera S Datta	Using Social Network Analysis to model Computer-Supported Collaborative Learning	10000
15	Meera S Datta	Self-Acquisition of Critical Skills using Mobile Apps as Tools for Educable Children	10000
16	Meera S Datta	Using Human Posture Detection for Yoga Posture Identification in Educable Adolescents	10000
17	Nagendra Nyamgondalu	Vaccines: Lab to Needle	10000
18	Narayan Kumar	In-silico detection and identification of cancer specific peptide -HLA complexes for targeted therapy	10000
19	Narayan Kumar	In-silico Drug-Design against CoVID	10000
20	Narayan Kumar	Construction of Broad host range prokaryotic expression vector by promiscuous plasmid of Lactic acid bacteria	10000
21	Prashant Srivastava	Person Identification through Face Detection and Recognition in Real-Time Video	10000



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22	Shweta Malwe	QoS based multipath routing in wireless network	10000
23	Soumyadeep Chakraborty & Utkarsh Raj	Enzyme preparation and their application	35000
24	Sudeep Goswami	Green synthesis of silver nanoparticle / iron nanoparticles under various parameters and probing its antimicrobial potency	35000
25	Sudeep Goswami	Developing antimicrobial nanocomposites as an efficient drug delivery system	35000
26	Suman Sanyal	Anomaly Detection in High Dimensional Data	10000
27	Suman Sanyal	Dimensional reduction for streaming data	10000
28	Suman Sanyal	Visualization of spatio-temporal data	10000
29	Suman Sanyal	Drug Discovery with Data Science	10000
30	Suman Sanyal	A simulation based optimization approach to Covid-19 vaccine supply chain management.	10000
31	Supratik Banerjee	Content popularity prediction for caching in Information Centric Networking	10000
32	Supratik Banerjee	Video streaming over Information Centric Networking	10000
33	Surender Singh	A Solution of Phishing	10000
34	Thota Sivasankar	Machine Learning based Crop Classification using Multi-temporal Sentinel-2 data	10000
35	Thota Sivasankar	GIS-based framework for COVID-19 susceptibility mapping using machine learning technique	10000
36	Utkarsh Raj & Soumyadeep Chakraborty	Corona Virus target gene identification and analysis	35000
37	Vikas Upadhyaya	GAIT signature for identification system	10000
38	Vikas Upadhyaya	Scale invariant object/place identifier	10000
39	Vikas Upadhyaya	Sub surface coal fire detection using remote sensing	10000
40	Vikas Upadhyaya	Rainfall prediction system	10000
41	Vikas Upadhyaya	Guided tour System	10000
42	Yogendra Pal	Educational Video Aggregator	10000
		Total	551000

We trust that this funding will be utilized responsibly for the purchase of consumables, as well as a limited portion of faculty travel expenses. However, we kindly remind you that the PACE grant should not be utilized for any remuneration or salary purposes. It is essential to adhere to the grant guidelines, and we expect the expenditure from this grant not to exceed Rupees FIVE LAKHS FIFTY-ONE THOUSAND only. As you conduct your research activities, we encourage you to engage young graduates in the process. Their involvement will not only contribute to the success of the projects but also foster valuable learning experiences.

In addition, we anticipate that you will provide us with significant research outcomes in the form of comprehensive reports. These reports will be instrumental in evaluating the impact and effectiveness of the funded research initiatives. Once again, congratulations on the approval of the PACE grant research funding. We appreciate your dedication to advancing knowledge and fostering research excellence.

Wishing you all the best for your research endeavors!

Sincerely,


Chairman
Pace Education Private Limited
Grant Committee

PACE EDUCATION PRIVATE LIMITED
GRANT COMMITTEE

Dated: January 3, 2022

To
Dr. Vivek Srivastava
Director, Industry Sponsored Projects
NIIT University, Neemrana.

Subject: PACE Grant Research Funding Approved!

Dear Dr. Srivastava,

We are delighted to inform you that your PACE grant research funding for the upcoming year has been officially approved as per the attached list of projects. The total amount sanctioned for your research endeavors is INR 356000, and it is intended primarily for the acquisition of consumables. Additionally, a limited portion of the grant can be allocated to faculty traveling expenses.

Project No.	Name of Faculty	Project No.	Sanctioned Money (INR)
1	Ajay Kumar Singh	Designing Ultra-Low-Power Sensor Nodes for IoT Applications	2000
2	Ajay Kumar Singh	Design of energy harvesting system	2000
3	Deepak Khanna	ONLINE GAME FOR MANAGEMENT SUBJECTS	2000
4	Deepika Prakash	Towards a data storage system for SDLC of IoT applications	12000
5	Deepika Prakash	Optimizing computation in polybase systems	12000
6	Eswaran N	Extraction of contexts from a narration	12000
7	Jetendra Joshi & Ajay Kumar Singh	IOT based solar tracer and solar monitoring system for maximum power efficiency	2000
8	Jetendra Joshi & Prashant Srivastava	Vision based Pose Estimation Approach used in IOT Application	2000
9	Jetendra Joshi & Prashant Srivastava	IOT and Vision based solution in Smart Fitting Rooms	2000
10	Kumar Nitesh	Graphical Password To Avoid Shoulder Surfing	12000
11	Kumar Nitesh	Image Encryption Using AES Algorithm	12000
12	Lopa Pattanaik	Potential and feasibility assessment of Indian agricultural wastes for biofuels and value-added products production	25000
13	Lopa Pattanaik	Capstone 1 Project No. 1# Screening of biological coagulants/flocculants for water and wastewater treatments	25000
14	Lopa Pattanaik	Screening of biological coagulants/flocculants for water and wastewater treatments	25000
15	Narayan Kumar	Identification and characterization of antimicrobial peptides from lactic acid bacteria for the prevention of bacterial and viral infection.	25000



16	Narayan Kumar	Drug discovery for molecular targeted therapy of cancer via computational method.	25000
17	Prashant Srivastava	Human Activity Recognition in Videos	12000
18	Prashant Srivastava	Face detection and Recognition in Real-Time Videos	12000
19	Shweta Malwe	Topology control in wireless networks	12000
20	Supratik Banerjee	Information Centric Vehicular Networking (ICVN)	12000
21	Suranita Kanjilal	Numerical methods to simulate granular flow	2000
22	Surender Singh	Web Application Scanner	12000
23	Surender Singh	Cyber Security : Protection & Detection of Cyber Crime	12000
24	Utkarsh Raj	Identification of drug targets using RNA expression data of Ovarian Cancer	25000
25	Utkarsh Raj & Prashant Srivastava	Machine Learning based classification of Breast Cancer Data	12000
26	Vikas Upadhyaya	Sub surface coal fire detection using remote sensing	2000
27	Vinay Sharma, Narayan Kumar & Utkarsh Raj	Exploring solvation properties of various molecules in liquid medium using spectroscopic method.	2000
28	Vivek Kumar Anand	Exploit development	12000
29	Vivek Kumar Anand	Malware Analysis	12000
30	Yogendra Pal	Impact of Video Knowledge Base in NIIT University (an organization)	10000
31	Yogendra Pal	Impact of Gamification on learner's engagement in a MOODLE Course	10000
		Total	356000

We kindly request that you adhere to the guidelines set forth for the utilization of this grant. It is imperative that the funds are used solely for consumables and faculty travel, and under no circumstances should any portion be utilized for remuneration or salary purposes. Please bear in mind that the maximum amount that can be disbursed from this grant is INR THREE LAKHS FIFTY-SIX THOUSAND only.

Furthermore, as part of our ongoing commitment to promoting meaningful research, we expect a comprehensive research outcome in the form of a report to be submitted to us after a period of 5 years. We extend our sincere appreciation for your dedication to engaging young graduates in various research activities. Once again, congratulations on the approval of the PACE grant research funding, and we look forward to witnessing the fruitful outcomes of your research.

Wishing you all the best for your research endeavours!
Sincerely,



Pace Education Private Limited
Grant Committee