



VISION RESEARCH FOUNDATION

August 23,2018

The Members of the Vision Research Foundation

NOTICE

NOTICE IS HEREBY GIVEN TO THE MEMBERS OF VISION RESEARCH FOUNDATION THAT THE 34TH ANNUAL GENERAL MEETING OF VISION RESEARCH FOUNDATION WILL BE HELD ON SATURDAY, THE 22ND SEPTEMBER 2018 AT 4.30 P.M. AT THE VRF BOARD ROOM IN THE 2ND FLOOR OF KAMALNAYAN BAJAJ RESEARCH CENTRE, VISION RESEARCH FOUNDATION, NO.41/18, COLLEGE ROAD, CHENNAI – 600 006. THE AGENDA FOR THE MEETING IS GIVEN BELOW:

AGENDA

1. To consider and adopt the Annual Report of the Hon. Secretary for the year 2017-18.
2. To consider and adopt the Audited Income and Expenditure Account for the year ended March 31, 2018 and the Balance Sheet as at that date together with the Report of the Auditors thereon.
3. To appoint statutory auditors for the financial year 2018–19 and to fix their remuneration.
4. To appoint the following Members to the Board of Management in the vacancies caused by their retirement, who are eligible for re-appointment:

| Name | Category of Membership |
|---------------------|-------------------------------|
| Mr. R S Falor | Donor Member |
| Mr. Homi C H Bhabha | Donor Member |

Kindly make it convenient to attend the meeting.

**DR S BHASKARAN
HONY. SECRETARY**

Note:

Explanatory statement for Item 4 of the Agenda is attached.



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Explanatory Statement

Refer Item No 4 of the Agenda

The following members were appointed to the Board of Management for a period of three years at the 31st Annual General Meeting held on 25th September 2015 :-

Name

Mr. R S Falor
Mr. Homi C H Bhabha

Their term of appointment expires at the end of the Annual General Meeting on 22nd September 2018. As per 16(xiv) of the Bye-laws of the Foundation read with Section 15 (5) of the Tamil Nadu Societies Registration Act 1975, they are eligible for reappointment to the Board of Management.



VISION RESEARCH FOUNDATION

BOARD OF MANAGEMENT

| | |
|------------------|--------------------|
| Dr Ronnie George | President |
| Dr S Bhaskaran | Honorary Secretary |
| Mr R S Falor | Honorary Treasurer |

Members of the Board

| | |
|--------------------|--------|
| Dr S S Badrinath | Member |
| Dr J Biswas | Member |
| Mr Homi C H Bhabha | Member |
| Dr H N Madhavan | Member |
| Dr Lingam Gopal | Member |
| Dr T S Surendran | Member |
| Dr M S Swaminathan | Member |
| Mr V Vaidyanathan | Member |
| Dr S B Vasanthi | Member |
| Dr L Vijaya | Member |

| | |
|----------------------------|-------------------------|
| Chief Operating Officer | Dr. K.S. Vasan |
| Director – Research | Dr. Ronnie Jacob George |
| Deputy Director – Research | Dr. S Krishnakumar |
| Manager | Mr. S Narayan |

| | |
|----------|---|
| Auditors | M/s S Viswanathan LLP Chartered Accountants, Chennai |
|----------|---|

| | |
|---------|--|
| Bankers | HDFC Bank, Chennai – 600 034 State Bank of India, Chennai –600 034 Indian Overseas Bank, Chennai – 600 006 |
|---------|--|

| | |
|-------------------|---|
| Registered Office | New No.41, Old No.18, College Road Chennai – 600 006 |
|-------------------|---|



VISION RESEARCH FOUNDATION

INSTITUTIONAL REVIEW BOARD (ETHICS SUB-COMMITTEE) MEMBERS

Justice Mohan S.
Dr. T Santha Devi
Dr. Bakulesh M. Khamar
Dr. Manjula Dutta
Dr. Ronnie Jacob George
Prof. H N Madhavan
Dr. S Krishnakumar
Dr. T S Surendran
Prof. N Vizheenathan
Mrs. Radhika Krishnan
Lion G V Raman
Dr. Rama Shankar Verma
Mrs. Sujatha Viswanath
Mrs. Nalini Ravindran

RESEARCH SUB-COMMITTEE MEMBERS

Dr. Ronnie Jacob George
Dr. J. Biswas
Dr. S Krishnakumar
Dr. T Santha Devi
Prof. H N Madhavan
Dr. Rama Shankar Verma

RESEARCH CELL COMMITTEE MEMBERS

Dr. Ronnie Jacob George
Dr. H N Madhavan
Dr. L Vijaya
Dr. S Krishnakumar
Dr. Sumita Agarkar
Dr. J Biswas
Dr. R R Sudhir
Dr. Vikas Khetan
Dr. Kalpathy R K Easwaran
Dr. Prema Padmanabhan
Dr. N Angayarkanni



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INSTITUTIONAL COMMITTEE FOR STEM CELL RESEARCH

Prof. Dr. Rama Shankar Verma
Dr. H.N. Madhavan
Mrs. Radhika Krishnan
Dr. S Arumugam
Prof. N. Veezhinathan
Lion G V Raman
Dr. N Pandiyan
Dr. Ronnie George
Dr. Rama Rajaram
Dr. Rosy Vennila
Dr. Bakulesh M Khamar

INSTITUTIONAL BIOLOGICAL SAFETY COMMITTEE

Dr. H.N. Madhavan
Dr. Gunasekar
Dr. M Natarajan
Mr. S Narayan
Dr. S Krishnakumar



VISION RESEARCH FOUNDATION

ANNUAL REPORT FOR THE YEAR 2017-18

Report of the Honorary Secretary to the Members of the Foundation

It gives me great pleasure to welcome you all to this 34th Annual General Meeting of our Foundation. I am pleased to present the Thirty Fourth Annual Report of Vision Research Foundation. The thirty third Annual General Meeting of the Foundation was held on 15th September 2017 in which the Annual Report and the Audited Accounts of the Foundation for the financial year ended 31st March 2017 were approved by the members and M/s. S Viswanathan LLP, Chartered Accountants, were re-appointed as Auditors for the financial year 2017-18.

The donations received during the year under report were Rs.258.02 lakhs as compared to Rs.508.91 lakhs in the previous year. The gross total income for the year under review was Rs.725.99 lakhs including research grants and interest on deposits. The total expenditure before providing depreciation was Rs.749.55 lakhs resulting in a cash deficit of Rs.23.56 lakhs. After considering depreciation for the year and loss on condemned assets, there was a net deficit of Rs.168.39 lakhs, which was carried over to the capital fund account.

Summary of Source and applications are as follows:

| Sources | Rs. in Lakhs |
|--|---------------------------|
| 1. Decrease in Net Current Assets | 110.20 |
| 2. Increase in Net Current Liabilities | 105.96 |
| | <hr/> 216.16 <hr/> |
| Applications of Funds | |
| 1. Increase in Fixed Assets | 192.60 |
| 2. Cash Deficit | 23.56 |
| | <hr/> 216.16 <hr/> |



VISION RESEARCH FOUNDATION

The foundation has received a sum of Rs.356.73lakhs as research grants during the year under review as per the details given below :

| | Rs. in Lakhs | |
|---|---------------------|----------------|
| Research Grants – Basic Science | 2017-18 | 2016-17 |
| 1. Council of Science & Industrial Research | 11.72 | 7.98 |
| 2. Indian Council of Medical Research | 55.75 | 106.13 |
| 3. Department of Biotechnology | 135.20 | 130.70 |
| 4. Department of Science & Technology | 68.82 | 28.92 |
| 5. NHS Foundational Trust | 6.55 | 0.00 |
| 6. Eye Stem Research Pvt Ltd | 0.00 | 3.79 |
| 7. Fellowship Programme | 33.36 | 42.88 |
| 8. Others | 5.34 | 3.67 |
| Total | 316.74 | 324.07 |
| Clinical Science | | |
| 9. Excel Life Sciences Pvt. Ltd. | 5.31 | 12.45 |
| 10. Heads AS | 28.25 | 0.00 |
| 11. Parexel Intl. Clinical Research Pvt Ltd | 6.33 | 2.45 |
| 12. Others | 0.10 | 22.68 |
| Total | 39.99 | 37.58 |
| Grand Total | 356.73 | 361.65 |

Research Activities:

Research activities during the financial year were satisfying. A number of projects were submitted to the Department of Science and Technology and Department of Biotechnology.

The projects which were under consideration by the Govt. agencies as on date are as under:



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| Title of the Project | Funding Agency | Grant Amount for 2018-19 (Value in Rs.) |
|---|--------------------------------------|--|
| Fluorescent Nanoprobes for Squamous Cell Carcinoma: A step towards developing a rapid tool for margin clearance [Dr S Krishnakumar] | Department of Biotechnology | 21,11,800/- |
| Biological Investigation and Degradation Behaviour of Bioglass based Artificial Cornea Material [Dr S Krishnakumar] | Department of Biotechnology | 16,50,000/- |
| Smart Polycaprolactone (PCL) Peptide Composite nanofibres for sustained release of 5 Fluoro uracil to modulate wound healing in glaucoma surgery [Dr J Narayanan] | Department of Biotechnology | 51,96,400/- |
| Injectable Self-Assembled Bruch's Membrane Mimetic Nanofibers For Retinal Pigment Epithelium [Dr Sowmya Parameswaran] | Department of Biotechnology | 19,00,000/- |
| A novel molecular screening approach for clinical and molecular characterization of Usher syndrome patients in India [Dr S Sripriya] | Department of Biotechnology | 22,25,000/- |
| Design and Development of inhibitors targeting Endothelin towards therapeutic applications in Glaucoma [DrVUmashankar] | Science & Engineering Research Board | 14,00,000/- |

During the year, five meetings of the Board of Management were held and Institutional Review Board (Ethics Sub-Committee) and Research Sub-Committee met four times.



VISION RESEARCH FOUNDATION

Manpower Details :-

| <u>Manpower</u> | <u>As on 31st Mar 2018</u> | <u>As on 31st Mar 2017</u> |
|--|---|---|
| President | 01 | 01 |
| Directors | 05 | 05 |
| Advisor-Projects | 00 | 01 |
| Deputy Director / Head of the Dept / Chief Scientist / Senior Professor | 01 | 01 |
| Head of the Dept / Chief Scientist / Senior Professor | 01 | 01 |
| Head of the Department / Chief Scientist / Professor | 02 | 02 |
| Head of the Department /Principal Scientist / Associate Professor | 01 | 01 |
| Manager | 01 | 01 |
| Senior Principal Scientist / Associate Professor | 02 | 03 |
| Principal Scientist / Associate Professor | 05 | 06 |
| Senior Scientist II / Assistant Professor | 04 | 02 |
| Research Associate | 02 | 04 |
| Senior Research Fellows | 17 | 15 |
| Junior Research Fellows | 11 | 12 |
| Research/Project /Technical Asst | 05 | 03 |
| Junior Scientists | 05 | 05 |
| Optometrist | 01 | 00 |
| Executives / Staff / Technicians | 17 | 19 |
| Bio-statistician | 01 | 01 |
| Part Time Scientists | 77 | 86 |
| Total | 159 | 169 |

Conclusion:

I would like to take this opportunity to place on record my gratitude for all the guidance extended to me by Mr. R S Falor, Hon. Treasurer; Emeritus Dr S S Badrinath, President & Chairman, Medical Research Foundation; Dr. Kris S. Vasan, Chief Operating Officer, Dr. Ronnie Jacob George, Director - Research and Dr. S Krishnakumar, Deputy Director - Research.



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I wish to place on record my sincere thanks and gratitude for all the support and guidance extended to me by Dr Lingam Gopal who served as President of Vision Research Foundation.

I am happy to inform that the renewal of our recognition of Scientific & Industrial Research Organisation was accorded by the Department of Scientific & Industrial Research, New Delhi, for a further period of 3 years from 1st April 2018 to 31st March 2021.

I would like to mention that the achievements and awards received by the scientists, details of completed projects and ongoing projects, conferences attended and the articles published in the national and international journals are given separately.

My thanks are also due to the Auditors, M/s. S Viswanathan LLP particularly to their partner, Mr. Chella K Srinivasan for their active and invaluable support and our Bankers, HDFC Bank and State Bank of India for their support and co-operation.

I also thank the Internal Auditors, M/s. Sundar, Ranganath & Srinivasan, Chartered Accountants, for their active support in conducting internal audit of the Foundation.

Mr. S Narayan, Manager, played an active role in managing the finance and administrative activities of the Foundation. I thank him for his help and assistance. I also wish to thank Mr. N Sivakumar for his support in relation to the income tax assessment of the foundation.

The Board of Management place on record their appreciation of the invaluable contribution made by the Research Scientists, Consultants, para-medics and other employees to the continued success of the institution.

Dr S Bhaskaran
Hony. Secretary
Vision Research Foundation



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HONOURS & AWARDS

- ❖ Ms Suganya received the travel grant from Science and Engineering Research Board, Govt. of India, for attending the "12th Microsymposium of Small RNAs" at Institute of Molecular Biotechnology, Austria from 26th to 28th May 2017 and made a poster on "Piwi-like protein, HIWI2 is aberrantly expressed in retinoblastoma cells and affects cell cycle probably through OTX2 and VEGFR2".
- ❖ Dr Nivedita Chatterjee received the AIDS Research Scholarship Award, 2017 from NIH Office International AIDS Society 2017 Conference held at Paris from 24th to 26th July 2017.
- ❖ Mr Ranjith Kumar was awarded the Travel Grant and he made a free oral presentation on "Gene expression signatures of non-invasive and invasive retinoblastoma: CDC25 as a potential therapeutic target" at the 24th Annual Meeting of Indian Eye Research Group (IERG-ARVO 2017) Conference held at Madurai from 29th to 30th July 2017.
- ❖ Mr Anand received the Travel Grant Award and he made a free oral presentation on "Silencing Cystathionine Beta Synthase Could Inhibit VEGF Mediated Neovascularization during Hyperhomocysteniemia in ARPE-19 Cells" at the 24th Annual Meeting of Indian Eye Research Group (IERG-ARVO 2017) Conference held at Madurai from 29th to 30th July 2017.
- ❖ Ms Jayashree received the Best Poster Award for her poster entitled "Targeted Cancer cell therapy, using an aptamer chimera to block proinflammatory IL6/Stat3 Signaling, enhances apoptosis and tumor reduction in mouse model of retinoblastoma" at the Indian Eye Research Group (IERG-ARVO 2017) Conference held at Madurai from 29th to 30th July 2017.
- ❖ Ms Suganya K received the Travel Grant Award and she made a poster presentation on "Genetic screening for CHMs gene mutations in choroideremia patients from India" at the 24th Annual Meeting of Indian Eye Research Group (IERG-ARVO 2017) Conference held at Madurai from 29th to 30th July 2017.
- ❖ Mr. Madhu Beta was awarded the Ph.D degree at Sastra University, Thanjavur for his Ph.D thesis entitled "Biology of Ocular tumors and Biomarkers for Retinoblastoma" under the guide-ship of Dr. S. Krishna Kumar on 21st August 2017.
- ❖ Dr J Malathi received the Best Woman Scientist Award in memory of Smt. Radhamani N. Anantha Endowment Award for the year 2017 in the Graduation Ceremony held at Sri. V.D. Swami Auditorium on 20th September 2017.



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- ❖ Dr A R Rajalakshmy received the Prof. S Krishnamoorthy Endowment Award for the Best Outgoing Ph.D Student in the Graduation Ceremony held at Sri. V.D. Swami Auditorium on 20thSeptember 2017.
- ❖ Mr R N Naresh Kumar received the Swarnalatha Punshi Award for the year 2017 for his research paper entitled "Inhibition of angiogenesis in endothelial cells by Human Lysyl oxidase propeptide" in the Graduation Ceremony held at Sri. V.D. Swami Auditorium on 20thSeptember 2017.
- ❖ Ms Suganya K was awarded partial scholarship and travel grant to participate in the 2017 NextGen Genomics, Biology, Bioinformatics and Technologies Conference held in Bhubaneswar from 2ndto 4thOctober 2017 and she made a poster presentation on "Genetic screening for CHM gene mutations in choroideremia patients from India".
- ❖ Mr Amit Chatterjee received travel fellowship for attending the EMBO Workshop and he presented a poster entitled, "Probing the mechanism: How matrix stiffness alters corneal epithelium cytoskeleton rearrangement and alters peptide uptake" at IISER, Pune organised by European Molecular Biology Organization held from 29thOctober to 1stNovember 2017.
- ❖ Mr R N Naresh Kumar received Best Poster Award for "Inhibition of Retinal Angiogenesis by Human Lysyl Oxidase Propeptide" in the 86th Society of Biological Chemists of India (SBC-2017) at Jawaharlal Nehru University, New Delhi held between 16thand 19thNovember 2017.
- ❖ Mr. Prasanna Kumar received the Ph.D degree at Deakin University, Australia, for his Ph.D. thesis entitled, "Tumor-specific Oligonucleotide-toxin chimeras for targeted gene therapy" under Prof. Jagat Kanwar, Supervisor, Deakin University & Co-Supervisor, Dr. J. Narayanan, Department of Nano Biotechnology on 25thOctober 2017.
- ❖ Ms. R Rajeswari received the Ph.D degree at Deakin University, Australia, for her Ph.D. thesis entitled, "Deciphering the role of Tumor Microenvironment in the invasion and progression of Retinoblastoma" under Prof. Jagat Kanwar, Deakin University, Australia (Supervisor) & Co-Supervisor: Dr. S. Krishnakumar, Pathology Department on 6thDecember 2017.
- ❖ Mr R Saravanan received the Ph.D degree at The Tamil Nadu Dr. M.G.R. Medical University on 3rdJanuary 2018 for his thesis entitled, "Identification, molecular cloning and characterization of differentially expressed proteins in the serum of patients with Eales' disease" under the guide-ship of Dr K N Sulochana.



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- ❖ Ms D Sudha was awarded the Ph.D degree at Sastra University, Thanjavur, for his Ph.D. thesis entitled "Clinical, genetic and molecular studies on X-linked retinoschisis (XLR5)" on 20thJanuary 2018 under the guide-ship of Dr A J Pandian.
- ❖ Ms Rebecca Manohar received the Best Presentation Award for her poster entitled "Homocysteinylation of Elastin in Pseudoexfoliation syndrome, a secondary cause of glaucoma" in the National Conference in Interdisciplinary Research and Innovations in Biosciences NATCON-2018 held at Mohamed Sathak College of Arts and Science, Chennai, on 24th and 25th January 2018.
- ❖ Ms Nikhalashree received Best Poster Award for her poster entitled "Human in vitro cellular model to demonstrate the effect of a proteoglycan peptide in alleviating post-operative fibrosis in glaucoma" in International Congress of Cell Biology 2018 (ICCB 2018) at Hyderabad from 27th to 31st January 2018.
- ❖ Dr Sangeetha Srinivasan was awarded Travel Fellowship for attending the ARVO 2018 Conference at Honolulu, Hawaii, USA from 29th Apr to 3rd May 2018.
- ❖ Dr S Mathavan delivered Prof. S Krishnaswamy Endowment Lecture on "My Journey from School of Biological Sciences (SBS, MKU) with Zebrafish" at the 49th Aquatic Symposium at the School of Biological Sciences, Madurai Kamaraj University, Madurai on 27th & 28th February 2018.



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RESEARCH PUBLICATIONS

International Journals :

- ❖ Sudha D, Kohansal-Nodehi M, Kovuri P, Manda SS, Neriyanuri S, Gopal L, Bhende P, Chidambaram S, Arunachalam JP. "Proteomic profiling of human intraschisis cavity fluid". Clin Proteomics. 2017 Apr 24;14:13.
- ❖ Selvi R, Bhuvanansundar R, Angayarkanni N. "Amino Acid Mixture Acts as a Potent VEGF Lowering Agent in CHO-K1 Cells Exposed to High Glucose". Arch Med Res. 2017 Apr;48(3):238-246.
- ❖ Mary MJ, Saravanan L, Deecaraman M, Vijayalakshmi M, Umashankar V, Sailaja J. "Polymorphism of the PAI-1gene (4G/5G) may be linked with Polycystic Ovary Syndrome and associated pregnancy disorders in South Indian Women". Bioinformation. 2017 May 31;13(5):149-153.
- ❖ Sudha D, Ganapathy A, Mohan P, Mannan AU, Krishna S, Neriyanuri S, Swaminathan M, Rishi P, Chidambaram S, Arunachalam JP. "Clinical and genetic analysis of Indian patients with NDP-related retinopathies". Int Ophthalmol. 2018 Jun;38(3):1251-1260. Epub 2017 Jun 10.
- ❖ Bhavsar D, Subramanian K, Sethuraman S, Maheswari Krishnan U. "Nano-in-Nano' Hybrid Liposomes Increase Target Specificity and Gene Silencing Efficiency in Breast Cancer induced SCID Mice". Eur J Pharm Biopharm. 2017 Jun 6. pii: S0939-6411(17)30685-9.
- ❖ Athyala PK, Kanwar JR, Chitipothu S, Kanwar RK, Krishnakumar S, Watson JP, Narayanan J. "Neocarzinostatin, Aptamer Conjugates for Targeting EpCAM-positive Tumor Cells". Anticancer Res. 2017 Jul;37(7):3615-3629.
- ❖ Anupriya Sadhasivam & Umashankar Vetrivel, "Genome-wide codon usage profiling of ocular infective Chlamydia trachomatis serovars and drug target identification". Journal of Biomolecular Structure and Dynamics. Taylor & Francis, Journal of Biomolecular Structure and Dynamics Volume 36, 2018 Pages 1979-2003, Published online: 04 Jul 2017.
- ❖ Krishna S, Neriyanuri S, Sripriya S, Sen P, Chidambaram S, Arunachalam JP, Sarangapani S, et al., "Genetic association study of exfoliation syndrome identifies a protective rare variant at LOXL1 and five new susceptibility loci". Ophthalmic Genet. 2017 May-Jun;38(3):260-266. Nat Genet. 2017 Jul;49(7):993-1004.
- ❖ Sivagurunathan S, Arunachalam JP, Chidambaram S. "PIWI-like protein, HIWI2 is aberrantly expressed in retinoblastoma cells and affects cell-cycle potentially through OTX2". Cell Mol Biol Lett. 2017 Aug 29;22:17.
- ❖ Khan NA, Govindaraj P, Soumitra N, Sharma S, Srilekha S, Ambika S, Vanniarajan A, Meena AK, Uppin MS, Sundaram C, Bindu PS, Gayathri N, Taly AB, Thangaraj K. "Leber's Hereditary Optic Neuropathy-Specific Mutation m.11778G>A Exists on Diverse Mitochondrial Haplogroups in India". Invest Ophthalmol Vis Sci. 2017 Aug 1;58(10):3923-3930.



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- ❖ Nahid Akhtar Khan, Periyasamy Govindaraj, Nagasamy Soumittra, Sonika Sharma, Sundaramoorthy Srilekha, Selvakumar Ambika, et al. "*Leber's Hereditary Optic Neuropathy – Specific Mutation m.11778G>A Exists on Diverse Mitochondrial Haplogroups in India*". Invest Ophthalmol Vis Sci. 2017. 2017 Aug 1;58(10):3923-3930.
- ❖ Alam MS, Subramanian N, Desai AS, Krishnakumar S. "*Mesenchymal chondrosarcoma of the orbit: A case report with 5 years of follow-up*". Orbit 2017 Aug 16, Pages 73-75.
- ❖ Alam S, Backiavathy V, Mukherjee B, Krishnakumar S. "*A rare case of giant multicystic solitary fibrous tumor of the orbit*". Orbit 37(1) August 2017.
- ❖ Sreelakshmi KV, Chandra A, Krishnakumar S, Natarajan V, Khetan V. "*Anterior Chamber Invasion in Retinoblastoma: Not an Indication for Adjuvant Chemotherapy*". Invest Ophthalmol Vis Sci 2017 Sep 1.
- ❖ Vinita K, Sripriya S, Sharmila FM, Vaitheeswaran K, Rajiv Raman, Sharma T. "*High order interaction analysis of SNPs in PEDF (rs12150053, rs12948385) and EPO (rs1617640) genes with clinical determinants of type 2 diabetic retinopathy patients from south India*". Meta Gene Vol.13 Sep 2017 Pages 92-98.
- ❖ Md. Shahid Alam, D. Vaidehi, K. Lily Therese and Mohammad Javed Ali. "*Rare Pleurostomophora richardsiae Mass Causing Transient Nasolacrimal Duct Obstruction 2017 Ophthalmic Plastic & Reconstructive Surgery: November/December 2017 - Volume 33 - Issue 6 - p e154–e156*".
- ❖ Rishi E, Rishi P, Bhende P, Raman R, Sen P, Susvar P, Rao C, Therese L, Hirawat R. "*Enterococcus faecalis Endophthalmitis in Children - A 21 Year Study*". Ocul Immunol Inflamm. 2018;26(4):543-549. Epub 2017 Oct 13.
- ❖ Vetrivel U, Nagarajan H, Thirumudi I. "*Design of inhibitory peptide targeting Toxoplasma gondii RON4-human β -tubulin interactions by implementing structural bioinformatics methods*". J Cell Biochem. 2018 Apr;119(4):3236-3246. Epub 2017 Dec 26.
- ❖ Kalmodia S, Parameswaran S, Ganapathy K, Yang W, Barrow CJ, Kanwar JR, Roy K, Vasudevan M, Kulkarni K, Elchuri SV, Krishnakumar S. "*Characterization and Molecular Mechanism of Peptide-Conjugated Gold Nanoparticle Inhibiting p53-HDM2 Interaction in Retinoblastoma*". Mol Ther Nucleic Acids. 2017 Dec 15;9:349-364. Epub 2017 Oct 20.
- ❖ Bhende M, Raman R, Jain M, Shah PK, Sharma T, Gopal L, Bhende PS, Srinivasan S, Jambulingam M, Sankara Nethralaya Vitreoretinal Study Group (SNVR-Study Group). "*Incidence, microbiology, and outcomes of endophthalmitis after 111,876 pars plana vitrectomies at a single, tertiary eye care hospital*". PLoS One. 2018 Jan 16;13(1):e0191173.
- ❖ Kharel Sitaula R, Janani MK, Madhavan HN, Biswas J. "*Outcome of polymerase chain reaction (PCR) analysis in 100 suspected cases of infectious uveitis*". J Ophthalmic Inflamm Infect. 2018 Jan 10;8(1):2.



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- ❖ Srividya G, Jain M, Mahalakshmi K, Gayathri S, Raman R, Angayarkanni N. "A novel and less invasive technique to assess cytokine profile of vitreous in patients of diabetic macular oedema". *Eye (Lond)*. 2018 Apr;32(4):820-829. Epub 2018 Jan 5.
- ❖ Sowmya P, S Krishnakumar, Vikas Khetan. "The Roundabout Way of Finding the Right Target". *Journal of Pediatric Ophthalmology and Strabismus*, Jan 2018;55(1):11-12.
- ❖ Gayathree K, Nareshkumar RN, Aberami S, Sulochana KN, Srinivasan V & Coral K. "Hyperglycemia induced early growth response-1 regulates vascular dysfunction in human retinal endothelial cells" *Microvascular Research* 2018 Jan 4;117:37-43
- ❖ James Chodosh, Ashrafali Ismail, Gurdeep Singh, Jaya Rajaiya, Donald Seto, Tiange Cui, Kalpana Dommaraju, ShoalehDehghan, Jason Seto, Susmita Shrivastava, Nadia Fedorova, Neha Gupta, Timothy Stockwell, RamanaMadupu, Albert Heim, Eric Romanowski, Regis Kowalski, Adriana Kajon, **Jambulingam Malathi, Kuzhanthai Therese, Hajib Madhavan**, Leonardo Ferreyra, Qiwei Zhang, Morris Jones, and David Dyer. "Genomic analysis of a large set of currently – and historically – important human adenovirus pathogens", *Emerging Microbes & Infections* - 2018 Feb 7;7(1):10.
- ❖ Muthukumaran S, Bhuvanansundar R, Umashankar V, Sulochana KN. "Insights on ornithine decarboxylase silencing as a potential strategy for targeting retinoblastoma". *Biomed Pharmacother*. 2018 Feb;98:23-28. Epub 2017 Dec 11.
- ❖ Shweta Agarwal Geetha Iyer, Bhaskar Srinivasan, Mamta Agarwal, Shobha Panchalam Sampath Kumar, Lily K Therese, Clinical profile of Pythium keratitis: perioperative measures to reduce risk of recurrence, *Journal of Ophthalmology* 2018 Feb;102(2): 153-157.
- ❖ Rishi P, Krishnakumar S, Biswas J, Nair S. Atypical Presentation of Bilateral Retinoblastoma with Floaters and Sub-Internal Limiting Membrane Seeds in an 11-Year-Old Asian Indian Male. *Ocul Oncol Pathol* Feb 2018;309–12.
- ❖ S Muthukumaran, V Umashankar. "Virtual screening of Natural inhibitors targeting Ornithine Decarboxylase with pharmacophore scaffolding of DFMO and validation by molecular dynamics simulation studies". *Journal of Biomolecular Structure and Dynamics* Publisher Taylor & Francis, Feb:2018.
- ❖ Srikrupa NN, Srilekha S, Sen P, Arokiasamy T, Meenakshi S, Bhende M, Kapur S, Soumitra N. "Genetic profile and mutation spectrum of Leber congenital amaurosis in a larger Indian cohort using high throughput targeted re-sequencing". *Clin Genet*. 2018 Feb;93(2):329-339.
- ❖ Murugan N, Malathi J, Therese KL, Madhavan HN. "Application of six multiplex PCR's among 200 clinical isolates of *Pseudomonas aeruginosa* for the detection of 20 drug resistance encoding genes". *Kaohsiung J Med Sci*. 2018 Feb;34(2):79-88. Epub 2017 Nov 6.



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- ❖ Agarwal S, Iyer G, Srinivasan B, Agarwal M, Panchalam Sampath Kumar S, Therese LK. "*Clinical profile of pythium keratitis: perioperative measures to reduce risk of recurrence*". Br J Ophthalmol. 2018 Feb;102(2):153-157. Epub 2017 Sep 13.
- ❖ Gurumurthy S, Iyer G, Srinivasan B, Agarwal S, Angayarkanni N. "*Ocular surface cytokine profile in chronic Stevens-Johnson syndrome and its response to mucous membrane grafting for lid margin keratinisation*". Br J Ophthalmol. 2018 Feb;102(2):169-176. Epub 2017 Jul 8.
- ❖ Iyer Gomathy Narayanan, Sulochana K. Natarajan. "*Peptides derived from histidine and methionine-rich regions of copper transporter 1 exhibit anti-angiogenic property by chelating extracellular Cu*". Chemical Biology & Drug Design. 2018 Mar;91(3):797-804. Epub 2017 Dec 6.
- ❖ Vincent A, Khetan V, Rishi P, Suganeswari G, Krishnakumar S, Krishnan UM, Parameswaran S. "*Generation of a human induced pluripotent stem cell line (VRFi001-A) from orbital adipose tissue of a bilateral retinoblastoma patient with heterozygous RB1 gene deletion*". Stem Cell Res. 2018 May;29:42-45. Epub 2018 Mar 19.
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- ❖ Bharathidevi SR, Babu KA, Jain N, Muthukumaran S, Umashankar V, Biswas J, Angayarkanni N. "*Ocular distribution of antioxidant enzyme paraoxonase & its alteration in cataractous lens & diabetic retina*". Indian J Med Res. 2017 Apr;145(4):513-520.
- ❖ Alam MS, Mukherjee B, Krishnakumar S, Biswas J. "*Malignant perivascular epithelioid cell tumor of the orbit Report of a case and review of literature*". Indian J Ophthalmol Sep 2017.
- ❖ Rao BS, Tharigopala A, Rachapalli SR, Rajagopal R, Soumitra N. "*Association of polymorphisms in the intron of TCF4 gene to late-onset Fuchs endothelial corneal dystrophy: An Indian cohort study*". Indian J Ophthalmol. 2017 Oct;65(10):931-935.
- ❖ Niveditha Narayanan, D.Vaidehi, L.Dhanurekha, K.Lily Therese, Rama Rajagopal, Radhika Narayanan Meena Lakshmipathy. "*Unusual ulcerative keratitis caused by Protheca wickerhamii in a diabetic patient*" Indian Journal of Ophthalmology ijo _644_17 pp 311-313



VISION RESEARCH FOUNDATION

- ❖ Shanmuganathan S, Sumantran VN, Angayarkanni N. "*Epigallocatechin gallate & curcumin prevent transforming growth factor beta 1-induced epithelial to mesenchymal transition in ARPE-19 cells*". Indian J Med Res. 2017 Nov;146(Suppl):S85-S96.
- ❖ Chandrasekar SP, Namboothiri S, Sen P, Sarangapani S. Screening for mutation hotspots in Bardet-Biedl syndrome patients from India. Indian J Med Res. 2018 Feb;147(2):177-182.

Chapters in Books

- ❖ SatyaPriya C, Srilekha S, Sudha K, SripriyaS, SoumittraN. *Homozygosity Mapping for Autosomal Recessive Ocular Diseases, in : Advances in Vision Research. Volume I: Genetic Eye Research in Asia and the Pacific, Prakash, Gyan, Iwata, Takeshi (Eds), pp449-456, 2017.*
- ❖ Sripriya S, Raman R, Soumittra N, Pandian AJ. *Current research perspectives in understanding diabetic retinopathy, in: advances in Vision Research. Volume I: Genetic Eye Research in Asia and the Pacific, Prakash, Gyan, Iwata, Takeshi (Eds), pp 259-274, 2017*



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COMPLETED PROJECTS

- ❖ Effect of riboflavin/UVA in treating patients with infectious keratitis: a pilot study on human subjects [Dr Prema Padmanabhan]
- ❖ Normative data collection for oculomotor functions using prototype eye tracking technology in accordance with conventional method. [Dr Ronnie George]
- ❖ MiRNA in Retinoblastoma progression, biomarkers and novel Aptamer-miRNA therapeutics [Dr S Krishnakumar]
- ❖ Investigation of copy number variation in uveal melanoma by onco scan FFPE assay for prognosticating liver metastasis in patients with uveal melanoma [Dr S Krishnakumar]
- ❖ Deciphering the role of LIN28B in retinoblastoma [Dr S Krishnakumar]
- ❖ Design and development of novel Anti-Angiogenic molecules by targeting polysaccharide binding domain of Carbonic Anhydrase IX through structural bioinformatics methods and studies on cell culture models [Dr V Umashankar]
- ❖ Transfection of Human embryonic kidney (HEK) 293 cells with a construct containing the human aquaporin -4 gene (AQP 4) [Dr J Malathi]
- ❖ To elucidate the role of cystathionine beta synthase enzyme and hydrogen sulphide in retinal cells exposed to thiol compounds [Dr S R Bharathi Devi]
- ❖ Adding to the itinerary of Glaucoma pathogenesis – Is Nucleolar stress leading as a key causative factor for retinal ganglion cell death [Dr R Sharada]



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ONGOING PROJECTS

- ❖ Protocol No:PSV-FAI-005 : A Multi-center, Controlled, Safety and Efficacy Study of a Fluocinolone Acetonide Intravitreal (FAI) Insert in Subjects with Chronic Non-Infectious Uveitis Affecting the Posterior Segment of the Eye [Dr J Biswas]
- ❖ A Phase 2/3, Randomized, Double-Masked, Sham controlled Trial of QPI-1007 Delivered by Single or Multi-Dose intra vitreal injection(s) to subjects with Acute No-Arteric Anterior Ischemic Optic Neuropathy (NAION) [Dr S Ambika]
- ❖ Corneal endothelial function in health and disease [Dr Prema Padmanabhan]
- ❖ Measurements of aqueous flare objectively using an ocular fluorometer [Dr Prema Padmanabhan]
- ❖ Changes in corneal epithelial permeability upon chronic use of anti-glaucoma medications [Dr Prema Padmanabhan]
- ❖ Development of Low Cost Sweep VEP System [Dr Ronnie George]
- ❖ Indo US Genetic Study of ocular quantitative traits predisposing to glaucoma [Dr Ronnie George]
- ❖ Whole exome sequencing in Leber congenital amaurosis (LCA) to identify novel gene(s) [Dr Parveen Sen]
- ❖ RCUK SIVS1033 : Increasing eye research capacity and capabilities to tackle the burden of blindness in India: a research-based UK-India Collaboration" [Dr Rajiv Raman]
 - a. WP1 : SMART INDIA (Statistical Modelling and Risk Assessment of Type 2 diabetes complications in India) study. [Principal Investigator: Dr. Pramod Bhende]
 - b. WP3: Prospective multicentre discovery and validation of diagnostic circulating biomarkers to detect sight threatening diabetic retinopathy [Principal Investigator: Dr. S. Krishnakumar]
- ❖ Regulation of Lysyl oxidase expression in lens epithelial cells and trabecular endothelium [Dr N Angayarkanni]
- ❖ Functional Characterization of Lacrimal Proline rich 4 protein (LPRR4) [Dr N Angayarkanni]
- ❖ Effect of the Metabolites Relevant to Pathogenesis of Age Related Macular Degeneration on the Phagocytic Machinery of the Retinal Pigment Epithelial cells and Screening of Therapeutic Molecules : An in vitro study [Dr N Angayarkanni]



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- ❖ Clinical correlation of the tear chemokines and the sphingolipids in children with vernal keratoconjunctivitis [Dr N Angayarkanni]
- ❖ Identification of Ocular Inflammatory mediators in Steven Johnsons Syndrome. [Dr Srividya Gurumurthy]
- ❖ CTR1 (Copper transporter 1) as a therapeutic target for angiogenesis: understanding its cellular and molecular signaling in retinal angiogenesis [Dr S R Bharathi Devi]
- ❖ Development of therapeutic molecules for diabetic retinopathy from studies on structure/function relationship of PON2 by cloning [Dr S R Bharathi Devi]
- ❖ Cracking the code of NEDD8 conjugation pathway via Human Antigen R (HuR) signaling in ocular angiogenesis [Dr R Sharada]
- ❖ Insilco drug target identification in Chlamydia species through systems biology and molecular modelling approaches pertaining to the development of potential drug molecules [Dr V Umashankar]
- ❖ Genome wide Transcriptome profiling of Human Retinal Cells under diabetic milieu under the context of Egr-1 expression towards deciphering alternative pathways mediating Retinal Angiogenesis. [Dr V Umashankar]
- ❖ In silico Design and Development of novel peptide inhibitors targeting CD147 through virtual screening and biopanning of peptide libraries and in vitro validation of anticancer efficacies. [Dr V Umashankar]
- ❖ Genome wide association studies for pharmacogenomics of steroid response in Eye [Dr Srujana Chitipothu]
- ❖ Unraveling the genetic architecture of diabetic retinopathy in south Indian population [Dr S Mathavan]
- ❖ Diabetic retinopathy – A Comprehensive and Systematic approach [Dr S Mathavan]
- ❖ Intervention of ciliopathy genes in the molecular pathology of BBS in Indian population [Dr S Sripriya]
- ❖ Development of Cell based systematic evolution of ligands by exponential enrichment (Cell-SELEX) for Retinoblastoma. [Dr S Krishnakumar]
- ❖ Investigating the effects of HIV-1 proteins in blood brain barrier degeneration. [Dr Nivedita Chatterjee]
- ❖ Identifying miRNA clusters in retinal cytokine producing glia which control inflammation during HIV1 Tat exposure: implications for immune recovery uveitis [Dr Nivedita Chatterjee]
- ❖ Self- Assembling peptide nanofiber matrix as implants for fungal keratitis drug delivery system [Dr J Narayanan]



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- ❖ Biomechanical effect of chemotherapeutic drugs on Retinoblastoma tumor cells. [Dr J Narayanan]
- ❖ 3D Cancer Tissue Growth on Graphene sponges for cancer drug therapy [Dr Sailaja Elchuri]
- ❖ Patient derived induced pluripotent stem cells (iPSCs) for modeling retinoblastoma tumorigenesis [Dr Sowmya Parameswaran]
- ❖ Generation of hypoimmunogenic retinal pigment epithelial cells for age related macular degeneration by targeted genome engineering approach [Dr Sowmya Parameswaran]
- ❖ Generation of corneal endothelial cells from induced pluripotent stem cells [Dr Sowmya Parameswaran]
- ❖ Development of a highly efficient and immunologically inert adeno-associated virus based vector system for retinal gene therapy [Dr Sowmya Parameswaran]

INDIVIDUAL FELLOWSHIP:

- ❖ Monocyte to macrophage differentiation induced alterations in oxLDL uptake and Paraoxonase expression in Retinal Pigment Epithelium-Monocyte co-culture system [Mr Anand Babu; Guide: Dr N Angayarkanni]
- ❖ Effect of PIWI proteins on tight junctions in retinal pigment epithelial cells and its effect on diabetic retinopathy Date of initiation of fellowship [Ms Suganya; Guide: Dr C Subbulakshmi]
- ❖ A pilot study to evaluate the expression of tropoelastin intracellularly and its aggregation extracelullarly to probe the disease mechanism of PXF [Ms Rebacca Manohar; Guide: Dr N Angayarkanni]
- ❖ Longitudinal assessment of retinal structural and functional changes in individuals with diabetes, with and without diabetic retinopathy. Wellcome Trust/DBT Early Career Fellowship [Dr Sangeetha Srinivasan; Guide: Dr Rajiv Raman]



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PARTICIPATION IN CONFERENCES

- ❖ Dr J Narayanan attended the India – UK Researcher Link Workshop on Corneas damaged by Trauma Disease and Infection at L.V.Prasad Eye Institute, Hyderabad from 19th to 23rd April, 2017.
- ❖ Dr. K. Lily Therese attended the “Cataract Catalyst 2017” Conference as a faculty on 30th April 2017 at ITC Grand Chola, Chennai.
- ❖ Dr N Angaryakanni, Dr S Sripriya and Dr V Umashnakar delivered invited lectures on “HPLC: A high precision analytical tool for clinical application”, “Classical and Molecular Cytogenetic Techniques – An Introduction” and “A bird’s eye view of Bioinformatics and its applications” respectively in the seminar “Emerging trends in Laboratory diagnostics” on 6th May 2017.
- ❖ Ms Suganya attended the “12th Microsymposium of Small RNAs” at Institute of Molecular Biotechnology in Austria from 26th to 28th May 2017 and made a poster on “Piwi-like protein, HIWI2 is aberrantly expressed in retinoblastoma cells and affects cell cycle probably through OTX2 and VEGFR2”.
- ❖ Ms B Lakshmi attended the Cell Symposium International Conference at San Diego, California USA, from 10th to 13th June 2017 and made a poster on “Steroid Induced Glaucoma-Biomarker Study”.
- ❖ Dr S Mathavan delivered talk at Molecular and Nanomedicine Research Unit, Centre for Nanoscience and Nanotechnology (CNSNT) of Sathyabama University on 6th July, 2017.
- ❖ Dr S Mathavan participated in the Retina Summit 2017 Conference organized by Medical Research Foundation, Sankara Nethralaya, Chennai, on 14th & 15th July 2017.
- ❖ Dr Nivedita Chatterjee attended the 9th International AIDS Conference on HIV Science (IAS 2017) meeting in Paris, France from 22nd to 27th July 2017. She gave an invited talk on “Biochemically defining differential immune response in retinal glia to clade specific HIV-1 Tat variants”.
- ❖ Ms. Nikhalashree participated in the workshop on “Clinical Applications of Flow Cytometry 2017” at TRPVB, TANUVAS, Chennai, between 24th and 26th July 2017.
- ❖ Dr S Krishnakumar, Dr N Angaryakanni, Dr. S Mathavan, Dr J Narayanan, Dr. Sowmya P, Mr Anand, Ms. Rebecca Manohar, Mr Anand Babu, Mr Ranjith Kumar, Ms Jayashree, Ms Suganya K, Ms Akilandeswari, Mr Hemanth, Ms. Ashraf Banu, Ms Pavithra and Ms Lakshmi participated in the 24th Annual Meeting of Indian Eye Research Group (IERG-ARVO 2017) Conference held at Aravind Medical Research Foundation, Madurai from 29th to 30th July 2017. Dr Krishnakumar and Dr Angaryakanni delivered invited lectures on “Spectroscopy in Retinoblastoma” and “Anti-fibrotic, Anti-angiogenic and Anti-inflammatory Activities of Chebulagic acid, Chebulinic acid and Gallic acid, The Active Principles of Triphala in the Microvascular Endothelial cells in Vitro”; Dr S Mathavan chaired a session on “Microbiome”; Mr Anand and Mr. Ranjith made free oral presentations



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on "Silencing Cystathionine Beta Synthase Could Inhibit VEGF Mediated Neovascularization during Hyperhomocysteniemia in ARPE-19 Cells" & "Gene expression signatures of non-invasive and invasive retinoblastoma: CDC25 as a potential therapeutic target" respectively and poster presentations were made as follows : Dr Narayanan "Engineering synthetic scaffold using polycaprolactone and gelatin composite nanofiber for corneal epithelial cells"; Dr Sowmya "Feasibility of generation of induced pluripotent stem cells from orbital adipose tissue of retinoblastoma patients"; Ms Rebecca "Structure-Function Defect of elastin in Pseudoexfoliation syndrome: Role of Homocysteine"; Mr Anand Babu "Oxidative stress augments Oxidised LDL uptake in ARPE-19 cells: Role of intracellular Paraoxonase"; Ms. Jayashree "Targeted Cancer cell therapy, using an aptamer chimera to block proinflammatory IL6/Stat3 Signaling, enhances apoptosis and tumor reduction in mouse model of retinoblastoma", Ms Suganya Genetic screening for CHMs gene mutations in choroideremia patients from India"; Ms Akilandeswari "Aptamer conjugates for Retinoblastoma targeted therapy"; Mr Hemanth "Exosomal Microrna as Biomarkers of Early and Late Stage Retinoblastoma"; Ms. Ashraf Banu "Objective assessment of visual function and retinal structural changes in patients with HIV/AIDS without ocular opportunistic infection"; Ms. Pavithra "Prognostic Value of miRNA Expression in Uveal Melanoma Associated Liver Metastasis"; Ms Lakshmi "Down regulation of vegf expression by lipid coated glucocorticosteroid nanoparticles"

- ❖ Ms Vijaya Vani Narayan participated in the CME Seminar and workshop on Proteomics in Cancer Biology, Detection and Treatment & Advanced Hands on Training on Proteomics involving MALDI TOF/TOF and LC-MS/MS at Cancer institute, Chennai from 31st July to 3rd August 2017.
- ❖ Dr S Mathavan, Dr G Venkatesan, Ms. K. Suganya and Ms. P. Porkodi attended the CME on Medical Genetics and Genetic Counseling Program conducted by Centre for Medical Genetics on 6th August 2017 at Kumarirani Meena Muthaiah College of Arts and Science, Chennai.
- ❖ Dr V Umashankar was invited as Chief Guest to inaugurate the "Bioinformatics Chapter" by Department of Biotechnology, Prathyusha Engineering College, affiliated to Anna University, on 11th August 2017 and delivered a talk on "Bioinformatics and Medical Research".
- ❖ Dr S Mathavan delivered an invited talk in the International Conference On Environment, Genes, Health And Diseases 2017 (EGHD 2017) conducted by the Department of Human Genetics and Molecular Biology at Bharathiar University, Coimbatore between 22nd and 24th August 2017.
- ❖ Dr V Umashankar delivered an invited talk on "Insilico Biology and Medicine" at Sathyabama University on 24th August 2017.
- ❖ Ms Srikrupa attended ICTMI-2017 Conference at Vellore Institute of Technology, Vellore between 29th and 30th August 2017 and presented her data on "Molecular diagnostics of Leber congenital amaurosis- High throughput genotyping and phenotyping by fundus imaging" as a plenary lecture on behalf of Dr S Mathavan.



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- ❖ Dr N Angayarkanni was invited as the Chief Guest for the inauguration and gave a talk on "Anti-EMT and Anti-angiogenic activities of Triphala: In vitro studies in the barrier cells of the Retina" in the Animal Cell Culture Techniques- 2017 - DST National Level Workshop on 4th& 5thSeptember 2017 in the Lady Doak College, Madurai.
- ❖ Dr S Mathavan chaired a session on "Genetics and Genomics for Cardiologist" at the 2nd Madras Medical Mission (MMM) Genetics Meeting - a symposium on "Genetics & Genomics in Cardiovascular Diseases" organized by the Institute of Cardio Vascular Disease, Chennai, from 8thto 9thSeptember 2017.
- ❖ Dr J Narayanan gave an invited talk on "Dual nature of 'Neocarzinostatin conjugates' Structure and Function" in the National Conference on Nanotechnology in Medicine at Chettinad Academy of Research and Education, Chennai from 8thto 9thSeptember 2017.
- ❖ Dr S Sripriya and Ms K Suganya attended the Glaukopedia Conference 2017 held at Jaipur on 16thand 17thSeptember 2017. Dr Sripriya was gave an invited talk on "Ocular Quantitative Traits for Glaucoma".
- ❖ Ms Suganya K was awarded partial scholarship and travel grant to participate in the 2017 NextGen Genomics, Biology, Bioinformatics and Technologies Conference held in Bhubaneswar from 2ndto 4thOctober 2017 and she made a poster presentation on "Genetic screening for CHM gene mutations in choroideremia patients from India". Dr N Lakshmi Dhevi presented a poster titled "Unravelling the RNA world of retinoblastoma".
- ❖ Ms.Vijaya Vani Narayan & Ms.Sneha participated in the seminar on Cell Culture "Everyday Culture Practice – Improving reproducibility in Cell Culture" on 9thOctober 2017 at Eppendorf Training Centre, Chennai
- ❖ Dr N Angayarkanni participated in the One day Workshop on the Nuances of securing Intellectual Property Rights at IITM Bio-incubator Chennai, on 25thOct 2017.
- ❖ Dr J Narayanan and Mr Amit Chatterjee attended the Asian Biomaterials Congress 2017 at Trivandrum from 25thto 27thOctober2017 and presented a poster on "Designing a novel cell penetrating peptide nanofibers: Probing the mechanism of its internalisation in corneal epithelial cells".
- ❖ Ms. Ambily Vincent and Ms. Suganya attended the Research Methodology Workshop at Elite School of Optometry, Chennai on 28thand 29thOctober 2017.
- ❖ Dr V Umashankar delivered a talk on "NGS Data Analysis" at "Ideathon" at VIT on 30thOctober 2017.
- ❖ Mr Amit Chatterjee presented a poster titled "Probing the mechanism: How matrix stiffness alters corneal epithelium cytoskeleton rearrangement and alters peptide uptake" at IISER, Pune organised by European Molecular Biology Organization from 29thOctober to 1stNovember 2017.
- ❖ Dr. K. Lily Therese delivered an invited lecture entitled "Introduction to Mycobacteria" during the CME Program "Mycobacteriology Basics and



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Beyond – 2017” organized by Government Stanley Medical College, Chennai at the National Institute for Research in Tuberculosis (NIRT), Chennai on 3rd November 2017.

- ❖ Dr R Sharada participated in the Indo UK Diabetic Workshop at ITC Grand Chola, Chennai on 6th November 2017.
- ❖ Ms. Ambily Vincent attended “Reprogramming somatic cells to hiPSCs” workshop at NCBS, Bangalore from 6th to 11th November 2017.
- ❖ Dr S R Bharathi Devi, Mr R N Naresh Kumar, Ms. Kamini and Mr. Vignesh attended the 86th Society of Biological Chemists of India (SBC-2017) at Jawaharlal Nehru University, New Delhi held between 16th and 19th November 2017. Dr. Bharathi made a poster presentation on “Anti Inflammatory effect of Hydrogen Sulphide in Adult Retinal Pigment Epithelial cells treated with Homocysteine”; Mr. Naresh Kumar on “Inhibition of Retinal Angiogenesis by Human Lysyl Oxidase Propeptide”; Ms. Kamini and Mr. Vignesh on “Untravelling the RNA world of retinoblastoma”.
- ❖ Dr S. Mathavan presented and gave an invite talk in a conference on “Functional Genomics” at Indraprastha Institute of Information Technology, New Delhi on 2nd December, 2017.
- ❖ Dr J Narayanan gave an invited lecture on “Recent advances in Mechanobiology: Avenues for targeting Retinoblastoma cancer stem cells” at Sri Venkateswara Engineering College on 5th December, 2017.
- ❖ Dr Sailaja Elchuri delivered an invited talk on “Cancer Stem cell therapy and diagnosis” in the Conference of Stem Cell and Regenerative Medicine at Alpha College, Chennai on 12th January 2018.
- ❖ Mr. Ranjith Kumar presented a poster on “Systems analysis of retinoblastoma in Indian population” in the IBSE Symposium held at Indian Institute of Technology, Chennai, from 22nd to 24th January 2018.
- ❖ Dr. K. Lily Therese delivered an invited guest lecture entitled “Rapid diagnostic techniques for ocular infections” in the National Seminar, “Recent advances in Microbial Technology in Health and Agriculture” conducted by Microbiology Department at Periyar University, Salem on 24th January 2018.
- ❖ Dr Sailaja Elchuri and Ms Rebecca Manohar attended the National Conference in Interdisciplinary Research and Innovations in Biosciences NATCON-2018 held at Mohamed Sathak College of Arts and Science, Chennai, on 24th and 25th January 2018. Dr. Sailaja Elchuri gave an invited talk on “Green Nanomaterials: Cancer Research”. Ms Rebecca received the Best Presentation Award for her poster entitled “Homocysteinylation of Elastin in Pseudoexfoliation syndrome, a secondary cause of glaucoma”.



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- ❖ Dr G Srividya, Ms S Suganya, Ms R Ramya, Ms Nikhalashree, Ms Aloysius Dhivya, Mr Ranjith Kumar, Ms Ambily Vincent, Ms A Suganya, Dr. Lakshmi Dhevi, Mr. Durairaj and Mr. Hemanth attended the International Congress of Cell Biology 2018 (ICCB 2018) organized by CSIR – Centre of cellular and Molecular Biology at Hyderabad from 27th to 31st January 2018. Ms Nikhalashree received Best Poster Award for her poster entitled “Human in vitro cellular model to demonstrate the effect of a proteoglycan peptide in alleviating post-operative fibrosis in glaucoma”. Dr Srividya made a poster presentation on “Retinoic acid receptor signaling promotes corneal scarring in ocular Stevens Johnson syndrome”; Ms S Suganya on “Identification of piwi-interacting RNAs (piRNAs) in human retina and retinal pigment epithelium”; Ms Ramya on “Altered receptor response in human umbilical vein endothelial cells to early and advanced glycation end products”; Ms Dhivya on “Possible role of Copper Transporter (CTR) 1 in inducing the proliferative nature of retinoblastoma (Y79) cells through Nuclear factor erythroid – derived (NRF) 2”; Mr Ranjith on “Novel porous carbon-PDMS scaffolds for the growth of retinoblastoma cancer cells”; Ms Ambily on “Generation and characterization of iPSC from retinoblastoma patients”; Ms A Suganya on “Generation of retinal pigment epithelium from human induced pluripotent stem cells”; Dr Lakshmi Dhevi on Deciphering the role of LIN28B, an RNA binding protein in retinoblastoma; and Mr Hemanth on “Exosomal microRNA as biomarkers of Childhood eye tumor”.
- ❖ Dr S Krishnakumar delivered an invited lecture on “Genomics in Melanoma” at Cancercon 2018, Chennai, at Hyatt Regency, Chennai, on 1st and 2nd Feb 2018.
- ❖ Dr K Lily Therese, Dr. R. Sharada, Dr J Narayanan and Dr. Srujana Chitipothu attended the ICMR Dissemination Program of the ICMR National Ethical Guidelines 2017 at SRMC, Chennai, on 7th February 2018.
- ❖ Dr V Umashankar gave a lecture on “NGS data analysis as resource person” at the Workshop on “Multi-parameter optimization in drug discovery” at Mother Theresa University, Kodaikanal on 8th and 9th of February 2018.
- ❖ Dr Sailaja Elchuri and Mr Ranjith Kumar attended the 7th International conference on Translational Cancer Research at Chennai from 8th to 11th February 2018 and Mr Ranjith presented a poster entitled “The long non-coding RNAs in infant eye cancer”.
- ❖ Dr. Nivedita Chatterjee participated in the National Conference on Biology and Therapy of Infection” on 10th February 2018 held at Sri Venkateswara Collège of Engineering, Chennai and delivered a talk on “Viral infections of eye and how to alleviate them”.
- ❖ Dr Nivedita Chatterjee attended the Young Investigator’s Meeting 2018 at Trivandrum from 5th to 8th March 2018 and gave a talk on “Investigating Inflammatory miRNA at the retina”.



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- ❖ Dr V Umashankar presented an invited talk on “Bioinformatics & Biomedical Research” at National Symposium cum Workshop organized by DBT-BIF centre, Lady Doak College, Madurai on 8thMarch 2018.
- ❖ Ms N Srikrupa and Ms K Suganya attended the “National level hands-on workshop on Real-Time and Digital PCR” conducted by SRM-DBT Platform for Advanced Life Science Technologies, School of Bioengineering, SRM Institute of Science and Technology from 8thto 10thMarch 2018
- ❖ Dr N Angayarkanni, Dr J Narayanan, Mr Arun John, Mr Naresh Kumar, Mr Anand Babu, Ms. Rebecca Manohar and Ms Sneha attended the Synergy 2018 Symposium organized by Medical Research Foundation, Sankara Nethralaya, in collaboration with Indiana University, USA between 24thand 25thMarch 2018. Dr Angayarkanni and Dr Narayanan delivered invited lectures on “Tear Proteomics in dry eye” and “Extracellular matrix and cell interactions- Mechanobiology perspective” respectively. Mr. Arun John presented a poster on “Integrated computational screening of mutational landscape in LRP5 and deciphering of pathogenic variants in FEVR”.



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DISTINGUISHED VISITORS

- ❖ Dr Sushanta Mallick, Vice-President, Global Development Lead, Ophthalmics and Dr Reza Haque, Vice President and Therapeutic Head, Clinical Ophthalmics, Shire Pharmaceuticals visited the Nano Biotechnology and Pathology Departments on 27thApril 2017.
- ❖ Dr Jeyath Rose, Ophthalmologist-Cornea from Christian Medical College, Vellore visited our microbiology and histopathology laboratories on 5thMay 2017.
- ❖ Dr K Uma Maheswari, Associate Dean, SASTRA University, Thanjavur visited our research laboratories on 29thMay 2017.
- ❖ Dr Ashish Dubey, Business Unit Head, Life Sciences, Sandor, Hyderabad visited our genetics lab on 30thMay 2017.
- ❖ Dr Madhu Uddaraju, M.S., FICS, Admin Medical Director, Head – Cornea & Refractive Services from Sri Kiran Institute of Ophthalmology, (Managed by Sankurathri Foundation) visited our L & T Microbiology Research Centre on 31stMay 2017.
- ❖ Dr Shivaram Selvam, Scientist D & Inspire Faculty, Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum visited our foundation on 13thJune 2017 and gave a guest lecture on “Hydrogels – Smart Materials for Tissue Engineering Applications”.
- ❖ Dr A Velpandi, Professor, Associate Dean & Director of Infectious Disease, University of Pittsburgh, USA, visited our genetics lab on 14thJune 2017.
- ❖ Dr Heide from Eppendorf AG, Germany, visited our Microbiology lab on 06thJuly 2017.
- ❖ Dr Shunji Kusaka & Dr. Wei Chi Wu, Ophthalmologists from Taiwan visited our biochemistry lab on 13thJuly 2017.
- ❖ Dr Arlene Lozano, Director, Monitoring & Evaluation from Orbis, USA visited L & T Microbiology Research Centre on 8thAugust 2017
- ❖ Dr Krishnan, Dr Vijayalakshmi and Dr Kamal from CBST, Vellore Institute of Technology, visited our biochemistry department in October '17
- ❖ Dr Parthiban Vijayarangakannan, Co-founder and CEO, Cambridgene, Cambridge, UK visited the foundation on 7thNov 2017.
- ❖ Dr Annamalai Muthaiya and Ms. Kannamma from Florida visited L & T Microbiology Research Centre on 13thNovember 2017.
- ❖ Dr Alex Levin, Chief of Pediatric Ophthalmology and Ocular Genetics from Wills Eye Institute, Philadelphia visited our research laboratories on 28thNovember 2017 and gave a lecture on “Non accidental trauma in children”.



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- ❖ Dr B K Jain, Trustee & Director, Shri Sadguru Seva Sangh Trust, Chitrakoot, visited our biochemistry laboratory on 2ndDecember 2017.
- ❖ Dr D P Nayak, Champadeep Eye Hospital, Gadakwara, Madhya Pradesh, visited our research laboratories on 4thDecember 2017.
- ❖ Dr Ramani Manogar, Professor & Director of Neuropathology and Dr Bibin Patel, Neuropathologist from Christian Medical College, Vellore visited our Pathology and Microbiology laboratories on 5thDecember 2017.
- ❖ Dr Thalamuthu Anbupalam, Statistical Scientist from Centre for Healthy Brain Ageing, University of South Wales, Sydney, visited our genetics lab on 26thDecember, 2017.
- ❖ Prof. Joseph Maria Kumar Irudayaraj, Founder, Prof. in Bioengineering, University of Illinois, Champaign, Urbana, USA visited our foundation on 29thDecember 2017.
- ❖ Dr Sandeep Saxena, Sr. Professor, Chief of Retina Service, Dept. of Ophthalmology, King George's Medical University, Lucknow visited the Biochemistry, Histopathology & Microbiology departments on 3rdJanuary 2018 and delivered a guest lecture on "Eales disease: Current concepts".
- ❖ Ms Shweta Kamat & Mr Charis Fan, Johnson & Johnson Vision, Jacksonville, FL-USA visited our biochemistry department on 10thJanuary 2018.
- ❖ Mr Balaji Ramamurthy, USA, visited our biochemistry lab on 15thJanuary 2018.
- ❖ Mr Bob Ranck, CEO, Orbis International, New York, visited at our Microbiology and Pathology laboratories on 29thJanuary 2018.
- ❖ Mr Sunil, Ms Alexandra Roos, Dr Bjorn Drobe, from Essilor R&D Center, Singapore visited our biochemistry and genetics department on 5thFebruary 2018.
- ❖ Dr Somasekar Seshagiri from Genentech, California visited our Biochemistry, Genetics and Histopathology laboratories on 5thFebruary 2018.
- ❖ Ms Radha and Mr S Sitaram from Atlanta GA, USA visited our research laboratories on 5thMarch 2018.