



VISION RESEARCH FOUNDATION

August 22, 2017

The Members of the Vision Research Foundation

NOTICE

NOTICE IS HEREBY GIVEN TO THE MEMBERS OF VISION RESEARCH FOUNDATION THAT THE 33RD ANNUAL GENERAL MEETING OF VISION RESEARCH FOUNDATION WILL BE HELD ON, FRIDAY, THE 15TH SEPTEMBER 2017 AT 4.00 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 2016-17.
2. To consider and adopt the Audited Income and Expenditure Account for the year ended March 31, 2017 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 2017–18 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
Dr. S S Badrinath	Founder Member
Mr. V Vaidyanathan	Founder Member
Dr. S B Vasanthi	Founder Member
Dr. S Bhaskaran	Honorary Member
Dr. M S Swaminathan	Honorary Member
Dr. H N Madhavan	Honorary Member
Dr. Lingam Gopal	Honorary Member
Dr. J Biswas	Honorary Member
Dr. L Vijaya	Honorary 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 30th Annual General Meeting held on 29th September 2014 :-

Name

Dr. S S Badrinath
Mr. V Vaidyanathan
Dr. S B Vasanthi
Dr. S Bhaskaran
Dr. M S Swaminathan
Dr. H N Madhavan
Dr. Lingam Gopal
Dr. J Biswas
Dr. L Vijaya

Their term of appointment expires at the end of the Annual General Meeting on 15.09.2017. 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 Lingam Gopal	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 Mahavan	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 Manager	Dr. S Krishnakumar Mr. S Narayan

Auditors	M/s S Viswanathan LLP Chartered Accountants, Chennai
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Bankers	HDFC Bank, Chennai – 600 034 State Bank of India, Chennai –600 034 Indian Overseas Bank, Chennai – 600 006
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Registered Office	New No.41, Old No.18, College Road Chennai – 600 006
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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. Lingam Gopal
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. Lingam Gopal
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. Lingam Gopal
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. Lingam Gopal
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 2016-17

Report of the Honorary Secretary to the Members of the Foundation

It gives me great pleasure to welcome you all to this 33rd Annual General Meeting of our Foundation. I am pleased to present the Thirty Third Annual Report of Vision Research Foundation. The thirty second Annual General Meeting of the Foundation was held on 24th September 2016 in which the Annual Report and the Audited Accounts of the Foundation for the financial year ended 31st March 2016 were approved by the members and M/s. S Viswanathan LLP, Chartered Accountants, were re-appointed as Auditors for the financial year 2016-17.

The donations received during the year under report were Rs.508.91 lakhs as compared to Rs. 563.25 lakhs in the previous year. The gross total income for the year under review was Rs.996.36 lakhs including research grants and interest on deposits. The total expenditure before providing depreciation was Rs.791.07 lakhs resulting in a cash surplus of Rs.205.29 lakhs. After considering depreciation for the year and loss on condemned assets, there was a net surplus of Rs.65.98 lakhs, which was carried over to the capital fund account.

Summary of Source and applications are as follows:

Sources	Rs. in Lakhs
1. Cash Surplus	205.29
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	205.29
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Applications of Funds	
1. Increase in Fixed Assets	38.21
2. Increase in Net Current Assets	167.08
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	205.29
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The foundation has received a sum of Rs.361.65 lakhs as research grants during the year under review as per the details given below:

Research Grants – Basic Science	Rs. in Lakhs	
	2016-17	2015-16
1. Council of Science & Industrial Research	7.98	18.39
2. Indian Council of Medical Research	106.13	103.88
3. Department of Biotechnology	130.70	164.59
4. Department of Science & Technology	28.92	34.55
5. Cheet Foundation	0.00	10.61
6. Eye Stem Research Pvt Ltd	3.79	0.00
7. Fellowship Programme	42.88	31.58
8. Others	3.67	23.24
Total	324.07	386.84
Clinical Science		
09. Alcon Laboratories Ltd	0.21	0.05
10. Chiltern International Pvt. Ltd.	0.28	2.01
11. Clinworld Pvt. Ltd.	0.00	4.41
12. Excel Life Sciences Pvt. Ltd.	12.45	11.28
13. Indiana University	5.14	7.03
14. Johnson & Johnson	0.00	30.19
15. Manipal Acunova Ltd.	0.00	0.10
16. Parexel Intl. Clinical Research Pvt Ltd	2.45	0.00
17. Novartis India Ltd	16.88	34.53
18. Quintiles Ltd	0.17	0.15
Total	37.58	89.75
Grand Total	361.65	476.59

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 these Govt. agencies as on date are as under:



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Title of the Project	Funding Agency	Grant Amount for 2017-18 (Value in Rs.)
Unraveling the genetic architecture of diabetic retinopathy in South India (P.I.: Dr. S Mathavan)	Dept. of Biotechnology	68,96,000
Biomechanical effect of Chemotherapeutic drugs on retinoblastoma tumor cells (P.I.: Dr. J Narayanan)	Indian Council of Medical Research	14,00,000
Genome wide transcriptome profiling of human retinal cells under diabetic milieu in the context of Egr-1 expression towards deciphering alternative pathways mediating diabetic complications of retina (P.I.: Dr. V Umashankar)	Indian Council of Medical Research	13,00,000
Cracking the code of Nedd8-Conjugation pathway via Human Antigen R (HuR) signaling in Ocular Angiogenesis (P.I.: Dr. Sharada R)	Science & Engineering Research Board	12,45,000
Generation of corneal endothelial cells from induced pluripotent stem cells (P.I.: Dr. Sowmya Parameswaran)	Indian Council of Medical Research	10,67,904

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



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Manpower Details:-

<u>Manpower</u>	<u>As on 31st Mar 2017</u>	<u>As on 31st Mar 2016</u>
President	01	01
Directors	05	06
Advisor-Projects	01	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	00
Head of the Department /Principal Scientist / Associate Professor	01	03
Manager	01	01
Chief Scientist / Professor	00	01
Senior Principal Scientist / Associate Professor	03	03
Principal Scientist / Associate Professor	06	05
Senior Scientist II / Assistant Professor	02	02
Research Associate	04	02
Senior Research Fellows	15	23
Junior Research Fellows	12	05
Research /Project / Technical Asst	03	04
Junior Scientists	05	07
Executives / Staff / Technicians	19	12
Bio-statistician	01	01
Part Time Scientists	86	98
Total	170	177

Conclusion:

I would like to take this opportunity to place on record my gratitude for all the guidance extended to me by Dr. Lingam Gopal, President; 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 would like to place my special thanks to Dr. Tarun Sharma, who served as Hon. Secretary of the Foundation, for the services rendered by him for over two decades and also to Dr. Rama Rajaram, Advisor for her valuable inputs/guidance extended to the scientists during her tenure.

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.

I am pleased to share the financial assistance amounting to Rs.66.57 lakhs sanctioned by Oil and Natural Gas Corporation Limited, Chennai under CSR policy of ONGC for procurement of ABI 3500 Genetic Analyser for SN ONGC Department of Genetics & Molecular Biology.

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, especially in completing the income tax assessment of the foundation upto the financial year ended 31st March 2014.

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

- ❖ Dr J Narayanan was awarded the International Fellowship on Modern Biology by Indian Council of Medical Research – Department of Health Research (ICMR-DHR) for a period of 6 months between April and October 2016 at National University of Singapore (NUS), Singapore.
- ❖ Ms Bharath Selvi was awarded the Ph.D. degree at BITS Pilani on 24th May 2016, for her thesis entitled, “Biochemical Mechanism of Homocysteine and its role in Retinal Vascular Diseases” under the guide-ship of Dr K N Sulochana.
- ❖ Ms Srilatha Jasty was awarded the Ph.D. degree at BITS Pilani on 30th May 2016, for her Ph.D. thesis entitled “Identification and Charecterization of Human Iris Pigment epithelial cells and ciliary pigment epithelial cells in-vitro for retinal stem/progenitor properties”, under the guide-ship of Dr S Krishnakumar.
- ❖ Ms Vimalin Jeyalatha was awarded the Ph.D. degree at BITS Hyderabad Campus on 30th May 2016, for her Ph.D thesis entitled “Prevention of corneal limbal epithelial cell damage during collagen cross linking and novel pathogenic mechanisms involved in keratoconus”, under the guide-ship of Dr J Malathi.
- ❖ Ms A Shabna was awarded the Ph.D. degree at BITS Hyderabad Campus on 18th July 2016, for her Ph.D thesis entitled “In vitro evaluation of the scope of an indigenously produced Poly hydroxy alkanolate based co-polymer developed from Pseudomonas MNNG-S in cell culture and virology”, under the guide-ship of Dr H N Madhavan.
- ❖ Mr Arun was awarded the Ph.D. degree at Dr M G R University, Chennai on 21st July 2016 for his Ph.D. thesis entitled, “Design and Development of Modulators for LOX to regulate ocular angiogenesis” under the guide-ship of Dr K N Sulochana.
- ❖ Ms S Vidhya was awarded the Ph.D. degree at BITS Campus Hyderabad on 25th July 2016, for her Ph.D. thesis entitled “Understanding the Role of Adiponectin in Proliferative Diabetic Retinopathy; Design and Development of Therapeutic Molecules” under the guide-ship of Dr K N Sulochana.
- ❖ Mr Amit Chatterjee received “Travel Grant Fellowship” for attending IERG Conference at L V Prasad Eye Institute, Hyderabad, on 30th July 2016.
- ❖ Ms N N Srikrupa was awarded partial scholarship to attend the Next Gen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference held at Kochi, Kerala from 3rd to 5th October 2016.
- ❖ Mr R Bhuvanasundar, was awarded the Ph.D. degree at BITS Hyderabad Campus on 30th June 2016 for his Ph.D. thesis entitled “Structural and



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functional characterization of human Lysyl Oxidase through molecular cloning, expression and in silico studies" under the guide-ship of Dr K N Sulochana.

- ❖ Mr Sivasankar S received the "Best Poster Award" for the paper entitled "Gallic acid inhibits TNF induced angiogenesis and inflammation by potentially binding with TNF – receptor -1" at the 85th Annual Meeting of Society of Biological Chemists held at Mysore from 21st to 24th November 2016.
- ❖ Ms Ramya R received the "D P Burma Best Poster Award" for the paper entitled "Role of paraoxonase-2 in attenuating AGE induced inflammation in macro vascular endothelial cells" at the 85th Annual Meeting of Society of Biological Chemists, Mysore, held from 21st to 24th November 2016.
- ❖ Dr M Vimalin Jeyalatha received the Young Woman Scientist Award in memory of Smt. Sreerangamma N. Narayan and Smt. Radhamani N. Anantha for the year 2016 during the Convocation Ceremony on 25th November 2016
- ❖ Ms Suganya received Swarnalatha Punshi Best Researcher Award in Basic Science for the year 2016 for her research paper entitled "HIWI2 modulates tight junction proteins in retinal pigment epithelial cells through Akt signaling pathway" at the 28th Graduation ceremony of the Sankara Nethralaya held at Sri V.D. Swami Auditorium on 25th November 2016.
- ❖ Ms S Srilekha was awarded the Ph.D. degree at BITS, Hyderabad Campus on 23rd March 2017 for the thesis entitled "Genetic Analysis of Consanguineous South Indian Families with Leber Congenital Amaurosis and Retinitis pigmentosa using Homozygosity Mapping", under the guide-ship of Dr N Soumittra.



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RESEARCH PUBLICATIONS

- ❖ *Maneesh Paul-Satyaseela, Murali Sowmiya, Thirunavukkarasu Bharani, Hajib Naraharirao Madhavan, and Jambulingam Malathi.* "Characterization of antibiotic resistance profiles of ocular Enterobacteriaceae isolates." *European Journal of Microbiology & Immunology*; 14 Mar 2016; 6(1): 40–48.
- ❖ *Khor CC, Do T, Jia H, Nakano M, George R, Abu-Amero K, Duvesh R, Chen LJ, Li Z, Nongpiur ME, Perera SA, Qiao C, Wong HT, Sakai H, Barbosa de Melo M, Lee MC, Chan AS, Azhany Y, Dao TL, Ikeda Y, Perez-Grossmann RA, Zarnowski T, Day AC, Jonas JB, Tam PO, Tran TA, Ayub H, Akhtar F, Micheal S, Chew PT, Aljasim LA, Dada T, Luu TT, Awadalla MS, Kitnarong N, Wanichwecharungruang B, Aung YY, Mohamed-Noor J, Vijayan S, **Sarangapani S**, Husain R, Jap A, Baskaran M, Goh D, Su DH, Wang H, Yong VK, Yip LW, Trinh TB, Makornwattana M, Nguyen TT, Leuenberger EU, Park KH, Wiyogo WA, Kumar RS, Tello C, Kurimoto Y, Thapa SS, Pathanapitoon K, Salmon JF, Sohn YH, Fea A, Ozaki M, Lai JS, Tantisevi V, Khaing CC, Mizoguchi T, Nakano S, Kim CY, Tang G, Fan S, Wu R, Meng H, Nguyen TT, Tran TD, Ueno M, Martinez JM, Ramli N, Aung YM, Reyes RD, Vernon SA, Fang SK, Xie Z, Chen XY, Foo JN, Sim KS, Wong TT, Quek DT, Venkatesh R, Kavitha S, Krishnadas SR, **Soumitra N**, et al.* "Genome-wide association study identifies five new susceptibility loci for primary angle closure glaucoma" *Nature Genetics* 4 Apr 2016. doi: 10.1038/ng.354.
- ❖ *Gayathri R, Coral K, Sharmila F, SriPriya S, SriPriya K, Manish P, Shantha B, Ronnie G, Vijaya L, Angayarkanni N.* "Correlation of Aqueous Humor Lysyl Oxidase Activity with TGF-ss Levels and LOXL1 Genotype in Pseudoexfoliation." *Current Eye Research*. Apr 2016; 41(10): 1331-8.
- ❖ *Gopakumar V, Chatterjee N, Parameswaran S, Nirmala S, Krishnakumar S.* "In vitro transdifferentiation of human skin keratinocytes to corneal epithelial cells." *Cytherapy*. 2016 May; 18(5): 673-85.
- ❖ *Rajiv Raman, Singh H. Sumeer, Ramya Appanraj, Malathi Jambulingam, Muna Bhende, MS, Rupak Roy, MS, Tarun Sharma.* "Five-year Incidence and visual Outcomes in Postintra vitreal Injection Endophthalmitis." *Ophthalmology*. May 2016, Vol.123 No.5, 1162-1164.
- ❖ *Umashankar Vetrivel, Shalini Muralikumar, B Mahalakshmi, K Lily Therese, HN Madhavan, Mohamed Alameen, Indhuja Thirumudi.* Multilevel Precision-Based Rational Design of Chemical Inhibitors Targeting the Hydrophobic Cleft of *Toxoplasma gondii* Apical Membrane Antigen 1 (AMA1)." *Genomics & Informatics*. Jun 2016; 14(2):53-61.
- ❖ *Neuillé M, Malaichamy S, Vadalà M, Michiels C, Condroyer C, Sachidanandam R, Srilekha S, Arokiasamy T, Letexier M, Démontant V, Sahel JA, Sen Parveen, Audo I, Soumitra N, Zeitz C1.* "Next-generation sequencing confirms the implication of SLC24A1 in autosomal-recessive congenital stationary night blindness." *Clinical Genetics*, vol. 89, no. 6, pp. 690–9, Jun. 2016.



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- ❖ *Bharathselvi M, Biswas S, Rajiv Raman, Selvi R, Coral K, Angayarkanni N, Ramakrishnan S and Sulochana KN.* "Homocysteine & its metabolite homocysteine-thiolactone & deficiency of copper in patients with age related macular degeneration - A pilot study." *Indian Journal of Medical Research.* Jun 2016; 143(6):756-62.
- ❖ *Srilekha Sundaramurthy, Meenakshi Swaminathan, Parveen Sen, Tharigopala Arokiasamy, Swati Deshpande, Neetha John, Rupali A Gadkari, Ashraf U. Mannan, Nagasamy Soumittra.* "Homozygosity mapping guided next generation sequencing to identify the causative genetic variation in inherited retinal degenerative diseases." *Journal of Human Genetics.* Jul 7, 2016. doi: 10.1038/jhg.2016.83.
- ❖ *Arun John, Muthukumar Sivashanmugam, Vetrivel Umashankar, Sulochana Konerirajapuram Natarajan.* "Virtual Screening, Molecular dynamics and binding free energy calculations on Human Carbonic Anhydrase IX catalytic domain for deciphering potential leads." *Journal of Biomolecular Structure & Dynamics.* Jul 2016; Vol35 No.10.2155-2168
- ❖ *Srilekha S, Bhavana S, Divya M R, Sudha D, Sathya Priya C, Pandian AJ, Soumittra N, Sripriya S.* "Strategies for gene mapping in inherited ophthalmic diseases." *Asia Pacific Journal of Ophthalmology (Phila)* Jul-Aug 2016; 5(4):282-92.
- ❖ *Arun John, Umashankar Vetrivel, Krishnakumar Subramanian, Perinkulam Ravi Deepa.* "Comparative docking of dual conformations in human fatty acid synthase thioesterase domain reveals potential binding cavity for virtual screening of ligands." *Journal of Biomolecular Structure & Dynamics* Aug 2016; 35(6):1350-1366.
- ❖ *Jaya Singh, Avshesh Mishra, Arunachalam Jayamuruga Pandian, Ashwin C. Mallipatna, Vikas Khethan, Suguneswari, Pukraj Rishi, Sarangapani Sripriya, etal.* "Next-generation sequencing-based method shows increased mutation detection sensitivity in an Indian retinoblastoma cohort." *Molecular Vision* Aug 2016; 22:1036-47. eCollection 2016
- ❖ *Jayashree B, Srimany A, Jayaraman S, Bhutra Anjali, Janakiraman Narayanan, Chitipothu Srujana, Krishnakumar S, Baddireddi LS, Elchuri Sailaja, Pradeep T.* "Monitoring of changes in lipid profiles during PLK1 knockdown in cancer cells using DESI MS." *Analytical and Bioanalytical Chemistry* 408.20 Aug 2016: 5623-5632.
- ❖ *Perinkulam Ravi Deepa, John Arun, Vetrivel Umashankar, A Samdani, Manoharan Sangeetha, Subramanian Krishnakumar.* "In Silico Structure Prediction of Human Fatty Acid Synthase–Dehydratase: A Plausible Model for Understanding Active Site Interactions." *Bioinformatics and Biology Insights,* Aug 2016.
- ❖ *Sathya Priya C, Sheela N, Parveen Sen, Sripriya S.* "Bardet-Biedl Syndrome: Genetics, molecular pathophysiology and Disease management." *Indian Journal of Ophthalmology,* Sep 2016; 64(9):620-627.



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- ❖ *Rishi Ekta, Rishi Pukhraj, Therese K Lily, Ramasubban Gayathri, Biswas Jyotirmay, Tarun Sharma, Pramod Bhende, Pradeep Susvar, Mamta Agarwal, Amala Elizabeth George, Kushal Delhiwala and Vishal Rajan Sharma.* "Culture and Reverse, Transcriptase Polymerase Chain Reaction (RT-PCR) proven *Mycobacterium tuberculosis* Endophthalmitis: A Case Series." Ocular immunology and inflammation, Sep 2016:1-8.
- ❖ *Bharathi Devi SR, Dhivya MA, Sulochana KN.* "Copper transporters and chaperones: Their function on angiogenesis and cellular signalling." Journal of Biosciences. Sep 2016; 41(3): 487-96.
- ❖ *Srividya Neriyanuri, Sudha Dhandayuthapani, Jayamuruga Pandian Arunachalam, Rajiv Raman.* "Phenotypic characterization of X-linked retinoschisis: Clinical, electroretinography, and optical coherence tomography variables." Indian Journal of Ophthalmology, vol. 64, no. 7, p. 513-517, Sep 2016.
- ❖ *Dhandayuthapani Sudha, Irene Rosita Pia Patric, Aparna Ganapathy, Smitha Agarwal, Shuba Krishna, Srividya Neiyannuri, Sarangapani Sripriya, Parveen Sen, Subbulakshmi Chidambaram and Jayamuruga Pandian Arunachalam.* "Genetic studies in a patient with X-linked Retinoschisis coexisting with developmental delay and sensorineural hearing loss." Ophthalmic Genetics, Epub-Sep 2016: P: 1-7.
- ❖ *Sumita Agarkar, Roshani Desai, Malathi Jambulingam, Singh H. Sumeer, Rajiv Raman.* "Incidence, management, and visual outcomes in pediatric endophthalmitis following cataract surgery by a single surgeon." Journal of AAPOS Oct 2016; 20(5): 415-418.
- ❖ *Samuel, R. K. Kanwar, J. R. Kanwar, V. Khetan, and S. Krishnakumar.* "A Study of Gene Expression of Survivin, its Antiapoptotic Variants, and Targeting Survivin In Vitro for Therapy in Retinoblastoma," Journal of Pediatric Hematology/Oncology, vol. 38, no.7, pp.e230–e242, Oct. 2016.
- ❖ *Alam MS, Poonam NS, Biswas J, Krishnakumar S.* "Epibulbar schwannoma: a case report and review of the literature." Can J Ophthalmol. Oct 2016; 51(5):e155-57.
- ❖ *Kannadasan Anand Babu, S.R Bharathidevi, Sarangapani Sripriya, Parveen Sen, Vadivelu Jaya Prakash, Appukuttan Bindu, Natarajan Viswanathan, Narayanasamy A.* "Serum Paraoxonase activity in relation to lipid profile in Age-related Macular Degeneration patients." Experimental Eye Research Nov 2016; 152:100-112.
- ❖ *N. Murugan, J. Malathi, V. Umashankar, H.N. Madhavan.* "Unraveling Genomic and Phenotypic nature of Multidrug-Resistant (MDR) *Pseudomonas aeruginosa* VRFPA04 Isolated from Keratitis Patient." *Microbiological Research*. Dec 2016.
- ❖ *Rajalakshmy A R, Malathi J, Madhavan H N, Bhaskar S, Iyer G K.* "Internalisation of hepatitis C virus core protein by human conjunctival fibroblasts." Indian Journal of Medical Microbiology, Dec 2016; 34:536-8.



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- ❖ *Jyotirmay Biswas, Mohmmad Salman Kazi, Vishvesh Ashokkumar Agarwal, Md. Shahid Alam and K Lily Therese.* "Polymerase chain reaction for Mycobacterium tuberculosis DNA detection from ocular fluids in patients with various types of choroiditis in a referral eye center in India." *Indian Journal Ophthalmology*, Dec 2016, vol. 64, no. 12, p. 904-907.
- ❖ *R Indhushree RM, K Coral, N Angayarkanni, R Punitham, BM Subburathinam, R Krishnakumar, PP Santanam.* "Visual functions of workers exposed to organic solvents in petrochemical industries." *Indian Journal of Occupational and Environmental Medicine*. Dec 2016;20(3):133-7.
- ❖ *Dipankar Das, Varsha Ramachandra, Saidul Islam, Harsha Bhattacharjee, Jyotirmay Biswas, Akanksha Koul, Panna Dekka, Apurba Dekka.* "Update on pathology of ocular parasitic disease." *Indian Journal of Ophthalmology*, Dec 2016. Vol.64, No.11, p. 794-802.
- ❖ *Aakalu VK, Parameswaran S, Maienschein-Cline M, Bahroos N, Shah D, Ali M, Krishnakumar S.* "Human Lacrimal Gland Gene Expression." *PLoS One*. 2017 Jan 12;12(1):e0169346.
- ❖ *Karpagam Veerappan, Sathishkumar Natarajan, Purushoth Ethiraj, Umashankar Vetrivel & Shila Samuel.* "Inhibition of IKK β by celastrol and its analogues – an in silico and in vitro approach." *Pharmaceutical Biology*. 55(1): 368-373. Jan 2017.
- ❖ *Shalini Muralikumar, Umashankar Vetrivel, Angayarkanni Narayanasamy and Undurti N. Das.* "Probing the intermolecular interactions of PPAR γ -LBD with polyunsaturated fatty acids and their anti-inflammatory metabolites to infer most potential binding moieties." *Lipids in Health & Disease*, Jan 2017.
- ❖ *Muna Bhende, Aashraya Karpe, Sukanya Arunachalam, Lily Therese, Jyotirmay Biswas.* "Endogenous endophthalmitis due to *Roseomonas mucosa* presenting as a subretinal abscess." *Journal of Ophthalmic Inflammation & Infection*, Jan 2017.7:5.
- ❖ *Saravanan R, Bharathselvi M, Aravind CB, Biswas J, Sulochana KN.* "The 88-kDa Eales' protein in serum is a complex of haptoglobin, complement C3, and galectin-1 as identified by liquid chromatography coupled mass spectrometry." *Proteomics Clinical Applications*. Jan 2017;11(1-2).
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- ❖ *Muthukumaran Sivashanmugam, Jaidev J, Umashankar V, Sulochana K.N.* "Ornithine and its role in metabolic diseases: An appraisal." *Biomedicine & Pharmacotherapy*. 86:185–194. Feb 2017.



VISION RESEARCH FOUNDATION

- ❖ *Murugan N, Malathi J, Umashankar V, Madhavan H.N.* "Virulence genome analysis of *Pseudomonas* VRFPA 10 recovered from patient with scleritis." *Genomics Data*, Feb 2017; 12; 1-3.
- ❖ *Parameswaran S, Krishnakumar S.* "Pluripotent stem cells: A therapeutic source for age-related macular degeneration." *Indian Journal of Ophthalmology*, Mar 2017; 65(3):177-183.
- ❖ *Sivagurunathan Sukanya, Palanisamy K, Arunachalam JP, Chidambaram Subbulakshmi.* "Possible role of HIW12 in modulating tight junction proteins in retinal pigment epithelial cells through Akt signaling pathway." *Molecular & Cellular Biochemistry*. Mar 2017; 427(1-2):145-56.



VISION RESEARCH FOUNDATION

COMPLETED PROJECTS

- ❖ A Prospective, open label study to evaluate the Intraocular Pressure lowering effect of 0.15% w/v Forskolin solution in patients with Ocular hypertension or mild open angle glaucoma [Dr Ronnie George]
- ❖ Protocol No.CRFB002F2302: A 12 month, phase III, randomized, double-masked, multicenter, active-controlled study to evaluate the efficacy and safety of two different dosing regimens of 0.5 mg ranibizumab vs. verteporfin PDT in patients with visual impairment due to choroidal neovascularization secondary to pathologic myopia (Brilliance study) [Dr Tarun Sharma]
- ❖ Protocol No.RFB002A2406: Study to observe the effectiveness and safety of Lucentis through individualized patient treatment and Associated outcomes [Dr Tarun Sharma]
- ❖ Protocol No.CRFB002A2411: A 12-month, phase IIIb, randomized, visual acuity assessor-masked, multicenter study assessing the efficacy and safety of ranibizumab 0.5mg treat and extend regimen compared to monthly regimen, in patients with neovascular age-related macular degeneration (TREND) [Dr Muna Bhende]
- ❖ NVG09B113: A Multicenter, Randomized, Double-Masked, 3 Parallel Arms, Placebo Controlled Study to Assess The Efficacy and Safety of NOVA22007 1mg/ml (Ciclosporin/ Cyclosporine) eye drops, Emulsion Administered In Paediatric Patients With Active Severe Vernal Keratoconjunctivitis With Severe Keratitis [Dr R R Sudhir]
- ❖ Protocol No.: EX1639-P001 (C-13-040)-Clinical Evaluation of Systane Gel Drops in Corneal Staining in Indian Subjects with Dry Eye [Dr R R Sudhir]
- ❖ An in-vitro study to understand the effect of different concentrations of lignocaine on the fibroblasts growth [Dr H N Madhavan]
- ❖ Analysis of Trace elements from donor eye balls with age related macular degeneration [Dr K Coral]
- ❖ Development of anti-fibrotic agents for potential use in the glaucoma filtration surgery to prevent scar formation in cultured human scleral chondrocytes and tenons fibroblast [Dr K Coral]
- ❖ Peripheral Blood Gene Expression Profiling in Eale's Disease [Dr K Coral]
- ❖ Understanding the effect of Adiponectin mediated signaling pathways on retinal degeneration using human retinal explant culture for designing efficient neuroprotective agent [Dr C Subbulakshmi]
- ❖ Study on the efficacy of ataluren to promote premature termination codon read through in RDH12 (c.38C>A) nonsense mutation [Dr Sowmya Parameswaran]
- ❖ Proteomics based identification and Validation of urinary Biomarkers for Age-related Macular Degeneration [Dr S Krishnakumar]
- ❖ Use of Aptamer to increase the efficacy of HMGA2 targeted therapy in Retinoblastoma [Dr S Krishnakumar]



VISION RESEARCH FOUNDATION

- ❖ Differentiation and characterization of dental pulp cells to corneal epithelial cells. [Dr S Krishnakumar]
- ❖ Proteomics and phosphoproteomics by mass spectrometry and flow cytometry in Retinoblastoma [Dr Sailaja Elchuri]
- ❖ To Engineer a Aptamer-siRNA chimeric conjugates for targeting epithelial cancers [Dr Sailaja Elchuri]

Individual Fellowship

- ❖ Identification, molecular cloning and characterization of differentially expressed proteins in the serum of patients with Eales' disease Research fellowship candidate [Mr R Saravanan; Guide: Dr K N Sulochana]
- ❖ Confirmation of novel and reported mutations identified in Leber Congenital Amaurosis (LCA) families and an autosomal recessive retinitis pigmentosa (arRP) family by control screening and also to identify the causative gene/mutation in an arRP family [Ms S Srilekha; Guide: Dr N Soumitra]



VISION RESEARCH FOUNDATION

ONGOING PROJECTS

- ❖ 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 Jyotirmay 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]
- ❖ Development of Low Cost Sweep VEP System [Dr Ronnie George]
- ❖ Normative data collection for oculomotor functions using prototype eye tracking technology in accordance with conventional method. [Dr Ronnie George]
- ❖ Effect of riboflavin / UVA in treating patients with infectious keratitis: A pilot study on human [Dr Prema Padmanabhan]
- ❖ Transfection of human embryonic kidney (HEK) 293 cells with a construct containing the human aquaporin-4 gene [Dr J Malathi]
- ❖ 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]
- ❖ 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]
- ❖ To elucidate the role of cystathionine beta synthase enzyme and hydrogen sulphide in retinal cells exposed to thiol compounds [Dr S R Bharathi Devi]
- ❖ Identification of Ocular Inflammatory mediators in Steven Johnsons Syndrome. [Dr Srividya Gurumurthy]
- ❖ Adding to the itinerary of Glaucoma pathogenesis – Is Nucleolar stress leading as a key causative factor for retinal ganglion cell death [Dr R Sharada]
- ❖ Indo US Genetic Study of ocular quantitative traits predisposing to glaucoma [Dr Ronnie George]
- ❖ Intervention of ciliopathy genes in the molecular pathology of BBS in Indian population [Dr S Sripriya]
- ❖ Whole exome sequencing in Leber congenital amaurosis (LCA) to identify novel gene(s) [Dr N Soumitra]



VISION RESEARCH FOUNDATION

- ❖ Diabetic Retinopathy - A comprehensive and systematic approach [Dr S Mathavan]
- ❖ 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]
- ❖ Exosomal microRNA as biomarkers of early and late stage Retinoblastoma [Dr S Krishnakumar]
- ❖ Investigating the effects of HIV- 1 proteins in retinal 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]
- ❖ Deciphering the role of LIN28B in retinoblastoma [Dr S Krishnakumar]
- ❖ 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]
- ❖ Self- Assembling peptide nanofiber matrix as implants for fungal keratitis drug delivery system [Dr J Narayanan]
- ❖ 3D Cancer Tissue Growth on Graphene sponges for cancer drug therapy [Dr Sailaja Elchuri]
- ❖ Insilco drug target identification in Chlamydial species through systems biology and molecular modelling approaches pertaining to the development of potential drug molecules. [Dr V Umashankar]
- ❖ 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]
- ❖ Genome wide association studies for Pharmacogenomics of Steroid response in Eye. [Dr Srujana Chitipothu]



VISION RESEARCH FOUNDATION

INDIVIDUAL FELLOWSHIP:

- ❖ Monocyte to macrophage differentiation induced alterations in oxLDL uptake and Paraonase 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]



VISION RESEARCH FOUNDATION

PARTICIPATION IN CONFERENCES

- ❖ Dr S R Bharathi Devi and Mr Bhuvananasundar attended in the BD Biocore Global Tour Symposium held at IIT Madras on 22nd April 2016
- ❖ Dr S Krishnakumar, Dr S Sripriya, Mr Hemanth R and Mr Abubakar Siddiq M attended the Hands on Workshop on Application of NGS in Clinical Genomics" organised by Dhiti Omics, Bangalore on 29th and 30th April 2016.
- ❖ Dr S R Bharathi Devi and Dr S Sripriya attended the ISO 15189:2012 IA & QMS NABL Certificate Course at Saveetha Medical College, Chennai, from 11th to 14th May 2016.
- ❖ Ms Lakshmi attended a workshop on "Patenting and IPR" organized by Anna University, Chennai, from 6th to 8th June 2016.
- ❖ Dr N Angayarkanni, Dr S R Bharathi Devi and Dr S Sripriya participated in the Retina Summit 2016 Conference held on 14th and 15th of July 2016 at ITC Grand Chola, Chennai, organized by the Department of Shri Bhagwan Mahavir Vitreo-retinal Services, Sankara Nethralaya. They presented posters entitled "Elevated serum oxLDL is associated with progression of type 2 DM to DR"; "Clinico-pathological and Molecular studies in the donor eye of two long duration type 2 DM cases showed anti-angiogenic phenomena" and "Whole genome analysis for diabetic retinopathy in Indian patients with type 2 diabetes" respectively.
- ❖ Dr N Angayarkanni participated in the Indian Traditional Medicine - A Conglomeration of Ancient Knowledge and Modern Science at SASTRA University, Thanjavur on 21st July 2016 and gave a guest lecture on "Biochemistry in the validation of Ayurvedic drugs: Mechanistic studies in wound healing property of Triphala: In vitro studies in RPE".
- ❖ Dr J Narayanan participated in the Mechanobiology of the Diseases organized by Biophysical Society, Singapore from 27th to 30th September 2016 and he made a poster presentation on "Heterogeneity of elastic modulus metastatic and non-metastatic retinoblastoma cells and its correlation with cluster size".
- ❖ Dr N Angayarkanni, Dr G Srividya, Dr Nivedita Chatterjee, Ms Ashraf Banu Akbar, Ms Kamini Khatak, Mr Vignesh Menta, Ms Kamini Khatak and Mr Amit Chatterjee attended the IERG Conference at L V Prasad Eye Institute, Hyderabad on 30th July 2016. Mr Amit Chatterjee received "Travel Grant Fellowship". Dr Angayarkanni gave an invited lecture on "Back to Basics Course: Ocular Biochemistry". Poster of Mr Amit Chatterjee on "Extracellular vesicles mediated transport of Piwi-like proteins from Retinal pigment epithelial cell to vitreous"; Dr Srividya on "Cytokine profiling in ocular Steven Johnsons Syndrome"; Dr Nivedita on "Clinical profile of HIV/AIDS patient with or without ocular inflammation" and Ms Kamini on "Effects of HIV coat protein Tat on cell adhesion molecules of retinal glia regards" were presented in the conference.



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- ❖ Dr N Soumitra attended the Workshop on Next-Generation Sequencing at SRM University, Chennai, on 5th August, 2016. She gave a presentation on "Introduction to NGS and its Application in Medical Genomics".
- ❖ Dr S Krishnakumar attended the Gene Therapy Meeting at Christian Medical College, Vellore, on 6th & 7th August 2016.
- ❖ Dr N Soumitra participated in the Research Methodology Workshop at Center for Medical Genetics, Chennai, on 20th August 2016 and delivered a talk on "Homozygosity mapping for identification of candidate gene or novel locus in autosomal recessive disease – research methodology". Dr M Vimalin Jeyalatha also attended the workshop.
- ❖ Dr Krishnakumar S and Dr Lily Therese participated in the National Post Graduate CME Programme at Taj Connemara, Chennai, from 18th to 20th August 2016. Dr Krishnakumar made a presentation on "Ocular Pathology" and Dr Lily Therese on "Microbiology".
- ❖ Dr. K. Lily Therese delivered an invited talk on "Diagnostic Techniques for Ocular Infection Microbiology" at Saveetha Medical College & Hospitals, Chennai on 6th September 2016.
- ❖ Dr N Angayarkanni participated in the Sixth Euro-India International Conference on Holistic Medicine (ICHM-2016) from 9th to 11th September 2016 at Kottayam and gave an invited talk on "EGCG, curcumin, Chebulagic acid and Chebulinic acid inhibit TGF β 1 induced Epithelial to Mesenchymal transition in retinal pigment epithelial cell".
- ❖ Dr S Mathavan was invited to inaugurate a National Level Technical Symposium in the Department of Biomedical Engineering, Alpha college of Engineering on 23rd September, 2016 and delivered a talk on "Zebrafish as a model for Biomedical Research".
- ❖ Dr S Sripriya and Dr N Soumitra took part in the group discussion towards Creation of National Think Tank for potential interventional strategies and research in genetics of ocular disorders leading to low vision conducted as a part of the National Research and Training Center for Low vision and Rehabilitation Services, held from 26th to 30th September 2016 at AIIMS, New Delhi.
- ❖ Dr N Soumitra, Ms S Srilekha, Ms N N Srikrupa attended the Next-Generation Sequencing and Bioinformatics for Genomics & Healthcare (NGBT) Conference at Kochi during 3rd to 5th October 2016. Ms Srikrupa presented a poster entitled "High throughput gene screening of patients with Leber Congenital Amaurosis in on Indian cohort".
- ❖ Dr S Mathavan participated in the symposium entitled "Zebrafish Disease Model Symposium" in Singapore held from 4th to 8th October 2016 and presented a paper entitled "Pre-mRNA splicing changes in a zebrafish model for Spinal Muscular Atrophy as revealed by RNA sequencing of FACS-sorted motor neurons".



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- ❖ Science Communication Workshop was conducted by Dr Sandhya Sriram, Director, Co-Founder of Biotech Asia Pvt Ltd, spin off from Biomedical Institute of Sciences (A-STAR, Singapore) and Dr Ann Marie Chako Duke-NUS Medical School, Singapore on 7th October 2016 at Vision Research Foundation and all the scientists and the students attended the workshop.
- ❖ Dr Nivedita Chatterjee attended the 34th Indian Academy of Neurosciences Meeting, National Brain Research Center, Manesar, New Delhi from 18th to 21st October 2016 and gave a talk on "Biochemically defining differential immune response in retinal glia to clade specific HIV1 Tat variants".
- ❖ Dr K Lily Therese attended a Workshop on Ethics at National Institute for Research in Tuberculosis, Chennai on 3rd November 2016.
- ❖ Dr S Mathavan delivered a talk on "Developmental Genomics" in a Training program on Biotechnology organized at the School of Biological Sciences, Madurai Kamaraj University, Madurai on 4th November 2016.
- ❖ Dr S Krishnakumar participated in the Ophthalmology Pathology Quiz conducted at the CME meeting held in Stanley Medical College – Part of Indian Association of Pathologists & Microbiologists (IAPM) Meet on 10th November 2016.
- ❖ Dr V Umashankar, Ms Aloysius Dhivya M, Ms Rebacca Manohar, Ms Ramya R, Ms Gayathree K, Ms Suganya S, Mr Sivasankar S and Mr Samdani A, participated in the Society of Biological Chemists of India (SBCI) Conference from 21st to 24th November 2016 at Central Food Technological Research Institute (CFTRI), Mysore. The poster presentations were made on "The role of CTR1 in regulating VEGF expression in retinal pigment epithelial cells" by Ms. Aloysius Divya; "Homocysteinylation of Elastin: A key factor for the pathogenesis of Pseudoexfoliative cataract (PXF) and Glaucoma (PXF-G)?" by Ms RebaccaManohar; "Role of Paraoxonase 2 in attenuating AGE induced inflammation in macrovascular endothelial cells" by Ms Ramya; " Interplay of high glucose and methylglyoxal induces Early Growth response-1 (Egr-1) in retinal pigment epithelium (ARPE-19) rendering a pro-inflammatory, pro-coagulant and angiogenesis favouring response" by Ms Gayathree; "Possible role of HIWii2 in modulating tight junction Proteins in retinal pigment epithelial cells through AKT signaling pathway" by Ms Suganya; "Gallic acid inhibits TNF α -induced angiogenesis and inflammation by potentially binding with TNF α -receptor-1" by Mr Sivasankar and "Probing the plausible structural conformations of ROCK1 towards enabling efficient screening of ligands" by Mr Samdani.
- ❖ Dr Nivedita Chatterjee, Dr S R Bharathi Devi, Mr R N Naresh Kumar, Ms S Nikhala Shree and Mr Vignesh Menta participated in the XL All India Cell Biology Conference & International Symposium on "Functional Genomics & Epigenomics" during 16th to 19th November 2016 at Jiwaji University, Gwalior. Dr. Bharathi Devi, Mr Naresh and Nikhala Shree presented posters on "Modulating Cystathionine beta synthase can be a therapeutic target for treatment of ocular diseases with hyperhomocysteinemia", "Apoptotic and anti-proliferative effect of lysyl oxidase propeptide in Y79 human retinoblastoma cells" and "Decorin peptides mitigate TGF- β 1 induced fibrosis" respectively and MrVigneshpresented a poster on "Investigating AU-rich elements in adaptive immune genes; an in-silico approach".



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- ❖ Dr K Lily Therese delivered an invited lecture at Venkateswara Engineering College on "Molecular techniques for drug resistance in tuberculosis and for ocular infections" on 8th December 2016.
- ❖ Dr S Sripriya gave an invited talk on "Bardet Biedl syndrome : mutation profiling and genetic diagnosis" at the Third International Conference on Birth Defects (ICBD-2016) & Third National conference of the Society of the Indian Academy of Medical Genetics (SIAMG) held at the All India Institute of Medical Sciences, New Delhi, India during 8th to 10th December 2016.
- ❖ Dr R Sharada attended "Clinical Practice Guidelines Oncology 2016" on Women Oncologist Specific Issues on Saturday 10th December 2016 at Chennai.
- ❖ Mr N Murugan presented a poster entitled "Whole genome characterization of drug resistance, virulence and quorum sensing mechanism of Pseudomonas aeruginosa isolated from various clinical specimens" at the Conference on "Regulatory Network Architecture in Bacteria (RNAB)" at SASTRA University Campus on 17th December 2016.
- ❖ Dr S Krishnakumar participated in the CME programme on "Pathologist" at Kanchi Kamakoti Child Trust Hospital, Chennai on 21st December 2016.
- ❖ Dr R Sharada participated in the "3rd Saveetha Transdisciplinary Annual Research (STAR)" Summit on 6th January 2017 at Saveetha Dental College, Saveetha University, Chennai and delivered a keynote lecture on "Pharmacogenomics: How personalized medicine is trending in designing novel therapeutic interventions"
- ❖ Dr J Malathi delivered an invited lecture at Molecular methods in diagnosing anaerobic infections during the CME programme on "Anaerobic infections: Current challenges and Newer approaches" held at Saveetha Dental College and Hospitals, Chennai on 10th January 2017. Mr. N Murugan also attended the programme.
- ❖ Dr S Mathavan gave a talk at the GC-NRCBS (Networking Resource Centre in Biological Sciences) supported winter school in –"Integrative and Functional Genomics" at the school of Biological Sciences, Madurai Kamaraj University, Madurai between 27th and 30th January 2017.
- ❖ Dr N Angayarkanni and Dr Nivedita Chatterjee participated in the ASIA ARVO 2017 Conference at Brisbane, Australia from 3rd to 10th February 2017. Dr Angayarkanni made a poster presentation on "Chebulagic acid and chebulinic acid inhibits TNF alpha induced pro-angiogenic and pro-inflammatory stimuli in retinal capillary endothelium by inhibiting p38, ERK and NFkB phosphorylation" and Dr Nivedita on "Effect of HIV coat protein Tat on Barrier properties of retinal glia at the BRB".
- ❖ SN ONGC Department of Genetics & Molecular Biology conducted the 4th SN Genetics Convention, "Genetic Testing and Diagnosis of Diseases" on 10th February 2017 at Sri V D Swami Auditorium. The total number of delegates attended the symposium was 102.
- ❖ Dr S R Bharathi Devi attended the Lab workshop and the ISIEM 2017 Conference on 10th and 11th February 2017 held at The Accord Metropolitan Hotel, Chennai.



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- ❖ Dr J Malathi attended the International Symposium on Genomics of Mycobacterium Tuberculosis on 17th February 2017 at NIRT, Chennai.
- ❖ Dr S Krishnakumar and Dr V Umashankar attended the National Seminar on Nanotech and Bioinformatics at Queen Mary's College, Chennai, on 22nd February 2017 and gave lectures on "Nanotechnology at Vision Research Foundation" and "Open Source Tools & Bioinformatics Applications" respectively.
- ❖ Dr V Umashankar participated in the International Seminar cum Workshop on "Application of Bioinformatics in Life Science Research" held on 28th February, 2017 at JBAS College for Women and he delivered an invited talk on "Bioinformatics and Medical applications in lifesciences".
- ❖ Mr Anand Babu and Ms Aloysius Dhivya attended the Workshop on "Advances in Biological & Medical Imaging and Image Processing" on the 3rd and 4th March 2017 conducted at the Institute of Bioinformatics and Applied Biotechnology (IBAB) at Bengaluru.
- ❖ Dr S R Bharathi Devi, Dr R Sharada, Dr G Srividya, Mr Naresh Kumar & Ms Suganya attended the Guest lecture on "Epigenetics and Non-Coding RNAs in Diabetic Complications and Metabolic Memory" delivered by Dr Rama Natarajan (Beckman Research Institute of City of Hope, California, USA) on 10th March 2017 organized by Madras Diabetes Research Foundation, Chennai
- ❖ Dr N Angayarkanni delivered a lecture on "Progression to Diabetic Retinopathy: A threat in Diabetics" at Annamalai University on 14th March 2017, as part of UGC-SAP activities, seminar Series on Recent Trends in Cancer, Diabetes and associated disorders.
- ❖ Dr V Umashankar participated in the Workshop on Biomolecular Visualization and Drug Discovery and he gave an invited talk on "Insights on applications of Bioinformatics in Ophthalmic Research and drug discovery" on 17th March 2017 and a plenary lecture on "Bioinformatics and Medical Applications" at the National Seminar on Genomics and Metabolomics at Shri Mata Vaishno Devi University, Jammu Kashmir on 18th March 2017.
- ❖ Dr S Krishnakumar gave an invited talk on "Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy: An analytical technique to understand therapeutic responses at the molecular level" at the Nano Meeting held at Anna University on 22nd March 2017.



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DISTINGUISHED VISITORS

- ❖ Dr Aung Tin, Dr. CC Khor and Dr. Jay Ji - Ye Wei from the Institute of Molecular and Cell Biopsy, Singapore Eye Research Institute, Singapore, visited our foundation on 9th April 2016.
- ❖ Dr Richa Verma, Lecturer in Vision Science, School of Medicine – Optometry and Faculty of Health, Deakin University, Australia visited our foundation on 30th April 2016 and gave a lecture on “Isolating outer and inner retinal contribution to Human Electroretinogram (ERG)”.
- ❖ Dr K V Leela, Professor of Microbiology & Dr V Meera, Professor of Biochemistry from Kilpauk Medical College, Chennai, and Dr. K. Rama, Professor of Pathology, Madras Medical College, Chennai, visited the Biochemistry lab on 25th July 2016
- ❖ Prof John Robson, Senior Research Professor of Vision Science, University of Houston College of Optometry & Gonville & Caius College, Cambridge, visited our foundation on 19th August 2016 and gave a guest lecture on “Contrast Sensitivity in a Clinical Context: A little history and a new approach”.
- ❖ Mr Justin from Genome Institute of Singapore visited the Bioinformatics lab on 3rd August 2016.
- ❖ Dr Timothy Lai, Honorary Clinical Associate Professor, Dept of Ophthalmology & Visual Science, Chinese Univ. of Hong Kong. Hong Kong, visited the research laboratories on 26th August 2016.
- ❖ Dr Anisha Cynthia Sathiasekar, Professor and Head, Rajas Dental College & Hospital, Tirunelveli, visited the research laboratories on 10th September 2016
- ❖ Dr. Namrata Sharma from AIIMS Delhi visited our foundation and gave a talk on “Diagnosis and management of microbial Keratitis” on 21st September 2016
- ❖ Dr Sandhya Sriram, Director, Co-Founder of Biotech Asia Pvt Ltd, spin off from Biomedical Institute of Sciences (A-STAR, Singapore) and Dr Ann Marie Chako Duke-NUS Medical School, Singapore visited our foundation on 07th October 2017 and conducted a workshop on “Science Communication”.
- ❖ Shri K B Jayaram Reddy's sons from Koramangala, Bangalore, donors of VI Floor, Kamalnayan Bajaj Research Centre, visited the foundation on 17th October 2016.
- ❖ Maj Gen JKS Parihar, Director General of Armed Forces Medical Services, Ministry of Defence, New Delhi visited our foundation on 21st October 2016.



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- ❖ Dr Jai Shankar, Chairman-International Medical Graduate Subcommittee, The Royal College of Ophthalmologists, London, visited our foundation on 09th November 2016.
- ❖ Dr Sundaramoorthy, Professor of Medicine, Madras Medical College, Chennai, visited the research laboratories on 15th November 2016.
- ❖ Dr A S Karthikeyan, Consultant Pediatric Ophthalmologist and Ocular Geneticist CMER (Shenzhen), Dennis Lam Eye Hospital, Shenzhen, China visited our foundation on 17th November 2016 and gave a talk on "Genotype phenotype correlation in ocular disease".
- ❖ Dr Jesse L Berry, MD, USC-CHLA, Keck School of Medicine, USA visited our foundation on 21st November 2016 and delivered a lecture on "Ocular Oncology".
- ❖ Ms Nandita Chopra, South Asia Representative for National Institutes of Health (NIH), at US Embassy, New Delhi, visited the research laboratories on 1st December 2016.
- ❖ Dr Mishra Kavita, Head, UCSF Proton Radiation Therapy Centre of Uveal Melanoma, USA visited our foundation on 15th December 2016 and delivered a lecture on "Stereotactic Radiation in Uveal Melanoma".
- ❖ Prof Vasudevan Lakshminarayanan from University of Waterloo, Canada visited our foundation on 20th December 2016 and delivered a talk on "Evaluation of Optics".
- ❖ Dr R N Banerjee, Consultant Pharmacist, Formerly Chief Pharmaceutical Chemist, Moorfields Eye Hospital, London visited the research laboratories on 27th January 2017.
- ❖ Prof Jon Watson, Dean School of Medicine and Prof Jagat Kanwar, Faculty of Health, Deakin University, Australia visited the research Laboratories on 28th February 2017.
- ❖ Dr Krishnakumar Venkateswaran, from M/s Tatwam Research Foundation, California visited the research laboratories on 28th February 2017.
- ❖ Dr Aparna Ramasubramanian, Assistant Professor, University of Louisville, USA visited our foundation on 04th March 2017 and gave a talk on "Paradigm shift in the management of Retinoblastoma".
- ❖ Mr Jawahar (Jay) Malhotra, publisher of Indo American News, USA visited our foundation on 30th March 2017.