# CURRICULUM VITAE

**Kavita Rajeev Hegde**, M.D., Ph.D.
Professor of Biology and Biochemistry
Coppin State University
E-mail: khegde@coppin.edu

## Collegiate Institutions Attended:

1984-1991 Doctor of Medicine (M. D.)
Baroda Medical College
Maharaja Sayajirao University, India

1991-1994 Master of Surgery (M.S., Ophthalmology)
Equivalent to 3 year-residency
Baroda Medical College
Maharaja Sayajirao University, India

2000-2004 Ph. D. in Medical Biochemistry
University of Maryland School of Medicine
Baltimore, USA

**Major**: Medicine, Ophthalmology, Biochemistry and Molecular Biology

## Professional Positions Held:

| | |
|---|---|
| 1994-1995 | Clinical Fellow: Cataract and Phacoemulsification<br>Raghudeep Eye Clinic, Ahmedabad, India |
| 1995-1997 | Ophthalmic Surgeon, Red Cross Eye Hospital,<br>Dholka, Ahmedabad District, India |
| 2000-2004 | Graduate Research Assistant<br>Department of Biochemistry and Ophthalmology,<br>University of Maryland School of Medicine, Baltimore, USA |
| 2005-2006 | Postdoctoral Research Fellow<br>Department of Ophthalmology and Visual Sciences,<br>University of Maryland School of Medicine, Baltimore, USA |
| 2006-Aug 2010 | Assistant Professor<br>Department of Ophthalmology and Visual Sciences,<br>University of Maryland School of Medicine, Baltimore, USA |
| Sep 2010-July 2014 | Assistant Professor<br>Department of Natural Sciences<br>Coppin State University, Baltimore, MD, USA |

Aug 2014-July 2021 Associate Professor
Department of Natural Sciences
Coppin State University, Baltimore, MD, USA

Aug 2021-present Professor
Department of Natural Sciences
Coppin State University, Baltimore, MD, USA

Aug 2023-present Adjunct Professor,
Department of Biochemistry & Molecular Biology
University of Maryland School of Medicine,
Baltimore, MD , USA

**Grants, Awards, Inventions:**

- Co-PI: Oxidative stress and cataract formation. NEI, NIH. #EY0 1292. (Awarded 2005-2010)
- PI: Instructional Technology mini grant: Coppin State University, 2011
- PI: Mini-research grant: Coppin State University, 2014
- Wilson H. Elkins Professorship awarded by the University System of Maryland AY 2016-2017.
- Wilson H. Elkins Professorship awarded by the University System of Maryland AY 2017-2018.
- PI-Coppin State University subaward; collaboration with Dr. Richard Thompson, PI University of Maryland School of Medicine. Awarded by National Eye Institute, National Institutes of Health. Grant # RO1 EY030443. Project title: "Imaging of hydroxyapatite as an early screen for AMD" June 1st, 2020-May 31st, 2024.
- Project coordinator: NSF CREST planning grant 2020-2021
- Co-inventor: "Repurposing Tetracyclines and Related Compounds for Improved Early Detection of AMD"; Provisional Patent application filed on 2/26/2021; Appl No. 63/154,061.
- Co-PI: CREST Center for Emerging Contaminants: Proposal submitted to NSF in Dec 2022.

**Teaching experience:**

12 years of experience in teaching Human Anatomy & Physiology courses, lectures and labs, to undergraduate students.
8 years of experience as Seminar course coordinator involving guidance to science majors for their thesis, student presentations and conducting exit exams.
7 years of experience in teaching "Neuroscience" course.
5 years of experience in teaching undergraduate and graduate levels of Biochemistry courses

**Professional Publications:**

1. **Hegde KR**, Henein MG and Varma SD. Establishment of the mouse as a model animal for the study of diabetic cataracts. Ophthalmic Res (2003); 35:12-18

2. **Hegde KR**, Henein MG and Varma SD. Establishment of mouse as an animal model for study of diabetic cataracts. Biochemical studies. Diabetes Obes Metab (2003) 5, 113-119

3. Varma SD, **Hegde K**, Henein M. Oxidative damage to mouse lens in culture. Protective effect of pyruvate. Biochim Biophys Acta (2003) 1621: 246-252

4. **Hegde KR,** Varma SD. Protective effect of ascorbate against oxidative stress in the mouse lens. Biochim Biophys Acta (2004) 1670: 12-18

5. **Hegde KR** and Varma SD. Morphogenetic and apoptotic changes in diabetic cataract. Prevention by pyruvate. Mol Cell Biochem (2004) 262: 233-237.

6. Kalakonda S, **Hegde** KR and Varma SD. Ophthalmoscopic and morphogenetic changes in rat lens induced by galactose: attenuation by pyruvate. Diabetes Obes Metab (2004) 6: 216-222.

7. **Hegde KR** and Varma SD. Cataracts in Experimentally Diabetic Mouse: Morphological and Apoptotic Changes. Diabetes Obes Metab (2005) 7 (2): 2004.

8. **Hegde KR** and Varma SD. Prevention of cataract by pyruvate in experimentally diabetic mice. Mol Cell Biochem, (2005) 269: 115-120.

9. Varma SD and **Hegde KR**. Effect of α-ketoglutarate against selenite cataract formation. Exp Eye Res. (2004) 79(6):913-8

10. **Hegde KR** and Varma SD. Combination of Glycemic and Oxidative Stress in Lens: Implications in Augmentation of Cataract Formation in Diabetes. Free Radic Res. (2005) 39(5):513-7

11. Varma SD, **Hegde KR**, Kovtun S. Attenuation and delay of diabetic cataracts by antioxidants: effectiveness of pyruvate after onset of cataract. Ophthalmologica. (2005) 219(5):309-15.

12. Varma SD, **Hegde KR**, Kovtun S. Oxidative damage to lens in culture: reversibility by pyruvate and ethyl pyruvate. Ophthalmologica. (2006); 220(1):52-7.

13. Varma SD and **Hegde KR**. Lens thiol depletion by peroxynitrite. Protective effect of pyruvate. Mol Cell Biochem (2007) 298(1-2):199-204.

14. Varma SD and **Hegde KR**. Susceptibility of the ocular lens to nitric oxide: implications in cataractogenesis. J Ocul Pharmacol Ther (2007) 23(2):188-95.

15. **Hegde KR**, Kovtun S and Varma SD. Induction of UV cataracts in vitro. Prevention by pyruvate. J Ocul Pharmacol Ther (2007) 23(5):492-502.

16. Varma SD and **Hegde KR**. Oxidative stress and cataract formation. Horizons on its medical prevention. Expert Review of Ophthalmology (2007) 2:779-801

17. **Hegde KR** and Varma SD. Prevention of oxidative stress to the retina by pyruvate. A preliminary report. Ophthalmologica (2008) 222(3):194-8

18. **Hegde KR** and Varma SD. Electron Impact Mass Spectroscopic Studies on Mouse Retinal Fatty Acids. Effect of Diabetes. Ophthalmic Res (2009) 42(1):9-14

19. Varma SD, **Hegde KR** and Kovtun S. UV-B Induced Damage to the Lens in Vitro. Prevention by Caffeine. Journal of Ocular Pharmacol Ther (2008) 24(5):439-44

20. Chandra P, **Hegde KR** and Varma SD. Possibility of Topical Antioxidant Treatment of Cataracts. Corneal Penetration of Pyruvate in Humans. Ophthalmologica (2009) 223(2):136-8

21. **Hegde KR**, Kovtun S, Varma SD. Intraocular penetration of pyruvate following its topical administration in mice. Mol Cell Biochem (2010) 338(1-2):87-90

22. Varma SD, **Hegde KR**. Prevention of oxidative damage to lens by caffeine. J Ocul Pharmacol Ther (2010) 26(1):73-7

23. Varma SD, **Hegde KR**. Kynurenine-induced photo oxidative damage to lens in vitro: protective effect of caffeine. Mol Cell Biochem 2010; 340(1-2):49-54

24. Varma SD, **Hegde KR**, Kovtun S. Oxidative stress in lens in vivo: inhibitory effect of caffeine. A preliminary report. Mol Vis (2010) 16:501-5

25. **Hegde KR**, Kovtun S and Varma SD. Inhibition of glycolysis in the retina by oxidative stress. Prevention by pyruvate. Mol Cell Biochem 2010; 343(1-2):101-5

26. Varma SD, **Hegde KR** and Kovtun S. Inhibition of selenite-induced cataract by caffeine. Acta Ophthalmol 2010; 88(7):245-9.

27. **Hegde KR**, Kowluru RA, Mohr S, Nagaraj RH, Petrash JM. New horizons in research on diabetic complications of the eye: special emphasis on diabetic cataracts and retinopathy. J Ophthalmol. (2010) 2010:979040

28. Varma SD, Kovtun S, **Hegde K**. Effectiveness of topical caffeine in cataract prevention: studies with galactose cataract. Mol Vis. (2010) 16:2626-33

29. Varma SD, Kovtun S, **Hegde KR**. Role of ultraviolet irradiation and oxidative stress in cataract formation-medical prevention by nutritional antioxidants and metabolic agonists. Eye Contact Lens. (2011) 37(4):233-45

30. Varma SD, Kovtun S, **Hegde K**. UV-Induced Apoptosis in Lens. Prevention by Caffeine. Journal of Caffeine Research (2011) 1(2): 131-136

31. **Hegde KR**, Kovtun S and Varma SD. Prevention of cataracts in diabetic mice by topical pyruvate. Clin Ophthalmol. (2011) 5:1141-5.

32. Varma SD, Kovtun S, **Hegde K**, Yin J, Ramnath J. Effect of high sugar levels on miRNA expression. Studies with galactosemic mice lenses. Mol Vis. (2012); 18:1609-18.

33. **Hegde KR**, Varma SD Stimulation of Glycolysis in the Lens by Pyruvate. Implications in Protection against Oxidative Stress. J Metabolic Synd (2015) 4:179.

34. **Hegde KR** and Brown DD*. Prevention of peroxide-induced biochemical damage to the neural retina by caffeine: A preliminary report. Biochem Physiol (2019) 8(1):250

35. Hegde **KR** and Deacon K[*]. Prevention of oxidative stress-induced metabolic aberrations in the neural retina by Caffeine. Biochem Mol Biol (2019) 4(4): 53-58

36. Rajapandi T, Ackie K[*] and **Hegde KR**. Antiplasmodial activity of a non-protein amino acid taurine. Biomedical Sciences (2019) 5(3): 34-37

37. Szmacinski H, **Hegde K**, Zeng H-H, Eslami K, Puche A, Lengyel I, and Thompson RB. Imaging hydroxyapatite in sub-retinal pigment epithelial deposits by fluorescence lifetime imaging microscopy with tetracycline staining. J Biomed Opt (2020) 25(4), 047001

38. **Hegde KR**, Puche AC, Szmacinski H, Fuller K, Ray K, Patel N[**], Leng I, Thompson RB. Fluorescence Lifetime Imaging of Human Sub-RPE Calcification *in vitro* following Chlortetracycline Infusion. Int. J Mol Sci (2023), 24, 6421.

39. **Hegde KR**, Ray K, Szmacinski H, Sorto S, Puche AC, Leng I, Thompson RB. Two-Photon Excited Fluorescence Lifetime Imaging of Tetracycline-Stained Retinal Calcification. Sensors, (July, 2023) 23(14), 6626.

40. Kapoor V[*], Stevens C[‡], **Hegde KR**. Time-dependent ROS-induced alterations in activities of glycolytic enzymes in the neural retina. Effect of metabolic antioxidant Pyruvate. Biochem Physiol, (March 2025)14: 512

[[*]undergraduate student; [‡]graduate student, [**]medical student]

**Professional Memberships:**
Association for Research in Vision and Ophthalmology
International Society for Eye Research
European Vision and Eye Research Organization

**Honors:**
1. Graduate Research Conference, 2003, University of Maryland, Baltimore. First prize for poster presentation.

2. International Society for Eye Research Travel Fellowship Award, 2004, Sydney, Australia.

3. Young Investigator Award, "Synergistic effect of glycemia and oxidative stress in cataract formation", International Society for Eye Research, 2004, Sydney, Australia.

4. Symposium organizer and chair at EVER meeting in Portugal, 2005.

5. Symposium organizer and chair at EVER meeting in Portugal, 2006.

6. International Society for Eye Research Travel Fellowship Award, 2006, Buenos Aires, Argentina

7. Scientific session organizer: Coppin State University Science Symposium, 2013, 2014 and 2015
8. Interviewed by Community Health (Mid-America) magazine, the interview appearing in an article "All Eyes On Nutrition" in March 2012.

9. Wilson H. Elkins Professorship AY2016-17, and AY 2017-18 awarded by University System of Maryland

10. Invited speaker, University System of Maryland Board of Regents event at Coppin State University, April 2023

**Other Activities**:

Reviewer for Journals:
Diabetes Obesity & Metabolism
Molecular Vision
Ophthalmic Research
Acta Ophthalmologica Scandinavia.
Molecular and Cellular Biochemistry
Current Eye Research

Reviewer of grant proposals:
Israel Science Foundation
Fight for Sight

Lead Guest Editor: Special Issue, Journal of Ophthalmology

Member of the Editorial Board of the journal "Ophthalmic Research" (2012-2014)
Member of Editorial Board: Biochemistry and Molecular Biology Journal (February 2020 onwards)

Reviewer of book chapters:
2021: Chapter review of 7th edition of *Neuroscience*, Oxford University Press
2023: Chapter review of the 1st edition of *Lehninger Interactions in Biochemistry,* Macmillan Learning

**Presentations:**

1. **Hegde KR**, Henein MG and Varma SD. Biochemical changes in diabetic mice lens. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2001. Abstract: *IOVS* 42:4, March 2001.

2. Henein MG, **Hegde KR** and Varma SD. Morphology studies in diabetic mice lens. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2001. Abstract: *IOVS* 42:4, March 2001

3. **Hegde KR**, Henein MG and Varma SD. Mouse model for diabetic cataract; biochemical studies: Preventive effect of pyruvate. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2002.

4. Henein MG, **Hegde** KR and Varma SD. Pathophysiological studies in diabetic mice lens; a low aldose reductase model. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2002.

5. **Hegde KR**, Henein MG and Varma SD. Protective effect of ascorbate against oxidative stress in

mouse lens. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2003.

6. Varma SD and **Hegde KR**. Protective effect of pyruvate against oxidative stress and cataract formation in mouse lens. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2003

7. **Hegde KR**, Kovtun SV and Varma SD. Synergistic effect of glycemic and oxidative stress in cataract formation. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2004

8. Varma SD and **Hegde KR**. Induction of cataract by sodium selenite. Prevention by α-ketocarboxylates. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2004.

9. Kalakonda S, **Hegde KR** and Varma SD. Induction of apoptosis in galactosemic lenses: Prevention by pyruvate. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2004

10. **Hegde KR** and Varma SD. Synergistic effect of glycemia and oxidative stress in cataract formation, International Society for Eye Research meeting, Sydney, Australia, 2004,.

11. **Hegde KR** and Varma SD. Strategies in cataract prevention. Efficacy of nutritional and metabolically derived antioxidants. European Vision and Eye Research meeting, Vilamoura, Portugal, 2004.

12. **Hegde KR** and Varma SD. Apoptosis in the diabetic mouse lens. Inhibition by pyruvate. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2005.

13. Varma SD, **Hegde KR** and Kovtun S. Enhancement of cataract formation in diabetes by oxidative stress. Prevention by pyruvate. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2005.

14. **Hegde KR** and Varma SD. Glycemic and oxidative stress in the lens. Implications on cataract formation in diabetes. European Vision and Eye Research meeting, Vilamoura, Portugal, 2005.

15. **Hegde KR** and Varma SD. Extrinsic use of intrinsic antioxidants for prevention of cataracts. European Vision and Eye Research meeting, Vilamoura, Portugal, 2005.

16. **Hegde KR** and Varma SD. Effectiveness of pyruvate in reversal of tissue damage by oxidative stress: Implication in clinical therapy of cataracts. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2006.

17. Varma SD and **Hegde KR**. Lens thiol depletion by peroxynitrite. Prevention by pyruvate. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2006.

18. **Hegde KR** and Varma SD. Antioxidants in cataract prevention. European Vision and Eye Research meeting, Vilamoura, Portugal, 2006.

19. **Hegde KR** and Varma SD. Peroxynitrite induced lens damage: Preventive effect of pyruvate. International Society for Eye Research meeting, Buenos Aires, Argentina, 2006.

20. **Hegde KR** and Varma SD. Significance of nitric oxide in lens damage. Implications in cataractogenesis. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2007.

21. Varma SD and **Hegde KR**. UV induced membrane damage in the lens: Implications in cataractogenesis and its attenuation by antioxidants. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2007.

22. **Hegde KR** and Varma SD. Retinal damage by oxidative stress. Protection by pyruvate and other α-keto-acid metabolites. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2008.

23. Varma SD and **Hegde KR**. Usefulness of caffeine against UV-B induced damage to lens and cataract formation. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2008

24. **Hegde KR,** Varma SD and Kovtun S. Protective Effect Of Caffeine Against UVR-induced Damage To Neural Retina. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2009

25. Varma SD, **Hegde KR** and Kovtun S. Metal Ion Induced Damage to Lens. Protective Effect of Caffeine. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2009

26. **Hegde KR**, Kovtun S and Varma SD. Inhibition of Retinal Glycolysis by Oxidative Stress. Prevention by Pyruvate. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2010

27. Varma SD, **Hegde KR** and Kovtun S. Antioxidant Effects of Caffeine. Prevention of Lens Damage and Cataract Formation. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2010.

28. **Hegde KR**. UV Damage to the Eye: Prevention by antioxidants. Percy Julian Science Seminar Series, Coppin State University, Baltimore, 2010.

29. **Hegde KR**, Kovtun S, Varma SD. UV Induced Apoptosis To Lens In Vitro. Preventive Effect of Caffeine. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2011

30. Varma SD, Kovtun S, **Hegde KR**. Prevention of Cataract by Topical Caffeine. In Vivo Studies with Galactose Model. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2011

31. **Hegde KR** and Varma SD. Inhibition of Retinal Glycolysis by Oxidative Stress. Prevention by Pyruvate. Coppin State University Research & Development Conference, 2011

32. **Hegde KR** and Varma SD. UV Induced Apoptosis in Lens in Vitro. Preventive effect of caffeine. Coppin State University Research & Development Conference, 2011

33. **Hegde KR** & Varma SD. Preventive effect of topical ethyl pyruvate against diabetes-induced damage to the mouse retina. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2012.

34. Varma SD, Kovtun S, **Hegde K**, Yin J. MicroRNA Repertoire of lens. Effect of galactose feeding. Annual Meeting of Association for Research in Vision and Ophthalmology, Fort Lauderdale, Florida, 2012.

35. **Hegde KR** and Varma SD. Stimulation of Glycolysis in the Lens by Pyruvate. Implications in Protection against Oxidative Stress. Annual Meeting of Association for Research in Vision and Ophthalmology, Seattle, Washington, 2013

36. **Hegde KR**. Impact of Environment on Human Health. Sustainable Science Symposium, CSU, Baltimore, 2013

37. **Hegde KR**. Importance of alternative energy sources. Effects of global warming and climate change on health, with special emphasis on ocular effects. Energy Path Conference, Villanova University, Pennsylvania, 2013

38. **Hegde KR** and Varma SD. Stimulation of glycolysis in the lens by pyruvate. Implications in protection against oxidative stress. Coppin State University Faculty Research & Development conference, Baltimore, 2014

39. **Hegde KR** and Varma SD. Oxidative stress in ocular diseases: Mechanisms and Prevention Strategies. Coppin State University Third Science Symposium, Baltimore, 2015

40. Thompson R, Csincsik L, **Hegde K,** McGill T, Neuringer M, Baruch H, Tatum J, Puche A, Lengyel I. Comparison of Hydroxyapatite Deposits in Primate and human sub-Retinal Pigment Epithelial Deposits. Annual Meeting of Association for Research in Vision and Ophthalmology, Seattle, Washington, 2016

41. Benjamin M*, **Hegde KR**. Biochemical, morphological and gene expression modulation induced by oxidant challenge to the neural retina: Possible prevention by pyruvate. Coppin State University Fourth Science Symposium**, 2016**

42. Madufor C*, **Hegde KR**. Biochemical and Nrf2-inducible gene expression studies in ROS-exposed retina and their modulation by pyruvate. Morgan State University Undergraduate and Graduate Research Conference, **2017**

43. Thompson R, **Hegde, KR**, Szmacinski H, Zeng H, McGill TJ, Neuringer M, Eslami K**, Puche A and Lengyel I. Imaging Hydoxyapatite in sub-RPE Deposits by Fluorescence Lifetime Imaging Microscopy (FLIM), Annual Meeting of Association for Research in Vision and Ophthalmology, Baltimore, MD, **2017**

44. Szmacinski H, **Hegde K**, Zeng H-H, Katayaun E[**], Puche A, Lakowicz JR, Lengyel I, Thompson R. Towards early detection of age-related macular degeneration with tetracyclines and FLIM, Conference of International Society of Optics and Photonics (SPIE), February 2018

45. Brown D[*], Monk E[*], Copeland D[*], and **Hegde K**. Neuroprotective effect of caffeine on retina exposed to oxygen free radicals. Morgan State University Undergraduate and Graduate Research Conference, **2018**

46. **Hegde KR**, Brown DD[*] and Varma SD. Prevention of peroxide-induced damage to the neural retina by caffeine. Annual Meeting of Association for Research in Vision and Ophthalmology, Honolulu, Hawaii, **2018**

47. Kristen D[*], **Hegde KR**. Prevention of oxidative stress- induced metabolic aberrations in the neural retina by caffeine. Greater Baltimore Society for Neurosciences meeting, Baltimore MD 2018

48. Thompson RB, Szmacinski H, **Hegde K**, Hui-Hui Z, Puche A, McGill T, Neuringer M, Lengyel I. Fluorescence lifetime imaging of tetracycline-stained retinal hydroxyapatite: An early biomarker for age-related macular degeneration? 63rd Annual Meeting of the Biophysical Society, 2019.

49. Thompson RB, **Hegde KR**, Szmacinski H, Pugh C, Puche A, Lengyel I. Infusion staining of sub-RPE deposit hydroxyapatite spherules for fluorescence imaging. Annual Meeting of Association for Research in Vision and Ophthalmology, Vancouver, 2019

50. **Hegde KR**, Deacon K[*]. Prevention of oxidative stress-induced metabolic aberrations in the neural retina by caffeine. Annual Meeting of Association for Research in Vision and Ophthalmology, Vancouver, 2019

51. Thompson RB, Zeng H-H**, Hegde KR**, Puche A, Ray K and Lengyel I. Evaluation of improved tetracycline stains for fluorescence imaging of sub-RPE calcification. Annual Meeting of Association for Research in Vision and Ophthalmology, (Virtual) 2021

52. Thompson RB, Zeng H-H**, Hegde KR**, Puche A, Ray K and Lengyel I. Two-Photon Fluorescence Excitation of Tetracyclines for Imaging Retinal Minerals. Annual Meeting of Association for Research in Vision and Ophthalmology, Denver, Colorado, 2022

53. Coleman M[*] & **Hegde KR**. Modulation of catalase activity in neural retinal by ROS exposure. Effect of caffeine. Greater Baltimore Society for Neuroscience conference, Baltimore, 2022

54. **Hegde KR**. Nutraceuticals and Metabolic antioxidants in ocular oxidative stress: Focus on Pyruvate and caffeine. Seminar Presentation in Department of Biochemistry & Molecular Biology, March 2023

55. **Hegde KR**. Towards early diagnosis and treatment of blinding eye diseases: Focus on age-related macular degeneration. University System of Maryland Board of Regents event at Coppin State University, Baltimore, April 13th 2023

56. **Hegde KR**, Coleman M[*], and Hauri R[*]. Modulation of activity and expression of antioxidant enzymes in retina by ROS: Effect of caffeine. Annual Meeting of Association for Research in Vision and Ophthalmology, New Orleans, 2023

57. Kapoor V[*], Wamiru V[*], Stevens C[‡], and **Hegde KR**. Investigating metabolic activity and apoptosis in neural retina exposed to reactive oxygen species: modulatory effects of pyruvate supplementation. Greater Baltimore Society for Neuroscience conference, Baltimore, 2024

58. **Hegde KR**, Kapoor V[*], Stevens C[‡], Wamiru V[*]. Neuroprotection by Pyruvate in ROS-exposed retina: pro-metabolic and anti-apoptotic effects. Annual Meeting of Association for Research in Vision and Ophthalmology, Salt Lake City, 2025

[[*]undergraduate students; [‡]graduate students; [**]medical students]