

Curriculum Vitae
Donald C. Hood

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Born: Mineola, New York, on June 2, 1942

Education/Degrees:

Northeastern University	1960-1962	(E.E. major)
Harpur College, SUNY Binghamton	1962-1965	B.A. (Psych. and Math)
Brown University	1965-1969	M.Sc. (1968); Ph.D. (1970) (Psych.)
Smith College	2000	Honorary Degree (Doctor of Science)
Brown University	2017	Honorary Degree (Doctor of Humane Letters)
SUNY College of Optometry	2019	Honorary Degree (Doctor of Science)

Positions Held:

2005-Present	Professor of Ophthalmic Science Dept. of Ophthalmology, Columbia University
1990-Present	James F. Bender Professor of Psychology, Columbia University
2000-2002	Chair, Dept. of Psychology, Columbia University
1982-1987	Vice President for Arts and Sciences, Columbia University
1978-Present	Professor, Dept. of Psychology, Columbia University
1975-1978	Chairman, Dept. of Psychology, Columbia University
1973-1978	Associate Professor, Dept. of Psychology Columbia University
1969-1973	Assistant Professor, Dept. of Psychology Columbia University
1965-1969	Graduate Student, Dept. of Psychology Brown University (Adviser: Prof. L.A. Riggs)

Awards, Fellowships, and Honors (chronological):

Honorary Degree (Doctor of Science) from State University of New York College of Optometry, 2019
 Honorary Degree (Doctor of Humane Letters) from Brown University, 2017
 Innovator's Award, Conn. Society of Eye Physicians 2015
 Research Excellence Award, Optometric Glaucoma Society, 2014
 Alcon Research Institute Award, 2014- 100K award

Elected Fellow of the American Academy of Arts and Sciences, 2013
ARVO Distinguished Service Award, 2010
William Theodore de Bary Award for Distinguished Service to the Core Curriculum, 2010.
ARVO Fellow (Gold), 2009
Presidential Award for Outstanding Teaching, 2007
Great Teacher Award (Society of Columbia Graduates), 2004
VP for the Americas, International Society for Clinical Electrophysiology of Vision, 2003-2006.
Honorary Degree (Doctor of Science) from Smith College, 2000
Mark van Doren Award for Outstanding Teaching in the College: 1993
Elected member of the Society of Experimental Psychologists: 1992
Elected Fellow of Optical Society of America: 1990
PHS Predoctoral Fellow: 1967-1969
NYS College Teaching Fellow: 1965-1967

Selected Outside Professional Positions (Science):

Editor-in-Chief of Investigative Ophthalmology and Visual Science
2018-2022
Editorial Board of Investigative Ophthalmology and Visual Science:
1992-present
Editorial Board of Documenta Ophthalmologica:
2004-present
Editorial Board of Translational Vision Science and Technology:
2012-2017
Editorial Board of Journal of Glaucoma:
2016-present
Editorial Board of Progress in Retinal and Eye Research:
2017-2018
Secretary and Treasurer of ARVO Foundation of Eye Research:
2009- 2015
Trustee, Association for Research in Vision and Ophthalmology:
2004-2009
2006-2009 Chair of Budget and Finance.
Vice President for the Americas, International Society for Clinical Electrophysiology of Vision:
2003-2006.
Editorial Board of Journal of Vision:
2000-2012
Editorial Board of Vision Research:
2004-2012
Committee on Vision (Nat. Acad. Sci./ Nat. Res. Council):
1987-1991
Program Committee OSA Noninvasive Assessment Meeting:
1990-1992
Program Committee (Visual Psychophysics)-Assoc. for Res. in Vision and Ophthalmology:
1978-1981 (chair-1981)

Selected Outside Professional Positions (University and Foundations):

Fellow ("Trustee"), Brown University Corporation: 2002-2017
2010-2017 (Senior Fellow)
2008-2017 (Secretary of the Corporation)
2009-2010 (Chair of Academic Affairs)
2005-2009 (Vice Chair Academic Affairs)
Trustee, Smith College: 1989-1999
1991-1999 (Vice Chair of the Board)
1993-4 Search Committee for the President

Trustee, The Harry Frank Guggenheim Foundation:
1996-present
Expert Panel for study sponsored by Consortium for Policy Research in Education
(Stanford Institute for Higher Education Research):
1992-1994
Committee on Managing Academic Resources (Advisory committee to Dean of Arts and
Sciences at Harvard University):
1990-1992
Committee on Mandatory Retirement in Higher Education (Nat. Acad. Sci./ Nat.
Res. Council):
1989-1991

Selected University Activities:

Executive Committee for Frontiers of Science
2003-present
Science in the Core Committee
2013-2016
Presidential Advisory Committee on Diversity initiatives
2004- 2009
Columbia College Board of Visitors
1997-2011
Search committee for Dean of General Studies
1996-7
Search committee for Vice President for Arts and Sciences
1994-5
Columbia College Committee on Instruction:
1993-1997
Provost's Committee on the End to Mandatory Retirement:
1992-1994
Search committee for Vice President for Arts and Sciences
1991-1992
Advisory Board, School of General Studies:
1987-1997
International Advisory Board of the School of International and Public Affairs:
1986-1996
Executive Committee of the Faculty of Arts and Sciences:
1991-1993
1991-1992 (chair)

Memberships:

American Academy of Arts and Sciences (Elected Fellow 2013)
Association for Research in Vision and Ophthalmology (FARVO)
Optical Society of America (Elected Fellow 1990)
Society of Experimental Psychologists (Elected 1992)

Current Grants:

"Studying models and mechanisms of optic nerve diseases."
NIH-RO1-EY02115-42 (expires 2/28/19)
"A measure of human receptor and post-receptor activity"
NIH-RO1-EY09076-25 (expires 8/31/22)

PUBLISHED PAPERS (abstracts, papers at meetings omitted): **h-index = 75**

- Hood, D.C. and Whiteside, J.A. Brightness of ramp stimuli as a function plateau and gradient widths. *Journal of the Optical Society of America*, 1968, **58**, 1310-1311.
- Hood, D.C. Adaptational changes in the frog's isolated retina. *Vision Research*, 1972, **12**, 875-888.
- Hood, D.C. Suppression of the frog's cones in the dark. *Vision Research*, 1972, **12**, 889-907.
- Hood, D.C., and Mansfield, A.F. The isolated receptor potential of the frog isolated retina: Action spectra before and after extensive bleaching. *Vision Research*, 1972, **12**, 2109-2119.
- Hood, D.C. and Hock, P.A. Recovery of cone receptor activity in the frog's isolated retina. *Vision Research*, 1973, **13**, 1943-1951.
- Hood, D.C., Hock, P.A., and Grover, B.G. Dark adaptation of the frog's rods. *Vision Research*, 1973, **13**, 1953-1963.
- Ebrey, T.G. and Hood, D.C. The effects of cyclic nucleotide phosphodiesterase inhibitors on the frog rod receptor potential. In *Biochemistry and physiology of visual pigments* (Ed. H. Langer), Springer-Verlag, Berlin, 1973, 341-350.
- Hood, D.C. The effects of edge sharpness and exposure duration on detection threshold. *Vision Research*, 1973, **13**, 759-766.
- Petry, S., Hood, D.C. and Goodkin, F. Time course of lateral inhibition in human visual system. *Journal of the Optical Society of America*, 1973, **63**, 385-386.
- Hood, D.C. and Ebrey, T.G. On the possible role of cAMP in receptor dark adaptation. *Vision Research*, 1974, **14**, 437-440.
- Schacter, S.M., Holtzman, E., and Hood, D.C. Uptake of horseradish peroxidase by frog photoreceptor synapses in the dark and the light. *Nature*, 1974, **249**, 261-263.
- Hood, D.C., and Grover, B.G. Temporal summation of light energy by a vertebrate visual receptor. *Science*, 1974, **184**, 1003-1005.
- Hood, D.C., and Hock, P.A. Light adaptation of the receptors: Increment threshold functions for the frog's rods and cones. *Vision Research*, 1975, **15**, 545-553.
- Gordon, J. and Hood, D.C. Anatomy and physiology of the frog retina. In: *The Amphibian Visual System: A Multidisciplinary Approach*. ed. by K. Fite. New York: Academic press. 1976, 29-86.
- Schacter, S.M., Holtzman, E., and Hood, D.C. Synaptic activity of frog retinal photoreceptors: A peroxidase uptake study. *J. Cell Biology*, 1976, **70**, 178-192.
- Hood, D.C. Visual Sensitivity. In: *International Encyclopedia of Neurology, Psychiatry, Psychoanalysis and Psychology*., ed. by B. Wolman, 1976.
- Schneider, B., Hood, D.C., Cohen, H. and Stampfer, M. Behavioral threshold and rhodopsin content as a function of a vitamin A deprivation. *Vision Research*, 1977, **17**, 799-806.
- Petry, S., and Hood, D.C. A comparison of brightness and sensitivity during metacontrast. *Vision Research*, 1978, **18**, 983-993.

- Evans, J., Hood, D.C. and Holtzman, E. Differential effects of cobalt ions on rod and cone synaptic activity in the frog isolated retinal. *Vision Research*, 1978, **18**, 145-151.
- Hood, D.C., Ilves, T., Wandell, B., Buckingham, E. Human cone saturation as a function of ambient intensity: A test of models of shifts in the dynamic range. *Vision Research*, 1978, **18**, 983-993.
- Hock, P. and Hood, D.C. Light adaptation of the frog's cone system: A comparison of receptor and ganglion cell increment threshold functions. *Vision Research*, 1978, **18**, 1155-1164.
- Hood, D.C. Psychophysical and electrophysiological tests of physiological proposals of light adaptation. In *Visual Psychophysics: Its physiological basis.* (Edited by J. Armington, J. Krauskopf and B. Wooten), Academic Press, 1978, 141-155.
- Hood, D.C. and Finkelstein, M.A. A comparison of changes in sensitivity and sensation: Implications for the response intensity function of the human visual system. *Journal of Experimental Psychology: Human Perception and Performance*, 1979, **19**, 401-406.
- Hood, D.C. Finkelstein, M.A. and Buckingham, E. Psychophysical tests of models of the response function. *Vision Research*, 1979, **19**, 401-406.
- Finkelstein, M.A. and Hood, D.C. Cone system saturation: more than one stage of sensitivity loss. *Vision Research*, 1981, **21**, 319-328.
- Hood, D.C. and Gordon, J. The frog ganglion cell: Not a feature detection and not a monkey cortical cell. *Perception*, 1981, **10**, 421-422.
- Greenstein, V. and Hood, D.C. Variations in brightness at two retinal locations. *Vision Research*, 1981, **21**, 885-891.
- Hood, D.C. and Finkelstein, M.A. On relating physiology to sensation. *Behavioral and Brain Sciences*, 1981, **4**, 195.
- Hochberg, J. and Hood, D.C. Artificial intelligence or the real thing? *Contemporary Psychology*, 1981, **26**, 672-673 (book review).
- Evans, J. Liscum, L., Holtzman, E. and Hood, D.C. Uptake of horseradish peroxidase by presynaptic terminals of bipolar cells and photoreceptors. *Journal of Histochemistry and Cytochemistry*, 1981, **29**, 511-518.
- Liscum, L., Hauptman, P.J., Hood, D.C. and Holtzman, E. Effect of barium and tetraethylammonium on membrane circulation in frog retinal photo receptors. *Journal of Cell Biology*, 1982, **95**, 196-309.
- Finkelstein, M.A. and Hood, D.C. Opponent-color cells can influence detection of small brief lights. *Vision Research*, 1982, **22**, 89-95.
- Benimoff, N., Schneider, S. and Hood, D.C. Interactions between rod and cone channels above threshold: A test of various models. *Vision Research*, 1982, **22**, 1133-1140.
- Hood, D.C. and Greenstein, V.C. An approach to testing alternative hypotheses of changes in visual sensitivity due to retinal disease. *Investigative Ophthalmology*, 1982, **23**, 96-101.
- Greenstein, V., Hood, D.C., and Campbell, C.J. The use of a flash-on-flash paradigm to assess sensitivity changes due to retinal disease. *Investigative Ophthalmology*, 1982, **23**, 102-112.
- Hochberg, J. Hood, D.C., and Graham, N. Visions of how we see. *Contemporary Psychology*, 1983, **28**, 27-29 (book review).

- Greenstein, V., Hood, D.C., Siegel, I.M., and Carr, R.E. A psychophysical technique for testing explanations of sensitivity loss due to retinal disease. In *Advances in Diagnostic Visual Optics, Proceedings of the 2nd International Symposium on Visual Optics* (Edited by Breinin, G.M. and Siegel, I.M.), Springer-Verlag, 1983.
- Bowen, R.W. and Hood, D.C. Improvement in visual performance following a prolonged field of light: a test of the equivalent background principle. *Journal of the Optical Society of America*, 1983, **73**, 1551-1556.
- Hood, D.C. and Finkelstein, M.A. A case for the revision of textbook models of color vision: The detection and appearance of small brief lights. In *Color Vision: Physiology and Psychophysics* (Edited by J.D. Mollon and L.T. Sharpe), Academic Press, 1983, 385-398.
- Greenstein, V., Hood, D.C., Siegel, I.M., and Carr, R.E. Retinitis pigmentosa: A psychophysical test of explanations for early foveal sensitivity loss. *Investigative Ophthalmology and Visual Science*, 1984, **25**, 118-120.
- Hood, D.C., Benimoff, N.I., and Greenstein, V.C. The response range of the blue cone pathways: A source of vulnerability to disease. *Investigative Ophthalmology and Visual Science*, 1984, **25**, 864-867.
- Finkelstein, M.A. and Hood, D.C. Detection and discrimination of small, brief lights: Variable tuning of opponent channels. *Vision Research*, 1984, **24**, 175-181.
- Hood, D.C. and Finkelstein, M.A. Chapter 5: Visual Sensitivity. In *Handbook of Perception in Human Performance*, vol. 1. (Edited by K. Boff, L. Kaufman, and J. Thomas), Wiley, 1986.
- Greenstein, V., and Hood, D.C.: Test of the decreased responsiveness hypothesis in retinitis pigmentosa. *American Journal of Optometry and Physiological Optics*, 1986, **63**, 22-27.
- Greenstein, V., Hood, D.C., and Carr, R.F. Foveal sensitivity changes in retinitis pigmentosa. *Applied Optics*, 1987, **26**, 1385-1389.
- Hayhoe, M.M., Benimoff, N.I. and Hood, D.C. Time course of multiplicative and subtractive adaptation processes. *Vision Research*, 1987, **27**, 1981-1996.
- Hood, D.C. Non-linear response functions and adaptation, *Die Farbe*, 1987, **34**, 185-191.
- Greenstein, V., Hood, D.C., Siegel, I.M., and Carr, R.F. A use of rod-cone interaction in congenital stationary night blindness. *Clinical Vision Science*, 1988, **3**, 69-74.
- Hood, D.C. and Greenstein, V.C. Blue (S) cone vulnerability: A test of a fragile receptor hypothesis. *Applied Optics*, 1988, 1025-1029.
- Greenstein, V.C., Hood, D.C., and Carr, R.E. A comparison of blue (S) cone pathway sensitivity loss in patients with diabetes and retinitis pigmentosa. IXth IRGCVD Symposium 1988
- Hood, D.C. Testing hypotheses about development with ERG and incremental threshold data. *Journal of the Optical Society of America*, 1988, **5**, 2159-2165.
- Greenstein, V.C., Hood, D.C., Ritch, R., Steinberger, D. and Carr, R.E. Blue (S) cone pathway vulnerability in retinitis pigmentosa, diabetes and glaucoma. *Investigative Ophthalmology and Visual Science*, 1989, **30**, 1732-1737.

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- Hood, D.C. The ERG and sites and mechanisms of retinal disease, adaptation, and development. In *Advances in Photoreception: In Proceedings of a Symposium on Frontiers of Visual Science*, National Academy Press, 1990, pp. 41-58.
- Hood, D.C. and Greenstein, V. C. Models of the normal and abnormal rod system. *Vision Research*, 1990, **30**, 51-68.
- Greenstein, V, Sarter, B., Hood, D, Noble, K. and Carr, R. Hue discrimination and S cone pathway sensitivity in early diabetic retinopathy. *Investigative Ophthalmology and Visual Science*, 1990, **31**, 1008-1014.
- Hood, D.C. and Birch, D.G. The relationship between models of receptor activity and the a-wave of the human ERG. *Clinical Vision Science*, 1990, **5**, 293-297.
- Finkelstein, M.A., Harrison, M., and Hood, D.C. Sites of sensitivity control within a long-wavelength cone pathway. *Vision Research*, 1990, **30**, 1145-1158.
- Hood, D. C. and Birch, D. G. The a-wave of the human ERG and rod receptor function. *Investigative Ophthalmology and Visual Science*, 1990, **31**, 2070-2081.
- Hood, D. C. and Birch, D. G. A quantitative measure of the electrical activity of human rod photoreceptors using electroretinography. *Visual Neuroscience*, 1990, **5**, 379-387.
- Hood, D. C. and Birch, D. G. Models of human rod receptors and the ERG. In *Computational Models of Visual Processing*. M. Landy and A. Movshon (Eds.) MIT Press, 1991, 57-67.
- Greenstein, V. and Hood D. The effects of light adaptation on L-cone sensitivity in retinal disease. *Clinical Vision Sciences*, 1992, **7**, 1-7.
- Hood, D. C., and Birch, D. G. A computational model of the amplitude and implicit time of the b-wave of the human ERG. *Visual Neuroscience*, 1992, **8**, 107-126.
- Graham, N. and Hood, D. C. Quantal noise and decision rules in dynamic models of light adaptation. *Vision Research*, 1992, **32**, 779-787.
- Zaidi, Q, Shapiro, A. and Hood, D. C. The effect of adaptation on the differential sensitivity of S-cone color system. *Vision Research*, 1992, **32**, 1297-1318.
- Graham, N. and Hood, D. C. Models of adaptation: the merging of two traditions. *Vision Research*, 1992, **32**, 1373-1393.
- Seiple, W., Holopigian, K., Greenstein, V. and Hood, D. C. Temporal frequency dependent adaptation at the level of the outer retina in humans. *Vision Research*, 1992, **32**, 2043-2048.
- Greenstein, V. C., Shapiro, A., Zaidi, Q. and Hood, D. C. Psychophysical evidence for post-receptor sensitivity loss in diabetes. *Investigative Ophthalmology and Visual Science*, 1992, **33**, 2781-2790.
- Hood, D. C., and Birch, D. G. (1992). A model of the human ERG: Predicting changes in a- and b-wave amplitude and timing with congenital stationary nightblindness. *Noninvasive Assessment of the Visual System Technical Digest(OA)*, **1**, 124-127.

- Hood, D. C., and Birch, D. G. (1992). Changes in the gain and the time course of human cone receptors with light adaptation. *Advances in Color Vision Technical Digest (OSA)*, **4**, 10-12.
- Hood, D.C. Birch, D. G., Birch, E.E. The use of models to improve hypothesis delineation: A study of the infant ERG. In *Early Visual Development: Normal and Abnormal*. Simons, K. (ed.) New York: Oxford Univeristy Press. 1993, 517-535.
- Seiple, W., Holopigian, K., Greenstein, V. and Hood, D.C. Sites of cone system sensitivity loss in retinitis pigmentosa. *Invest. Ophthalmol. Vis Sci.* , 1993, **34**:2638-2645.
- Greenstein, V.C., Shapiro, A., Hood, D.C. and Zaidi, Q. Chromatic and luminance sensitivity in diabetes and glaucoma. *J. Opt. Soc. Am. A* 1993, **10**, 1785-1791.
- Hood, D.C., Shady, S. Birch, D. G. Heterogeneity in retinal disease and the computational model of the human rod response. *Journal of the Optical Society of America*, 1993, **10**, 1624-1630.
- Hood, D. C. and Birch, D. G. Light adaptation of human rod receptors: The leading edge of the human a-wave and models of rod receptor activity. *Vision Research*, 1993, **33**, 1605-1618.
- Hood, D. C. and Birch, D. G. Human cone receptor activity: The leading edge of the a-wave and models of receptor activity. *Visual Neuroscience*, 1993, **10**, 857-871.
- Hood, D. C., Shady, S., and Birch, D. G. (1993). Interpretation of Naka-Rushton parameters from patients with ADRP and CRD. *Noninvasive Assessment of the Visual System Technical Digest 1993(OSA)*, **2**, 338-342.
- Hood, D. C. Shady, S, and Birch, D. G. Understanding changes in the b-wave of the ERG caused by heterogeneous receptor damage. *Investigative Ophthalmology and Visual Science*, 1994, **35**, 2477-2488.
- Hood, D. C. and Birch, D. G. Rod phototransduction in retinitis pigmentosa: Estimation and interpretation of parameters derived from the rod a-wave. *Investigative Ophthalmology and Visual Science*, 1994, **35**, 2948-2961.
- Birch, D. G., Hood, D. C., Nusinowitz, S., and Pepperberg, D. R. (1994) Recovery from activation in human rods. *Vision Science and Its Application, 1994 Technical Digest Series, Vol 2 (OSA)*, 272-275.
- Hood, D. C. and Birch, D. G. (1994). The human rod a-wave and phototransduciton: Interpreting the fit of the Lamb and Pugh model. *Vision Science and Its Application, 1994 Technical Digest Series, Vol 2 (OSA)*, 268-271.
- Hood, D. C. and Birch, D. G. Computational models of rod-driven retinal activity. *IEEE Engineering in Medicine and Biology*. 1995, 59-66.
- Shady, S., Hood, D. C. and Birch, D. G. Rod phototransduction in retinitis pigmentosa: Distinguishing alternative mechanisms of degeneration. *Investigative Ophthalmology and Visual Science*, 1995, **36**, 1027-1037.
- Hood, D. C., Cideciyan, A. V., Roman, A. J., and Jacobson, S. G. Enhanced S cone syndrome: Evidence for an abnormally large number of S cones. *Vision Research*, 1995, **35**, 1473-1481.
- Birch, D. G., Hood, D. C., Nusinowitz, S. and Pepperberg, D. R. Abnormal activation and inactivation mechanisms of rod transduction in patients with autosomal dominant retinitis pigmentosa and the pro-23-his mutation. *Investigative Ophthalmology and Visual Science*, 1995, 1603-1614.

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- Wiegand, T. E., Hood, D. C., and Graham, N. V. Testing a computational model of light-adaptation dynamics. *Vision Research*, 1995, **35**, 3037-3051.
- Hood, D. C. and Birch, D. G. Abnormal cone receptor activity in patients with hereditary degeneration. Chapter in *Degenerative Diseases of the Retina*. Eds: R. E. Anderson et al., 1995, 349-358.
- Birch, D. G. and Hood, D. C. Abnormal rod photoreceptor function in retinitis pigmentosa. Chapter in *Degenerative Diseases of the Retina*. Eds: R. E. Anderson et al, 1995, 359-370.
- Gratton, G., Corballis, P. M., Cho, E., Fabiani, M., and Hood, D. C. Shades of gray matter: Noninvasive optical images of human brain responses during visual stimulation. *Psychophysiology*, 1995, **32**, 505-509.
- Johnson, M. A., and Hood, D. C. (1995) Rod phototransduction is altered in proliferative central retinal vein occlusion. *Vision Science and its Applications*, 1995, OSA Technical Digest Series (Optical Society of America, Washington, D.C.), 264-267.
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- Greenstein, V., Hood, D. C. (1995) Cideciyan, A. V., Jacobson, S. G., Enhanced S cone syndrome: Testing an explanation for hypersensitivity of the S cone system, *Vision Science and its Applications*, 1995, OSA Technical Digest Series (Optical Society of America, Washington, D.C.), 278-281.
- Hood, D. C. and Birch, D. G. Phototransduction in human cones measured using the a-wave of the ERG. *Vision Research*, 1995, **35**, 2801-2810.
- Hood, D. C., Cideciyan, A. V., Halevy, D. A., and Jacobson, S. G. Sites of Disease Action in a Retinopathy with Supernormal and Delayed Rod Electroretinogram b-waves. *Vision Research*, 1996, **36**, 889-902.
- Johnson, M. A. and Hood, D. C. Rod photoreceptor transduction is affected in central retinal vein occlusion associated with iris neovascularization. *Journal of the Optical Society of America*, 1996. **13**, 572-576.
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- Hood, D. C. and Birch, D. G. The b-wave of the scotopic (rod) ERG as a measure of the activity of human on-bipolar cells. *Journal of the Optical Society of America*, 1996. **13**, 623-633.
- Hood, D. C. and Birch, D. G. Abnormalities of the retinal cone system in retinitis pigmentosa. *Vision Research*, 1996, **36**, 1699-1709.
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