

Biographical Sketch

Dr Krishna R. Murthy MBBS., DOMS., FMRF., MRCOphth. Ph.D. MAMS

NAME	POSITION TITLE
Dr Krishna R Murthy MBBS., DOMS., FMRF., MRCOphth. Ph.D.	Medical Director and Consultant Vitreoretinal Services, Vittala International Institute of Ophthalmology, Bangalore Faculty Scientist, Institute of Bioinformatics, Bangalore Associate professor, Manipal Academy of Higher education Email: krishna@viiio.org

Education/Training

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
Bangalore Medical College	MBBS	1997	Medicine
Minto Regional Institute of Ophthalmology	DOMS	2000	Ophthalmology
SankaraNetralaya	FMRF	2003	Vitreo retinal fellowship
Royal college of Ophthalmologists, London	MRCOphth	2005	Ophthalmology
Amrita Vishwa Vidyapeetham	Ph.D	2016	Proteomics of vitreous and aqueous humor
National Academy of Medical Sciences	MAMS	2018	Ophthalmology

A. Positions and Honors.

PROFESSIONAL EXPERIENCE

Associate Professor	2018 - present	Manipal Academy of Higher Education
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Faculty Scientist	2009 – present	Institute of Bioinformatics
Honorary Consultant	2004 – present	Indira Gandhi Institute of Child Health Sciences, Bangalore
Consultant Vitreoretinal Services	2003 – present	Prabha Eye Clinic & Research Centre, Bangalore
Consultant Vitreoretinal Services	2003- present	Vittala International Institute of Ophthalmology, Bangalore

AWARDS AND HONORS

1. FICCI health care award for taking retinopathy of prematurity screening to rural India for the year 2013
2. Mahashabde award (Awarded by the All India Ophthalmic Society)for the best work in community ophthalmology on “Nayana –Taking diabetes care to rural India”, All India ophthalmic society meeting , Jaipur 2009
3. Best video presentation “Screening for retinopathy of prematurity in rural neonatal intensive care units” by the Karnataka Ophthalmology Society, Bijapur 2012
4. Best video presentation on “Nayana- Glaucoma outreach”by the Glaucoma Society of India, Calcutta, December 2007
5. Winner of the quiz in the International Ocular Oncology Meeting, L.V.Prasad Eye Institute, Hyderabad 2004

PROFESSIONAL SOCIETIES

2001 – present	Life member	All India Ophthalmological Society
2000 - present	Life member	Karnataka Ophthalmological Society
2003 – present	Life member	Vitreoretinal Society of India
2010 – present	Member	Uveitis Society of India

Biography

Dr Krishna R Murthy completed his basic medical degree(MBBS) from Bangalore Medical College, Bangalore and completed his post graduation from Minto Regional Institute of Ophthalmology, Bangalore. He went on to do his fellowship in Vitreoretinal diseases from SankaraNetralaya, Chennai. He became a member of the Royal College of Ophthalmologists, London(MRCOphth) in 2005. He went on to complete his PhD. in “proteomics of vitreous and aqueous humor” from Amrita Vishwa Vidyapeetham in 2016. His special areas of interest include Diabetic retinopathy, Retinopathy of prematurity, HIV related eye diseases and proteomics of the ocular structures. He has been instrumental in planning and implementing the mobile diabetic retinopathy and glaucoma treatment unit which takes treatment of these two conditions to rural areas of 16 districts of Karnataka.

This initiative was the first of its kind anywhere in the world and it has been replicated in many resource poor settings across nine countries. This initiative was funded by the World Diabetes Foundation. He is also responsible for running one of the largest tele-ophthalmological screening programmes in India for the disease Retinopathy Of Prematurity(ROP), which affects premature neonates. This programme called the “Vittala ROP project” serves semi-urban and rural neonatal intensive care units in 10 districts of south Karnataka. This initiative was awarded the FICCI Health Care award for the year 2013. He has been invited to present his work in many international fora such as World Diabetes Congress in Melbourne , Australia and The World ROP Congress in Shanghai, China. He has 33 published articles in peer reviewed journals and co-authored 2 chapters in a reputed vitreoretinal text book.

Publications

Research articles: 34; Review articles: 1; Book chapters: 2;

Research Articles:

1. Agarwal M, Shanmugam MP, Gopal L, Shetty N, Bhende M, Gopal L, Sharma T, Thakur S, Raman R, Nizammuddin SH, **Moorthy KR**. Transpupillary Thermo-therapy For Choroidal Neovascular Membrane In Age Related Macular Degeneration..Indian J Ophthalmol. 2004;52(1):45-9.
2. Satish KS, **Murthy KR**, Yadav N, Murthy RA. Meningitis with papillitis, choroiditis, and hearing loss: an unusual presentation of cryptococcosis in HIV infection. AIDS Read. 2006;16(12):679-80, 682.
3. D'Souza GA, Sunad R, Rajagopalan N, Ananthamurthy A, **Murthy KR**, Babu K. NK/T cell lymphoma in AIDS. J Assoc Physicians India. 2006;54:890-2.
4. Babu K, **Murthy KR**, Babu N, Ramesh S. Triple A syndrome with ophthalmic manifestations in two siblings. Indian J Ophthalmol. 2007 Jul-Aug;55(4):304-6.
5. Babu K, **Murthy KR**, Rajagopalan N. Primary bilateral multifocal choroiditis as an initial manifestation of disseminated cryptococcosis in a HIV-positive patient. Ocul Immunol Inflamm. 2008;16(4):191-3.
6. **Murthy KR**, Venkataraman N, Satish V, Babu K. Bilateral retinitis following chikungunya fever. Indian J Ophthalmol. 2008;56(4):329-31.
7. Babu K, Satish V, Prakash O, Subbakrishna DK, **Murthy KR**. Role of the mantoux test and treatment with antitubercular therapy in a South Indian patient population of presumed intraocular tuberculosis. Ocul Immunol Inflamm. 2009;17(5):307-11.
8. Babu K, Satish V, Satish S, Subbakrishna DK, Mariamma Philips Abraham, **Murthy KR**. Utility of QuantiFERON TB gold test in a south Indian patient population of ocular inflammation. Indian J Ophthalmol:2009; 57:427-430
9. Murthy GJ, Murthy PR, **Murthy KR**, Kulkarni VV, Murthy KR. A study of the efficacy of endoscopic cyclophotocoagulation for the treatment of refractory glaucomas. Indian J Ophthalmol. 2009;57(2):127-32.
10. Babu K, **Murthy KR**, Rajagopalan N, Satish B. Vision recovery in

human immunodeficiency virus-infected patients with optic neuropathy treated with highly active antiretroviral therapy: a case series. *Indian J Ophthalmol.* 2009;57(4):315-8.

11. Babu K, Murthy PR, **Murthy KR**. Intravitreal bevacizumab as an adjunct in a patient with presumed vascularised choroidal tubercular granuloma. *Eye (Lond)*. 2010;24(2):397-9.
12. Babu K, **Murthy VR**, Akki VP, Prabhakaran VC, **Murthy KR**. Coin-shaped epithelial lesions following an acute attack of erythema multiforme minor with confocal microscopy findings. *Indian J Ophthalmol.* 2010;58(1):64-6.
13. Babu K, **Murthy KR**, Sudarshan S, Biswas J. Bilateral arteritis with cytomegalovirus retinitis in a patient infected with human immunodeficiency virus. Published in the spring issue of *Journal of Retinal cases & brief reports*
14. Babu K, Kini R, Mehta R, Abraham MP, Subbakrishna DK, **Murthy KR**. Clinical profile of ocular sarcoidosis in a South Indian patient population. *OculImmunolInflamm.* 2010;18(5):362-9.
15. Babu K, **Murthy KR**, Krishnakumar S. Two successive ocular malignancies in the same eye of a HIV-positive patient: a case report. *OculImmunolInflamm.* 2010;18(2):101-3.
16. **Murthy KR**, Murthy PR, Kapur A, Owens DR. Mobile diabetes eye care: Experience in developing countries. *Diabetes Res ClinPract.* 2012;97(3):343-9.
17. **Murthy KR**, Murthy PR, Rao S, Murthy GJ, Kapur A, Lefebvre P. A novel model to deliver advanced eye care for people with diabetes living in resource-poor settings: results of care provided to date. *Diabetes Care.* 2012;35(4):e31.
18. Babu K, Kini R, Mehta R, Philips M, Subbakrishna DK, **Murthy KR**. Predictors for tubercular uveitis: a comparison between biopsy-proven cases of tubercular and sarcoid uveitis. *Retina.* 2012;32(5):1017-20.
19. Babu K, Adiga M, Govekar SR, Kumar BR, **Murthy KR**. Associations of Fuchs heterochromic iridocyclitis in a South Indian patient population. *J Ophthalmic Inflamm Infect.* 2013;3(1):14.
20. Babu K, Mukhopadhyay M, **Murthy KR**. Uveitis with myasthenia gravis--a rare association. *OculImmunolInflamm.* 2013;21(1):44-6.
21. Babu K, Kini R, **Murthy KR**. Unique presentation of 3rd and 6th cranial nerve palsies, nodular scleritis and nummular keratouveitis in an immunocompetent patient following an attack of herpes zoster ophthalmicus. *OculImmunolInflamm.* 2012;20(5):365-7.
22. **Murthy KR**, Murthy PR, Shah DA, Nandan MR, S NH, Benakappa N. Comparison of profile of retinopathy of prematurity in semiurban/rural and urban NICUs in Karnataka, India. *Br J Ophthalmol.* 2013;97(6):687-9.
23. Goel R, **Murthy KR**, Srikanth SM, Pinto SM, Bhattacharjee M, Kelkar DS, Madugundu AK, Dey G, Mohan SS, Krishna V, Prasad TSK, Chakravarti S, Harsha H, Pandey A. Characterizing the normal proteome of human ciliary body. *Clin Proteomics.* 2013;10(1):9.

24. Kim MS, Pinto SM, Getnet D, Nirujogi RS, Manda SS, Chaerkady R, Madugundu AK, Kelkar DS, Isserlin R, Jain S, Thomas JK, Muthusamy B, Leal-Rojas P, Kumar P, Sahasrabudde NA, Balakrishnan L, Advani J, George B, Renuse S, Selvan LD, Patil AH, Nanjappa V, Radhakrishnan A, Prasad S, Subbannayya T, Raju R, Kumar M, Sreenivasamurthy SK, Marimuthu A, Sathe GJ, Chavan S, Datta KK, Subbannayya Y, Sahu A, Yelamanchi SD, Jayaram S, Rajagopalan P, Sharma J, **Murthy KR**, Syed N, Goel R, Khan AA, Ahmad S, Dey G, Mudgal K, Chatterjee A, Huang TC, Zhong J, Wu X, Shaw PG, Freed D, Zahari MS, Mukherjee KK, Shankar S, Mahadevan A, Lam H, Mitchell CJ, Shankar SK, Satishchandra P, Schroeder JT, Sirdeshmukh R, Maitra A, Leach SD, Drake CG, Halushka MK, Prasad TS, Hruban RH, Kerr CL, Bader GD, Iacobuzio-Donahue CA, Gowda H, Pandey A. A draft of the human proteome. *Nature*. 2014 May 29;509(7502):575-81. doi: 10.1038/nature13302.
25. **Murthy KR**, Goel R, Subbannayya Y, Jacob HK, Murthy PR, Manda SS, Patil AH, Sharma R, Sahasrabudde NA, Parashar A, Nair BG, Krishna V, Prasad TS, Gowda H, Pandey A. Proteomic analysis of human vitreous humor. *Clin Proteomics*. 2014 Jul 14;11(1):29. doi: 10.1186/1559-0275-11-29. eCollection 2014.
26. Babu K, Murthy PR, Prakash PY, Kattige J, Rangaswamy S, Murthy VR, **Murthy KR**. Chronicendophthalmitis due to *Pyrenochetartomeroi* in an immunocompetent host--a case report from southern India. *Retin Cases Brief Rep*. 2014 Summer;8(3):197-9. doi: 10.1097/ICB.0000000000000041.
27. **Murthy KR**, Rajagopalan P, Pinto SM, Advani J, Murthy PR, Goel R, Subbannayya Y, Balakrishnan L, Dash M, Anil AK, Manda SS, Nirujogi RS, Kelkar DS, Sathe GJ, Dey G, Chatterjee A, Gowda H, Chakravarti S, Shankar S, Sahasrabudde NA, Nair B, Somani BL, Prasad TS, Pandey A. Proteomics of human aqueous humor. *OMICS*. 2015 May;19(5):283-93. doi: 10.1089/omi.2015.0029.
28. **Murthy KR**, Dammalli M, Pinto SM, Murthy KB, Nirujogi RS, Madugundu AK, Dey G, Subbannayya Y, Mishra UK, Nair B, Gowda H, Prasad TS. A Comprehensive Proteomics Analysis of the Human Iris Tissue: Ready to Embrace Postgenomics Precision Medicine in Ophthalmology? *OMICS*. 2016 Sep;20(9):510-9. doi:10.1089/omi.2016.0100. PubMed PMID: 27631190.
29. Dammalli M, **Murthy KR**, Pinto SM, Murthy KB, Nirujogi RS, Madugundu AK, Dey G, Nair B, Gowda H, Keshava Prasad TS. Toward Postgenomics Ophthalmology: A Proteomic Map of the Human Choroid-Retinal Pigment Epithelium Tissue. *OMICS*. 2017 Feb;21(2):114-122. doi: 10.1089/omi.2016.0170. PubMed PMID: 28186866.
30. Babu K, Sudheer B, **Murthy KR**. Bilateral arterial occlusions masking retinitis in a HIV-positive male. *Indian J Ophthalmol*. 2018 Feb;66(2):332-334. doi:10.4103/ijo.IJO_563_17. PubMed PMID: 29380798; PubMed Central PMCID: PMC5819135
31. Rani PK, Nangia V, **Murthy KR**, Khanna RC, Das T. Community care for diabetic retinopathy and glaucoma in India: A panel discussion. *Indian J Ophthalmol*. 2018 Jul;66(7):916-920. doi: 10.4103/ijo.IJO_910_17. Review. PubMed PMID: 29941730; PubMed Central PMCID: PMC6032761.
32. Madugundu AK, Muthusamy B, Sreenivasamurthy SK, Bhavani C, Sharma J, Kumar B, **Murthy KR**, Ravikumar R, Pandey A. A Next-Generation Sequencing-Based Molecular Approach to Characterize a Tick Vector in Lyme

Disease. OMICS. 2018 Aug;22(8):565-574. doi: 10.1089/omi.2018.0089. PubMed PMID: 30106352; PubMed Central PMCID: PMC6112187.

- 33.** Karthikkeyan G, Subbannayya Y, Najar MA, Mohanty V, Pinto SM, Arunachalam C, Prasad TSK, **Murthy KR.** Human Optic Nerve: An Enhanced Proteomic Expression Profile. OMICS. 2018 Oct;22(10):642-652. doi: 10.1089/omi.2018.0130. PubMed PMID:30346883
- 34.** Babu K, Jidesh MV, Sudheer B, **Murthy KR.** Progressive, subretinal fibrosis mimicking retinal necrosis with poor visual prognosis in sympathetic ophthalmia: A rare finding. Indian J Ophthalmol. 2018 Dec;66(12):1877-1879. doi:10.4103/ijo.IJO_268_18. PubMed PMID: 30451212; PubMed Central PMCID: PMC6256904.

Ongoing Research Support

	Title of Project	Funding agency	Role
1	Proteomics based identification and validation of Urinary Biomarkers for AMD	Queen Elizabeth diamond jubilee trust	PI
2	Sero-prevalence of Lymes disease in Nagarhole and Bandipur forest areas of South India and ocular manifestations of the disease	ICMR	Co-PI

Completed Research Projects

	Title of Project	Funding agency	Role
1	"Nayana' Taking diabetic retinopathy treatment to rural Karnataka	World Diabetes Foundation	Co-PI
2	"CODE" Comprehensive diabetes and eye care	World Diabetes Foundation	Co-PI
3	Vittala ROP Project	Self	PI
4	Proteomics based identification and validation of Urinary Biomarkers for AMD	DBT	Co-PI

Invited lectures at International conferences:

1. Analysis of antenatal, natal and postnatal factors influencing the development of ROP in a tertiary referral center in south India” at world ROP meeting-Vilnius, Lithuania 14-16th Sep 2006
2. “HIV optic neuropathy – A case series”, International ocular inflammation society meeting, Paris, September 2007
3. Comparison of profile of Retinopathy of prematurity in urban and semi-urban NICUs of Karnataka, India. World ROP Congress, Shanghai, October 14-16 2012
4. Taking comprehensive Diabetes Care to rural Karnataka, VIIO model. WDF symposia in 7th WCPD congress, Madrid Nov 11-15
5. Taking treatment of diabetic retinopathy to rural India, World diabetes congress, Melbourne, Dec 2-6, 2013
6. Treatment of diabetic retinopathy- Tele screening, Aug 19, Ulaan Bator, Mongolia 2018
7. Proteomics in diabetic retinopathy-APAO Hongkong 2018