

DETAILED REPORT ON NATIONAL SCIENCE DAY CELEBRATIONS-2017

Focal theme: 'Science and Technology for specially abled persons'

Topic: "Ethical aspects of Stem cell research"

Organised by Department of Zoology, Sacred Heart College, Chalakudy

27 February 2017

Coordinator: Dr. Jolly Thomas V.

Submitted to: Kerala State Council for Science, Technology and Environment,

Department of Science and Technology, Govt. of Kerala

The department of Zoology has conducted one day seminar on stem cell research and ethical aspects on February 27th 2017. The programme was inaugurated by Ms. Dafini Mendez, Assistant professor, Department of Biotechnology, St. Joseph's College, Irinjalakuda. Dr. Sr. Reena Ittyachan, Principal, Sacred Heart College, Chalakudy, presided over the function and Dr. Jolly Thomas V, HOD welcomed and Dr. Shirley Philip, Department of Economics, Sacred Heart College, Chalakudy, felicitated. Ms. Anjana Unnikrishnan expressed vote of thanks. A **poster making competition** on the topic "**Ethical aspects of stem cell research**" was conducted. Ms. Athira Valsan of II DC Zoology bagged First prize and Ms. Mers Rose Shoby of II DC Zoology and Namitha Babu of I DC Zoology shared Second prize.

Ms. Dafnie Mendez gave detailed description on the stem cell and its ethical aspects. The content of the topic is as follows, Stem cell research is a complicated and controversial issue. Before you can be for it or against it, you must fully understand the terminology, the potential, and consequences of stem cell research. There are implicit details which shape the perception of stem cell research. It's been made a: political issue, religious issue and quality of life issue. SC differ from other kinds of cells in the body. Regardless of their source, they are capable of dividing and renewing themselves for long periods. Although they are unspecialized, they can give rise to specialized types of cells (i.e. muscle, red blood, brain). Embryonic stem cells are derived from embryos that develop from eggs that have been fertilized in vitro, in an in vitro fertilization clinic. They are donated for research purposes with informed consent of the donors. They are not derived from eggs fertilized in a woman's body - a common misconception. Adult stem cells are undifferentiated, found among differentiated cell types in a tissue or organ. ASC can renew themselves, and can differentiate to yield the major specialized cell types of the tissue or organ. Their primary role in a living organism is to maintain and repair the tissue in which they are found. ESC and ASC differ in the number and type of differentiated cells they can become. ESC can become all types found

in the body. ASC are said to be less versatile, generally limited to differentiating into different cell types of their tissue of origin. However, other evidence suggests that an ASC from one adult tissue may be able to generate the differentiated types of cells of another adult tissue.

MERITS OF STEM CELL RESEARCH

Continuing research on human embryonic stem cells could identify how undifferentiated stem cells become differentiated. It is known that turning genes on and off is central to the process. Some of the most serious medical conditions are caused by abnormal cell division and differentiation. Better understanding of how these processes are controlled at the genetic and molecular level may lead to significant information about the cause for many diseases, new and better treatment possibilities and potential cures for many medical conditions. To simply put, those who support human embryonic stem cell research believe it could lead to possible cures for many diseases, including: Rheumatoid Arthritis, Lupus, Scleroderma, Diabetes, Parkinson's disease, Alzheimer's disease, Heart disease, Cancer and Spinal cord injuries.

Human stem cells could also be used to test new drugs. According to the NIH (National Institutes of Health,) "to screen drugs effectively, the conditions must be identical when comparing different drugs. Therefore, scientists will have to be able to precisely control the differentiation of stem cells into the specific cell type on which drugs will be tested. Current knowledge of the signals controlling differentiation fall well short of being able to mimic these conditions precisely to consistently have identical differentiated cells for each drug being tested. "The need for transplantable tissues and organs far outweighs the available supply. Stem cells, directed to differentiate into specific cell types, could offer the possibility of a renewable source of replacement cells and tissues to treat many diseases.

DEMERITS OF STEM CELL RESEARCH

One of the main objections to embryonic stem cell research has to do with the belief that using embryos tampers with life. People who stand strong behind this ideology believe that even for the purpose of medical research and the possibility of saving lives, it is wrong. For people who oppose embryonic stem cell research it is a matter of ethics and morals which outweigh the scientific potential. There is no guarantee that forging ahead with embryonic stem cell research will produce the desired results. That, too, is a problem for some who

oppose it. The utilization of embryonic stem cells, is at this point theoretical, unlike adult stem cells which have shown therapeutic results.

Understanding this issue before formulating an opinion is imperative. Stem cell research is a complicated issue, without doubt. Further investigation regarding the scientific and ethical viewpoints can only result in being more informed and knowledgeable, and the assurance that you are standing on the side of the issue which most strongly aligns with your beliefs. Debates over the ethics of embryonic stem cell research continue to divide scientists, politicians and religious groups. However, promising developments in other areas of stem cell research might lead to solutions that bypass these ethical issues. These new developments could help win stem cell research more support from those against embryonic stem cell research, since they don't require the destruction of blastocysts.

The most recent research has shown that there are many options available other than working with embryonic stem cells. Stem cells can be obtained from cord blood or derived by manipulating differentiated cells (i.e. skin cells) to revert them to a pluripotent state. These are alternatives that may help broaden the acceptance of stem cell research. In November 1998 the first published research paper reported that stem cells could be taken from human embryos. Subsequent research led to the ability to maintain undifferentiated stem cell lines (pluripotent cells) and techniques for differentiating them into cells specific to various tissues and organs. The debates over the ethics of stem cell research began almost immediately in 1999, despite reports that stem cells cannot grow into complete organisms. In 2000 – 2001, governments worldwide were beginning to draft proposals and guidelines in an effort to control stem cell research and the handling of embryonic tissues, and reach universal policies to prevent “brain-drains” (emigration of top scientists) between countries.

The CIHR (Canadian Institute of Health Sciences) drafted a list of recommendations for stem cell research in 2001. The Clinton administration drafted guidelines for stem cell research in 2000, but Clinton left office prior to them being released. The Bush government has had to deal with the issue throughout his administration. Australia, Germany, UK and other countries have also formulated policies.

CAPTIONED PHOTOS

Welcome address and presidential address

27/2/2017 - Science Day Inauguration and inaugural address



27/2/2017 - Science Day – Presidential address – Dr. Sr. Irene



27/2/2017 - Science Day - inaugural address – Ms. Daphne



27/2/2017 - Ms. Dafini taking a seminar on "Ethical aspects of stem cell research"





27/2/2017 - Ms. Dafini taking a seminar on "Ethical aspects of stem cell research"

Posters which bagged prizes

27/2/2017 - Posters that won prizes in the poster making competition in "ethical aspects of stem cell research"



27/2/2017 - Posters that win prizes in the poster making competition in “ethical aspects of stem cell research”



List of participants

S.No.	Name	Class
1	Anisha Raveendran P.	III DC
2	Athira M.C.	III DC
3	Mercy Saimon	III DC
4	Midhya T.M.	III DC
5	Nivya C.M.	III DC
6	Pavizham K.P.	III DC
7	Sandra Sajeev	III DC
8	Anju Sasi	III DC

9	Anupama V. Antony	III DC
10	Arifa M.S.	III DC
11	Arya Surendran	III DC
12	Athira A.R.	III DC
13	Athira C.V.	III DC
14	Athira Valsan	III DC
15	Dhanya V.I.	III DC
16	Divya Poullose	III DC
17	Giya C.Y.	III DC
18	Mers Rose Shoby	III DC
19	Mithramol M.B.	III DC
20	Nandana Ajayan	III DC
21	Neeraja V.S.	III DC
22	Niva Antony	III DC
23	Parvathy K.Lalu	III DC
24	Priya K.D.	III DC
25	Rosemary Francis	III DC

26	Rosmi K.P.	III DC
27	Sayana Raj	III DC
28	Seethalakshmi C.S.	III DC
29	Sidhy Unnikrishnan	III DC
30	Sruthy K.C.	III DC
31	Swathi K.S.	III DC
32	Thanseeha Jabeen	III DC
33	Silvy K.J.	II DC
34	Sona Jayson	II DC
35	Aleena Wilson	II DC
36	Alfiya Pappachan	II DC
37	Amritha S.K.	II DC
38	Anjitha Chandran	II DC
39	Anusha Reji	II DC
40	Binitha Baby	II DC
41	Blessy Babu	II DC
42	Gayathry Viswanathan	II DC

43	Georgeena Jose	II DC
44	Lisha K.S.	II DC
45	Namitha P.K.	II DC
46	Pooja Pradeep	II DC
47	Reshma N.S.	II DC
48	Risna Basheer	II DC
49	Shajana K. Kumar	II DC
50	Abiya Prasad	II DC
51	Akhila Jose	II DC
52	Ashmy Shakkeer	II DC
53	Aswathy V.S.	II DC
54	Christeena N.D.	II DC
55	Hima Vijayan	II DC
56	Jesny James	II DC
57	Megha T.K.	II DC
58	Meghana Manoj	II DC
59	Najila Beegum M.K.	II DC

60	Pooja K.P.	II DC
61	Renjima Jose	II DC
62	Vidya Anand	II DC
63	Vijithra A.	II DC
64	Vismaya Vinod	II DC
65	Sanila	I DC
66	Shani N.S.	I DC
67	Silpa Gopi	I DC
68	Sree Parvathy K.D.	I DC
69	Aleena Devassy	I DC
70	Annam C.T.	I DC
71	Arathy V.R.	I DC
72	Ashira Ashokan	I DC
73	Aswathy C.J.	I DC
74	Athulya Krishnan K.	I DC
75	Devika C.S.	I DC
76	Devika P. Sajan	I DC

77	Ganga K.S.	I DC
78	Jithiya Kosmin	I DC
79	Krishnaveni K.A.	I DC
80	Lakshmi Chithran	I DC
81	Mariya Peter	I DC
82	Namitha Babu	I DC
83	Ragendu P.B.	I DC
84	Sandra Mohan	I DC
85	Silpa K.S.	I DC
86	Sivani Dinesh	I DC
87	Aleena Siby	I DC
88	Amala Vincent	I DC
89	Anjana P. Sreedhar	I DC
90	Anju P.P.	I DC
91	Anu B.L.	I DC
92	Athira P.R.	I DC
93	Dalna Davis	I DC

22/10/17

Ethical aspects of stem cell research
- Sanction letter – 27/32/2017

KERALA S

OGY AND ENVIRONMENT
f Kerala

KSCSTE – National Science Day (2017) Celebrations - financial assistance to Colleges – sanctioned -
Orders issued

Council (P) Order No.645/2017/KSCSTE Thiruvananthapuram, Dated: 11/10/2017

Ref: (1) Letter No.CO/I/FP/NDM 01/2014, dated 20.10.2016
(2)Minutes of the meeting of the Screening Committee for NSD-2017celebrations

ORDER

As per the letter read (1) above, Department of Science & Technology, Govt. of India, had informed Kerala State Council for Science, Technology and Environment (KSCSTE) to co-ordinate the National Science Day (NSD) 2017celebrations in Kerala, based on the focal theme “**Science & Technology For Specially Aabled Persons**”. Accordingly, KSCSTE decided to organize NSD (2017) Celebrations with the involvement of students and academia. In response to the press notification of the Council in the leading dailies, **The Principal, Sacred Heart College,Chalakkudy Pin:680307** forwarded a proposal to organize NSD celebrations which was provisionally approved. As per the reference (2) cited above, Head of the institution was informed about the financial assistance sanctioned by the Council and the financial support will be released, after the conduct of the programme and subject to the verification of documents including report of activities, photographs, audited financial statements, etc.

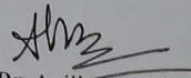
The Principal, Sacred Heart College,Chalakkudy Pin:680307, has submitted the required documents after the conduct of NSD-2017 celebrations. As per the financial statements, the total expense incurred was **Rs.10,975/- (Rupees Ten thousand nine hundred and seventy fiveonly)**.The documents were verified by the Council and were found acceptable.

KSCSTE is pleased to accord sanction to release the approved amount of **Rs.10,975/-(Rupees Ten thousand nine hundred and seventy five only)** towards financial assistance for conducting NSD (2017) celebrations and the amount will be disbursed by means of Electronic Fund Transfer (NEFT) as per their bank details given below.

Beneficiary Account Name	The Principal, SH College Chalakkudy
Beneficiary Account Number (SB/CC)	1805104000024879
Beneficiary IFSC Code	IBKL0001805
Name of Bank	IDBI Bank Ltd,Chalakkudy
Beneficiary Address	The Principal, Sacred Heart College,Chalakkudy Pin:680307

The expenditure in this regard will be met from the Council budget under the Head of Account (III) Schemes and Programmes of KSCSTE - **National Science day**.

The above sanction has been issued under the delegated powers of the Council with the approval of Director vide sanction No.643/DIR/2017-18/KSCSTE dated11/10/2017.


Dr. Anilkumar C
Principal Scientist & Head
Science Education Division

To
The Principal, Sacred Heart College,Chalakkudy Pin:680307
The Cash section, KSCSTE.
Copy to
Auditors File, Stock File/Office Copy.



Kerala State Council for Science, Technology and Environment

17/01/2017

Dr. Anilkumar C
Principal Scientist and Head
Science Education Division

Ethical aspects of stem cell research
- Sanction letter – 27/32/2017

Dear Sir/ Madam,

Sub: KSCSTE- National Science Day 2017 celebrations- Provisional approval- reg.

Ref: C-117436/NSD2017/2017/KSCSTE

117436

Greetings from Kerala State Council for Science, Technology and Environment.

I am happy to inform that KSCSTE considered your proposals to organize National Science Day 2017 celebrations and provisional approval was given to organize ONLY one programme at your institution. The final approval will be granted subjected to submission of:

1. details of the co-ordinator(s) of the single programme endorsed by Head of the Institution
2. a detailed one page write-up on the proposed programme.

The details of the co-ordinator(s) and write-up shall be submitted by the programme coordinator by email/post on or before **JANUARY 22, 2017** to sedkscste@gmail.com or to the following address:

Dr. Anilkumar C
Principal Scientist and Head
Science Education Division
Kerala State Council for Science, Technology and Environment
Sasthra Bhavan, Pattom P.O, Thiruvananthapuram – 695 004

Kindly mention the reference number given above in the write-up.

Yours sincerely,

Anilkumar C

To,

Ms. Jolly Thomas Assistant Professor & HOD, Department of Zoology , Sacred Heart
College, Chalakkudy Pin:680307

Dr. Nijo Vargheese, Assistant Professor Department Of Physics , Sacred Heart
College, Railway Station Road, Chalakkudy, Thrissur, Pin:68307

Copy to:

The Principal, Sacred Heart College, Railway Station Road, Chalakkudy, Thrissur, Pin:68307



കേരള ശാസ്ത്ര സാങ്കേതിക പരിസ്ഥിതി കൗൺസിൽ
Kerala State Council for Science, Technology and Environment
 'ഭരണഭാഷ-മാതൃഭാഷ'

Dr. Anilkumar C
 Principal Scientist and Head
 Science Education Division
 No.C-117 /NSD/2017/KSCSTE
 Sir/Madam,

09-02-2017

'Ethical aspects of stem cell research
 - Sanction letter – 27/32/2017

Sub:- KSCSTE – National Science Day 2017- Celebrations – reg.
Ref:- File No. 01/NSD2017/KSCSTE/2016

With reference to your proposal, I am happy to inform that KSCSTE has approved to offer financial assistance of **₹20,000/-** for organizing the National Science Day (NSD) 2017 celebrations, subject to the following conditions.

1. Programme schedule should be sent to KSCSTE well in advance.
2. Activities should be based on the focal theme: **“Science and Technology for specially abled persons”**. Eminent speakers/ experts may be invited to handle the sessions organized in connection with the programme.
3. Though February 28 is observed as National Science Day, the activities in your institution may be organized on any convenient date in the month of February, but on or before February 28, 2017. The activities organized after February 28, 2017 will not be considered for financial assistance.
4. Each activity should be documented. Detailed report on the various activities organized in connection with NSD - 2017 along with captioned photographs should be submitted to KSCSTE.
5. KSCSTE should be duly acknowledged in the programme and it should be written in all the brochures, banners, publicity materials, etc. 'Sponsored by Kerala State Council for Science, Technology and Environment' and supported by 'Department of Science & Technology, Govt. of India'.
6. The financial assistance may be utilized to cover the expenditure on organizing expenses, publicity materials, travel expenses, honoraria for resource persons and refreshment. Utilization of the grant for any other purpose other than the approved heads shall not be entertained.
7. Head of the Institution should forward the audited Statement of Expenditure and Utilization Certificate in the standard format available in the KSCSTE website.
8. The financial assistance will be disbursed to the Head of the Institution, only after the successful conduct of the programme, subject to the submission of satisfactory report and financial statements.
9. The required documents mentioned above should reach this office as early as possible after the conduct of the programme. However, the documents received after April 30, 2017 will not be entertained for release of payment and such request will be summarily rejected.

Kindly refer the Letter No and File No. in all future correspondence.
 Name of the Programme Co-ordinator: **Ms.Jolly Thomas Assistant Professor & HOD, Department of Zoology**

Thanking you,

Yours sincerely

Anilkumar C

To,
 The Principal, Sacred Heart College, Chalakkudy Pin:680307
 Ms.Jolly Thomas Assistant Professor & HOD, Department of Zoology ,Sacred Heart College, Chalakkudy Pin:680307

SACRED HEART COLLEGE
CHALAKUDY

LET KNOWLEDGE MAKE YOU BETTER
DEPARTMENT OF ZOOLOGY

KSCSTE

NATIONAL SCIENCE DAY

sponsored by

Kerala State Council for Science, Technology and Environment (KSCSTE) and Supported by Department of Science and Technology, Govt. of India

Prayer

Welcome address **Ms. Jolly Thomas V.**
Head, Dept. of Zoology
S.H. College, Chalakudy

Presidential address **Dr. Sr. Irene**
Principal, S.H. College,
Chalakudy

Inauguration **Ms. Dafini Mendez**
Asst. Prof. St. Joseph's
College, Irinjalakuda

Felicitations **Dr. Shirly Jose**
Asso. Prof. Dept. of
Economics , S.H. College
Chalakudy

Technical Session **Ms. Dafini Mendez**

Vote of Thanks **Association Secretary**

Poster making competition

Dear Sir/Madam

On behalf of the organizing committee, we are pleased to invite the faculty and students of your esteemed institution to participate and make the World wetland day celebration a grand success.

Ms. Jolly Thomas V.

Focal Theme

Studies of human embryonic stem cells will yield information about the complex events that occur during human development. A primary goal of this work is to identify how undifferentiated stem cells become the differentiated cells that form the tissues and organs. Many moral and ethical questions have been raised by certain sections of the society with regard to the use of human embryonic stem cells for research purpose. Usually the embryonic stem cells are obtained for research from in vitro fertilization clinics. Once the IVF procedure is successful, there is option for the persons with excess embryos of donating them to other infertile couples, destroying them or donating them for research purpose. The question is that "Is it morally appropriate to destroy an embryo and do the benefits of research provide a justification for doing so?" This seminar tries to provide a platform for discussion for persons with different opinions and brings forth new dimensions on these issues.

PROGRAMME SCHEDULE

Registration	: 9.00am
Inaugural session	: 9.30 am
Welcome address	: Ms. Jolly Thomas V (Head, Department of Zoology, S.H. College, Chalakudy)
Presidential address	: Rev. Dr. Sr. Irene (Principal, S.H. College, Chalakudy)
Inauguration	: Ms. Dafini Mendez Assistant Professor, St. Joseph's College, Irinjalakuda
Felicitation	: Dr. Shirley Jose, Head, Department of Economics, S.H. College, Chalakudy)
Technical Session	: Dr. Dafini Mendez
Afternoon session	: Poster making competition