KSCST

Karnataka State Council for Science and Technology
Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ **Telefax:** 080-23348840
Email: office@kscst.iisc.ernet.in, office@kscst.org.in ♦ **Website:** www.kscst.iisc.ernet.in, www.kscst.org.in
office.kscst@iisc.ac.in

Mr. H. Hemanth Kumar
Executive Secretary

2138
18.05.20

16th March, 2020

Ref: 7.1.01/SPP/953

The Principal,
Yuvaraja's College,
Mysuru - 570 005

Dear Sir/Madam,

Sub : Sanction of Student Project - 43rd Series: Year 2019-2020
Your Project Proposal Reference No. : 43S_MSC_066

Ref : Your Project Proposal entitled " **SYNTHESIS AND CHARACTERIZATION OF METAL ORGANIC FRAMEWORK NANO-ADSORBENT FOR FLUORIDE REMOVAL FROM DRINKING WATER**

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 43rd Series" with a budgetary break-up as detailed below:

		Budget	
Students	Ms. Pooja Kiran T.S.		
	Ms. Indhushree S.	**Particulars**	**Amount (Rs)**
	Ms. Infancia Roslin J	Materials/Consumables	6,000.00
	Ms. Lakshmi T.S.	Labour	-
Guide/s	Dr. Shaukath Ara Khanum	Travel	500.00
	-	Miscellaneous	500.00
Department	Chemistry	Report	500.00
		Total	**7,500.00**
	Seven Thousand Five Hundred Rupees Only		

The following are the guidelines to carryout the project work :

a) The project should be performed based on the objectives of the proposal sent by you.

b) The project should be completed in all respects and one copy of the hardbound report along with softcopy of the full report in a CD (.pdf format) should be submitted to KSCST.

c) Any change in the project title and objectives, etc., or students is liable to rejection of the project and the amount sanctioned needs to be returned to KSCST.

d) Please quote your **project reference number printed above** in all your future correspondences.

e) Important: After completing the project, 2 to 3 page write-up (synopsis) needs to be sent by e-mail [spp@kscst.iisc.ernet.in] and should include following points:

1) Title of the project
2) Name of the College & Department
3) Name of the students & Guide(s)
4) Keywords

5) Introduction / background
(with specific reference to the project, work done earlier, etc) - about 20 lines
6) Objectives (about 10 lines)
7) Methodology (about 20 lines)
(materials, methods, details of work carried out, including drawings, diagrams etc)
8) Results and Conclusions
(about 20 lines with specific reference to work carried out)
9) Scope for future work (about 20 lines).

(Note: The write-up (Synopsis) should be sent with the approval of project guide. The softcopy of the write-up, in MS Word format, should be sent by e-mail (spp@kscst.iisc.ernet.in). In your e-mail, please also include project proposal reference number and title of the project.)

e) Projects selected for Seminar / Exhibition will be awarded.

The following are the extract of comments / suggestions of the expert. The students and project guides are hereby directed to implement the same and will be looked into during evaluation of the project.

FIND A PROCESS OF REGENERATION OF THE ABSORBANT THAT CAN REDUCE THE APPLICATION COST SIGNIFICANTLY.

The sanctioned amount will be sent through crossed cheque to the Principal. Please furnish the bank account details as per the format enclosed with this letter.

The sponsored projects evaluation will be held in the Nodal Centre and the details of the nodal centre will be intimated shortly by email / Website announcement.

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.iisc.ernet.in

Thanking you and with best regards,

Yours sincerely,

(H. Hemanth Kumar)

Copy to:

1) The Head of the Department of
Chemistry
Yuvaraja'S College,
Mysuru - 570 005

2) Dr. Shaukath Ara Khanum
Department of Chemistry
Yuvaraja'S College,
Mysuru - 570 005

3) The Finance Officer, KSCST, Bengaluru

Encl: As Above

ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ ಕಾರ್ಯಾಲಯ
ಕ್ರಾಫರ್ಡ್ ಭವನ, ಮೈಸೂರು

ವಿಷಯ: ಐಓಇ ಯೋಜನೆಯಡಿಯಲ್ಲಿ ಕಾರ್ಯನಿರ್ವಹಿಸುತ್ತಿರುವ ಪೋಸ್ಟ್ ಡಾಕ್ಟೋರಲ್ ಫೆಲೋ ಮತ್ತು ಪ್ರಾಜೆಕ್ಟ್ ಫೆಲೋಗಳಿಗೆ ಪ್ರಧಾನ ಪರಿಶೋಧಕರನ್ನು ನಿಯೋಜಿಸುವ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: 1. ಸಂಯೋಜಕರು(ಆಡಳಿತ), ಐಓಇ ಯೋಜನೆ, ಇವರ ಕಛೇರಿ ಪತ್ರ ಸಂಖ್ಯೆ :ಯುಓಎಂ/ಐಓಇ/ಪಿಎಫ್-ಪಿಡಿಎಫ್/855/ 2014-15, ದಿನಾಂಕ: 09-03-2015.
2. ಸನ್ಮಾನ್ಯ ಕುಲಪತಿಯವರ ಆದೇಶ ದಿನಾಂಕ: 23-03-2015.

* * * * *

ಆದೇಶ ಸಂಖ್ಯೆ ಡಿವಿ2/30/ಪಿಡಿಎಫ್/ಪಿಎ/ಐಓಇ/2010-11(Vol-II) ದಿನಾಂಕ : 31-03-2015

ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಅನುಮೋದನೆ ಮೇರೆಗೆ, ಸಂಯೋಜಕರು(ಆಡಳಿತ), ಐಓಇ ಯೋಜನೆ, ವಿಜ್ಞಾನ ಭವನ, ಮಾನಸಗಂಗೋತ್ರಿ, ಮೈಸೂರು ಇವರಿಗೆ, ಐಓಇ ಯೋಜನೆಯಡಿಯಲ್ಲಿ ಕಾರ್ಯನಿರ್ವಹಿಸುತ್ತಿರುವ ಪೋಸ್ಟ್ ಡಾಕ್ಟೋರಲ್ ಫೆಲೋ-01 No. ಮತ್ತು ಪ್ರಾಜೆಕ್ಟ್ ಫೆಲೋ – 18 Nos. ಗಳನ್ನು ಈ ಕೆಳಕಂಡಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಹೆಸರುಗಳ ಮುಂದೆ ಸೂಚಿಸಿರುವಂತೆ ಪ್ರಧಾನ ಪರಿಶೋಧಕರುಗಳನ್ನು ನೇಮಿಸಿ, ಅವರ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ಸಂಶೋಧನಾ ಕಾರ್ಯನಿರ್ವಹಿಸಲು ಅನುಮತಿ ನೀಡಲಾಗಿದೆ.

*

LIST OF PRINCIPAL INVESTIGATORS (RESEARCH SUPERVISOR) AND THEIR STUDENTS

Sl. No.	Names	Names of the Principal Investigators	Departments
		Post Doctoral Fellow	
1	Dr.Pavan .R	Prof.V.Ravishankar Rai	DOS in Microbiology
		Project Fellows	
1	Amulya Raj B.S	Prof.N.K.Lokanath	DOS in Physics
2	Anusha Kiran	Prof.B.S.Vishwanath	DOS in Biochemistry
3	Ashwini .B	Prof.H.S.Prakash	DOS in Biotechnology
4	Ashitha S.N.M	Prof. N.B.Ramachandra	DOS in Zoology Genetics
5	Ayesha Siddiq	Dr.K.T.Chandrashekara	IOE Scheme, Vijnana Bhavan
6	Gowrav Nayak	Prof.N.K.Lokanath	DOS in Physics
7	Jeevan B.V	Dr. M.N.Kumara	DOS in Chemistry, YCM
8	Karthik Kumara	Prof.N.K.Lokanath	DOS in Physics
9	Manoj B.M	Prof.B.S.Vishwanath	DOS in Biochemistry
10	Manju Prasanna V.N	Prof.B.S.Vishwanath	DOS in Biochemistry

11	Marula Sidda Swamy K.M	Dr.Ramachandra Kini	DOS in Biotechnology
12	Navyashree C.S	Prof.K.S.Rangappa	DOS in Chemistry
13	Prathap D.K	Prof.N.K.Lokanath	DOS in Physics
14	Preetham H.D	Prof.K.S.Rangappa	DOS in Chemistry
15	Ramesha Nayaka K.C	Prof.Y.B.Basavaiah	DOS in Chemistry
16	Shiva .S	Dr.Gopal Marathe .K	DOS in Biochemistry
17	Shruthi M. Adya	Dr.K.Kemparaju	DOS in Biochemistry
18	Tejaswini Prakash	Prof.N.B.Ramachandra	DOS in Zoology Genetics

ಆದೇಶದ ಮೇರೆಗೆ,

ಕುಲಸಚಿವರು 06/4/15

ಇವರಿಗೆ,

1. ಸಂಯೋಜಕರು (ಆಡಳಿತ), ಐಓಇ ಯೋಜನೆ, ವಿಜ್ಞಾನ ಭವನ, ಮಾಗಂ., ಮೈಸೂರು.
2. ಹಣಕಾಸು ಅಧಿಕಾರಿಗಳು, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು.
3. ಸರ್ಕಾರಿ ಲೆಕ್ಕಪರಿಶೋಧಕರು, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು.
4. ಮಾನ್ಯ ಕುಲಪತಿ/ಕುಲಸಚಿವರ ಆಪ್ತಸಹಾಯಕರು, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು.
5. ಕಛೇರಿ ಪ್ರತಿ.

Su-DV2-MSD files

University of Mysore
Institution of Excellence Scheme

Vijnana Bhavan
Manasagangotri, Mysore 570 006

No. UOM/IOE/PF-PDF/ 48 / 2015-16 Dated: 16.04.2015

Dear Dr.M.N.Kumara,

*I am happy to inform you that the University has appointed as a Principal Investigators/Research Supervisor and allotted the following ** student working under IOE vide University order No.DV2/30/PDF/PA/IOE/2010-11(Vol-II) Dated 31.03.2015. I would appreciate if you could develop a concept note related to I.O.E Theme of research "Natural and Synthetic Products for Drug Discovery" with in a week and submit the same to Co-ordinator, IOE. This is for your kind information.*

*List of students***

1. Jeevan B.V

Yours faithfully,

Cordinator (Administration)
Co-ordinator (Administration)
IOE, UOM, Manasagangotri, Mysore-6

Government of Karnataka

Vision Group on Science and Technology

Department of Information Technology, Biotechnology and Science & Technology
4th Gate, 7th Floor, M.S. Building, Dr. Ambedkar Veedhi, Bengaluru - 560 001
Phone : 080-2203 2013, E-mail : visiongroup.st@gmail.com, Website : www.vgst.in

Dr. S. G. Sreekanteswara Swamy
Consultant

No/VGST/GRD 195/2012-13/2018-19/392

18-07-2019

To,
The Principal,
Yuvaraja's College(Autonomous)
Jhansi Lakshmi Bai Road,
Mysuru, Karnataka 570005

Dear Sir,

Sub : Approval for the submission of PART –A for purchase of equipment.

– GRD 195.

**

With reference to the approval of GRD - 195 - Proposed by Dr. Shaukanth Ara Khahum, Department of Chemistry , Yuvaraja's College(Autonomous) University of Mysore, under the scheme CISEE the project titled "**Design Synthesis and Evaluation of Benzoxazole and triazole analogues as xanthine oxidase inhibitors"** was released the grant of Rs 10.00 lakhs for 3rd Instalment in the FY : 2014-15 (Cheque no : 039709 Cheque Date :30-03-2019)

As submitted the PART – A of GRD by the Grantee Institution requesting for the purchase of Equipments for the **Third Instalment** the details are as follows.

3rd Instalment – Non Recurring Budget Estimate under E-Tendering process (ETP) for the FY : 2014-15

Sl	Submitted in PART –A under Non –Recurring (ETP) Budget Estimate by Grantee Institution	Amount (Rs.in lakhs)
1	Flash Chromatography	10,00,00.00
2	Incubator	1,69,000.00
*	Total	**11,69,000.00**

FD Diary No. 1973
Dated : 08/05/2019

UNIVERSITY GRANT COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002
GEN

May 2019

22 MAY 2019

F .No. 39-737/2010(SR)

The Under Secretary (FD-III)
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi – 110002

Sub: Release of Grant-in aid to **Yuvaraja's College (Autonomous) Mysore-570005, Karnataka** for the year 2019-20 under Revenue in respect of Major Research Project entitled **"Synthesis.....agents"** awarded to **Dr. Shaukath Ara Khannum, Deptt. of Chemistry** tenure of project **from 01.02.2011 to 31.01.2014.**

Sir,

I am directed to convey the sanction of the University Grants Commission for payment of grant of **Rs. 4,46,910/- (Rupees Four lakh forty six thousand nine hundred ten only) i.e., (Rs. 4,23,278/- by RTGS & Rs. 23,632/- by adjustment) by way of Reimbursement** as **Final installment** for the year 2019-20 towards Major Research Project to **The Principal, Yuvaraja's College (Autonomous) Mysore-570005, Karnataka** .

Name of the Item	Amount Allocated	Head of Account	Unspent Balance	Grant now Being Sanctioned	Grant already Released	Total Grant
Books & Journal	.....	3.A.17.(iii)(a).35		.....	.....	.....
Equipment	3,80,000/-			.....	3,80,000/-	3,80,000/-
Honorarium	.....	3.A.17.(iii)(a).31		.....	.....	.....
Project Fellow + HRA	5,85,910/-			**4,41,910/-**	1,44,000/-	5,85,910/-
Chemicals	2,00,000/-		**18,632/-**	.....	1,00,000/-	81,368/-
Contingency	10,000/-			**5,000/-**	5,000/-	10,000/-
Travel/field work	10,000/-		**5,000/-**	.....	5,000/-	.....
Overhead Charges	49,800/-			.....	49,800/-	49,800/-
Total	12,35,710/-		**23,632/-**	**4,46,910/- (-)23,632/- (By Adjust.) =4,23,278/- (By RTGS)**	6,83,800/-	11,07,078/-

1. The sanctioned amount is debatable to **Major Research Project head Sector 3.A.17.(iii)(a).31** and is valid for payment during the financial year **2019-20** only.

2. The **College** shall ensure that all the payments (Approved items of expenditure) to the beneficiaries/vendors shall be made only through the **EAT** module of **PFMS.**

3. The amount of the Grant shall be drawn by the Under Secretary (Drawing and Disbursing Officer) UGC on the Grants-in-aid bill and shall be disbursed to and credited to **The Principal, Yuvaraja's**

College (Autonomous) **Mysore-570005, Karnataka** through Electronic mode as per the following details :-

(a)	Bank Name & Address of Branch	Canara Bank, Main Branch Mysore-570001.
(b)	Account No	0518201003389
(c)	Type of Account : SB /Current /Cash Credit	Current Account
(d)	IFSC Code	CNRB0000518
(e)	MICR Code	570015002
(f)	Whether Bank Branch is RTGS or NEFT enabled : RTGS / NEFT /Both	Yes
(g)	Name & Address of Account Holder	The Principal, Yuvaraja's College (Autonomous) Mysore-570005, Karnataka

3. The Grant is Subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University / Institution.
4. The University / Institution shall maintain proper accounts of the expenditure out of the Grants which shall be utilized only on the approved items of expenditure.
5. The University / Institution may follow the General Financial Rules, 2005 and take urgent necessary action to amend their manuals of financial procedures to bring them in conformity with GFRs, 2005 and those don't have their own approved manuals on financial procedures may adopt the provisions of GFRs, 2005 and instructions / guidelines there under from time to time.
6. The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to UGC as early as possible after the close of current financial year.
7. The assets acquired wholly for substantially out of University Grants Commission's Grant shall not be disposed or encumbered or utilized for the purposes other than those for which the grants waayanands given without proper sanction of the UGC and should at any time the University ceased to function, such assets shall revert to the University Grants Commission.
8. A Register of Assets acquired wholly or substantially out of the grant shall be maintained by the University in the prescribed proforma.
9. The grantee institution shall ensure the utilization of grants-in-aid for which it is being sanctioned / paid. In case of non-utilization / part utilization thereof, simple interest @ 10% per annum, as amended from time to time on the unutilized amount from the date of drawal to the date of refund as per provisions contained in General Financial Rules of Govt. of India, will be charged.
10. The University / Institutions shall follow strictly the Government of India / UGC guidelines regarding implementation of the reservation policy [both vertical (for SC,ST & OBC) and horizontal (for persons with disability etc.)] in teaching and non-teaching posts.
11. The University / Institution shall fully implement the Official Language Policy of Union Government and comply with the Official Language Act, 1963 and Official Languages (Use for Official Purposes of the Union) Rules, 1976 etc.
12. The sanction is issued in exercise of the delegation of powers vide UGC Order No. 69/2014 [F.No.10-11/12 (Admn. I/A & B)] dated 26/3/2014.
13. The University / Institution shall strictly follow the UGC Regulations on curbing the menace of Ragging in Higher Education Institutions, 2009.
14. The University / Institution shall take immediate action for its accreditation by National Assessment & Accreditation Council (NAAC).

16. The annual accounts i.e. balance sheet, income and expenditure statement and statement of receipts and payments are to be prepared strictly in accordance with the Uniform Format of Accounting prescribed by Government.
17. The grantee institution shall remit the amount of grants in aid and / or interest through e-mode (RTGS/NEFT) directly to UGC account as per following bank details:-

Account Holder	Secretary, UGC, New Delhi-110 002
Name of Bank & Address	Canara Bank, UGC Office, New Delhi-110 002
A/C No.	**8627101002122**
Type of A/C	Savings
IFSC Code	CNRB0008627
MICR Code	110015170

18. An amount of **Rs. 6,83,800/-** out the grant of **Rs. 6,83,800/-** Sanctioned vide letter No. **F. No. 39-737/2010/(SR)** dated **06/01/2011** has been utilized by University/College/Institution for the purpose for which it was sanctioned. Utilization Certificate for **Rs. 6,12,368/-** has been already entered at S. No..... now we may enter Utilization Certificate for **Rs. 71,432/-** S. No...2... and in the U.C. Register at page No...45..
19. Funds to the extent of Rs are available under the scheme or BE / RE of the year 2019-20.
20. This issues with the concurrence of IFD vide **Diary No. 181 (IFD) dated 26/04/2019.**
21. This issues with the approval of **Joint Secretary (MRP)** vide Diary No. **53850 dated 03/05/2019.**

THE ACCOUNT OF THE PROJECT MAY BE TREATED AS FINALIZED/SETTLED ON THE BASIS OF DOCUMENT SUBMITTED BY THE UNIVERSITY.

Your faithfully,

(ANITA GOGNA)
Under Secretary

Copy forwarded for information and necessary action for:-

1. **The Principal, Yuvaraja's College (Autonomous) Mysore-570005, Karnataka**
2. Office of the Director General of Audit, Central Revenues, AGCR Building, I.P. Estate, New Delhi.
3. Accountant General, State Govt. of **Karnataka, Bengalore.**
4. **Dr. Shaukath Ara Khannum, Deptt. of Chemistry, Yuvaraja's College (Autonomous) Mysore-570005, Karnataka.**
5. **The Registrar, University of Mysore, Mysore.**
6. Guard file.

(Ms. Sunita Kalra)
Section Office

FD Diary No. 978
Dated : 13.06.2019

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

(GENERAL)

F .No. 41-408/2012 (SR)

Dated: June, 2019

25 JUN 2019

The Under Secretary (FD-III)
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi - 110002

Sub: Release of Grant-in aid to **Yuvaraja's College (Autonomous), Mysore-570005, Karnataka** for the year 2019-20 under revenue in respect of Major Research Project entitled **"Studies......................Karnataka"** awarded to **Dr. N.S. Devaki, Dept. of Biology**tenure of the project from **01.07.2012 to 30.06.2015.**

Sir,

I am directed to convey the sanction of the University Grants Commission for payment of grant of Rs. **78,197/- (Rupees Seventy Eight Thousand One Hundred Ninety Seven Only)(Rs. 49,821/- By RTGS + Rs. 28,376/- By Adjustment)** as **final installment** for the year 2019-20 towards Major Research Project to **The Principal, Yuvaraja's College, (Autonomous), Mysore-570005, Karnataka** for the revenue expenditure to be incurred during 2019-20.

Name of the Item	Amount Allocated	Head of Account	Unspent Balance	**Grant now Being Sanctioned**	Grant already Released	Total Grant
Books & Journals	30,000/-	**3.A.17.(iii) (a). 35**		....	30,000/-	30,000/-
Equipment	2,00,000/-			....	2,00,000/-	2,00,000/-
Project Fellow @ Rs. 14,000/-p.m for 2 years & Rs. 16,000 p.m for 3rd year	5,28,000/-	**3.A.17.(iii) (a). 31**		**49,333/-**	4,44,000/-	4,93,333/-
HRA	98,667/-			**9,867/-**	88,800/-	98,667/-
Contingency	50,000/-			**5,000/-**	45,000/-	50,000/-
Chemical	1,00,000/-			**9,997/-**	90,000/-	99,997/-
Hiring Services	18,000/-			....	9,000/-	9,000/-
Travel/ Field Work	40,000/-			**4,000/-**	36,000/-	40,000/-
Overhead Charges	69,600/-		4/-	....	69,600/-	69,596/-
Bank Interest	28,372/-		28,372/-	....	28,372/-	....
Total	11,62,639/-		28,376/-	**78,197/-** **-28,376/-** **49,821/-**	10,40,772/-	10,90,593/-

Registrar Personal Section RPD 443 Dt. 6-7-19

539 8.7.19

3.A.17.(iii) (a). 31 and is valid for payment during the

2. The University/Institution shall ensure that all the payments (approved items of expenditure) to the beneficiaries/vendors shall be made only through the FAI module of PFMs.

3. The amount of the Grant shall be drawn by the Under Secretary (Drawing and Disbursing Officer) UGC on the Grants-in-aid bill and shall be disbursed to and credited to **The Principal, Yuvaraja's College (Autonomous), Mysore-570005, Karnataka** through Electronic mode as per the following details:

(a)	Bank Name & Address of Branch	Canara Bank, Main Branch, Mysore-570001
(b)	Account no.	0518201003389
(c)	Type of Account : SB /Current /Cash Credit	Current
(d)	IFSC Code	CNRB0000518
(e)	MICR Code	570015002
(f)	Whether Bank Branch is RTGS or NEFT enabled : RTGS / NEFT /Both	Yes
(g)	Name & Address of Account Holder	The Principal, Yuvaraja's College, Mysore-570005, Karnataka

4. The Grant is Subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University / Institution.
5. The University / Institution shall maintain proper accounts of the expenditure out of the Grants which shall be utilized only on the approved items of expenditure.
6. The University / Institution may follow the General Financial Rules, 2005 and take urgent necessary action to amend their manuals of financial procedures to bring them in conformity with GFRs, 2005 and those don't have their own approved manuals on financial procedures may adopt the provisions of GFRs, 2005 and instructions / guidelines there under from time to time.
7. The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to UGC as early as possible after the close of current financial year.
8. The assets acquired wholly for substantially out of University Grants Commission's Grant shall not be disposed or encumbered or utilized for the purposes other than those for which the grants was given without proper sanction of the UGC and should at any time the University ceased to function, such assets shall revert to the University Grants Commission.
9. A Register of Assets acquired wholly or substantially out of the grant shall be maintained by the University in the prescribed proforma.
10. The grantee institution shall ensure the utilization of grants-in-aid for which it is being sanctioned / paid. In case of non-utilization / part utilization thereof, simple interest @ 10% per annum, as amended from time to time on the unutilized amount from the date of drawal to the date of refund as per provisions contained in General Financial Rules of Govt. of India, will be charged.
11. The University / Institutions shall follow strictly the Government of India / UGS's guidelines regarding implementation of the reservation policy [both vertical (for SC,ST & OBC) and horizontal (for persons with disability etc.)] in teaching and non-teaching posts.
12. The University / Institution shall fully implement the Official Language Policy of Union Government and comply with the Official Language Act, 1963 and Official Languages (Use for Official Purposes of the Union) Rules, 1976 etc.
13. The sanction is issued in exercise of the delegation of powers vide UGC Order No. 69/2014 [F.No.10-11/12 (Admn. IA & B)] dated 26/3/2014.
14. The University / Institution shall strictly follow the UGC Regulations on curbing the menace of Ragging in Higher Education Institutions, 2009.
15. The University / Institution shall take immediate action for its accreditation by National Assessment & Accreditation Council (NAAC).

16. The accounts of the University / Institution will be open for audit by the Comptroller & Auditor General of India in accordance with the provisions of General Financial Rules, 2005.
17. The annual accounts i.e. balance sheet, income and expenditure statement and statement of receipts and payments are to be prepared strictly in accordance with the Uniform Format of Accounting prescribed by Government.
18. The grantee institution shall remit the amount of grants in aid and / or interest through e-mode (RTGS/NEFT) directly to UGC account as per following bank details -

Account Holder	Secretary, UGC, New Delhi-110 002
Name of Bank & Address	Canara Bank, UGC Office, New Delhi-110 002
A/C No.	8627101002122
Type of A/C	Savings
IFSC Code	CNRB0008627
MICR Code	110015170

19. An amount of **Rs. 10,12,400/-** out the grant of **Rs. 10,12,400/-** sanctioned vide letter No.**F.41-408/2012(SR)** dated **16.07.2012 & 27.07.2015** has been utilized by University/College/Institution for the purpose for which it was sanctioned. Utilization Certificate for **Rs. 5,90,519/-** has already been entered at S. No. **709** Now we may enter Utilization Certificate for **Rs. 4,21,881/-** S.No. 59 and in the U.C. Registrar at page No. 47
20. Funds to the extent of Rs..... are available under the scheme or BE / RE of the year.
21. This issues with the concurrence of IFD vide Diary No. **4605** (IFD) dated **29.03.2019 .**
22. This issues with the approval of Joint Secretary (MRP) vide Diary No. **43797** dated **25.04.2019.**

The accounts of the project has been finalized/settled on the basis of the documents submitted by the College.

Yours faithfully,

(Anita Gogna)
Under Secretary

Copy forwarded for information and necessary action for :-

1. **The Principal, Yuvaraja's College, (Autonomous), Mysore-570005, Karnataka**
2. Office of the Director General of Audit, Central Revenues, AGCR Building, I.P. Estate, New Delhi.
3. Accountant General, State Govt. of **Karnataka, Bangalore**
4. **Dr. N.S. Devaki, Dept. of Botany, Yuvaraja's College, (Autonomous), Mysore-570005, Karnataka**
5. **The Registrar, University of Mysore, Mysore-570005, Karnataka**
6. Guard file.

(Ms. Sunita Kalra)
Section Officer

(17)

FD Diary No. 4232
Dated : 18/05/2016

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002
GEN

F .No. 39-215/2010(SR)

26 MAY 2016

The Under Secretary (FD-III)
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi-110002

Sub: Release of Grant-in-aid to **Yuvaraja's College Mysore-570005, Karnataka** for the year 2013-17 under plan in respect of Major Research Project entitled "**Sources.....water**" awarded to **Dr. S. Mahadeva Murthy, Deptt. of Microbiology** tenure of project **from 01.02.2011 to 31.01.2014**.

Sir,

I am directed to convey the sanction of the University Grants Commission for payment of grant of **Rs. 4,72,222/- (Rupees Four lakh seventy two thousand two hundred twenty two only) i.e., (Rs. 4,53,411/- by RTGS & Rs. 18,811/- by adjustment)** as **Final installment** for the year 2016-17 towards Major Research Project to **The Principal, Yuvaraja's College Mysore-570005, Karnataka** for the plan expenditure to be incurred during 2016-17.

Name of the Item	Amount Allocated	Head of Account	Unspent Balance	Grant now Being Sanctioned	Grant already Released	Total Grant Utilized
Books & Journal	30,000/-	3.A(56).35	15/-	.....	30,000/-	29,985/-
Equipment	2,00,000/-			.....	2,00,000/-	2,00,000/-
Honorarium	.....	3.A(56).31		.....	.....	.....
Project Fellow	5,12,000/-			3,63,541/-	1,44,000/-	5,12,000/-
HRA	1,02,400/-			1,02,400/-	.....	1,02,400/-
Chemicals	75,000/-			2,535/-	37,500/-	40,035/-
Contingency	45,000/-			1,804/-	22,500/-	24,304/-
Hiring Service	.....			.....	.....	.....
Travel/field work	60,000/-			1,942/-	30,000/-	31,942/-
Overhead Charges	40,800/-		18,796/-	.....	40,800/-	22,004/-
Bank interest	4,459/-			.....	.....	.....
Total	10,69,659/-		18,811/-	4,72,222/- (-)18,811/- (By Adjust.) =4,53,411/- (By RTGS)	5,04,800/-	9,62,670/-

*Bank interest of Rs. 4,459/- has been adjusted in the Salary of Project Fellow of Rs. 3,68,000/-.

Prof. Shaukath Ara Khanum project report

UGC major project

Project Title: Synthesis of 2-(N-methyl indole)methyl-N(4- benzoyl) Phenoxy butanone benzimidazoles and efficacy as anti-microbial agents

An antimicrobial is a substance that kills (microbicidal) or inhibits (microbistatic) the growth of microorganisms such as bacteria, fungi or protozoans. Humans have several reasons to be interested in the study of microorganisms. Many microorganisms cause disease in humans. Bacteria and fungi can be parasites of humans, causing anything from food poisoning to athletes foot to malaria. All viruses are pathogenic or disease-causing. Viruses are responsible for deadly diseases such as AIDS and polio, as well as milder forms like the common cold. Some viruses have even been implicated in the development of cancer. Pathogenic bacteria can cause infectious diseases. The most common bacterial disease is tuberculosis, caused by the bacterium *Mycobacterium tuberculosis*, which affects about million people. Pathogenic bacteria contribute to other globally important diseases, such as pneumonia, which can be caused by bacteria such as *Streptococcus* and *Pseudomonas*, and foodborne illnesses, which can be caused by bacteria such as *Shigella*, *Campylobacter* and *Salmonella*. Pathogenic bacteria also cause infections such as tetanus, typhoid fever, diphtheria, syphilis and leprosy. Even benzophenone, indole and benzophenone analogues exhibited antimicrobial activity. Encouraged by these informations this project has been proposed to. The main significance of this proposal is, synthesis of novel indole integrated benzophenone benzimidazole framework as anti microbial agents towards “PREVENTION AND CONTROL OF ANTIMICROBIAL RESISTANCE”

Outcome of the project

The synthesis of various indole and benzimidazole containing benzophenone derivatives was achieved by multi step synthesis. All the synthesized compounds were subjected for the antimicrobial activity and compared with the activity of standard drugs. In the series four compounds were publicized as potent compounds among the tested strains. Further, results obtained from docking studies were accordance with *in vitro* results. Finally, the structural activity relationalship revealed that substitution of electron withdrawing and

donating groups in the proper position and the combination of two heterocyclic moieties, with benzophenone nucleus leads to the enhanced bioactivity of the synthesized compounds.

Publications

1. Synthesis, Charecterisation, Docking Study and Antimicrobial activity of 2-(4-benzoylphenoxy)-1-[2-(1-methyl-1H-indol-3-yl)methyl)-1H-benzo[d]imidazol-1-yl] ethanone derivatives. T. Prashanth, Lakshmi Ranganatha V, Ramith Ramu , Subhankar P. Mandale, Mallikarjunaswamy C, Shaukath Ara Khanum. Iranian J Chem Soc 18 (2021) 2741–2756.

2. Synthesis of coumarin analogs appended with quinoline and thiazole moiety and their apoptogenic role against murine ascitic carcinoma. T. Prashanth, B.R. Vijay Avin, Prabhu Thirusangu, V. Lakshmi Ranganatha, B.T. Prabhakar, J.N. Narendra Sharath Chandra,
   Shaukath Ara Khanum Biomedicine & Pharmacotherapy 112 (2019) 108707.

3. Synthesis and evaluation of novel benzophenone-thiazole derivatives as potent VEGF-A inhibitors. Prashanth T, Prabhu Thirusangu, B.R. Vijay Avin, V. Lakshmi Ranganatha,
   B.T. Prabhakar and Shaukath Ara Khanum *Eu. J. Med. Chem* 87 (2014) 274-283.
4. Synthesis of (4-Benzoyl-phenoxy)-acetic acid derivatives and their efficacy as antioxidant agents. Prashanth T, Lakshmi Ranganatha V, Naveen P, Gurupadaswamy H.D, Bushra Begum A, Mohammed Al-Ghorbani, and Shaukath Ara Khanum. *Free Radicals and Antioxidants.* 3(2013) S50-S54.

VGST major project

Project Title: Design, Synthesis and Evaluation of Benzoxazole and Triazole Analogues as Xanthine Oxidase Inhibitors

The discovery and development of new Xanthine oxidase (XO) inhibitors in a search for better treatment is the main goal of this project. In recent decades, problems of multi-drug resistant towards gout, inflammation, jaundice, etc., have reached an alarming level in many countries around the world. Resistance to a number of XO inhibitory agents is becoming an increasingly important global problem. An effect caused by the XO poses a serious challenge to the medical community and the need for an effective therapy is the main significance of this proposal. In short the main significance of this proposal is, to develop environmentally benign methods, using solid support and microwave activation, synthesis of novel XO inhibitors towards *"PREVENTION AND CONTROL OF GOUT, INFLAMMATION, JAUNDICE etc"*

Outcome of the project

[4-(3-morpholine) aroyl phenoxy]pentyl benzoxazoles and [4-(3-morpholine) aroyl phenoxy]pentyl triazoles heterocyclic compounds have been synthesized in excellent yield. The synthesized compounds were characterized by Infrared spectrophotometer. Besides, some of the heterocyclic compounds were screened for xanthine oxidase inhibition, which has shown good result. In addition, students and research scholar have borrowed books and refereed for the preparation of their seminars, home assignments and also for solving many problems. Also, utilized the equipment purchase from VGST-CISEE grants for carrying out their dissertation and project work.

Publications

1. Design, synthesis, characterization and analysis of anti-inflammatory properties of novel *N*-(benzo[d] thiazol-2-yl)-2-[phenyl(2-(piperidin-1-yl) ethylamino] benzamides and *N*-(benzo[d]thiazol-2-yl)-2-[phenyl(2- morpholino)ethylamino] benzamides derivatives through in vitro and in silico approach Mahima Jyothi, V. Lakshmi Ranganatha, Hussien Ahmed Khamees, M. J. Nagesh Khadri, Shaukath Ara Khanum. Iranian J Chem Soc (2023)
2. Synthesis, analgesic, anti-inflammatory, ulcerogenic evaluation, and docking study of (benzoylphenoxy)-N-{5-[2-methylphenyl-6-chlorobenzoxazole]} acetamides as COX/5-LOX inhibitor. M.J.Nagesh Khadri, Hussien Ahmed Khamees, Salma Kouser, Zabiulla, Shaukath Ara Khanum J. Molecular Structure 1272 (2023) 134240.
3. In-silico docking, synthesis, structure analysis, DFT calculations, energy frameworks, and pharmacological intervention of [,]-thiadiazoles analogous as XO inhibitor and on …multiple molecular inflammatory targets COX and LOX. Zabiulla, Fares Hezam Al-Ostoot, Hussien Ahmed Khamees, Nagendra Prasad, Farhan Zameer, Shaukath Ara Khanum. J. Molecular Structure 1270 (2022) 133963.
4. Microwave-Assisted Synthesis, Characterization, Docking Studies and Molecular Dynamic of Some Novel Phenyl Thiazole Analogs as Xanthine Oxidase Inhibitor. Mahima Jyothi,· Hussien Ahmed Khamees, Shashank M. Patil, · Ramith Ramu and Shaukath Ara Khanum. Iranian J Chem Soc 19 (2022) 3919–3933.
5. Synthesis, analgesic, anti-inflammatory, COX/5-LOX inhibition, ulcerogenic evaluation, and docking study of benzimidazole bearing indole and benzophenone analogs. M. J. Nagesh Khadri, T. Prashanth, Hussien Ahmed Khamees and Shaukath Ara Khanum. J. Molecular Structure 1259 (2022) 132741.

6. Synthesis, characterization, DFT. Docking studies and molecular dynamics of some 3-phenyl-5-Furan Isoxazole derivatives as anti-inflammatory and anti-ulcer agents. Pallavi H M, Fares Hezam Al-Ostoot , H.KVivek, Shaukath Ara Khanum J. Molecular Structure 1250 (2022) 131812.
7. *Design, Docking, synthesis, and characterization of novel N'(2-phenoxyacetyl) nicotinohydrazide and N'(2-phenoxyacetyl) iso nicotinohydrazide derivatives as anti-inflammatory and analgesic agents.* Pallavi H M, Fares Hezam Al-Ostoot , H.KVivek, Shaukath Ara Khanum J. Molecular Structure 1247 (2021) 131404.
8. Modulation of DNA damage response by targeting ATM kinase using newly synthesized di-phenoxy acetamide (DPA) analogs to induce anti-neoplasia. Fares Hezam Al-Ostoot , Ankith Sherapura , and Shaukath Ara Khanum, Pharmacol Rep 73 (2021) 1344-1360.
9. Targeting HIF-1α by newly synthesized Indole phenoxyacetamide (IPA) analogs to induce anti-angiogenesis-mediated solid tumor suppressionm Fares Hezam Al-Ostoot , Ankith Sherapura , Vigneshwaran V , Giridhara Basappa , Vivek H K and Shaukath Ara Khanum, Pharmacol Rep 73 (2021) 1328-1343.
10. Synthesis, Charecterisation, Docking Study and Antimicrobial activity of 2-(4-benzoylphenoxy)-1-[2-(1-methyl-1H-indol-3-yl)methyl)-1H-benzo[d] imidazol-1-yl] ethanone derivatives. T. Prashanth, Lakshmi Ranganatha V, Ramith Ramu , Subhankar P. Mandale, Mallikarjunaswamy C, Shaukath Ara Khanum. Iranian J Chem Soc 18 (2021) 2741–2756.
11. Molecular docking and synthesis of caffeic acid analogous and its anti-inflammatory, analgesic and ulcerogenic studies.Fares Hezam Al-Ostoot, Zabiulla, S. Grisha, Yasser Hussein Eissa Mohammed, H.KVivek, Shaukath Ara Khanum. *Bioorg. Med. Chem. Lett. 33* (2021) 127743.

Executive Summary of the Final Report

of a Major Research Project supported by

University Grants Commission

New Delhi – 110 002

1. Title of the Project:
   Studies on the morphological and molecular variability of rice blast pathogen in four main rice growing districts of Southern Karnataka

2. Name and address of the Principal Investigator:
   Dr. N.S. Devaki,
   Associate Professor, Dept. of Molecular Biology, Yuvaraja's College (Autonomous), University of Mysore, Mysuru - 570 005, Karnataka

3. Name and address of the institution:
   Dept. of Molecular Biology, Yuvaraja's College (Autonomous), University of Mysore, Mysuru 570 005, KARNATAKA

4. UGC approval letter no. and date: **F. No. 41-408/2012(SR) Dated 16 July 2012**

5. Date of implementation: **06th September 2012**

6. Tenure of the project: **06th Sept 2012 to 31st Dec 2015**

7. Total grant allocated: **Rs. 10,99,600.00**

8. Total grant received: **Rs. 10,90,600.00**

9. Final expenditure: **Rs. 11,18,965.00**

10. Title of the project:
    Studies on the morphological and molecular variability of rice blast pathogen in four main rice growing districts of Southern Karnataka

11. **Objectives of the project:**
    - Collection of disease samples from the field from the four districts of Karnataka
    - Isolation of the pathogen and maintenance of pure culture
    - Study of morphological and biochemical variations
    - Differentiation of the pathogen based on differential varieties. Popular varieties of rice will be screened for resistance for the identified races (isolates collected during the investigation)
    - Molecular characterization of isolates of *Pyricularia grisea* to identify the variations at molecular level.

12. Whether objectives were achieved: **Yes, objectives were achieved**

13. **Achievements from the project:**

- Developed a simple and reliable protocol for isolation and storage of rice blast pathogen *Magnaporthe oryzae*
- Identified 15 new pathogen races based on differential varieties of host
- Showed ITS also can be used to understand the diversity of the pathogen
- Morphological, biochemical and molecular diversity of 72 blast pathogen isolates are elucidated
- Five research papers are published
- One candidate successfully completed his Ph.D. under this project

14. **Summary of the findings:**

According to the latest revision of the UN population prospects, the world population is projected to grow by 34 percent from 6.8 billion today to 9.1 billion in 2050. There is urgent need to increase global production of rice with respect to increasing population with decreasing cultivating land. Rice plant suffers from many diseases caused by different pathogens *viz*., bacteria, fungi, viruses, phytoplasma and nematodes. Among the fungal diseases, the blast is considered as a major threat to rice production because of its worldwide distribution and its destructiveness. Blast disease of rice plant is caused by *Magnaporthe grisea* (anamorph *Pyricularia grisea*) is currently known as *Magnaporthe oryzae.* This disease is recognized to be one of the most serious diseases of rice crop around the world. A total of 171 places were visited and samples were collected from 101 diseased plots from different geographical regions of Karnataka, India during 2012-2014. Disease incidence of 64.44%, 68.75%, 60.71% and 55.55% was recorded from major rice growing districts of south Karnataka *viz*., Chamarajanagar, Kodagu, Mandya and Mysuru districts respectively. Varieties MTU-1001, Jyothi and Sona Masuri remained highly susceptible in these four districts. Newly developed blast resistant varieties namely Rasi, KRH 4, Raksha and Mugad Siri 1253 were also found to be susceptible in some of the regions of Karnataka indicating breakdown of resistance. Thus, the emerging pathogenic

variants among fungal populations trigger serious and incessant threat to the newly released resistant varieties also.

Seventy two monoconidial isolates of *M. oryzae* were successfully established and maintained using a simple, reliable and inexpensive isolation and storage procedure developed by us. The growth pattern and growth rate of all the 72 *M. oryzae* on different media *viz*., oat meal agar and potato dextrose agar was studied to understand the extent of morphological diversity among these isolates. The growth measurement parameter and growth rate of 72 isolates of *M. oryzae* on two individual media and also between two media showed the P-value less than 0.05 ($P \leq 0.05$). This indicated that there is a significant growth difference among isolates grown on individual media as well as between these two growth media.

All the isolates were screened for virulence through pathogenicity test. Twenty-one isolates were found to be highly virulent. Among virulent isolates, 16 were selected for the race (pathotype) identification using eight standard international host differentials. A total of 15 pathotypes were detected among 16 isolates. We have chosen 20 *M. oryzae* isolates which ranked top for their virulence among the 72, for the isozyme analysis. Three isozymes *viz.,* catalase, esterase and protease were screened for their activity and visualized on non-denaturing PAGE through the use of specific stains. The relative mobility (Rm) of each isozyme band on non-denaturing PAGE was calculated. A total of 17 polymorphic bands were observed with an average of 5.66 bands for each marker. In UPGMA cluster analysis, two distinct clusters were formed in which isolates obtained from south districts formed separate cluster and few of the isolates collected from northern region of Karnataka formed separate subgroup in the other cluster.

All the isolates of *M. oryzae* were characterized using ribosomal DNA sequences (ITS). Variability of rDNA sequences was found to be highly polymorphic with 0.068962 nucleotide diversity showing 6 distinct clades. Thirty three haplotype groups were identified with haplotype diversity of 0.8881 and Tajima's neutrality test with a D value of -1.96827 with $P < 0.05$ showing the presence of variations among the sequences of pathogen isolates. This shows the importance of characterizing internal transcribed spacer (ITS) to know pathogen diversity and its fitness. The fertility status of all the 72 isolates was examined using mating type alleles. 44 isolates belonged to MAT1 type (male

fertile) and 28 isolates were of MAT2 (female fertile) and there were no hermaphrodite isolates. In a given geographical location, only one mating type was identified. Results revealed that the isolates obtained from these regions are not sexually fertile showing predominant asexual reproduction.

Pot2 rep-PCR DNA fingerprinting profile showed 27 polymorphic bands with bands ranging in size from 0.65 to 4.0 kb and an average of 10 to 14 bands per isolate. Five distinct clusters were formed. Some of the isolates belonging to clusters 3, 4, and 5 are interlinked as these locations are close to one another sharing common geographical parameters and boundaries.

21 SSR markers are taken to analyse genetic diversity. Significant variation among the isolates of *M. oryzae* was observed with 92 polymorphic bands with an average of 4.38 bands for each marker. Average locus heterozygosity and polymorphic information content (PIC) in a total of 21 SSR markers were 0.73 and 0.60 respectively; Genetic similarity coefficient ranged from 0.20 to 0.63 indicated the existence of high polymorphism among the isolates. Cluster analysis interestingly indicated a correlation of grouping with the geographical boundaries. We have plotted virulence spectrum for each group and found out mixed types of reaction pattern in each group. Hence during breeding program locus heterozygosity, PIC and virulence spectrum have to be considered for obtaining stable resistance cultivars.

When we compiled our morphological, pathogenicity and molecular data altogether it was very clear that there is significant diversity existing among these isolates. However, pooling of the data showed that correlation with geographical boundaries is not significant. Analyses of pathogen diversity using molecular tools are much preferable to understand differences at molecular level as compared to morphological data in a large population study. From this we are concluding that our investigations and output will supplement the data required for accelerating the engineering of blast resistance genes into rice cultivars through molecular breeding.

15. **Contribution to the society:**

Investigation carried out under the current project has generated data on status of the blast pathogen, incidence, fertility status and extent of genetic diversity existing among the isolates collected from southern Karnataka region. This study helped in understanding the variability of the pathogen, which is important for resistant breeding of rice cultivar against the blast pathogen. Thus the output of the present research work will indirectly contribute to the increase in rice productivity of our country.

16. Whether any Ph.D. enrolled/produced out of the project: Yes, as under:
Jagadeesh. D (Submitted Ph.D thesis on December 2018)
Enrollment No. DOR.9.9/Ph.D/JD/435/2012-13 in University of Mysore, Mysuru

17. No. of publications out of the project: **Five**

i. Chandrakanth R, Jagadeesh D, Devaki NS (2014) Black light mediated growth and sporulation of *Magnaporthe oryzae*. **International Journal of Agricultural Science and Research**, 4:25–30

ii. Jagadeesh D, Prasanna Kumar MK, Chandrakanth R, Devaki NS (2018) Molecular diversity of internal transcribed spacer among the monoconidial isolates of *Magnaporthe oryzae* isolated from rice in southern Karnataka, India. **Journal of Genetic Engineering and Biotechnology** 16: 631–638 https://doi.org/10.1016/j.jgeb.2018.05.008

iii. Jagadeesh D, Prasanna Kumar MK, Devaki NS (2018) Status of *Magnaporthe oryzae* infection in different districts of Karnataka, India and establishment of monoconidial cultures for understanding genetic diversity. **International Journal of Agriculture, Environment and Biotechnology** 11:345–355 doi: 10.30954/0974-1712.04.2018.16

iv. Jagadeesh D, Prasanna Kumar MK, Devaki NS (2018) A simple and reliable method for obtaining monoconidial culture and storage of *Magnaporthe oryzae*. **International Journal of Life Sciences** 6:540–543

v. Jagadeesh D, Prasanna Kumar MK, Devaki NS (2018) Population analysis of *Magnaporthe oryzae* by using endogenous repetitive DNA sequences and mating-type alleles in different districts of Karnataka, India. **Journal of Applied Genetics** 59:365–375

18. **Conference attended and paper presented based on this project work**

CONFERENCES/SEMINARS/WORKSHOPS/SYMPOSIA/TRAINING PROGRAMMES ATTENDED		
Year	**Conference/Seminars/Workshop Symposia/Trainings attended**	**Title of paper presented/ Delivered Lecture/ Chaired Sessions**
2018	National conference on "Applications of microbiology in Human welfare" Department of Microbiology, University College of Science, Tumkur University, Tumkur	Presented Oral Presentation on Title " Mating type distribution and genetic diversity of *Magnaporthe oryzae* populations from Karnataka, India"
2015	International Rice Symposium, ICAR-IIRR, Hyderbad	Presented Poster on : Collection and isolation of rice blast fungus *Magnaporthe grisea* for assessment of genetic diversity in four main rice growing districts of Southern Karnataka
2015	National Symposium on" Microbes and Human Welfare" Postgraduate Dept. of Biotechnology in Association with Microbiologist of India (Mysore Chapter) 2015. At JSS College of Arts, Commerce and Science, Ooty Road, Mysore	Presented Oral Presentation on Title "Collection and Isolation of rice Blast fungus *Magnaporthe grisea* in four main rice growing districts of southern Karnataka"
2014	International Conference on Biodiversity, Bioresources and Biotechnology Mysuru	Presented Poster on : A novel method of in vitro sporulation of rice blast fungus *Magnaporthe grisea* * Best Poster awarded
2013	Tools for Genetic Diversity and Mapping Analysis using Molecular Marker Data, at CPCRI, ICAR, Kasaragod, Kerala	Attended Workshop on "Tools for Genetic Diversity and Mapping Analysis using Molecular Marker Data"
2012	CIST Recent Trends in Information Technology and Animation, visual Effects and gaming, University of Mysore, Mysuru	Oral Presentation Title on "Comparision of Sequences of Calmodulin gene responsible for Appressorium formation and Attachment over the host"

5/2/2019

PRINCIPAL INVESTIGATOR

Dr. N.S. Devaki
Principal Investigator (UGC-MRP)
Associate Professor and Course Coordinator
Department of Molecular Biology
Yuvaraja's College, Mysore-570 005

5.2.19.

CO-PRINCIPAL INVESTIGATOR

Centre For Information Science & Technology
University of Mysore, Manasagangotri
Mysore - 570 006

5/2/2019

PRINCIPAL

Principal
Yuvaraja's College (Autonomous)
University of Mysore
MYSORE 570 005

Identification of different sources of contamination to drinking water home collection, secondary processing, ground water and rain water harvesting

Water is an important component to human survival as purified water is necessary for a healthier life style. Water quality is of a vital concern for mankind as it is directly linked with human welfare. With this knowledge, present study was performed to assess the potable quality of drinking water in Mysore city. Water samples from different drinking water sources, the access of contaminated water (sewage water) through cross linking of leaking points with piped supplies of drinking water and turbid, mud colored water samples, harvested rainwater and ground water samples were collected and analyzed for physico-chemical and bacteriological parameters. Most of the water sample showed fecal contamination, total coliform count (MPN/100 ml) ranged from 2 and 1600 organisms/100 ml in sewage mixed water sample, 43 and 1600 organisms/100 ml in turbid, mud colored water sample. Raw water of the river showed fecal contamination of *Escherichia coli, Klebsiella pneumoniae,* processed water with *Salmonella typhi* and sewage mixed water with *S. typhi, K. pneumoniae* and *Citrobacter freundi.* The results obtained were statistically analyzed. All the samples did not meet the WHO bacteriological standards for drinking water. Majority of the water sources were not safe for drinking. The presence of these pathogenic bacteria in the above drinking water sources may pose a serious health risk to consumers. Hence, regular disinfection of drinking water needs to be supplied.

Outcome

RESULTS AND DISCUSSION

Drinking water samples were collected from different places like broken underground pipes forming pools of water in different conditions, leaky valves and open sump (Table1).

Table 1. Bacteriological analysis of water samples collected at cesspools in Mysore city

Area (Mysore city)	**Visited / Not Visited**	**Total bacterial count**	**Field test H_2S bottle**	**MPN of Total coliforms /100ml**	***E. coli***	**Fecal Streptococci**	**Algal growth**
S1-Metagalli	_	0	_	0	_	_	_
S2- Maharaja Ground	A+	0	_	0	_	_	_
S3-Vanivilas water works	B+	16	+	350	+	_	_
S4- Jayanagar	A+	3	+	43	+	_	_

Cesspools visited and not visited by street animals (A+) and birds (B+); - Not visited

Sample 1: Water sample was inoculated into H_2S strip test bottle (K019) on the spot and incubated in the laboratory. After 12-18 h of incubation, bottle was observed for change in color to black color indicating H_2S production. The H_2S bottle showed negative result for H_2S test. It confirms that water in the damaged pipeline is not contaminated.

Sample 2: Water sample was inoculated into H_2S test bottle and incubated at 37°C for 12-18 h. The bottle was observed for change in color of water and it showed negative result for H_2S strip test. It shows that water in the damaged pipeline is not contaminated.

Sample 3: Water sample was collected and inoculated into H_2S test bottle and incubated at 37°C for 12-18 h. The bottle was observed for change in color of water and it showed positive result for H_2S test. Water was analyzed by MPN method and total coliforms were enumerated

Sample 4: Water sample was inoculated into H_2S test bottle and incubated at 37°C for 12-18 h. The bottle was observed for change in color of water and turbidity. It showed positive for H_2S test. Further, MPN of the water sample was calculated to obtain total coliforms.

Table 2**.** The bacteriological analysis of drinking water samples

Parameters	**Control**	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**
H_2S bottle test	No color change	+	+	+	+	C.sp./ S sp.	C.sp./ S.sp.	C.sp./ S sp.	K / E	K / E	K / E
Total bacterial count	0 CFU/ml	32	3	26	18	25	16	7	5	0	9
MPN/100 ml	0 / 100ml	31	9	1600	1600	1600	1600	2	20	0	110
E. coli	0	+	+	+	+	+	+	+	+	-	+

+ = pathogen present, - = pathogen absent, C - *Citrobacterfreundii* sp., S- *Salmonella* sp., K - *Klebsiella* and E - *Enterobacter* sp.

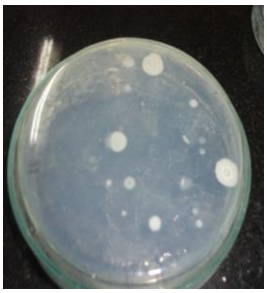
S1 = Sample-1: Raw water of river Kaveri was collected from Hongalli water treatment plant
S2 = Sample-2: High level reservoir
S3 = Sample-3: Sewage contaminated water from MandiMohalla
S4 = Sample-4: Turbid water from MandiMohalla
S5 = Sample-5: Vani Vilas water works
S6 =Sample-6: Mahajanabadavane, Vijayanagara
S7 = Sample-7: Maharaja ground, Jayanagar
S8 = Sample-8: Veeranagere, Public tap water
S9 = Sample-9: Ganeshnagar, Public tap water
S10 =Sample-10: CSR-water tank,Vijayanagar

Examination of all drinking water samples from different localities in Mysore city (Table 2) showed contamination to H_2S bottle test indicating the presence of pathogens in the above collected water samples, total bacterial count a minimum of 2 CFU/ml in S7, S8 and a maximum of 32 CFU/ml in S1 (unprocessed water of river Cauvery, at Rt. Canal, Hongalli water treatment plant which supplies drinking water to Mysore city). The total coli-form bacteria ranged from 2 to 1600 MPN/100 ml in the water samples collected and showed a maximum value compared to prescribed water quality standards in all samples except S7, S8 and S9. Fecal coli-form *E. coli* was present in all the samples except S9. From sample S5 onwards, water sample was inoculated into new H_2S test bottle, K022 (incubated at 37°C for 24-48 h) and they showed *Citrobacterfreundii* sp. or *Salmonella* sp. contamination. S8 and S10 H_2S bottles showed the water samples contamination by *Klebsiella* sp. / *Enterobacter* sp.

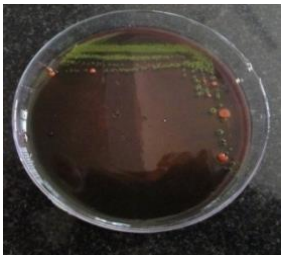
Results of bacteriological analysis of water samples

+ve H_2S bottle

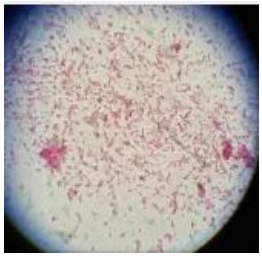
MPN tubes with acid and gas production



Total bacterial count on nutrient agar plate



Metallic sheen green colonies on EMB agar plate



Microscopic view of Gram –ve bacterial slide

Water samples were collected weekly from sewage mixed water

Table 3. Bacteriological analysis of weekly collected drinking water samples with sewage contamination

Parameters	**S3.1**	**S3.2**	**S3.3**	**S3.4**	**S3.5**	**S4.1**	**S4.2**	**S4.3**	**S4.4**	**S4.5**
H_2S bottle test	S / C	V sp.	S / C	V sp.	S / C	P sp.	K / E	E.c / S	K/E	S/C
MPN/100 ml	1600	170	31	9	2	350	75	110	31	43
E. coli	+	+	+	+	+	+	+	+	+	+

+ = pathogen Present, - = pathogen absent, S/C- *Salmonella* sp. /*Citrobacter* sp., V. sp.-*Vibrio* sp., K-*Klebsiella*/E-*Enterobacter* sp., P-*Pseudomonas* sp.

S3.1- S3.5: Weekly collected sewage contaminated water samples at MandiMohalla, Mysore

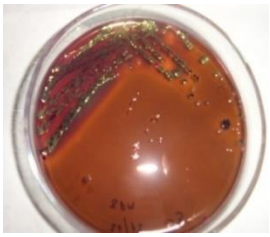
S4.1- S4.5: Weekly collected turbid water samples at MandiMohalla, Mysore

Water sample with sewage contamination – S3 and mud colored turbid water - S4 were collected weekly once for five weeks from MandiMohalla, Mysore city in order to assess the extent of contamination due to mixing of sewage water with drinking water and turbid water after heavy rainfall (Table 3). Samples were collected every week in downstream direction so as to assess the range of sewage contamination in terms of distance and number of days the contamination persisted in water pipeline.

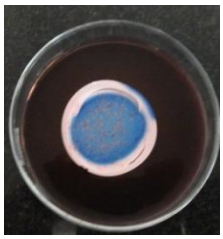
Analyzed weekly samples showed similar type of species that caused contamination in alternative week *viz*., *Salmonella orCitrobacter* sp. with *Vibrio* sp. in sewage contaminated water samples and gradual decrease in MPN values. Samples with color and turbidity also showed different types of species that contaminated *viz*., *Pseudomonas* sp., *Klebsiella* or *Enterobacter*sp., *E. coli* or *Salmonella* or *Shigella. Escherichia coli* were most dominant in all weekly samples. The contamination had spreadup to 2 km long, for about five weeks and was still prevailing even after four weeks in the drinking water distribution pipeline.

Results of bacteriological analysis of water samples

Positive H_2S bottle and MPN tubes



Escherichia coli with (green metallic sheen)



E. coli on membrane filter

`

Drinking water samples were collected from different drinking water sources like house roof top harvested rain water, College tank water and ground water from bore wells and analyzed for bacteriological parameters (Table 4).

Photographs showing sources of drinking water contamination to harvested rain water Ground water and College tank water and its filtration

Fig.15. Roof top rain water harvesting

Fig.16. Roof top rain water harvesting

Fig.17. Ground water surrounded by Contaminants

Fig.18. Ground water

Fig.19. College tank water sample with mud inside

Fig. 20. reverse osmosis water filter

Table 4.Bacteriological analysis of filter water samples collected in different localities of Mysore city

Parameters	RWH-1	RWH-2	Ground water -1	Ground water -2	College water Tank	Reverse Osmosis
H_2S Test	+	+	+	+	+	-
MPN cfu/100ml	9	2	4	2	1600	0
Pathogen	*Vibrio* sp.	*Vibrio* sp.	S/CBF	-	*Vibrio* sp.	-

+ = pathogen present, - =pathogen absent

RWH-1 and RWH –2 are harvested Rain water samples collected from the roof top of the houses and inoculated into H_2S bottle (KO22) on spot and were incubated at 37°C. for 12-18h. The bottle was observed for color change with turbidity and H_2S test was positive for harvested rain water sample-1, and RWH-2 indicating the presence of *Vibrio* sp. Roof top harvested rain water shows surface contamination. This indicates that harvested rainwater must be treated prior to potable use.

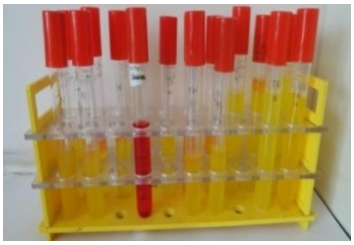
- Ground water samples – 1and 2 were collected and inoculated into H_2S bottle (KO22) on spot and was incubated at 37°C for 12-18h. The bottle was observed for color change with turbidity and H_2S test was positive for Ground water sample-1, indicating the presence of *Vibrio* sp. Source of contamination was anthropogenic activities near the water source. Ground water sample-2 was negative for H_2Stest.
- College water tank sample was collected and inoculated into H_2S bottle (KO22) on spot and was incubated at 37°C for 12-18h. The H_2S test bottle showed turbidity with color change, indicating the presence of *Vibrio* sp. contamination.
- Water sample of reverse osmosis from the college's department was collected and inoculated into H_2S bottle (KO22) on spot and was incubated at 37°C. for 12-18h.

The bottle was observed for color change with turbidity and H_2S test was negative for reverse osmosis filtered water sample, indicating the potability of water.

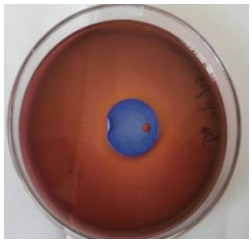
The water samples were further analyzed by membrane filtration technique, filter disc was placed on sterile EMB agar plate and incubated at 37°C for 24 h. and colonies were counted.

RESULTS

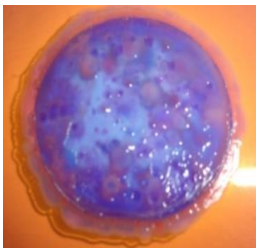
H_2S bottle with turbidity



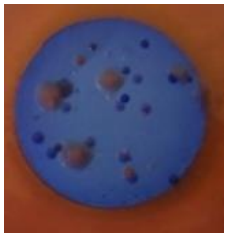
Positive MPN tubes



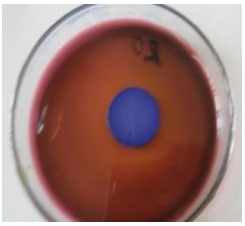
Harvested rainwater filter disc



Ground water filter disc



College's water tank filter disc



Reverse Osmosis water filter disc

All water samples showed high contamination except Reverse Osmosis and this implies potability of water purifier sample.

Drinking water samples were collected from different water storage containers, filters and analyzed. The isolates occurred thus are mentioned below in table No. 5

Photographs of water stored in different types of containers

Fig. 21 water collected by a plastic pipe, cloth filtration

Fig. 22 PC

Fig. 23 CU C

Fig. 24. CP

Fig. 25. AC

Table 5. Bacteriological analysis of water samples stored in different type of containers

Parameters	SC	PC	CU C	CP	AC
H_2S Test	+	+	+	+	+
MPN	24	43	2	1600	75
Pathogen	*Pseudomonas* sp.	*Vibrio* sp.	*Pseudomonas* sp.	*Salmonella* sp.	*Vibrio* sp.

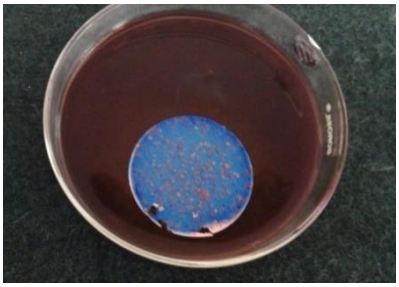
SC-steel container, PC-plastic container, Cu C-copper container, CP-Clay pot, AC-aluminum container

Drinking water samples stored in different type of containers were collected after 24 hr and 48 hr of storage separately and analyzed. All the samples were inoculated into H_2S test bottle and incubated for 18-24 hr at 37°C. The inoculated samples showed negative H_2S bottle test for samples stored at 24 h and positive H_2S bottle test for 48 h stored water samples. The positive samples were further analyzed for Total coliforms by MPN method and confirmed by biochemical tests. The water sample stored in Clay pot was highly contaminated and copper container showed a minimum contamination.

Point-of-use water treatment systems are widely used for relatively small scale improvement of the quality of water intended primarily for domestic purposes. The units are mainly used in households for the treatment of water from sources such as rivers, streams, lakes, wells, springs and boreholes which has not been treated by conventional processes for domestic purposes. Even in households with piped supplies of water treated by conventional large scale processes, these units are often applied for improvement of the water quality with regard to taste, odour and potentially harzardous chemical by-products such as chloramines and halogenated hydrocarbhons

Positive H_2S bottle

Positive MPN tubes



Membrane filter of clay pot

Secondary filteration of drinking water in different types of filter units at home

Drinking water samples were collected from different filters and analyzed according to Standard procedure. The isolates occurred thus are mentioned below in table No. 6

Fig. 26. Candle filter

Fig. 27. Pure-it filter

Fig. 28. Aquaguard filter

Table 6**.** Bacteriological analysis of water samples in different type of filter units

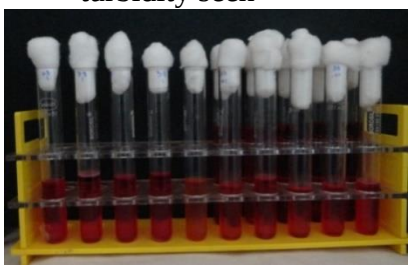
Parameters	Water Filters	Candle filter-1	Candle filter-2	Pure it-1	Pure it -2	Aquaguard-1	Aquaguard -2
H2S Test	Before	+	+	+	+	+	+
	After	+	-	+	-	-	-
MPN	Before	345	38	32	20	345	4
	After	170	0	2	0	0	0
Pathogen	Before	*Vibrio* sp.	*Vibrio* sp.	*Vibrio* sp.	*Vibrio* sp.	*Vibrio* sp.	*Vibrio* sp.
	After	*Vibrio* sp.	-	-	-	-	-

+ = pathogen present, - =pathogen absent

Results of H_2S test to drinking water samples from filter units

Before Aqua-guard filtration – turbidity seen

After Aqua-guard filtration - no turbidity



MPN negative

Membrane filtration negative

Drinking water samples were collected before and after entering the different filter units and analyzed. All the drinking water samples showed contamination before entering the filter units. After filtration, the Candle filer showed *vibrio* sp. contamination, Pure-It filter and Aquaguard filter showed no contamination. By field survey report relevant information regarding their household activity, it was known that by regular and at frequent intervals if the filter units were serviced or cleaned, potablity of the water is maintained well. Pure-it and Aquaguard filter units assured water purity for drinking and cooking purposes.

Photographs of the houses showing contaminants on the roof topof the houses

Fig. 29, Fig. 30, Fig. 31 and Fig. 32: showing fecal matter contamination on house roof top

House roof top harvested rain water Sample was collected from different sampling spots and analyzed

Table 7**.** Bacteriological analysis of Rain water harvested samples

Parameters	**RWH-1**	**RWH-2**
H2S Test	+	-
MPN cfu/100ml	32	0
Pathogen	*Pseudomonas* sp.	-

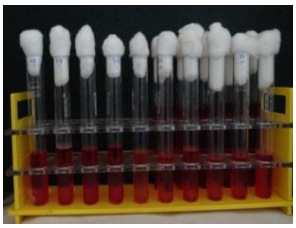
RWH-1: harvested rain water before disinfection by chlorine of rain water sample
RWH-2: harvested rain water after disinfection by chlorine, (Cl_2 - 0.25ml / Lt)

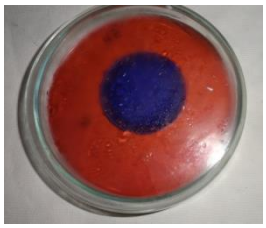
Harvested rain water was collected from the roof top of the house that was cleaned prior to rainfall. The place was free from all kinds of debris and dirt. After the rainfall, the first flush was allowed to flow so as to wash the roof top and later the rain water was collected through a channel of pipe fitted to the house roof top. A mesh was set below the pipe for the debris to collect and then water was passed through a three layered filter bed placed above the container. The first layer was made of small pebbles, the second layer was of washed and sterilized soil or sand particles and the third was a silk wool mesh. Harvested rainwater was made to pass through these three layered filter bed and was disinfected with liquid chlorine (0.25ml/L) and collected in big water cans, used to drinking and cooking purposes.

RESULTS



+veH_2S test +ve MPN tubes



-ve H_2S test and MPN tubes


Filter of harvested rain water

CONCLUSION

In conclusion, majority of the water sources had unacceptable total coliform count and all the water sources which were positive for presumptive coliform count had *E. coli* showing fecal contamination of water sources. Most of the samples were contaminated with H_2S producing bacteria and many of them did not meet the WHO bacteriological standards for drinking water. The presence of *Salmonella*, *Vibrio* or *E. coli* in drinking water

particularly raises serious public health concerns in relation to the quality of processed water in Mysore city. Intervention measures like we recommend regular disinfection of drinking water sources, periodic bacteriological evaluation of drinking water sources and construction and distribution of piped water including creating awareness and educating residents on shallow well construction, citing and care, boiling of water and improving sanitation should be urgently instituted. There is also need to construct sewerage works for the rapidly expanding Mysore city to reduce incidences of contamination from septic tanks. Political leaders and bureaucrats should meet together and take necessary steps to solve the problems regarding drinking water contamination. They should plan to join all the rivers of our country, go-ahead and see that clean clear, contamination free water is provided to all. Thus, ensuring potable water for a healthy and hygienic life to everyone.

ಕರ್ನಾಟಕ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಪ್ರೋತ್ಸಾಹಕ ಸೊಸೈಟಿ

ವಿದ್ಯುನ್ಮಾನ, ಮಾಹಿತಿ ತಂತ್ರಜ್ಞಾನ, ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಹಾಗೂ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಇಲಾಖೆ
ಕರ್ನಾಟಕ ಸರ್ಕಾರ
'ವಿಜ್ಞಾನ ಭವನ', 24/2, 3**ನೇ ಮಹಡಿ**, 21**ನೇ ಮುಖ್ಯ ರಸ್ತೆ**, **ಬನಶಂಕರಿ 2ನೇ ಹಂತ, ಬೆಂಗಳೂರು**- 560070,
ದೂರವಾಣಿ: 080-26711166; ಇಮೇಲ್: ksteps.dst@gmail.com

ಸಂ: DST/KSTePS/Ph.D. Fellowship/**CHE-03:2021-22** 1213 ದಿನಾಂಕ: ಜನವರಿ 09, 2023

ಗೆ:

ಸಾಗರ್ ಕೆ.ಎಸ್
ರಸಾಯನಶಾಸ್ತ್ರ ವಿಭಾಗ,
ಯುವರಾಜ ಕಾಲೇಜು, ಜೆ.ಎಲ್.ಬಿ ರಸ್ತೆ,
ಮೈಸೂರು – 570005

ಶಿಷ್ಯವೇತನ ನವೀಕರಣ ಪತ್ರ

ಪ್ರಿಯ ವಿದ್ಯಾರ್ಥಿ,

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಇಲಾಖೆಯ 2021-22ನೇ ಸಾಲಿನ **ಕರ್ನಾಟಕ ಡಿ.ಎಸ್.ಟಿ.-ಪಿಹೆಚ್.ಡಿ. ಶಿಷ್ಯವೇತನ** ಯೋಜನೆಯಡಿ ಶಿಷ್ಯವೇತನ ಪಡೆಯಲು ತಾವು ಆಯ್ಕೆಯಾಗಿ, ಡಿಸೆಂಬರ್ 2021 ರಿಂದ ಶಿಷ್ಯವೇತನ ಪಡೆಯುತ್ತಿರುವುದು ಸರಿಯಷ್ಟೆ. ಸದರಿ ಶಿಷ್ಯವೇತನ ಪ್ರದಾನ ಪತ್ರದನ್ವಯ ತಮಗೆ ನೀಡಲಾಗುತ್ತಿದ್ದ ಶಿಷ್ಯವೇತನದ ಒಂದು ವರ್ಷದ ಅವಧಿಯು ನವೆಂಬರ್ 2022 ಕ್ಕೆ ಮುಕ್ತಾಯಗೊಂಡಿರುತ್ತದೆ.

ಈ ಸಂಬಂಧ, ತಾವು ಸಲ್ಲಿಸಿರುವ ವಾರ್ಷಿಕ ಸಂಚಿತ ಪ್ರಗತಿಯ ವರದಿಯ ಪರಿಶೀಲನೆಯ ಆಧಾರದ ಮೇಲೆ ತಮಗೆ ನೀಡಲಾಗುತ್ತಿದ್ದ ಶಿಷ್ಯವೇತನದ ಅವಧಿಯನ್ನು ಮತ್ತೊಂದು ವರ್ಷದ ಅವಧಿಗೆ ಅಂದರೆ, ಡಿಸೆಂಬರ್ 2022 ರಿಂದ ನವೆಂಬರ್ 2023 ರವರೆಗೆ ವಿಸ್ತರಿಸಲಾಗಿರುತ್ತದೆ ಎಂದು ತಿಳಿಸಲು ಹರ್ಷಿಸುತ್ತೇನೆ. ಶಿಷ್ಯವೇತನದ ಮೊತ್ತ ಮತ್ತು ಇತರೆ ಎಲ್ಲಾ ನಿಯಮ ಹಾಗೂ ನಿಬಂಧನೆಗಳು ಹಿಂದಿನ ಸಾಲಿನಂತೆಯೇ ಮುಂದುವರಿಯಲಿವೆ.

ಕರ್ನಾಟಕ ಡಿ.ಎಸ್.ಟಿ.-ಪಿಹೆಚ್.ಡಿ. ಶಿಷ್ಯವೇತನವು ಕೆಸ್ಟೆಪ್ಸ್ / ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಇಲಾಖೆ, ಕರ್ನಾಟಕ ಸರ್ಕಾರ ದ ವತಿಯಿಂದ ತದನಂತರದಲ್ಲಿ ಉದ್ಯೋಗದ ಯಾವುದೇ ಭರವಸೆ ಅಥವಾ ಖಾತ್ರಿಯನ್ನು ನೀಡುವುದಿಲ್ಲ ಎಂಬ ಅಂಶವನ್ನು ಗಮನಿಸತಕ್ಕದ್ದು.

ಶುಭಾಶಯಗಳೊಂದಿಗೆ,

ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು
ಕೆಸ್ಟೆಪ್ಸ್

ಪ್ರತಿ:

1. ಪ್ರಾಂಶುಪಾಲರು, ಯುವರಾಜ ಕಾಲೇಜು, ಜೆ.ಎಲ್.ಬಿ ರಸ್ತೆ, ಮೈಸೂರು – 570005

3.4.1 – Ph. Ds awarded during the year 2016-17

Sl. No.	Name of the candidate	Name of the guide	Department	Reg. No	Date of award	Title of the Thesis

3.4.1 – Ph. Ds awarded during the year 2019-20

Sl.No.	Name of the candidate	Name of the guide	Department	Reg. No	Date of award	Title of the Thesis
	Renuka prasad			Reg.No.DCR.9.9/Ph.D/RPBP//577/2013-14	19-11-2019	Effect of Ashwagandha, Withania somnifera (L.) Dunal on Starvation Resistance and life history traits of Drosophila melanogaster.

3.4.1 – Ph. Ds awarded during the year 2014-15

Sl.No.	Name of the candidate	Name of the guide	Department	Reg. No	Date of award	Title of the Thesis
1	SHARATH CHANDRA S P	DR SHARADA A C	BIOCHEMISTRY	Ex.9.2/Ph.D./SSP/2360/2009-10	20.7.2015	SYNTHESIS AND BIOLOGICAL EVALUATION OF 6-FLUORO-3-(PIPERDINE-4-YL) ISOXAZOLE DERIVATIVES FOR THEIR ANTIPSYCHOTIC PROPERTIES.
2	DEEPTI LOKANATH A	DR SHARADA A C	BIOCHEMISTRY	Ex.9.2/Ph.D./ADL/2365/2010-11	15.5.2015	BIOCHEMICAL AND GENTIC MARKERS OF DYSLIPIDEMIA AND ASSOCIATED RISK FACTORS, A STUDY ON KODAVAS

3.4.1 – Ph. Ds awarded during the year 2016-17

Sl.No.	Name of the candidate	Name of the guide	Department	Reg. No	Date of award	Title of the Thesis
1	RAMZI ABDULRASHED ABDULKHALEQ GAZEM	DR SHARADA A C	BIOCHEMISTRY	Ex.9.9/Ph.D./RAAG/2012-13	11.1.2017	EVALUATION OF THERAPEUTIC POTENTIAL OF *SALVIA HISPANICA* (CHIA) SEED OIL
2	PUNEETH H R	DR SHARADA A C	BIOCHEMISTRY	Ex.9.2/Ph.D./PHR/1909/2009-10	21.2.2017	SYNTHESIS AND BIOLOGICAL EVALUATION OF CURCUMIN ANALOGS FOR THEIR THERAPEUTIC PROPERTIES.

3.4.1 – Ph. Ds awarded during the year 2018-19

Sl.No.	Name of the candidate	Name of the guide	Department	Reg. No	Date of award	Title of the Thesis
1	MADHU C S	DR SHARADA A C	BIOCHEMISTRY	Ex.9.4/Ph.D./MCS/2014-15	24.7.2019	ISOLATION AND BIOLOGICAL EVALUATION OF BIOACTIVE MOLECULE(S) FROM ETHNOMEDICINAL PLANTS

ಜಿಲ್ಲಾ ಅಧಿಕಾರಿಗಳ ಕಛೇರಿ
ಅಲ್ಪಸಂಖ್ಯಾತರ ಕಲ್ಯಾಣ ಇಲಾಖೆ
ಮೈಸೂರು.

ಕರ್ನಾಟಕ ಸರ್ಕಾರ
ಜಿಲ್ಲಾ ಪಂಚಾಯತ್, ಮೈಸೂರು

ದೂರವಾಣಿ: 0821- 2422088, 2422078.
Email:gokdom.domysuru@gmail.com
#446, 1st Floor, Saraswathi Nilaya,
Kempananjambha Agrahara, Mysore.
#446, 1ನೇ ಮಹಡಿ, ಸರಸ್ವತಿ ನಿಲಯ,
ಕೆಂಪನಂಜಾಂಭ ಅಗ್ರಹಾರ, ಮೈಸೂರು -570024.

ಕ್ರ.ಸಂ/ಜಿಅಮೈ/ಅಸಂಕಇ/ಫೆಲೋಷಿಪ್/ಸಿ.ಆರ್-03/2019-2020. ದಿನಾಂಕ: .10.2019

2019-20 ನೇ ಸಾಲಿನಲ್ಲಿ ಎಂ.ಫಿಲ್/ ಪಿಹೆಚ್.ಡಿ ಸಂಶೋಧನೆ ನಡೆಸುತ್ತಿರುವ ಅಲ್ಪಸಂಖ್ಯಾತರ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಅಲ್ಪಸಂಖ್ಯಾತರ ನಿರ್ದೇಶನಾಲಯದ ವತಿಯಿಂದ ಫೆಲೋಶಿಪ್ ನೀಡುವ ಬಗ್ಗೆ.

ಪ್ರಮಾಣ ಪತ್ರ
(ತಾತ್ಕಾಲಿಕ)

ಶ್ರೀ/ ಶ್ರೀಮತಿ/ಕು. **ಸಲ್ಮಾ ಕೌಸರ್** ರವರು **Department of Chemistry, University of Mysore, Manasagangothri, Mysore.** ದಲ್ಲಿ ಪಿಹೆಚ್.ಡಿ ವ್ಯಾಸಂಗ ಮಾಡುತ್ತಿದ್ದು ಇವರು 2019-20 ನೇ ಸಾಲಿನ ಅಲ್ಪಸಂಖ್ಯಾತರ ಕಛೇರಿಯ ವತಿಯಿಂದ ಅಲ್ಪಸಂಖ್ಯಾತರ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ನೀಡಲಾಗುವ ಫೆಲೋಶಿಪ್ ಅನುದಾನಕ್ಕೆ ಆಯ್ಕೆಯಾಗಿರುತ್ತಾರೆ.

ಇವರ ಪೌಡಪ್ರಬಂಧ/ ಸಂಶೋಧನಾ ಶೀರ್ಷಿಕೆಯು **"SYNTHESIS OF METAL- ORGANIC FRAMEWORK & ITS BIOLOGICAL ACTIVITY"** ಆಗಿರುತ್ತದೆ.

ಫೆಲೋಶಿಪ್‌ನ ಗರಿಷ್ಠ ಅವಧಿಯು ಪಿಹೆಚ್.ಡಿ ಕೋರ್ಸ್‌ಗೆ 03 ವರ್ಷಗಳು ಹಾಗು ಎಂ.ಫಿಲ್ ಕೋರ್ಸ್‌ಗೆ 02 ವರ್ಷಗಳಾಗಿರುತ್ತದೆ. ಇವರಿಗೆ ದಿನಾಂಕ: **October - 2019** ರಿಂದ **September - 2022** ರವರೆಗೆ ಅಥವಾ ಪದವಿಯ ಮುಕ್ತಾಯದ ದಿನಾಂಕ ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಮೊದಲು ಆ ದಿನಾಂಕದವರೆಗೆ ಫೆಲೋಶಿಪ್ ಅನ್ನು ನೀಡಲಾಗುವುದು.

ಫೆಲೋಶಿಪ್‌ನ ಮುಂದುವರಿಕೆಯು ಅಲ್ಪಸಂಖ್ಯಾತರ ನಿರ್ದೇಶನಾಲಯದ ಯೋಜನೆಯ ನೀತಿ- ನಿರ್ದೇಶನಗಳ ಅನುಸರಣೆ ಹಾಗೂ ಸಂಶೋಧನಾ ಕಾರ್ಯನಿರ್ವಹಣೆಯು ತೃಪ್ತಿಕರವಾಗಿರಬೇಕೆಂಬ ಷರತ್ತುಗಳಿಗೆ ಒಳಪಟ್ಟಿರುತ್ತದೆ.

ಜಿಲ್ಲಾ ಅಧಿಕಾರಿ
ಅಲ್ಪಸಂಖ್ಯಾತರ ಕಲ್ಯಾಣ ಇಲಾಖೆ, ಮೈಸೂರು.

ಪ್ರತಿಗಳು:

1. The Registrar, University of Mysore, Mysore- 570 006, ರವರಿಗೆ.
2. Head of the Department, Department of Chemistry, University of Mysore, Manasagangothri, Mysore, ರವರಿಗೆ.
3. Head of the Department, Department of Chemistry, Yuvaraja's College, Mysore. ರವರಿಗೆ.
4. ಕು. ಸಲ್ಮಾ ಕೌಸರ್, ರವರಿಗೆ.

No. DST/INSPIRE Fellowship/2013

GOVERNMENT OF INDIA

MINISTRY OF SCIENCE & TECHNOLOGY

Department of Science & Technology

Technology Bhavan, New Mehrauli Road, New Delhi-110016

inspire

Date: 30 June 2014

Subject: Award of INSPIRE Fellowship to the Research Students [IF140407]

Dear Zabiulla,

The Government of India has launched a unique Scheme "Innovation in Science Pursuit for Inspired Research (INSPIRE)" with several components. INSPIRE Fellowship provides fellowship in Basic and Applied Sciences. I am pleased that you have been Selected for the award of INSPIRE Fellowship.

The value of the Fellowship will be at Par with the Junior Research Fellowship (JRF)/ Senior Research Fellowship (SRF) of Government of India along with a Contingency grant. The Fellowship shall be available to you for a period of five years or completion of your doctoral (PhD) program, whichever is earlier.

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In the event of your having being found ineligible at any state in future for the award/eligibility for INSPIRE Fellowship due to any reason(including unintentional computer error or printer's devil etc) this will be deemed withdrawn.

(Chhama Awasthi)
Scientist 'B'

Zabiulla
C/o Syed Ismail
Add: Door No. 3231 C V Road
3rd Cross 2nd Erdgah
City: Mysore
State/UT: Karnataka-570015

ಕರ್ನಾಟಕ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಪ್ರೋತ್ಸಾಹಕ ಸೊಸೈಟಿ

ವಿದ್ಯುನ್ಮಾನ, ಮಾಹಿತಿ ತಂತ್ರಜ್ಞಾನ, ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಹಾಗೂ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಇಲಾಖೆ
ಕರ್ನಾಟಕ ಸರ್ಕಾರ

'ವಿಜ್ಞಾನ ಭವನ', 24/2, 3ನೇ ಮಹಡಿ, 21ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಬನಶಂಕರಿ 2ನೇ ಹಂತ, ಬೆಂಗಳೂರು- 560070,

ದೂರವಾಣಿ: 080-26711166; ಇಮೇಲ್: ksteps.dst@gmail.com

ಸಂ: DST/KSTePS/Ph.D. Fellowship/**CHE-01:2020-21** ದಿನಾಂಕ: ಜುಲೈ 17, 2020

ಗೆ

ನಾಗೇಶ್ ಕದ್ರಿ ಎಂ. ಜೆ.
ರಸಾಯನಶಾಸ್ತ್ರ ವಿಭಾಗ
ಯುವರಾಜ ಕಾಲೇಜು (ಸ್ವಾಯತ್ತ)
ಝಾನ್ಸಿ ರಾಣಿ ಲಕ್ಷ್ಮಿ ಬಾಯಿ ರಸ್ತೆ
ಕೆ.ಜಿ. ಕೊಪ್ಪಲ್, ಕಜ್ಜಿಹುಂಡಿ
ಮೈಸೂರು- 570 005

ಶಿಷ್ಯವೇತನ ಪ್ರದಾನ ಪತ್ರ

ಪ್ರಿಯ ವಿದ್ಯಾರ್ಥಿ,

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಇಲಾಖೆಯ 2020-21 ನೇ ಸಾಲಿನ **ಕರ್ನಾಟಕ ಡಿ.ಎಸ್.ಟಿ.-ಪಿಹೆಚ್.ಡಿ. ಶಿಷ್ಯವೇತನ** ಯೋಜನೆಯಡಿ ಶಿಷ್ಯವೇತನ ಪಡೆಯಲು ತಾವು ಆಯ್ಕೆಯಾಗಿರುತ್ತೀರಿ ಎಂದು ತಿಳಿಸಲು ಹರ್ಷಿಸುತ್ತೇನೆ.

ಸದರಿ ಯೋಜನೆಯಡಿ ಮಾಸಿಕ ರೂ. 20,000/- ಶಿಷ್ಯವೇತನವನ್ನು **ಜುಲೈ 17, 2021** ರಿಂದ ಅನ್ವಯವಾಗುವಂತೆ ನೀಡಲಾಗುವುದು. ಅಲ್ಲದೇ, ಈ ಶಿಷ್ಯವೇತನವು ಪ್ರಾರಂಭಿಕವಾಗಿ ಒಂದು ವರ್ಷದ ಅವಧಿಯದ್ದಾಗಿದ್ದು, ಇದನ್ನು ಮುಂದಿನ ಅವಧಿಗೆ ವಿಸ್ತರಿಸುವ ವಿವೇಚನೆಯು ಕೆಸ್ಟೆಪ್ಸ್, ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಇಲಾಖೆಯದ್ದಾಗಿರುತ್ತದೆ.

ಈ ಪತ್ರದೊಂದಿಗೆ ಕರ್ನಾಟಕ ಡಿ.ಎಸ್.ಟಿ.-ಪಿಹೆಚ್.ಡಿ. ಶಿಷ್ಯವೇತನ ಯೋಜನೆಯ ಮಾರ್ಗಸೂಚಿ ಹಾಗೂ ನಿಯಮ ಮತ್ತು ನಿಬಂಧನೆಗಳನ್ನು (General Guidelines and Terms and Conditions) ಲಗತ್ತಿಸಲಾಗಿದ್ದು, ತಾವು ಎಲ್ಲಾ ನಿಬಂಧನೆಗಳಿಗೆ ಒಪ್ಪಿದ್ದಲ್ಲಿ ಈ ಕೆಳಕಂಡ ದಾಖಲೆಗಳನ್ನು ಕೆಸ್ಟೆಪ್ಸ್ ಸಂಸ್ಥೆಗೆ **ಜುಲೈ 27, 2021** ರೊಳಗಾಗಿ ಸಲ್ಲಿಸುವ ಮೂಲಕ ಶಿಷ್ಯವೇತನ ಯೋಜನೆಯಡಿ ದಾಖಲಾಗಬಹುದಾಗಿರುತ್ತದೆ:

ಅ) ವಿಸ್ತೃತ ಪ್ರಸ್ತಾವನೆ ಹಾಗೂ ಸಂಶೋಧನಾ ಮಾರ್ಗದರ್ಶಕರು ಮತ್ತು ಸಂಸ್ಥೆಯ ಮುಖ್ಯಸ್ಥರಿಂದ ಪ್ರಮಾಣ ಪತ್ರಗಳು (Detailed proposal format along with certificate from research supervisor and Head of the Institution)- ಮಾರ್ಗಸೂಚಿಯಲ್ಲಿನ **ಅನುಬಂಧ A, B ಮತ್ತು C**

ಆ) Undertaking letter ಮತ್ತು ಬ್ಯಾಂಕ್ ಖಾತೆಯ ವಿವರ (ಮಾರ್ಗಸೂಚಿಯಲ್ಲಿನ **ಅನುಬಂಧ-I ಮತ್ತು II**).

ಇ) ಷೆಡ್ಯೂಲ್-'ಸಿ' ನಮೂನೆ (Schedule- 'C' Form) (ಮಾರ್ಗಸೂಚಿಯಲ್ಲಿನ **ಅನುಬಂಧ -VII**)

ಮೇಲ್ಕಂಡ ಎಲ್ಲಾ ದಾಖಲೆಗಳನ್ನು ಜುಲೈ 27, 2021 ರೊಳಗೆ ಸಲ್ಲಿಸದಿದ್ದಲ್ಲಿ, ತಮಗೆ ಸದರಿ ಯೋಜನೆಯಡಿ ದಾಖಲಾಗಲು ಆಸಕ್ತಿಯಿಲ್ಲವೆಂದು ಪರಿಗಣಿಸಿ, Waiting List ನಲ್ಲಿರುವ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಶಿಷ್ಯವೇತನವನ್ನು ನೀಡಲಾಗುವುದು.