





### **DST-INSPIRE INTERNSHIP SCIENCE CAMP**

Scheme for Early Attraction of Talents for Science (SEATS) 21-26 DECEMBER 2019

#### CENTRAL UNIVERSITY OF KERALA, KASARAGOD -671 316, KERALA, INDIA

Dated: 19 December 2020

То

Dr. Umesh K. Sharma Scientist –F INSPIRE Programme Division Department of Science & Technology New Delhi- 110 016

Dear Sir,

Sub: DST-INSPIRE Internship Science Camp-Organized by Central University of Kerala, Kasaragod during the period from 21-26 December 2019- Submission of SE and UC with other documents.
 Ref: DST guidelines to conduct the Science Camp

I am herewith submitting the SE and UC along with the necessary documents in connection with DST-INSPIRE Residential Science Camp Organized by Central University of Kerala, Kasaragod during the period from 21-26 December 2019.

List of Documents include

- 1. Sanction Order of DST-INSPIRE Internship Science Camp
- 2. List of Participating Students with Cut off marks their Education board like State Education board, CBSE, ICSE etc.
- 3. Five days attendance of the students
- 4. List of Mentors with their contact details and title of the talk
- 5. Programme Schedule followed in the Camp
- 6. Mentors feedback
- 7. Student Feedback summary in the given format(Complied by the Programme Coordinator)
- 8. Innovative idea write-ups to the Top Three winners
- 9. Programme Coordinators feedback
- 10. Detailed report of the Camp
- 11. Residential Camp Certificate
- 12. SE and UC

Thank You

Yours Faithfully

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Dr. Sudha K. , Programme Co-ordinator , DST-INSPIRE Science Camp, Central University of Kerala

#### No. INSPIRE INTERNSHIP/8/2019-20/5 GOVERNMENT OF INDIA MINISTRY OF SCIENCE AND TECHNOLOGY DEPARTMENT OF SCIENCE AND TECHNOLOGY (INSPIRE PROGRAM)

Technology Bhawan New Mehrauli Road New Delhi-110 016 Date: 13<sup>th</sup> December, 2019

#### SANCTION ORDER

Subject: Financial assistance for organizing the INSPIRE Internship Science Camp (Ref. no. DST/INSPIRE/01/2019/000589) during 22-26 December, 2019 at Central University of Kerala, Tejaswini Hills, Kasaragod-671316, Kerala.

PI: Dr. Sudha Kappalli, Professor/Program Co-ordinator, Department of Zoology, Central University of Kerala, Tejaswini Hills, Kasaragod-671316, Kerala,

Sanction of the President is hereby conveyed for the organization of above mentioned INSPIRE Internship Science Camp for 150 students during 22-26 December, 2019 at Central University of Kerala, Tejaswini Hills, Kasaragod-671316, Kerala at a total cost, General component, not exceeding Rs. 9,75,000/- (Rupees Nine Lakh and Seventy-Five Thousand only)

2 Sanction of the President is also accorded to the General component release of Rs. 8,00,000/- (Rupees Eight Lakh only) to the Central University of Kerala, Tejaswini Hills, Kasaragod-671316, Kerala as the initial grant for organizing the above mentioned program and the final release will be made on receipt of Utilization Certificate and Statement of Expenditure from the host Institute.

3 It is certified that travel by Air-Rail Road (Car Taxi etc.) in this case is urgent and considered necessary in the public interest. The sanction of the President is also accorded to the performance of Journey by Air/Train (1" Class/AC2tier/AC3tier) Road (Own Car/taxi etc.) by the participants as per their entitlement in their parent organization

4. Host Institute will furnish financial records in the form of the Statement of Expenditure and Utilization Certificate duly reflecting the interest earned/accrued on the above received amount by them along with INSPIRE Internship Science Camp Completion Report to DST. After receiving these documents. DST will release the nextFinal installment amount if applicable. This is also subject to the condition of submission of the final statement of expenditure, utilization certificate and final completion report within one year from the scheduled date of completion

5. The grantee organization will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account. For Grants released during F.Y. 2017-18 and onwards, all interests and other earnings, against released Grant shall be remitted to Consolidated Fund of India, immediately after finalization of accounts, as it shall not be adjusted towards future release of grant. A certificate to this effect shall have to be submitted along with Statement of Expenditure/Utilization Certificate for considering subsequent release of grant/closure of project accounts.

6. The expenditure involved is to be debited to

Demand No. 86 – Department of Science and Technology 3425. Other Scientific Research (Major Head) 60 – Other (Sub-Major Head) 60 200 – Assistance to other Scientific Bodies (Minor Head) 68 – Science & Technology Institutional and Human Capacity Building 68.00.31 – Grant-in-aid General for the year 2019-2020 (Voted) (Previous: 56.03.31 - Alliance and R&D Mission)

7 The amount of Rs.8.00,000/- (Rupees Eight Lakh only) will be drawn by the Drawing and Disbursing Officer. DSI and will be disbursed to the Central University of Kerala, Tejaswini Hills, Kasaragod-671316, Kerala. The bank details for electronic transfer of funds through R IGS are given below: -

6.1.1-0-0

Name of the Account Holder Central University of Kerala, Tejaswini Hills Kasaragod- 671 316 Kerala Bank and Branch Name: Canara Bank Accounts No: 0711101068500 IFSC Code. CNRB0004111

Cont. 2 -

8. The account of the grantee organization shall be open to inspection by the sanctioning authority and audit (both by C&AG of India and Internal Audit by the Principal Accounts Office of the DST), whenever the organization is called upon to do so, as laid down under Rule 236(1) of General Financial Rules 2017

9. The grantee organization will have to enter & upload the utilization certificate in the PFMS portal. The subsequent final installment will be released only after confirmation of the acceptance of the UC by online portal and of entry of previous UCs' by the division.

10. The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Department of Science & Technology should invariably be highlighted acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.

11. Failure to comply with the terms and conditions of the scheme will entail full refund with interest in terms of Rule 231 (2) of GFR 2017.

12. The sanction issue under the powers delegated to the Ministries and with the concurrence of the Integrated Finance Division, Department of Science and Technology vied their Dy. No. C/4601/IFD/2019-20 dated 12.12.2019.

13. The Sanction Order is entered vide INSPIRE SI. No 522 in the Register of Grants.

Lest (Dr. Umesh K. Sharma) Scientist -E

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Copy forwarded for information and necessary action to: -

1. Copy with two spare copies of the sanction to the Drawing and Disbursing Officer, DST, New Delhi,

- 2. Pay & Accounts Officer, DST, New Delhi.
- 3. Sanction Folder, DST, New Delhi.
- The Principal Director of Audit A.G.C.R. Building IIIrd Floor, I.P. Estate New Delhi-110 002
- The Registrar Central University of Kerala Tejaswini Hills Kasaragod-671316, Kerala.
- Dr. Sudha Kappalli Professor/Program Co-ordinator Department of Zoology Central University of Kerala Tejaswini Hills Kasaragod-671316, Kerala.

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(Dr. Umesh K. Sharma) Scientist -E



December 21-26,2019 Central University of Kerala,Periye, Kasragod





Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
01	Aadhika Farsana A.M.	JNV Thiruvanantha- puram	Thiruvanantha- puram	AADHIKA FARSANA A M 5650-4565-7315	A1
02	Aapti S. Leia	Jawahar Navodaya Vidyalaya, Chendayad	Kannur	9298-1518-6899	A1
03	Aarya Nanda Sajan	Amrita Vidyalayam Pookode	Kannur	2758-1135-0281	A1
04	Abhijith S	JNV Palakkad	Palakkad	7102-2663-3886	A1
05	Abhijith V	St. Mary's HSS, Vellaramkunnu	Idukki	<b>T176-4636-7960</b>	100



Reg.

No

Name

### **DST INSPIRE SCIENCE CAMP 2019**

December 21-26,2019

Central University of Kerala, Periye, Kasragod



#### List of Selected Students

District

School

dents	ins	pire	
Photo & AADHAA	R	Percentag of Marks	-

INO					UI WIAI KS
06	Abhinand P.K.	GHSS Chattukappara	Kannur	5025-7022-6471	100
07	Abhinand Salajan	GHSS Prapoyil	Kannur	9123-1652-2532	100
08	Abhinav N.K.	GHSS Kadannappally	Kannur	8365-0773-9216	96.4
09	Abhineeth K	GHSS Balla East Kanhangad	Kasaragod	6509-2057-8699	100
10	Abhirag Vishnu Prabheer	Kendriya Vidyalaya Payyannur	Kannur	7589-3466-8687	A1



December 21-26,2019 Central University of Kerala,Periye, Kasragod



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
11	Abhishek Babu	St. Mary's HSS, Vellaramkunnu	Idukki	6330-5541-9331	100
12	Abhishek C	GMBHSS Harippad	Alapuzha	5186-2797-4479	100
13	Abhishek P.	PPM HSS Kottukkara	Malappuram	З809-9871-5668	100
14	Adarsh P.	GHSS Udma	Kasaragod	ADARSH P 8272-4804-9316	99
15	Adhila Zainab	GHSS Pattambi	Palakkad	ADHILA ZAINAB 3690-7764-6512	100



December 21-26,2019 Central University of Kerala,Periye, Kasragod



		List of Sele	ents <mark>.</mark>	nspire	
Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
16	Adithya K.	Kadachira HSS	Kannur	<b>ADITHYA K</b> 5041-8406-4465	100
17	Aditya Das	GHSS Balanthode	Kasaragod	7083-3515-1461	100
18	Aghilesh S.	Chovva HSS	Kannur	3745-7713-1713	100
19	Aiswarya Rajeev	Chovva HSS	Kannur	8271-6246-8016	100
20	Akash B	Model TechnicalHSS Kaloor	Ernakulam	<b>AKASH B</b> 5016-7927-7953	100



December 21-26,2019 Central University of Kerala,Periye, Kasragod



		List of Selected Students			nspire
Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
21	Nandana K V	CHSS Chattanchal	Kasaragod	2891-7664-1288	100
22	Akshay Ashok	Kendriya Vidyalaya Kanhangad	Kasaragod	2352-2369-3034	A1
23	Akshay Jaymon	JNV Malappuram	Malappuram	4554-6577-9502	A1
24	Albin K Ajith	SCS HSS Thiruvalla	Pathanamthitta	2743-7382-2396	100
25	Aleena Antony	JNV Chennithala	Alappuzha	ALEENA ANTONY 7258-4785-9249	A1



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
26	Aleena Susan Philip	MGMHSS Thiruvalla	Pathanamthitta	9850-2328-8132	100
27	Alex Tomy	St. Thomas HSS, Thomapuram	Kasaragod	АЦЕХ ТОМУ 9101-3450-7906	100
28	Alphy Joshy	Dr.Ambedkar GHSS, Kodoth	Kasaragod	3930-4183-1027	97.4
29	Amal Krishnan K.	GHSS Alanallur	Palakkad	4319-4994-8218	100
30	Aman Rose	GHSS Vellur	Kannur	Аман Rose 3763-8535-5164	100



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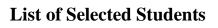
Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
31	Amith M Nambiar	CHSS Chattanchal	Kasaragod	3989-9130-6437	100
32	Anagha Reghu	MGM HSS Thiruvalla	Pathanamthitta	8002-4777-0404	100
33	Anand P S	GHSS Vellur	Kannur	ANAND P S 3538-9671-6865	100
34	Anand S.	JNVChettachal	Thiruvanantha- puram	ANAND S 2673-3651-4446	A1
35	Anandh Krishna M.	Perambra HSS Perambra	Kozhikode	3865-8233-0676	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
36	Ananthu P M	BJSM Madathil VHSS	Alapuzha	4561-2768-8364	100
37	Anjali V.	CJHSS, Chemnad	Kasaragod	2715-6679-2007	100
38	Anjana J Nair	CHSS Chattanchal	Kasaragod	ANJANA J NAIR 5938-0898-3912	100
39	Arathi Anil	St. Thomas HSS, Thomapuram	Kasaragod	5315-7219-7904	100
40	Arjun Ramesh	CHSS Chattanchal	Kasaragod	ARJON PAMES 6766-9028-5990	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
41	Arshya Dhanaraj	Chovva HSS	Kannur	7467-8364-8772	100
42	Arya Aravind	AVHSS Ponnani	Malappuram	2571-0784-9088	100
43	Arya Narayanan MK	Jawahar Navodaya Vidyalaya, Periye	Kasaragod	7176-3400-1365	A1
44	Aswathi Raveendran	Jawahar Navodaya Vidyalaya, Periye	Kasaragod	3055-0063-2397	A1
45	Aswin Suresh	GMBHSS Harippad	Alappuzha	3176-4427-4722	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
46	Ayshwarya Ashok	CHSS Chattanchal	Kasaragod	5884-3671-4199	100
47	Berry Shravan	GMBHSS Haripad	Alappuzha	2551-0543-8263	100
48	Bhagyalakshmi P S	JNV Palakkad	Palakkad	3596-4395-0628	A1
49	Bhavana Babu	Kadachira HSS	Kannur	BHAVANA BABU 2610-9049-1019	100
50	Chaithanya S.	GHSS Alanallur	Palakkad	9161-0281-9346	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
51	Chandrodharan Nair S	GHSS Balla East Kanhangad	Kasaragod		100
52	Christo Adolf	St. Thomas HSS, Thomapuram	Kasaragod	8015-5118-8687	100
53	Delna K. Saji	St. Thomas HSS Nadavayal	Wayanad	4182-9947-4077	96
54	Devi Nandana S	SM HSS Patharam	Kollam	<b>DEVI NANDANA.5</b> 6614-8103-5285	100
55	Dhanush K.	GMBHSS Thevally	Kollam	7457-9621-7452	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
56	Divin	SKMJ HSS Kalpetta	Wayanad	3388-2415-5339	100
57	Drishya P Raj	GHSS Pilicode	Kasaragod	5718-4885-0146	98
58	Farshan Yoosuf	GHSS Kokkallur	Kozhikode	FARSHAN YOOSUF 2244-4315-7022	100
59	Fathima Fidha K.P.	GHSS Othukkungal	Malappuram	3692-7206-8054	100
60	Kalidas Viswam	Durga HSS Kanhangad	Kasaragod	3642-0767-6578	96.2



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
61	Fathimathul Masna K.T.	GGHSS Thalassery	Kannur	5432-9451-1943	95
62	Fihad Latheef A.	Razi International School Kottakkal	Malappuram	7639-7724-5136	A1
63	Gayathri Balakrishnan	CHSS Chattanchal	Kasaragod	GAYATHRI BALAKRISHINAN 3451-6910-7218	100
64	Gopika T.	GMM GHSS Palakkad	Palakkad	9620-1102-4587	100
65	Greeshma V	AVHSS Ponnani	Malappuram	9205-8281-2014	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
66	Helen Mary Shaju	Sacred Heart Convent Girls HSS Thrissur	Thrissur	3911-3352-7647	100
67	Hima Sankar	GHSS Cherpulassery	Palakkad	9216-4016-0032	100
68	Honey Renjan E	CP HSS Kuttikkadu	Kollam	Honey Renjan E 9619-9587-8828	95.6
69	Hyfa Sulaikha	K VNo 1 CPCRI Kasaragod	Kasaragod	2996-0342-8181	A1
70	Janak Ramesh	SKMJ HSS Kalpetta	Wayanad	5296-8077-4818	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
71	Janfy Nihal K	HMY HSS Manjeri	Malappuram	JANFY NIHAL K September 15, 2019 9082-3424-3750	100
72	Suvarnnini K N	Durga HSS Kanhangad	Kasaragod	8812-5396-0705	97.2
73	Jithin Krishnan K.	CHSS Chattanchal	Kasaragod	JITHIN КRISHNAN.К 5076-9748-8367	100
74	Joshika Renu	JNV Chennithala	Alapuzha	<b>JOSHIKA RENU</b> 6729-9891-6555	A1
75	K. Indulekha	Chinmaya Vidyalaya	Kannur	8296-4596-8640	A1



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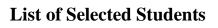




Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
76	Kalyani Prasad	GHSS Mullassery	Thrissur	5305-6071-6237	100
77	Kannan E	K V Kanhangad	Kasaragod	KANNAN E 05/08/2019 4182-4000-0643	A1
78	Krishna Narayanan	CHSS Chattanchal	Kasaragod	KRISHNA NARAYANAN 5407-6848-0163	100
79	Krishnahari S	GHSS Vellur	Kannur	КПІБНИАНАЯІ S 3763-1423-1728	100
80	Krishnendu E.S.	Sacred Heart Convent Girls HSS Thrissur	Thrissur	7153-4117-6031	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
81	Lakshmi R.	GHSS Alanallur	Palakkad	7507-4752-3750	100
82	Lakshmipriya A.	Koodali HSS	Kannur	5477-6676-6331	100
83	Lasna Sherin V T	JNV Palakkad	Palakkad	2893-7934-5145	A1
84	Lekshmi Prasad	SCS HSS Thiruvalla	Pathanamthitta	LEKSHMI PRASAD 6984-5445-0648	100
85	Lekshmipriya U.	Metropolitan HSS Puthencavu	Alappuzha	4805-7620-8218	100



December 21-26,2019







Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
86	M Areena	Amrita Vidyalayam Pookode	Kannur	4421-7705-4841	A1
87	Mariya Christy Thomas	Jawahar Navodaya Vidyalaya, Periye	Kasaragod	6459-0485-4459	A1
88	Mariya Paulson	Sacred Heart Convent Girls HSS Thrissur	Thrissur	3077-9179-9247	100
89	Meera V.	Alphonsa EMS, Thamarassery	Kozhikode	2365-6315-4471	A1
90	Abhinand S	JNV Chendayad Kannur	Kannur	<b>3931-8170-8970</b>	A1



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
91	Mohammed Abdulla A.K	Durga HSS, Kanhangad	Kasaragod	4610-4649-7756	95
92	Muhammed Razi C K P	GFHSS Cheruvathur	Kasaragod	9708-5895-3334	100
93	Mohammed Shanif K V	PPM HSS Kottukkara	Malappuram	<b>MUHAMMED</b> <b>SHANIF K V</b> 7884-1373-3196	100
94	Muhammed Shifin P.P.	GHSS Vettathur	Malappuram	9427-8064-4691	96
95	Mohammed Suhail K M	GMVHSS Kunnamkulam	Thrissur	6780-0758-1601	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
96	Muneeswararaj M	Shobha Icon HSS Moolamkode	Palakkad	8278-1963-6632	100
97	Nandana Menon K.	GMM GHSS Palakkad	Palakkad	6507-5463-1675	100
98	Navya C.	GHSS Kundamkuzhy	Kasaragod	NAVYA C 5846-0976-8189	100
99	Nihal Ibrahim P.P.	GHSS Vettathur	Malappuram	5922-0389-7981	100
100	Nikhitha M.	CJHSS, Chemnad	Kasaragod	6718-6574-3725	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
101	Niyuktha Anilkumar V.	GHSS Kuttamath	Kasaragod	6547-1525-4435	100
102	Noorfathima	St. Theresa's BCHSS Chengaroor	Pathanamthitta	7374-5738-6586	100
103	Paresh K.V.	GHSS Udma	Kasaragod	PARESH K V 7612-9485-6379	100
104	R Devanand	MG HSS Pala	Kottayam	R. DEVANAND 5272-7465-6767	100
105	Rahul K.	EMEA HSS Kondottty	Malappuram	RAHUL, K 23-11-2019 7546-6281-3037	100



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks
106	Rajanandana N.	CGHSS Vadakkancherry	Palakkad	3330-4590-7809	100
107	Reva P.	CHSS Chattanchal	Kasaragod	7754-1660-5607	100
108	Rinesh P.	Durga HSS, Kanhangad	Kasaragod	6875-5560-8011	100
109	Rishan Muhammed	Razi International School Kottakkal	Malappuram	9935-3353-8269	A1
110	Rithika Ramesh	Kendriya Vidyalaya, Keltron Nagar	Kannur	9881-6345-3179	A1



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks	
116	Sachu V Joseph	St. Mary's HSS, Vellaramkunnu	Idukki	5958-4006-0442	100	
117	Salghosh S	Shobha Icon HSS Moolamkode	Palakkad	8436-7869-2415	100	
118	Saniya Bharathan K	GHSS Kuttamath	Kasaragod	4322-3285-7011	100	
119	Serah Susan Jacob	Nirmala Public School	Ernakulam	7305-2583-5260	A1	
120	Sharon Dawson	St. Thomas HSS, Thomapuram	Kasaragod	<b>SHERCIN DI WYSCH</b> 2800-7036-0330	100	



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Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks	
121	Shazma A S	na A S K V Kanhangad K		<b>3924-9737-2212</b>	A1	
122	Sheersh K.	Durga HSS, Kanhangad	Kasaragod	4075-6412-4936	100	
123	Shivadath A.	Jawahar Navodaya Vidyalaya, Periye	Kasaragod	8352-7074-7845	A1	
124	Shivani Sreekumar	Chinmaya Vidyalaya	Kannur	3914-6032-9933	A1	
125	Sidharth E T Kendriya Vidyalaya Payyannur		Kannur	9635-4004-7971	A1	



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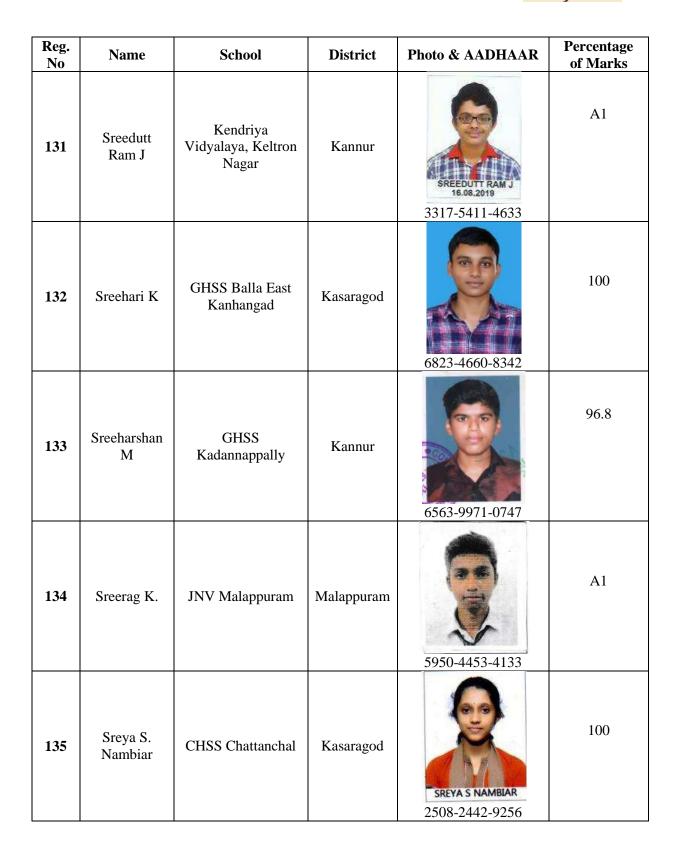
Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks	
126	Sneha K	CHSS Chattanchal	Kasaragod	3909-9446-6394	100	
127	Sona N.S.	GHSS Kadannappally	Kannur	4663-0605-9580	100	
128	Soorya K.	GFHSS Cheruvathur	Kasaragod	<b>7571-2073-6320</b>	100	
129	Sooryakeerthi P. S.	SNHSS, Irinjalakuda	Thrissur	9377-4596-9706	100	
130	Sourav A .	GHSS Vellur	Kannur	EOURAVA 7216-2682-2822	100	



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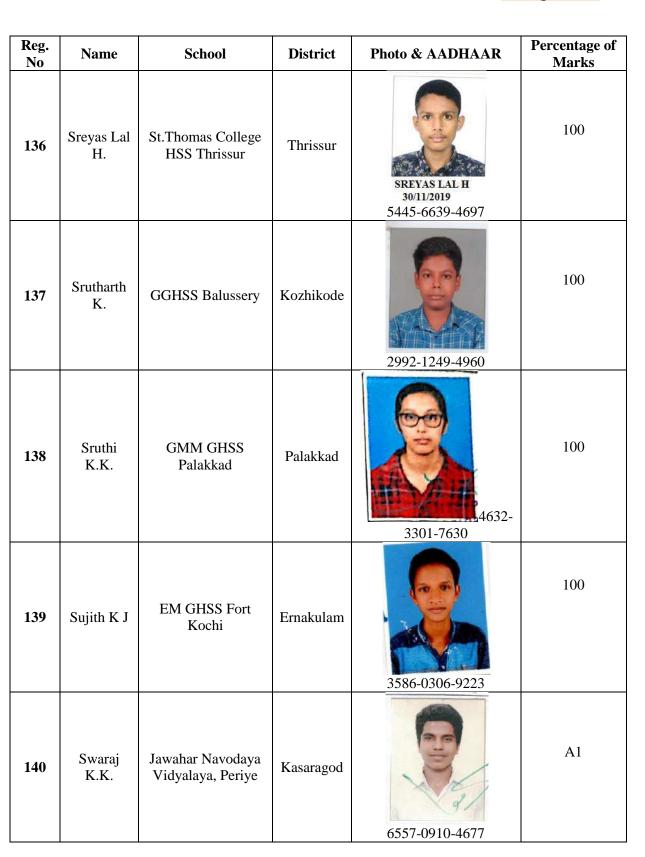
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सत्यमेव जयते





December 21-26,2019 Central University of Kerala,Periye, Kasragod







Reg. No	Name	School	District	Photo & AADHAAR	Percentage of Marks	
141	Thara Rajeev	Hari Sri Vidya Nidhi School, Punkunnam	Thrissur	7978-7165-4706	A1	
142	Tom Cherian	St.Mary's HSS Pattom	Trivandrum	8330-2854-5098	100	
143	Unniyarcha L.	GGHSS, Thazhava	Kollam	8228-4687-3894	100	
144	Vaishakh O.V.	Durga HSS, Kanhangad	Kasaragod	5824-9223-9384	95.4	
145	Visal Mohanan	NSS HSS, Kidangoor	Kottayam	5994-0072-6781	100	



December 21-26,2019 Central University of Kerala,Periye, Kasragod







Reg. No	Name	Name School		Photo & AADHAAR	Percentage of Marks
146	<b>46</b> Midhunraj V Durga HSS Kanhangad		Kasaragod	4680-7823-2367	100
147	Vyshnav Santhosh	rshnav GHSS nthosh Kadannappalli		6138-0946-5027	100
148	Zaajil Ahammed K P	Zaajil PPM HSS ammed K P Kottukkara		7742-4977-7449	100
149	Zaina Thamanna P	K VNo.1 CPCRI Kasaragod	Kasaragod	7522-8421-2522	A1
150	Zakiyya P.	GGHSS, Thalassery	Kannur	6332-5875-4614	100



December 21-26,2019







#### DST INSPIRE SCIENCE CAMP 2019 December 21-26,2019 Central University of Kerala, Periye, Kasragod

#### Attendance Sheet

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# DST INSPIRE SCIENCE CAMP 2019 December 21-26,2019 Central University of Kerala,Periye, Kasragod

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40	Arjun Ramesh	The	A			4		AR	Jele .		
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57	Drishya P Raj	Share	Ratie	Carles -	O Barr	Real	Some C	RUSHE-	Competence		Star-
58	Farshan Yoosuf	forthe ?	John	Jak .	James	Jan -	1000	Space	Tallan	Jac +	Jack
59	Fathima Fidha K.P.	Stattor	Juth P	and	Sutter	State	titte	Janta	Study	aut 1	datt
60	Kalidas Viswam	Othdas	Other	Charp.	Batter.	Ottedas	( Astrong	Catter	Others	( Tang	allidas
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64	Gopika T.	Gile.	Sike.	aile	Set .	Gen .	Gre.	4.	Gip	Gine .	199.
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# DST INSPIRE SCIENCE CAMP 2019 December 21-26,2019 Central University of Kerala, Periye, Kasragod

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94	Muhammed Shifin P.P.	S.	- 22	Cer.	2	- A	N	in			
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# DST INSPIRE SCIENCE CAMP 2019 December 21-26,2019 Central University of Kerala, Periye, Kasragod

# Attendance Sheet

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# DST INSPIRE SCIENCE CAMP 2019 December 21-26;2019 Central University of Kerala, Periye, Kasragod

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# Attendance Sheet

# Central University of Kerala INSPIRE Internship Science Camp 21-26 December 2019 MENTORS DETAILS

SI. No.	Name of the Mentor	Address	Title of the Talk		
1.	Prof. (Dr.)K. Muralidhar	University of Hyderabad Indian National Science Academy (INSA) Fellow	What is Biology Education?		
2.	Prof.(Dr.)C. Vijayan	Indian Institute of Technology (IIT) Madras	The Charm of Physics		
3.	Dr. Mahesh Hariharan	Indian Institute of Science Education & Research (IISER), TVM	Exciting Science of Fast Photography		
4.	Dr. M.Jayananda	Centre for Earth, Ocean & Atmospheric Sciences, University of Hyderabad	Sustainability in the context of Global Environmental and Climate Change		
5.	Dr. R. Rajendra Kumar	Kerala Veterinary & Animal Science University (KVASU)	Career Avenues in Diary and Food Processing		
6.	Dr. Kuruvilla Joseph	Indian Institute of Space Science & Technology	Micro to Nano: Challenges and Possibilities		
7.	Dr. A. Vijayakumar	CUSAT, Cochin	Invisible Mathematics		
8.	Dr.M.R.Sudarsanakumar	University of Kerala, TVM	Periodic Table and Story of Elements		
9.	Dr. G. Anilkumar	Vellore Institute of Technology	The Unsung Heroes of Science		
10.	Dr.Suresh Das	Indian Institute of Science Education & Research (IISER), TVM	Opportunities in Science		

Innovation in Science Pursuit for Inspired Research



A National Programme being implemented by the Department of Science & Technology Government of India

Scheme For Early Attraction of Talents for Science [SEATS]

# FIVE DAY RESIDENTIAL INSPIRE INTERNSHIP SCIENCE CAMP

for Plus one students 2019 December 21-26



Central University of Kerala Periye, Kasaragod



Invitation

# Dear Colleague,

We are so glad to inform that, the Central University of Kerala, Kasaragod, is hosting the Innovation in Science Pursuit for Inspired Research (INSPIRE) Internship for Plus One students. This innovative programme is implemented by the Department of Science and Technology, Government of India for attracting young talents towards Science. The main objective of INSPIRE is to communicate the young students of the country the excitements of creative pursuit of Science and attract talents to the study of Science at an early age, thus building the required critical human resource pool for strengthening and expanding the Science and Technology system and Research & Development base in our Country.

The INSPIRE Internship residential programme is scheduled from 21-26 December 2019. The venue for the programme is Seminal Hall, Kabani Hostel, Central University of Kerala, Periye, Kasaragod, Kerala.

The opening ceremony will be held on 21th December 2019 at 2.30 PM with Prof. (Dr.) M. R Prathapachandra Kurup, Dean, School of Physical Science and School of Earth Science Systems, Central University of Kerala welcoming the gathering and Prof. (Dr.) K. Jayaprasad, Hon'ble Pro. Vice Chancellor, Central University of Kerala, delivering the presidential address. Prof. (Dr.) G. Gopa Kumar, Hon'ble Vice Chancellor, Central University of Kerala, will inaugurate the programme. Dr. K. Radhakrishnan Nair Registrar Central University of Kerala will address the participants. Keynote Address will be deliverd by Prof. (Dr.) Suresh K. Das (IISER, Thiruvananthapuram). Dr. Muralidharan Nambiar, Controller of Examination, Central University of Kerala, Dr. B. R. Prasannakumar, Finance Officer, Central University of Kerala, Mr. Rajagopal K. G., Executive Engineer, Central University of Kerala and Dr. Rajendra Pilankatta, Head of the Department of Biochemistry & Molecular Biology, will felicitate the programme.

For the closing ceremony, Prof. (Dr.) K Muralidhar has kindly consented to deliver the valedictory address and the function will be presided over by Prof. (Dr.) G. Gopa Kumar, Hon'ble Vice Chancellor, Central University of Kerala. Dr. K. Radhakrishnan Nair, Registrar Central University of Kerala will address the participants. Sri. K. M Vijayakrishnan, Principal, Jawahar Navodaya Vidyalaya, Kasaragod will also address the participants during the valedictory function.

You are cordially invited to join the programme.

Thank you. Yours sincerely,

Prof. (Dr.) G. Gopa Kumar Chairman INSPIRE Science Camp Vice Chancellor Central University of Kerala Dr. Chandan Kumar B Joint Programme Co-ordinator INSPIRE Science Camp

Prof. (Dr.) Sudha K. Programme Co-ordinator INSPIRE Science Camp





# 2019 DECEMBER 21 SATURDAY

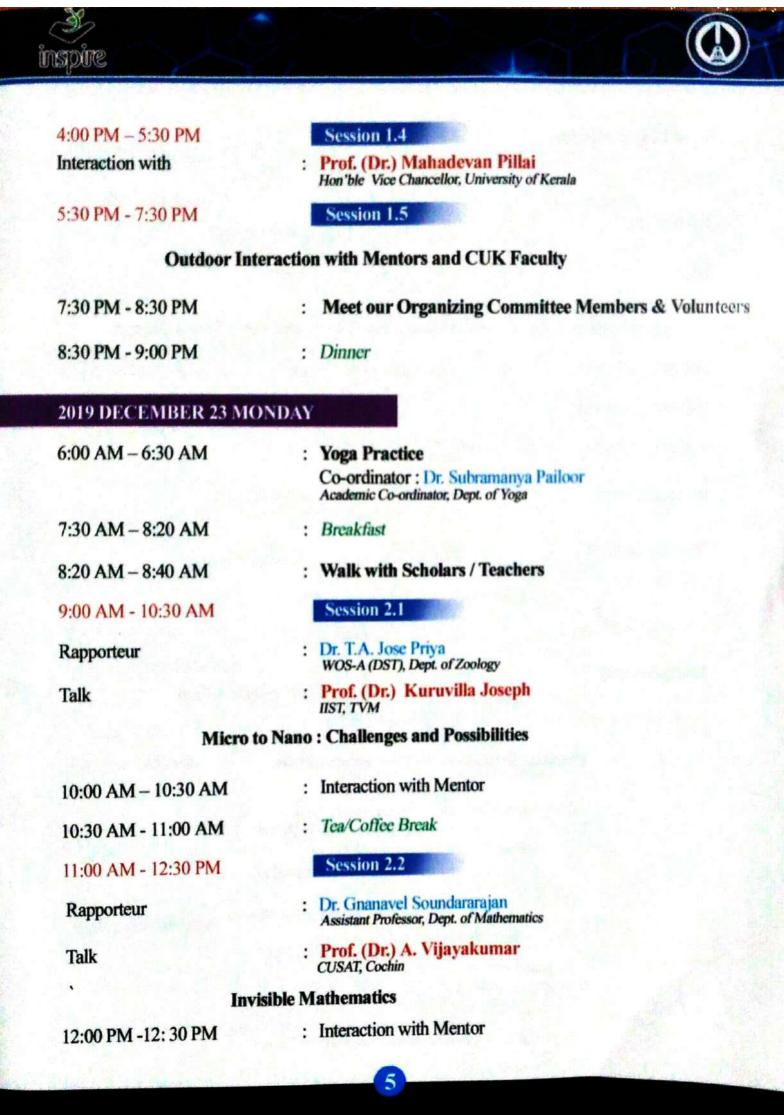
1:30 PM -2	2:30 PM	:	Registration
2:30 PM - 4	:30 PM	:	Opening Ceremony
2:30 PM		:	University Anthem
2:35 PM	Welcome Address	:	Prof. (Dr.) M.R. Prathapachandra Kurup Head, Department of Chemistry & Director of Research, CUK
2:40 PM	Introductory Remarks	s :	Prof. (Dr.) Sudha K. Programme Co-ordinator, INSPIRE Science Camp
2:45 PM	Presidential Address	:	Prof. (Dr.) K. Jayaprasad Pro-Vice Chancellor, Central University of Kerala
3:00 PM	Inaugural Address	:	Prof. (Dr.) G. Gopa Kumar Hon'ble Vice Chancellor, Central University of Kerala
3:30 PM	Special Address	:	Dr. A. Radhakrishnan Nair Registrar, Central University of Kerala
3: 45 PM	Keynote Address	:	Prof. (Dr.) Suresh K. Das IISER, Thiruvananthapuram
4.00 PM	Felicitations		<ol> <li>Dr. Muralidharan Nambiar Controller of Examination, CUK</li> <li>Dr. B. R. Prasannakumar Finance Officer, CUK</li> <li>Mr. Rajagopal K. G. Executive Engineer, CUK</li> <li>Dr. Rajendra Pilankatta HOD, Dept. of BCMB, CUK</li> </ol>
4:25 PM	Vote of Thanks	:	Dr. Chandan Kumar B. Joint Programme Co-ordinator, DST-INSPIRE Science Camp
Stage Co-o	ordinators: Dr. Efthika	r /	Ahamed B, Assistant Professor, Dept. of English & Comparative Literature
4:30 PM - 5:	30 PM	:	Tea/Coffee Break
5:30 PM - 6:	00 PM	:	General Instruction and Briefing the programme Dr. Shaini P. Assistant Professor, Dept. of Mathematics, CUK
6:00 PM – 7:	30 PM	:	Ice Breaking Dr. Efthikar Ahamed B. Assistant Professor, Dept. of English & Comparative Literature
7:30 PM - 8:3	30 PM	:	Dinner

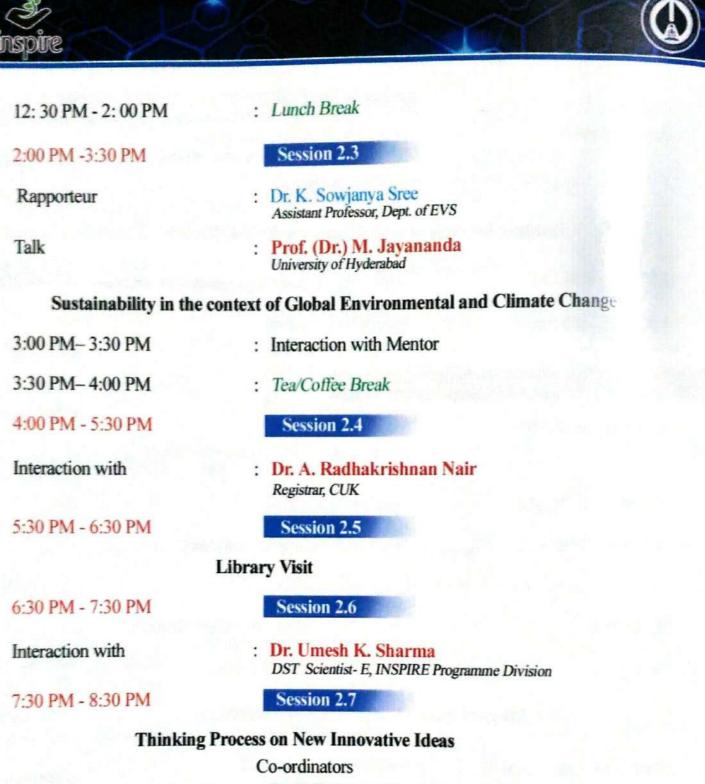




# 2019 DECEMBER 22 SUNDAY

6:00 AM - 6:30 AM	•	Yoga Practice Co-ordinator: Dr. Subramanya Pailoor Academic Co-ordinator, Dept. of Yoga
7:30 AM - 8:20 AM	:	Breakfast
8:20 AM - 8:40 AM	:	Walk with Scholars / Teachers
9:00 AM - 10:30 AM		Session 1.1
Rapporteur	:	Dr. Ravi Kumar Kanaparthi Assistant Professor, Dept. of Chemistry
Interaction with	:	Prof. (Dr.) Suresh K. Das IISER, TVM
10:30 AM - 11:00 AM	:	Tea/Coffee Break
11:00 AM - 12:30 PM		Session 1.2
Rapporteur	:	Dr. M. Bhagiyalakshmi Assistant Professor, Dept. of Chemistry
Talk	:	Dr. M.R. Sudarsanakumar KUFOS, Kochi
Periodic Table a	an	d Story of Elements
12:00 PM - 12:30 PM	:	Interaction with Mentor
12:30 PM - 02:00 PM	:	Lunch Break
2:00 PM - 3:30 PM		Session 1.3
Rapporteur	:	Dr. P.M. Aneesh Assistant Professor, Dept. of Physics
Talk	:	Prof. (Dr.) C. Vijayan IIT, Madras
The Char	m	of Physics
3:00 PM - 3:30 PM	:	Interaction with Mentor
3:30 PM - 4:00 PM	:	Tea/Coffee Break





Dr. V. B. Sameer Kumar Assistant Professor, Dept. of BCMB

Dr. Sijin Kumar A. V. Assistant Professor, Dept. of Geology

Dr. Jasmine M. Shah Assistant Professor, Dept. of Plant Science

Dr. K. Sowjanya Sree Assistant Professor, Dept. of EVS

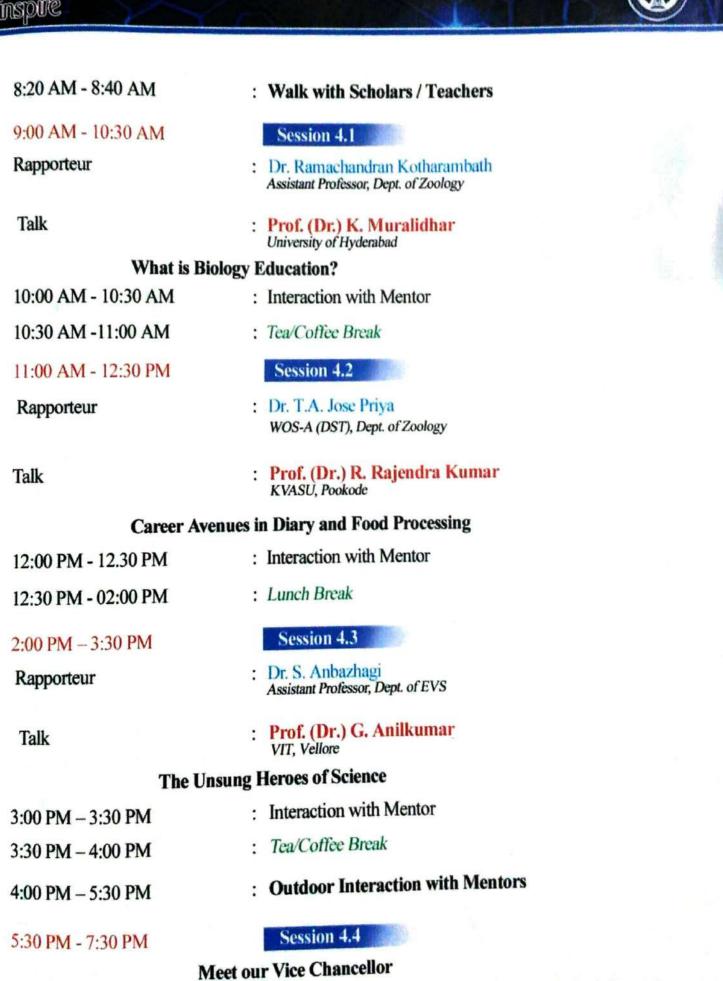
Dr. H.P. Gurushankara Assistant Professor, Dept. of Zoology

Dr. Ramachandran Kotharambath Assistant Professor, Dept. of Zoology



nspue		
Earth Sciences	: Dr. Pratheesh P. Assistant Professor, Dept. of Geology Dr. S. Anbazhagi Assistant Professor, Dept. of EVS	
5:00 PM - 5:30 PM	Session 3.3 Practical Concluding Session	
	Dr. Sijin Kumar A.V. Assistant Professor, Dept. of Geology	
5:30 PM - 6.30 PM	Meet our Research Scholars Co-ordinators: Dr. T. A Jose Priya	
	WOS- A (DST), Dept. of Zoology Jayanth Kumar Padhi Ph.D. Research Scholar, Dept. of Geology	
6:30 PM – 7.30 PM	Meet our Inspire Alumni Co-ordinators: M. Jijith DRDO Hyderabad, INSPIRE Alumni S.K.V. Arjun Pondicherry University, INSPIRE Alumni	
7:30 PM – 8:30 PM	: Christmas Celebration Co-ordinators Dr. Sijin Kumar A.V. Assistant Professor, Dept. of Geology	
Christmas Message by	Dr. T. A. Jose Priya WOS- A (DST), Dept. of Zoology Mrs. S. Jayasree	
8:30 PM – 9:00 PM	Former Principal, St. Paul's Central School, TVM Dinner	
2019 DECEMBER 25 WE	DNESDAY	
6.00 AM - 6.30 AM		

6:00 AM - 6:30 AM
Yoga Practice Co-ordinator : Dr. Subramanya Pailoor Academic Co-ordinator, Dept. of Yoga
7:30 AM - 8:20 AM
Breakfast



Prof. (Dr.) G. Gopa Kumar

inspire	
7:30 PM - 9:30 PM	: Cultural Programmes by the Participants Co-ordinators: Dr. R. Aswati Nair Associate Professor, Dept. of BCMB Dr. Mary Vineetha Thomas Assistant Professor, Dept. of Education
9:30 PM - 10:00 PM	: Dinner
2019 DECEMBER 26 TH	URSDAY
6:00 AM - 6:30 AM	: Yoga Practice Co-ordinator: Dr. Subramanya Pailoor Academic Co-ordinator, Dept. of Yoga
7:30 AM - 8:20 AM	: Breakfast
8:20 AM -8:40 AM	: Walk with Scholars / Teachers
9:00 AM -10:30 AM	Session 5.1
Rapporteur	: Dr. S. Anbazhagi Assistant Professor, Dept. of EVS
Talk	: Dr. Mahesh Hariharan IISER, TVM
Excitin	ng Science of Fast Photography
10:00 AM - 10:30 AM	: Interaction with Mentor
10:30-11:00 AM	: Tea/Coffee Break
11:00 AM -1:00 PM	<ul> <li>Panel Discussion with Mentors and CUK faculties on the Career prospects in Science Co-ordinators:</li> <li>Dr. Padmesh P. Pillai Associate Professor, Dept. of Genomic Science &amp; Deputy Registrar, CUK</li> <li>Dr. Sijin Kumar A.V Assistant Professor, Dept. of Geology</li> <li>Dr. E. Prasad Associate Professor, Dept. of Physics</li> <li>Dr. V.B. Sameer Kumar Assistant Professor, Dept. of BCMB</li> </ul>
1:00 PM - 2:00 PM	: Lunch

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2.00 PM - 5:05 PM		Closing Ceremony
2:00 PM	;	University Anthem
2:05 PM Welcome Address	:	Dr. Rajendra Pilankatta HOD, Dept. of BCMB, CUK
2:10 PM Report Presentation	:	Dr. Chandan Kumar B. Joint Co-ordinator, INSPIRE Science Camp
2:20 PM Presidential Address	:	Prof. (Dr.) G. Gopa Kumar Hon'ble Vice Chancellor, Central University of Kerala
2:50 PM Address by Chief Gues	t:	Prof. (Dr.) K. Muralidhar University of Hyderabad
3:20 PM Special Address	:	Dr. A. Radhakrishnan Nair Registrar, Central University of Kerala
3:50 PM Special Address	:	Sri . K. M. Vijayakrishnan Principal, Jawahar Navodaya Vidyalaya, Periya
4:00 PM	:	Feedback from Participants
4:30 PM Remarks by Mentors	:	Dr. R. Rajendra Kumar KVASU, Pookode
		Dr. G. Anilkumar VIT, Vellore
		Dr. Mahesh Hariharan USER, TVM
4:50 PM	:	Presentation of Memento to the Winners
4:55 PM Vote of Thanks	:	Prof. (Dr.) Sudha K. Programme Co-ordinator, INSPIRE Science Camp
5:00 PM	:	Certificate Distribution
5:05 PM	:	National Anthem

# Tea/Coffee

Stage co-ordinator : Dr. K. Sowjanya Sree. Assistant Professor, Dept. of EVS



# CENTRAL UNIVERSITY OF KERALA KASARAGOD

The Central University of Kerala, Kasaragod is one of the 15 Central Universities established under the Central Universities Act 2009 (Parliament Act No. 25 of 2009). The University is founded on the noble vision of a "caring wisdom" and is guided by the lofty ideals of academic and social commitment, moral steadfastness and. intellectual and spiritual enlightenment, as reflected in its vision statement. Located in a region characterized by linguistic and ethnic diversity adorned by cultural richness, the University seeks to harness the local resources-human, intellectual, social, artistic and cultural, while bringing in the best that profoundly needs an educational uplift. The University opened its academic portals in October 2009 with 17 students enrolling in two PG programmes and operated from a rented building at Nayanmarmoola (Vidyanagar). From this modest beginning, CUK has grown into a prestigious institution with 11 schools comprising 27 departments offering 26 postgraduate and research programmes and 1 undergraduate programme with total enrolment of 2020 students in the academic year 2019-2020.

Dr. G. Gopa Kumar, the present Vice Chancellor is a veteran academician, eminent social scientist and astute political analyst who assumed office on 7 August 2014. His vision is to transform the CU Kerala as the epicentre of development in Malabar region in particular and Kerala in general and to keep the national character and outlook in its academic and extracurricular activities.





#### **MENTOR's FEED BACK FORM**

- 1. Name and Address of the Host Institute: Central University of Kerala, Penye, Kastragod
- 2. Date/Duration of the INSPIRE Internship Camp: 21-26 December 2019
- 3. Name and Address of the Mentor: Prof. (Pr.) Kursu villa Soseph (With e-mail address & Mob. No.) Ph.D., FI2SC, Senior Protessor Dept. of Chemisky, 1159 Provardown G - mail: Kuruvilla @ ist. ac. in

4. Date of Participation in the Camp: 23/12/20/9

5. Comments about the Infrastructural capacity of the organizing Institute:

Escellert

6. Comments on the boarding and lodging facilities made available:



Brilliant students and highly

Drganizes8.

7. Mentors views on the INSPIRE Internship Camp:

8. Comments about the interaction with the participating students:

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Highly motivated

9. Suggestions to further improve the INSPIRE Internship camps:

N.

10. Overall impact of the INSPIRE Internship Camp:

Excellent

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(Signature of the Mentor)

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#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Kerala, Persye, Kasaragod

2. Date/Duration of the INSPIRE Internship Camp: 21-26 December 2019

3. Name and Address of the Mentor: Dr. M.L. Sudar lanakungs, (With e-mail address & Mob. No.) Adjund Foculty, Kerala University of Fishers of and Ocean Studie, Kochi

4. Date of Participation in the Camp: 22-12-19

5. Comments about the Infrastructural capacity of the organizing Institute: The Universityhas excellent infrastructure to organize such programme. A

6. Comments on the boarding and lodging facilities made available:

The bounding + loadsing failities provided by the University ware excellent.

7. Mentors views on the INSPIRE Internship Camp:

The interest shown by the participants is

really improveme. I was really improved by the team work is the bandinutre them for their commitment. The students rule has to be appredicted in the Endershill Conduct of the Camp. 8. Comments about the interaction with the participating students:

Students asked may sherting the Ke lecture.

They also reproded well when question were arread to them.

9. Suggestions to further improve the INSPIRE Internship camps: A foil - Roma can be related for the INSPIRE

Comp Back your. The Mudents an also have a brainstooning sertion to autor but to the total theme. A session on this encluation the Records 10. Overall impact of the INSPIRE Internship Camp: approximation in Science Can Can Included.

The camp help to incultate rulerent

to Phisus Science education & research among Analost.

- Dala

(Signature of the Mentor)





#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Korala, Partye, Kasarago of 2. Date/Duration of the INSPIRE Internship Camp: 01 - 12 - 19 to 26 - 12 - 19 Do.R. Pajendova Kerman Apar, Pallimitta Sisikumasikan Qyahoo com 9446442759 3. Name and Address of the Mentor : (With e-mail address & Mob. No.) 4. Date of Participation in the Camp: 25/12/2019

5. Comments about the Infrastructural capacity of the organizing Institute: Excellent frechtores have been created in the unversity

6. Comments on the boarding and lodging facilities made available:

Good

7. Mentors views on the INSPIRE Internship Camp:

very endursation students. The internation

8. Comments about the interaction with the participating students:

9. Suggestions to further improve the INSPIRE Internship camps:

10. Overall impact of the INSPIRE Internship Camp:

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Very Good .

a.

#### (Signature of the Mentor)







#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute:

2. Date/Duration of the INSPIRE Internship Camp:

 Name and Address of the Mentor : (With e-mail address & Mob. No.)

4. Date of Participation in the Camp:

Central Miniversity Kevala

p: 21-26 Der 2019 Dr. Juresh Dag sureshdage iser hom. ar. im 9447706202 21 and 22 December 2019

5. Comments about the Infrastructural capacity of the organizing Institute: Excellent facilities and very well organized.

6. Comments on the boarding and lodging facilities made available:

Excellent

The University has taken great pars in organismy it is the participating tudents will remanently benefit it participating tudents

8. Comments about the interaction with the participating students: Very bright and enthusiastic students.

9. Suggestions to further improve the INSPIRE Internship camps:

Mathing specfe.

10. Overall impact of the INSPIRE Internship Camp: The camp will have a wonderful import on the participating studenthatt will impore them to be the large barren of the Merry (Signature of the Merry (Signature of the Mentor)







#### MENTOR's FEED BACK FORM

 Name and Address of the Host Institute: Central University of Kerala, Perize Kazaragod
 Date/Duration of the INSPIRE Internship Camp: O1/12/19 to 26/12/19
 Name and Address of the Mentor: Dr. Mahesh Harsharan (With e-mail address & Mob. No.) Algociate Protestor, FRSC, Chernesstoy Indian Institute of Science Education and Research Phirry ananthaproam Email: mateshaisertym.ac.in
 Date of Participation in the Camp: 26/12/19
 Comments about the Infrastructural capacity of the organizing Institute: Excellent Infrastructural capacity of the organizing Institute: Addiog Video Jacihies ware vory projectionally dividence.

6. Comments on the boarding and lodging facilities made available:

Good boarding and lodging Jacility.

7. Mentors views on the INSPIRE Internship Camp:

This science Camp run by Dr. Sudha and her colleagues have been monumentally porject. Students appreliate this program over the years. Mentors in the program get more and more impressive every year. Students ask relevant and enliting questions which reduted from excellent selection procedure pollows I reformend this stale and the team to get the change to work this camp in the coming years. Match 8. Comments about the interaction with the participating students:

Students are very attentive and alled Selevant questions. After the talk, they continued their Scientific curiosity and the aristing to know about TISERS. 9. Suggestions to further improve the INSPIRE Internship camps:

I would day the Sucless of This program is So much Visible that more Camps have to be awarded in different. 10. Overall impact of the INSPIRE Internship Camp: Males.

Science Camp at CUK is encellent. Very well organised and oriented to imporove the wisdom of stadents. Mahren I congradulate. DST to keep (Signature of the Mentor)" introising young minds in other





N/A.



#### MENTOR's FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Kerala, Periye Kasaragod 2. Date/Duration of the INSPIRE Internship Camp: 21-12-19 - 26-12-19 3. Name and Address of the Mentor : Poot (Dr.) G. Amil Kungs (With e-mail address & Mob. No.) Genior Poofe Hox School of Biological Science and Pechnology VIP University, Vellone, Familmodu Email: ganilleumore vit. ac.in 4. Date of Participation in the Camp: 05/10/19 5. Comments about the Infrastructural capacity of the organizing Institute: Excellent.

6. Comments on the boarding and lodging facilities made available:

7. Mentors views on the INSPIRE Internship Camp:

She Camp has been organized in a very efficient manned. Ale the propammus and other actimities were playmed and excented very metricularity. I with the Organizers humany but.

8. Comments about the interaction with the participating students: Viry  $g_{\overline{bod}}$ 

9. Suggestions to further improve the INSPIRE Internship camps:

10. Overall impact of the INSPIRE Internship Camp:

Excellent.

(Signature of the Mentor) 25/12/2 12/2019





#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Kerala, Periye, Kascroaged 2. Date/Duration of the INSPIRE Internship Camp: 21/12/2019 - 22/12/2019 3. Name and Address of the Mentor: Prof. CDr.) C. Vijayan (With e-mail address & Mob. No.) Dept. of Physice; Indian Institute of Technology, Madrad Email: evijayan@iitm.ac.in

4. Date of Participation in the Camp: 22/12/2019

5. Comments about the Infrastructural capacity of the organizing Institute:

The organizons have managed the seating arrangement well, Such a large number of student would require better geometry of the hall 6. Comments on the boarding and lodging facilities made available:

Excellent

7. Mentors views on the INSPIRE Internship Camp:

I have been involved with INSPIRE comps for over The past five years. The camps help the students to think beller, get them exposed the rideors out of The fext book presented by experts and make Them interact with the experts.

8. Comments about the interaction with the participating students:

9. Suggestions to further improve the INSPIRE Internship camps:

None

10. Overall impact of the INSPIRE Internship Camp:

Very god.

(Signature of the Mentor) (G VITANOTA)







#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Kerrala,

2. Date/Duration of the INSPIRE Internship Camp: 21 - 26 Decamber 2019

3. Name and Address of the Mentor: Pool. Dr. M. Sayananda (With e-mail address & Mob. No.) Centre for Gasth, Ducan and Atmosphark Science University of Hyderabad, Gachibowi, Hyderrabad mjayan.ged@gmail.com

4. Date of Participation in the Camp: 23/12/2019

5. Comments about the Infrastructural capacity of the organizing Institute:

#### Good

6. Comments on the boarding and lodging facilities made available:

#### Good

7. Mentors views on the INSPIRE Internship Camp:

The INSPIRE comp is well organized. The students one very enthusiastic and shown been interest in understanding new domains of science. 8. Comments about the interaction with the participating students:

Students inforacted with many questions on various issues of Earmenicines, global environmental and climate change. 9. Suggestions to further improve the INSPIRE Internship camps:

More INSPIRE camps need to conducted for the senepit of students particularly ignite young mends about 10. Overall impact of the INSPIRE Internship Camp: Swance,

Excellent

2.

(Signature of the Mentor)





#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Kerda, Penye Karagod 2. Date/Duration of the INSPIRE Internship Camp: @1/12/2019 - 26/12/2019 3. Name and Address of the Mentor : Prof. (Dr.) K. Muralidhar (With e-mail address & Mob. No.) PhD FNASC FASC FNA Former Dewaharlal Netry Chair Bobyor Ochool of Lite Sciences, University of Hydrobad Gmost: Kambadusmusalisool & reditional. con 4. Date of Participation in the Camp: & 5/1a/2019

5. Comments about the Infrastructural capacity of the organizing Institute:

Very good. The acousties of the hall can be compromed further.

6. Comments on the boarding and lodging facilities made available:

very cord.

#### 7. Mentors views on the INSPIRE Internship Camp:

This is one of better INSPIRE Internship Camp: This is one of better INSPIRE Camps that I altended (Andhra Univ, Baugular Univ, Vignan University and Diers). The place ramme Coordinates Dr. K. SubIHA is betiened competent Coordinates Dr. K. SubIHA is betiened competent and passionate about lunning thy programme. There must be a mechanism ) institutioning There must be a mechanism ) institutioning There will be a mechanism ) institution.

boys and girl. They are the fature Scientist, I am confident.

9. Suggestions to further improve the INSPIRE Internship camps:

The logistics have to be improved to make it more 'Practicas' oriented.

10. Overall impact of the INSPIRE Internship Camp:

Very ford lefterience.

(Signature of the Mentor)



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### DST- INSPIRE SCIENCE CAMP CENTRAL UNIVERSITY OF KERALA 21-26 DECEMBER 2019





#### MENTOR'S FEED BACK FORM

1. Name and Address of the Host Institute: Central University of Kerala, Periye, Kasaragod

2. Date/Duration of the INSPIRE Internship Camp: 21-12-2019 to 26-12-2019

3. Name and Address of the Mentor: Prof. (Do.) A. Vijayalcump. (With e-mail address & Mob. No.) professor, pept. of Mathematics Cochin University of Science & Peatmology, /cochi

4. Date of Participation in the Camp: 23-12-2019

5. Comments about the Infrastructural capacity of the organizing Institute:

Excellent Facility and Infrastructure

6. Comments on the boarding and lodging facilities made available:

## Excellent.

7. Mentors views on the INSPIRE Internship Camp: Uch organized. Streets well

motivated . All together nicely organized .

liskum .....

8. Comments about the interaction with the participating students:

Students were actively participations, whing quelions

9. Suggestions to further improve the INSPIRE Internship camps:

Dris dray.

10. Overall impact of the INSPIRE Internship Camp:

Very Good he should have it is more institutions

(Signature of the Mentor)

1. Name and Address of the Host Institute: central University of Kerala, Perrya 20th Dec 2019. 2. Date/Duration of the INSPIRE Internship Camp: 21st Dec 2019 -3. Name and Address of the student: Rithika Ramerh, Mothang a house Payyattam (With their school name, e-mail address & Mob. No.) IRINAVE ( School. Kendinga Vidyalaya Keltion Nagar, Kannur rithikaramesh 999 @ gmall com Phone: 9400517452 mall 4. Comments about the Infrastructural capacity of the organizing Institute: fairlities, water points, mess Fastashi, with all the required hall, the labs are great, the Termini is 5. Comments on the boarding and lodging facilities made available: very plann ciule Everything 13 Very new and clean, torlets, bathroom, wash bann with proper WO availability Rooms with more space sufficient bed and what table 6. Comments about the Payment of Traveling cost to the participating students: boundaring for Payment His very happy to know the govt is taking institutivel for Payment was 7. Comments on the interactive talks delivered by the Mentors As one, pared offur to say which is more motivating averything was I didn't ever think mould get chame to finte confirma utually 1 didn't 8. Comments on the practical demonstrations/hands on experience: such emment Pratical madensto know more about 9. Students views on the INSPIRE Internship Camp: gupments 1 with special VC Very vibrant, entruitaile "Inever Jorget ms Sudhamam, in my ly Volubiteers and all others took complete I care of in 10. Comments about the scientific discussions with the Mentors: all ment Very well way taken puto a new world of mience. If was a o integact with world famous swientsts, professor They classified all our long lasted doubts gyla enperence professors of and what hot. to Vley good. My only suggestion is to It was Vikan spend more senton 182 hat Lagys time 12. Overall impact of the INSPIRE Internship Camp: comparable The all loce for heavy, not gallin Vame end even a 50 al (Signature of the Student) encellent anant ere no ma parte Daitripitate in such al mould 4 science camp we had smay Was a the food isur Very hygiene NAS Inmin a rouhing TO more all mentoes impired in equally well

1. Name and Address of the Host Institute: Central University of Kerala 2. Date/Duration of the INSPIRE Internship Camp: 21 St Dec - 26 Wee 2019 3. Name and Address of the student: Rajanandana.N, Chathwar House, Palakkad (With their school name, e-mail address & Manandana.N, Chathwar House, Palakkad (With their school name, e-mail address & Mob. No.) Kawassery, Padur (Po). 678 543 School: CGIHSS Vadakkenchenry . Ph. No: 9447620634 4. Comments about the Infrastructural capacity of the organizing Institute: It is really fautastic to see Such & nice In frastructure in a University In my opinion eco-brienelly in frast uclure is created here, and also there is many faulities for a researcher or astrolent need in this university 5. Comments on the boarding and lodging facilities made available: In my opinion the room allotted ph us was very neet and Provide us with invironmental facilities too. The washrooms 6. Comments about the Payment of Traveling cost to the participating students: I am very happy to know about this scheme. It is very help ful for the Students who are intilligent but financially benchward. 7. Comments on the interactive talks delivered by the Mentors Yes it was really affective section. Twas able to clear all my doubts and was creating a friendly session too. heally learned a lot. 8. Comments on the practical demonstrations/hands on experience: Phacticals are awite intersting work, so when I experienced it I was heally goine through mind blowing friend a double of the section of t heally gone through mind blowing beens. observed a lot of things. 9. Students views on the INSPIRE Internship Camp: If was very interesting and motivational camp to 0. The my point & view Students were allowed to come a closs many sessions were they were trained to interact with many eminment personalities too. Very help ful and Showed me a clear guidenss way to open my career mind. I was treatly no tivated by the words of Such eminnent Personalities. 11. Suggestions to further improve the INSPIRE Internship camps: In my opinion, I request that to include B.S.C programmes too in the University. 12. Overall impact of the INSPIRE Internship Camp: Intresting, Motivated, and also very nice Experience. I am really notivated and ornite interested (Signature of the Student) inscience too. I was able to develope Personality and confidence too. . Really notivated to open my own vienes.

- I. Name and Address of the Host Institute: CENTRAL UNIVERSITY OF KERALA, PERIYE, KASARGOD
- 2. Date/Duration of the INSPIRE Internship Camp: 21-12-2019 70 26-12-2019
- 3. Name and Address of the student: K. INDULEKHA KEDARAM, MIHIRAKAM, MUNDAYAD, KANNUR (With their school name, e-mail address & Mob. No.) CHINMAYA VIDYALAYA, CHALA, KANNUR ghkphysics@gmail.com 9447855840
- 4. Comments about the Infrastructural capacity of the organizing Institute: Essential capacity and spacious
- 5. Comments on the boarding and lodging facilities made available: Convenient, clean, comfortable and adjustable. Required Jauilities, need better food quality. Demeil: Increased number of worms, cachuaches, etc in bathcooms/toilet fand cossidoes
- 6. Comments about the Payment of Traveling cost to the participating students: Reliable and accurate payment,
- 7. Comments on the interactive talks delivered by the Mentors Informative, interesting, expressive, long

8. Comments on the practical demonstrations/hands on experience: Rushed up visits with no rest in between, amazing/fasimating exhibitions and demonstrations

- 9. Students views on the INSPIRE Internship Camp: Good experience, knowledge racquired in various fields other than science, socialising - made fiends from different places, gadget wage reduced for good reasons
- 10. Comments about the scientific discussions with the Mentors: Informative, freedom to express our views and questions, share thoughts in public.

11. Suggestions to further improve the INSPIRE Internship camps: Better time management and precise following of schedule without delaying breaks/meals, food quality Career quidance, evolksheets, small tests to examine students' capabilities 12. Overall impact of the INSPIRE Internship Camp: Fun, informative, at times exhausting mostly enjoyable, improved socialising skills and permoted electionic-

(Signature of the Student)

1. Name and Address of the Host Institute: Central University of Kerala, Kerangod.

2. Date/Duration of the INSPIRE Internship Camp: 21 Pecember to 26th December 2019.

3. Name and Address of the student: Roshni R., J.N.V., Alleppey, 920757576 (With their school name, e-mail address & Mob. No.) roshniroshni2053@gmail.com P.V. House, Vishaversherikkara P.O., Mannar,

4. Comments about the Infrastructural capacity of the organizing Institute: Centrel University of Keiala where be had our camp, have a great infrastructural capacity. Moreover it was highly satisfying and comfortable.

5. Comments on the boarding and lodging facilities made available: Gible were accommodeted in Kabani hortel, where we had a good stay with students arrow the stelle. Volumbers were always available for any help.

6. Comments about the Payment of Traveling cost to the participating students:

7. Comments on the interactive talks delivered by the Mentors: An science aspirant, we were

ignited to move further close and deep towards science approved, we were great service personalities and showed extreme patience. All our mentors ware great service personalities and showed extreme patience to share their knowledge. 8. Comments on the practical demonstrations/hands on experience: ghat was one of the most heiliant senior we had. It was a complete exposure and inspiration to calch up with our studies and to further stick on pure science.

cetch up with our soluties and written strict on pure science.
9. Students views on the INSPIRE Internship Camp: An the name suggest, it was a there real inspiration. Our boodinator shalles Mans, mention and our dear volunteers neally shead light on our paths. Personally, I decided to take BSet MSe in pure science, rather than jumping onto a propersional course. I am gradent toward to mentor mentor the world of science.
10. Comments about the scientific discussions with the Mentors: Our mentor really took a propersional course. I am gradent toward science on propersional up the sight path, injected the veel curionity and moulded in first a science of pixant. The camp always put a spark of science, which surely end up in first.
11. Suggestions to further improve the INSPIRE Internship camps:

11. Suggestions to further improve the INSPIRE Internship camps: The selection criteria should be in such a way that the organisers should ensure that the top mashs in Science of Matthy should be taken. Never let a science appiant lose this camp as they best At in a language. 12. Overall impact of the INSPIRE Internship Camp: Thed a cheans of becoming a scientist and inspire really put me on the right track. Always grateful towards each and every single head and sweat behind this programme. (Signature of the Student)

- 1. Name and Address of the Host Institute: Central university kerala, perige, kasarged
- 2. Date/Duration of the INSPIRE Internship Camp: 21-12-2019 to 26-12-2019
- 3. Name and Address of the student: ANANDH KRISHNA M, PERAMBRA HISS (With their school name, e-mail address & Mob. No.) KOZHIKODE, 673525 - PIN anandkrishna +28@gmail.com
- 4. Comments about the Infrastructural capacity of the organizing Institute: The Infrastructural facilities of the Organizing Institute was 30 Grillionstiy, moster planned. The computers is green and ecofrisonally. The diversity of the organism con be seen . It was neat and clean
- 5. Comments on the boarding and lodging facilities made available: Hostel fauilities was more thon enough. Good rooms, cheetrified, arronged properly in accordonce with students needs. Four beds in a room and 5 students were accordated.

- 7. Comments on the interactive talks delivered by the Mentors It was so momentue. we really explored the different worlds of The science. creates curiosity in my mind and mentors cleared 8. Comments on the practical demonstrations/hands on experience: Our doubts. Laboratory sersion was superb. The reasearch schebors enplamed us their reasearch field. We had sun mony high equipments in the
- 9. Students views on the INSPIRE Internship Camp: lab of conversity departments. 16 was a good programme really. Grovt of India really aims
- 9. Students views on the more many meally. Growt of bodia really aime if was a good programme really. Growt of bodia really aime way. Dr. Sudha's, our programme coordinator really very they shared with us the whole new scope and enitement of all beynt field of science. Members had evokes the direct way 11. Suggestions to further improve the INSPIRE Intenship camps, them Biology every field applied the laboratory section more must emphasize thust change the selection of there is one to some thesis bailed in 1 1 1 in usthe long of more of mouth.
- \* They light in us the tomp of mought.

ever lasting thoughts and curiaus mindesignature of the Student) \* aviosity.

- \* I leaven schence, not Gooled by others onyhow. + learning science by loving it, really matter
- + D womt to be ake me emment physicist Richard. P. Feynin. I have really inspired by Inspired.

<sup>6.</sup> Comments about the Payment of Traveling cost to the participating students:

1. Name and Address of the Host Institute: Central Charewerky of Kerala, Perlye, Kasar gode 2. Date/Duration of the INSPIRE Internship Camp: 21-26 december 2019 3. Name and Address of the student: Abhijith. V., Vellipplackel Ch), Anavilasam Po (With their school name, e-mail address & Mob. No.) St. Mary's H.S.S Vellaramkurny, Idukki abhijith Vinwol RO19@ gmail. Com, 860647 4. Comments about the Infrastructural capacity of the organizing Institute: 8606474150 respectly builty and are well equipped with big machines. 5. Comments on the boarding and lodging facilities made available: The faultities were and an available: The faillities were good, especially our apcomodation. had taken much lare for us and was always with 6. Comments about the Payment of Traveling cost to the participating students: 7. Comments on the interactive talks delivered by the Mentors The interactione services and falks were so interesting and all the falks seally enspecied us to love silence whole 8. Comments on the practical demonstrations hands on experience: The demonstrations, was seally amaking, especially the The demonstrations was seally amaking, especially the chemistry demonstrations. Jenjoyed a tot the demos a internship camp is really ama an amizing INSPIRE programme which inspire students to pursue science a 10. Comments about the scientific discussions with the Mentors: larger in Science the mentors were so happy to hear our double and clarified our doubts as far as they ran. We also had such 11. Suggestions to further improve the INSPIRE Internship camps: Although the camp was amaxing I have some n yolden chance suggestions and it is a transportation faultes 12. Overall impact of the INSPIRE Internship Camp: to ask our doubly to such suchton the camp really engined me. Before coming to the camp, I thought (Signature of the Student) about a medical career but now, I think I should take a basic science subject and to more forward with that the camp also made me love sicence and weated a passion for secone within me so, in total, the same was really enjoyable.

- 1. Name and Address of the Host Institute: Central University of Keerala, Periya, Kasargod
- 2. Date/Duration of the INSPIRE Internship Camp: 21-26 Dec 2019
- Name and Address of the student: (With their school name, e-mail address & Mob. No.)

Abhiliag Vishnu Perabheen Kenderiya Vidyalaya Payyanun Abhiliag vishnu Ogmail com 9447480963

4. Comments about the Infrastructural capacity of the organizing Institute: Excellent and fully maintained campus with all soughts of facilities face the visitales. It is secally appreciable that the campus were very near and tidy.

- 5. Comments on the boarding and lodging facilities made available: Boarding and lodging facilities was completely like a homely nature we didn't felt lonelines here and we were not sad about away become over harde. It was superior
- 6. Comments about the Payment of Traveling cost to the participating students: It was fully taken by the Inspire officials. It is searly a nice oppuriturity fair the Students of fair away places.
- 7. Comments on the interactive talks delivered by the Mentors all the mentaeus who came to the class would class they martly talked about the caller opposituations. They cleaved the doubts of the student with atmost enthusiasm and happines.
- 8. Comments on the practical demonstrations/hands on experience: All the practical demonstration were of the vel that we can't imagine. There were many new equipment that we had never seen. so it made as more curious to know mare about
- 9. Students views on the INSPIRE Internship Camp: The Inspire Intership Science camp is something of like an imaginary would with full of science related curricus new all accounts we had got great appointunity at our small age to interact with such an emminent pressonalities forcem
- 10. Comments about the scientific discussions with the Mentors: It was of high class. We got deep knowsledge in different pauts of India that topic, marks to the mentaus.
- 11. Suggestions to further improve the INSPIRE Internship camps: No suggestions & Keep this and continue the as the same . The

12. Overall impact of the INSPIRE Internship Camp: Thanky to all the valunteeus and emminent peusonalities and also the coordinatous of this camp. This camp was very much informative and valuable to young minds Really (Signature of the Student) wonderful. Memoleable.

- 1. Name and Address of the Host Institute: central University Kerala,
- Periya, Kasargod 2. Date/Duration of the INSPIRE Internship Camp: 21 Dec - 26 Dec
- 3. Name and Address of the student: Kannan . E
- (With their school name, e-mail address & Mob. No.) Kendriya Vidyalaya Kanbangad
- email: mailatkmhouse@gmail.com phone: 8606636660 4. Comments about the Infrastructural capacity of the organizing Institute:

The campus is well spacious to support all the activities of

the camp. Good seminar hall and diving area.

5. Comments on the boarding and lodging facilities made available:

Lodging facilities were made in the campus hostel. The volunteers

provided were help for all our needs. We were to walk almost 15 kms 6. Comments about the Payment of Traveling cost to the participating students:

The decision to pay the travelling cost of students is admirable.

Those students who had come by other methods can be given minimum bus fare. 7. Comments on the interactive talks delivered by the Mentors

The talks by the mentors were really educative and inspiring. They could solve all air doubts. The interaction with vice chancellos of cuk was

- 8. Comments on the practical demonstrations/hands on experience: amazing The lab visit gave us more knowledge on all the machines and practical activities. The labs were big and well maintained.
- 9. Students views on the INSPIRE Internship Camp:

OST-INISPIRE camp is really an instructione pro an inspiring one to those who have taken science as a subject in +1. We were asle to

- get a view of all the subjects. Such camps are to be continued in fitue 10. Comments about the scientific discussions with the Mentors:
- The discussions with the mentors were helped us gain a lot of information. Such meetings help students to raise questions and solve
- 11. Suggestions to further improve the INSPIRE Internship camps:

-> Grames can be included in any of the days.

-> Outobor interactions can be continued

- 12. Overall impact of the INSPIRE Internship Camp:
  - Knowledge of different fields in Science and Technology.
  - -) Got to know a lot of students from all across kerala.

-> Knowledge of the INSPIRE

(Signature of the Student)

scholarship & fellowship

programmes

- 1. Name and Address of the Host Institute: Central University of Kerela, Periya
- 2. Date/Duration of the INSPIRE Internship Camp: 5 days
- 3. Name and Address of the student: Reva. P, Kuthirahode house P.O Panayal (With their school name, e-mail address & Mob. No.) Kasaragod. School: Chattanchal HSS

e-mail: revapsnow2019@gmail.com Mob. No: 4012858778 4. Comments about the Infrastructural capacity of the organizing Institute: Its a really beautiful campcis. The auditorium and the atmosphere pros meally amazing.

- 5. Comments on the boarding and lodging facilities made available: All the volunteers and staff did their level best to make us as comfortable as possible.
- 6. Comments about the Payment of Traveling cost to the participating students:
- 7. Comments on the interactive talks delivered by the Mentors The talks were sleally inspining knowledgable and intresting. We all had definetely had somethings to take away from the mentors:
- 8. Comments on the practical demonstrations/hands on experience: It was a whole new experience. The introduction to high class technical machines and labs has successfully opened own minds into a whole new world of experience possibilities.
- 9. Students views on the INSPIRE Internship Camp: The inspire camp has really inspired me to choose what I like toolo, rather than being de cloctor or engineer as in tradition. It also made noe realise what I love to do.
- 10. Comments about the scientific discussions with the Mentors: The talks, were really informative. The mentors had taken utmost patience and intrest to clean even the smallest of own doubts.
- asitis 11. Suggestions to further improve the INSPIRE Internship camps: It is a nazing this way, but if I were to suggest something, I would ask for talks on more diverse topics, that we don't see in own textbooks.
- 12. Overall impact of the INSPIRE Internship Camp: It has really made me a whole new person (I am met saying this from the bottom of my beaut ) a person who now knows her passion and will try one who'd try the best to follow It.

(Signature of the Student)

(Also, I would like to add that Sudba ma'am did a great yob. I would also like to thank own volunteers, usually in such camps the volunteers often get really impatients and acates an unbealthy metation blucus, but at INSTIRE 2019, everyone was hind, supportive and friendly, really appreciate and salute everyone who worked for this ...

- 1. Name and Address of the Host Institute: CENTRAL UNIVERSITY OF KERALA, PERIVA
- 2. Date/Duration of the INSPIRE Internship Camp: December 21-26, 2019
- 3. Name and Address of the student: Leksbrupriya. U. Metropolitan Higher Secondary (With their school name, e-mail address & Mob. No.) School, putbencavu. e-mail - leksbrupriya. mgk@gmail.com Mob - 9497677794
- 4. Comments about the Infrastructural capacity of the organizing Institute: 17 Was Very Will
- 5. Comments on the boarding and lodging facilities made available: It was fine and nice.
- 6. Comments about the Payment of Traveling cost to the participating students: If is a very good clears on that every student will able to reach we especially the clustant ones. If was a nue idea.
- 7. Comments on the interactive talks delivered by the Mentors They were very optimustic and positive and it motivated very well.
- 8. Comments on the practical demonstrations/hands on experience: That was very nucleared I really enjoyed it especially the chemistry lab and Mathy lab.
- 9. Students views on the INSPIRE Internship Camp: INSPIRE camp is very inspring and got a new diminsion Jouraids the wonderful and mysterious would of natural survey
- 10. Comments about the scientific discussions with the Mentors: Discussions was very interesting and hupful.
- 11. Suggestions to further improve the INSPIRE Internship camps: , please include some more falles on basic of technology (including computer runne and more career guidence reisions.
- 12. Overall impact of the INSPIRE Internship Camp: INSPIRE camp inspired me a lot and it was an amazing experience. It helps to understand the various fields in science and Il helps to general more inlivest in natival science. (Signature of the Student)

1. Name and Address of the Host Institute: central university of kerrala, kasangode 2. Date/Duration of the INSPIRE Internship Camp: 21-12-2019 60 26-12-2019 Lakshmipriya, A, Thykkand illoys keezhallwr 3. Name and Address of the student: (With their school name, e-mail address & Mob. No.) koodal? H.S.S 9539329046 4. Comments about the Infrastructural capacity of the organizing Institute: I had a very good experience in the institute. There was a good hostel and samitation facility. 5. Comments on the boarding and lodging facilities made available: Boarding and lodging facilities were very good. 6. Comments about the Payment of Traveling cost to the participating students: even I had ment for many camps before, I did not have an experience like this mere me got the money of travelling back. 7. Comments on the interactive talks delivered by the Mentors Onteractive talks very useful to me and I was notivated by the spleches made by the mentops. 8. Comments on the practical demonstrations/hands on experience: The practical sessions were amazing and made me to select my future with an interest. 9. Students views on the INSPIRE Internship Camp: This camp was very useful to me and imputed me a lot. This camp gave me more knowledge about scientific world. This camp provided me a plattorm to clear all my omments about the scientific discussions with the Mentors: doubts 10. Comments about the scientific discussions with the Mentors: The discussions imposed me a lot and I got an Overall idea about scientific world. The scientific discussion gave me an idea to decide my future. 11. Suggestions to further improve the INSPIRE Internship camps: Nothing. 12. Overall impact of the INSPIRE Internship Camp: Good. It inspired me so much. excellent. (Signature of the Student)



## **DST- INSPIRE SCIENCE CAMP**

## CENTRAL UNIVERSITY OF KERALA



## 21-26 DECEMBER 2019



## THINKING PROCESS ON NEW INNOVATIVE IDEAS

## **Final Results**

SI No.	Name	Reg. No.	School	Idea		
1	Abhineet K.	09	GHSS Balla East, Kanhangad	Specs with IOTs		
2	Kalyani Prasad	76	GHSS, Mullassery, Thrissur.	Magnetic Car		
3	Chaithanya S. 50		GHSS, Alannallur, Pallaghat	Efficient usage of fuel for spacecraft.		

Dr V P Sameur Kumar, M.Phil., Ph.D., FAS फ ए एस

Dr. V.P. Sumeer Kumar, M.Phil., Ph.D., FAS सहायक आचार्य/Assistant Protessor जेव रसायन एवं आणविक जीवविज्ञान किलाग Department of Biochemistry & Molecular Biology Department of Biochemistry & Molecular Biology तेजस्विनी हिल्स केपस / Tejaswini Hills Campus, येरिये पी.जो / Periye P.O., परिये /Periye परिये पी.जो / Periye P.O., परिये /Periye चरिये पी.जो / Periye P.O., परिये /Periye जोत्र (Kasaragod केरल /Kerala, प्रारत /India Est376/671316 कासरगोड /Kasaragod केरल /Kerala, प्रारत /India Est376/671316

Dr. RAMARHANDRAN 15. ASST. PROPESSOR DEPT. OF 20097

## **INSPIRE SCIENCE CAMP**

CENTRAL UNIVERSITY OF KERALA Krr oc

**BER 2019** 



PROCESS ON NEW INNOVATIVE haitinging s, GHSS Alanallur Reg. no: 50

Space research for India

India had developed a considerable position is the field of space research. We are the first country to launch a satellite to Mars." Eventhough we had developed a lot in space research, we are not able to utilize it for the maximum. We don't have that much fund to develop more efficient spaceships like other developed countries. So, what we have to do is we have to make cheap, smart and efficient spaceships by utilising our own resources for the maximum. I think that the spaceships should have more fuel capacity and should be gless weight Plastic is one of the major problems we have been facing nowadays. We are not able to destroy it completely. So, we can make we of plastic in building spaceships which is so cheap. By mixing other metals with plastic, it will turn to a strong material which is able to carry sufficient weight, and still cheap and light. Being a developing country,

inorded to overcome those financial limitations in space releasch, I strongly recommend to invent spaceships with les usage of fuels. If we want to go out of the gravitation field of earth to a distant planet, we only need the fuel to reach the last overcome granitational field of earth. When the spaceship had over come it it will get sufficient energy to travel millions of distance from the gravitational pull of earth and from the last fuel we had wed. The other planet's gravitational path attraction will attract the spaceship and will allow it to bound on the planet. The homescience simple techniques may be helpful in space research also. Once an object is heated, the heat will retain for some time. We don't need to be heat it further for some time. Similarly, by giving fuel to spaceship for sometime, will give it enough energy to band some distance without using durther fuel. Thus by giving fuel only when required, by on and off the fuel providance may help to save some full once a spaceship had launched on an orbit, it doesn't need futter much more energy, because it is capable of moving through orbit with less full usage. By using more and more solar panels, we can utilize the solar energy for the need of spacetip - Thus we may be able to build spaceship with less expense and with be a great achievement for India.

**DST- INSPIRE SCIENCE CAMP** CENTRAL UNIVERSITY OF KERALA 21-26 DECEMBER 2019 regulate C inspire THINKING PROCESS ON NEW INNOVATIVE IDEAS Name: Kalyani Prasad Reg: no: 76 School: Government Stigher Secondry School, Mullassery, Thrissua Astainable horgy use are facing an hige energy ousis, Nous protosonet of Things Sustainable Energy Now we are in huge energy cusis But for the control of pollution we have used electricity car, solais car etc. But due to the Cark of the creegy electricity car is very less applicable So My Idea is based on a new model vehicle which is pollution less of energy feel Magnetic Car it is the vehicle which moves due to magnetic force applied This car does not head the controlable (0) it just need too sloong magnet ushich is connected to both sides of the Fiston Cas loy controllable piston we use a dynamo inside

the rechicle me vehicle doesn't have a complicated engine when we just start the which just as a normal vehicle By the small electrical energy produced by the dynamo The magnet field produce By the attraction of the magnets The wehicle move forward of by the sepulsionen vehicle magnet the wehicle moves backward uel can use alloy to make the body of vende 0 We can use a sanosdinary car with new model shucture (8) 1 don't hour possible voll this idea work My idea is based on Magallan's principle



## **DST- INSPIRE SCIENCE CAMP**

CENTRAL UNIVERSITY OF KERALA



21-26 DECEMBER 2019



## THINKING PROCESS ON NEW INNOVATIVE IDEAS

Name: ABHINEETH . MC Reg No: 09 GIHSS Balla East, Kanhangad

D Internet of Things

Internet of things is the one of the fastest growing technologies in the modern World. Forighn countries are Put forwarded many uses with Internet of things. So In India Que have to provide many Ideas to control things using Internet

I have like to put forward a Bystem, that is a nome, fully controlled by Internet All the works in the home will fluigh by internet and that Ps more time progit and not cause any type of Damages and other. I have to Indroduce a thing that, I don't know it is possible. In Fature the IOT will fully on world. I like to Indroduce a spec that Is connected to internet. The spex. will show the location, and the GPS. using GIPS, the climate and other use ful matters, when we wears the Spende it is connected to an mobule app: when we gone a far area that location, and other will automatically send to the connected reciver and it is very useful for tracing theigs. The spece will Identify a person using his eyes. It will store the memory. and It is useful for our defence mens when other terrerists are came the specs will I dentify them and inform to soldiers. I think that \$ These speces is very useful for our défence zone and police departments.

# DST-INSPIRE INTERNSHIP SCIENCE CAMP: SUMMARY OF FEEDBACK BY THE PROGRAMME CO-ORDINATOR

: 155

1. Name and Address of the Host Institute

: Central University of Kerala, Periye, Kasaragod, Kerala

2. Date/Duration of the INSPIRE Internship Camp : 21-26 December2019 (5days)

3. Number of participating INSPIRE Interns

Sl. No.	Summary of INSPIRE Interns comments on:	Poor (1)	Satisfactory (2)	Good (3)	Very Good (4)	Excellent (5)	
1	The Infrastructural capacity of the organizing Institute			12	51	92	
2	Boarding and lodging facilities			14	69	72	
3	Payment of Travelling cost				88	67	
4	Interactive talks & Discussion with the Mentors				21	134	
5	Hands on experience			23	81	51	
6	Suggestions to further improve the INSPIRE Internship camps: Interaction of the DST Officials with the participants would give a wonderful impact on the participants. Through this the young citizens of our country will get an opportunity to understand the structure of DST and the various schemes and scholarships provided by the Government to improve the scientific temper and nurture young scientists of the country.						

Note: Sum total of the Feedback (1+2+3+4+5) should be equal to the number of participating INSPIRE Interns. This summary shall be completed based on the individual INSPIRE Interns feedback submitted for the respective INSPIRE Internship Science Camp.

KSuellin.

Signature of the Programme Co-ordinator

## CENTRAL UNIVERSITY OF KERALA Brief Report of the DST-INSPIRE Science Camp 21-26 December 2019

## Students Residential Camp on Skill Development

DST-INSPIRE Internship Science Camp hosted by Central University of Kerala, Kasaragod, held between 21<sup>st</sup> to 26<sup>th</sup> December 2019 was attended by 155 students and 10 INSPIRE alumni from 80 schools across the length and the breadth of Kerala. The camp became the venue for fruitful interactions between eminent scientists and young talents.

Significantly, the programme was blessed with the presence of Prof.(Dr.) Suresh K. Das, IISER, Trivandrum, former Executive Vice- President of KSCSTE, former Director of CSIR-NIIST who shared his experiences, challenges and endeavors with the young minds during his interaction with the participants. The other mentors included a galaxy of 11 scientists and academicians from reputed national institutions such as Indian Institute of Technology, Madras, Indian Institute for Space Science and Technology, Thiruvananthapuram, Indian Institute of Science Education and Research, Thiruvananthapuram, Pondicherry Central University, Pondicherry and Cochin University of Science and Technology, Kochi, University of Hyderabad, University of Kerala, Kerala Veterinary and Animal Sciences University and Central University of Kerala who inculcated the spirits of scientific research to the participants through their inspiring interactions. A series of 21 sessions including lectures, indoor and outdoor interaction with mentors and scholars, and laboratory experiments/demonstrations on various disciplines of science were organized during the five days scientific programme (8.30 AM to 7.00 PM). The series of higher order of questions that followed every presentation proved to be the barometer of involvement and scientific thoughts that transacted the young minds. The active participation of the students in the interactive sessions with eminent scientists from various national institutes of repute proved to be a benchmark of the success of the objective of the INSPIRE Internship programme.

Also special sessions have been arranged for interaction with our beloved Hon'ble Vice Chancellor Prof. (Dr) G. Gopa Kumar. Separate sessions were also arranged to meet our CUK faculty from various Science departments. Apart from these, there were open air interactions with Mentors, Teachers, Research Scholars, and Students pursuing science. As a part of the Camp, there were also sessions for "creative thinking for innovative ideas" and a panel discussion on the "Career prospects in Science" with the involvement of Participants and the teaching fraternity of CUK. Each day began with a half an hour Yoga session under the co-ordination of Dr. Subramanya Pailoor, Dept. of Yoga, CUK, followed by "Walk with the Scholars". A collection of success stories and scientific videos were also displayed for the students. Discussion with Research Scholars, Christmas celebration and cultural programmes were also included as the evening activities.

The camp made an indelible impression upon the minds of the budding talents of Kerala as the student feedback at the valedictory function indicated a complete restructuring of many students' attitude towards basic sciences education at the graduation level. The organizers had established virtual communication between highly interested students and mentors as the objective of the camp is fulfilled only if the participants get a follow up.

Prof.(Dr.) G. Gopa Kumar, Hon'ble Vice Chancellor of Central University of Kerala opened the camp on 21<sup>st</sup> of December 2019. A formal welcome address was given by Prof (Dr.) Prathapachandra Kurup, Head, Department of Chemistry and Director of Rersearch, Central University of Kerala. The camp motto was introduced by Dr. Sudha K, Proramme Coordinator of the INSPIRE Science Camp. Dr. Muralidharan Nambiar, Controller of Examination, Central University of Kerala delivered the presidential address and shared his views on the scientific world. Prof. Gopa Kumar highlighted the importance of science in the economic growth of the country and the need for utilizing scientific research for the upliftment of weaker sections of our society. He added that science has to have an ethical and human side. The keynote address was given by Prof.(Dr.) Suresh Das, IISER, Thiruvananthapuram ; while addressing the students, he emphasized that science is nothing but understanding the structure and function of nature through observations and experiments. The programme was felicitated by Dr. Muralidharan Nambiar, Controller of Examinations, CUK, Dr. B.R. Prasannakumar, Finance Officer, Central University of Kerala, Mr. Rajagopal K.G., Executivre Engineer, Dr. Rajendra Pilankatta, Head, Department of BCMB,CUK. During the felicitation, all speakers highlighted the significance of research in the field of basic sciences. Dr. Chandan Kumar B., Joint co-ordinator, INSPIRE camp, concluded the programme with the vote of thanks. The official opening ceremony was followed by a well designed and well facilitated mind jogging session by Dr. Efthikar Ahamed B., Assistant Professor, Dept. of English & Comparative Literature, CUK. The session was really motivational and inspiring to the young minds. Itinerary of the programme and general instructions was briefed to the participants by Dr. Shaini P., Assistant Professor, Dept of Mathematics, CUK.

On the second day, Prof. (Dr.) Suresh Das had an effective interaction with the 161 budding scientists of the INSPIRE Science Camp. He described science as an 'Acquest & adventurous journey towards unknown". He also explained the evolution of science.Following this, was a talk by Dr. M.R. Sudarsanakumar, Adjunct Faculty from KUFOS, Kochi on "Periodic Table and Story of Elements". He focused on the discovery of various elements in the periodic table with special mentioning to the people and story behind it. The post-lunch session started with a talk on "The Charm of Physics" by Prof. (Dr.) C. Vijayan, IIT,Madras. He introduced physics to the students starting with the forces and the interstellar objects. Prof. Vijayan described the methods of studying the forces of nature and the requirement of further advanced studies to control the forces to our advantage. He also mentioned that students often do not grasp the basic ideas clearly and, hence they tend to develop misconceptions. His talk attempted to nudge the students towards the joy of physics, by exploring beyond the school textbooks.

The third day of INSPIRE camp began with a lecture on "Micro to Nano: Challenges and Possibilities" by Prof. (Dr.) Kuruvilla Joseph, IIST, Thiruvananthapuram. He emphasized the scientific standards of various National Institutes in India focusing on various courses and their benefits. He concluded the session by foreseeing a future with better-informed, and hopefully more cautious manipulation of engineered nanomaterials, as well as the development of laws and policies for safely managing all aspects of nanomaterial manufacturing, industrial and commercial use, and recycling. After the tea break, Prof. (Dr.) A.Vijayakumar, CUSAT gave a talk titled "Invisible Mathematics". He explained the culture of asking fundamental questions in science and urged students to develop critical thinking skills to advance science. He instilled a motivation to the students demonstrating the story of the Great Indian mathematician, Srinivasa Ramanujan "The man who knew infinity". In the afternoon session, Prof.(Dr.) M. Jayananda, University of Hyderabad gave a talk on " Sustainability in the context of Global Environmental and Climate change" which focused on the impacts of various man-made activities in the environment. This was followed by the interactive session with Dr. Umesh K. Sharma, DST Scientist-E, INSPIRE Programme Division. Followed by this, the session "Thinking Process on New Innovative Ideas" was conducted. The topics given were 1.Biotechnology in day to day life 2.Sustainable Energy 3.Internet of Things 4.Role of Mathematics in machine learning 5.Climate change mitigation 6. Space research for India. The session was co-ordinated by Dr. V.B.Sameer Kumar, Dr.

Sijin Kumar A.V, Dr. Jasmine M. Shah, Dr. K. Sowjanya Sree, Dr. H.P Gurushankara and Dr. Ramachandran Kotharambath.

The fourth day was devoted to laboratory experiments, conducted in various departments in the university. Thanks to the meticulous preparation and dedicated efforts by Dr. Sijin Kumar A.V., Dr.Gnanavel Soundararajan, Dr. T.M. Thasleema, Dr. M. Bhagiyalakshmi, Dr. E. Prasad, Dr. V.B. Sameer Kumar, Dr. Jasmine M. Shah, Dr. Ramachandran Kotharambath, Dr. M. Nagarajan, Dr. Sandeep K., Dr. K.Sowjanya Sree and their associates. The students got a real-life experience of various models, demonstrations and experiments. The session was followed by the inspiring talk of Research Scholars from various departments of the Central University of Kerala. The evening sessions of the fourth day were enriched with festive joy and academic flair. The students interacted with our Hon. Vice-Chancellor Prof.(Dr.) G.Gopa Kumar and his wife Mrs. Jayasree Gopa Kumar, who was a teacher and mural artist. Both of them patiently answered the interesting and curious queries of the students. This session was followed by Christmas celebration. Mrs. Jayasree Gopa Kumar, former Principal, St. Paul's Central School gave the Christmas message.

On the 5<sup>th</sup> day, the sessions began with a talk on "What is Biology? " by Prof.( Dr.) K.Muralidhar, University of Hyderabad. He began the talk with a remainder regarding the importance of the basics as there is an increase in number of specializations in science. The session was followed by a talk "Career Avenues in Dairy and Food Processing Sector" by Prof.(Dr.) R. Rajendra Kumar, from KVASU, Pookode. Dr. Kumar talked about the processes involved in food processing and diary research. He also mentioned the scope and opportunities in the field. In the post lunch session, Prof.( Dr.) Anilkumar, VIT, Vellore delivered a talk on " The Unsung Heroes of Science". He gave a brief account of unsung Indian Scientists who have contributed beyond excellence. In the evening there was a session titled " Meet our Vice Chancellor" which gave the participants an opportunity to interact with Prof.( Dr.) G. Gopa Kumar, Hon'ble Vice Chancellor of Central University of Kerala. The students utilized the opportunity effectively by clearing their queries related to various topics. An interactive session with the INSPIRE Alumni and volunteers was also conducted on the day. This was followed by cultural programmes by the participating students with the co-ordinatorship of INSPIRE Alumni and INSPIRE volunteers.

On the sixth day, the session was initiated by Dr. Klaus J. Appenroth from University of Jena, Germany with a talk on "Duckweed (Lemnaceae) : Model plant system for

environmental research". The participants enthusiastically interacted with the Mentor and enquired about various opportunities in science abroad. Since the maximum visibility of annular solar eclipse that took place on 26<sup>th</sup> December 2019 was in the northern part of Kerala including Kasaragod, arrangements were made for the participants to view the eclipse effectively. Students were provided with solar eclipse googles. This was followed by a talk on " Exciting Science of Fast Photography" by Dr. Mahesh Hariharan. The talk focused on nanosecond, picosecond and femtosecond spectroscopic measurements to understand some fundamental reactions that are important in chemistry and biology. The last session on "Physics before F=ma" was mentored by Dr.S.V.M. Sathyanarayana of Pondicherry University. Though the session was conducted online, the participants could experience a very lively and vibrant talk which emphasized on the nature of discovery in Physics with some examples. This session was followed by a panel discussion on the career prospects in science with the co-ordinatorship of Dr. Padmesh P. Pillai, Dr. Sijin Kumar A.V., Dr. E. Prasad, and Dr. Sameer Kumar V.B.

The valedictory function on 26<sup>th</sup> December 2019 was presided over by Prof (Dr) Gopa Kumar, Hon'ble Vice Chancellor, Central University of Kerala. The chief guest of the ceremony was Prof. (Dr) K. Muralidhar, University of Hydreabad. The welcome address was delivered by Dr. Rajendra Pilankatta, Associate Professor in Biochemistry and Molecular Biology. The camp report was presented by Dr.Chandan Kumar B., Joint Co-ordinator, INSPIRE Science camp. Dr.. R. Rajendra Kumar, KVASU, Dr. G. Anilkumar, VIT, Vellore, Dr. Mahesh Hariharan, IISER, Thiruvanathapuram and Mr. K.M Vijayakrishnan, Principal, Jawahar Navodaya Vidyalaya also addressed the gathering. This public function crossed all time barriers as the participants and Mentors started outpouring their feelings. Words of praise flowed from every mouth for the great affection and care shown by the organizers to make the participants comfortable and derive maximum benefit from the Mentors. The ceremony was ended with vote of thanks by Dr. Sudha K, Programme Co-ordinator, INSPIRE Science Camp.

It won't be an exaggeration to say that INSPIRE Internship Science Camp met the expectations of everyone. The message that such carefully charted and organized programme gives us is that genuine efforts never fail to pay off dividends. There is no doubt that DST's efforts in developing similar breeding grounds for science education and research throughout the country would pay rich rewards in the days to come.

'This is a story of team effort and the credit goes to the student volunteers, INSPIRE Alumni, research scholars ,faculty members and administrative staff of the University who spent sleepless nights, the mentors who made a lasting impression upon the students, and the overall participation shown by everyone.'



No. (INSPIRE INTERNSHIP /8/2019-20/5)

Date: 23 July 2020

## **CERTIFICATE**

This is to certify that "DST- INSPIRE Internship Science Camp conducted at Central University of Kerala during 21-26 December, 2019 was purely residential in nature.

Sueller,

Dr. Sudha K. Organizing Co-ordinator DST –INSPIRE Internship Science Camp Professor & Head Department of Zoology School of Biological Sciences Central University of Kerala

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