

Curriculum Vitae

Dirk Beer, Ph.D.

Personal Information

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San Diego, CA 92109
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Research Interests

Brain encoding of color and brightness information.
Persistence of visual percepts.
Perceptually accurate image processing and reproduction.
Clinical diagnosis of visual defects through psychophysical testing.

Education and Training

December 2003
University of California at San Diego, La Jolla, CA
Ph.D. in Psychology (Experimental)
Dissertation: *Adaptation and masking of appearance.*

March 1998
University of California at San Diego, La Jolla, CA
M.A. in Psychology (Experimental)
Master's project: *Pre-exposure to contrast selectively compresses the achromatic half-axes of color space.*

January 1991
GMI Engineering & Management Institute (Kettering University), Flint, MI
B.S. in Electrical Engineering
Bachelor's thesis: *A 48 Volt Automobile Electrical System.*

Publications

Beer, R.D., MacLeod, D.I.A., and Miller, T.P. (2005) The Extended Maxwellian View (BIGMAX): A high-intensity, high-saturation color display for clinical diagnosis and vision research. *Behavior Research Methods*, 37 (3), 513-521.

Beer, R.D. and MacLeod, D.I.A. (2000) *Pre-exposure to contrast selectively compresses the achromatic half-axes of color space.* *Vision Research*, 40, 3083-3088

Beer, R.D., and MacLeod, D.I.A. *Color pattern adaptation.* Manuscript submitted to *Journal of Vision*.

Beer, R.D. and MacLeod, D.I.A. *Polarity selective contrast adaptation.* Manuscript submitted to *Journal of Vision*.

Beer, R.D., Dinca, A. & MacLeod, D. I. A. *What is ideal white?* Manuscript in preparation.

Beer, R.D. and MacLeod, D.I.A. *Color mechanisms in metacontrast masking*. In preparation.

Adaptation and masking of appearance. Ph.D. Dissertation. University of California, La Jolla (2003).

A 48 Volt Automobile Electrical System. Bachelor's Thesis. GMI Engineering & Management Institute, Flint, Michigan (1991).

Conference presentations

Beer, R.D., Dinca, A. & MacLeod, D. I. A. (2006). Ideal white can be yellowish or bluish, but not reddish or greenish. *Journal of Vision*, 6(6), 417a, <http://journalofvision.org/6/6/417/>. Talk

MacLeod, D. I. A., & Beer, R. D. (2005). Vision works by concatenating factors of change. *Journal of Vision*, 5(8), 248a, <http://journalofvision.org/5/8/248/>. Poster.

Beer, R. D., Wortman, J., Horwitz, G., & MacLeod, D. (2005). Compensation of white for macular filtering. *Journal of Vision*, 5(8), 282a, <http://journalofvision.org/5/8/282/>. Poster.

Beer, D. & MacLeod, D. I. A. (2003). *Color selectivity in metacontrast: asymmetrical and anisotropic*. *Journal of Vision*, 3(9), 138a. Talk.

D. Beer, D.I. A. MacLeod, and T. Miller. *The Black Hole Test for Retinal Light Spread*. ARVO Meeting Abstracts, May 2003; 44: 4194. Talk.

MacLeod, D. I. A. & Beer, D. (2003). *The extended Maxwellian view*. *Journal of Vision*, 3(9), 341a. Poster.

Beer, D., Becker, M., Anstis, S., & MacLeod, D. (2002). *Polarity-specific masking of isoluminant colors*. *Journal of Vision*, 2(7), 546a. Talk.

Beer, R.D. & MacLeod, D.I.A. (2001). *Afterimage appearance and adaptation*. *Journal of Vision*, 1(3), 458a. Poster.

Beer, R.D., MacLeod, D.I.A. and Tan, E.M. (2000) *Pre-adaptation to isoluminant pattern generates sensitivity losses selective for chromatic polarity*. *Investigative Ophthalmology and Visual Science*, 41(4), 4291. Poster.

Beer, R.D. and MacLeod, D.I.A. (1999) *Polarity-specific contrast adaptation*. *Investigative Ophthalmology and Visual Science*, 40(4), 939. Talk.

Beer, R.D. and MacLeod, D.I.A. (1998) *Pre-exposure to contrast asymmetrically compresses the achromatic axis of color space*. *Investigative Ophthalmology and Visual Science*, 39(4). Poster.

Beer, R.D., Jameson, K.A. and Kaiwi, J.L. (1997) *Empirical assessment of detection and classification performance with a two-dimensional color code*. *Investigative Ophthalmology and Visual Science*, 38(4), 4176. Poster.

Work Experience

2006-present

University of California at San Diego, La Jolla, CA

Project Scientist

Psychophysically investigate human color perception and measure eye's optical quality.

2003-2006

University of California at San Diego, La Jolla, CA

Postgraduate Researcher

Psychophysically investigate human color perception and measure eye's optical quality.

1997-2003

University of California at San Diego, La Jolla, CA

Research Assistant

Design, analyze, and publish experiments investigating human visual adaptation.

Teaching Assistant

Lecture on statistics, visual perception, abnormal psychology, music psychology.

Programmer Analyst

Program experiments, instrumentation, and video board interfaces.

1995-1996

JM Chromacolor Inc., San Diego, CA

Photographic Lab Technician

Print. Operate and maintain high-volume Kodak-certified professional film processing machine.

1993-1994

Olan Mills Portrait Studios, San Diego, CA

Studio Photographer, Photography Instructor

Photograph families and children, train new photographers.

1991-1992

General Motors, Flint, MI

Associate Engineer, Product Engineering

Find design solutions to assembly problems at automobile plant.

1986-1991

General Motors, Flint, MI

Engineering Co-op Intern

Technical Skills

Psychophysical methods. Experimental design. Scientific and grant writing. Analytical and empirical modeling. Statistics. Extensive experience with Matlab, C, Windows. Competent with Mathematica, HTML, Director, Linux, electronics troubleshooting and basic design.

Intellectual Property

U.S. Provisional Patent: R.D. Beer and D.I.A. MacLeod, "*Devices and Test Methods for Diagnosis and Research of Vision*", Docket # 15670-010P01/SD2003-169.

Trademark: "*BIGMAX*™", a name for our extended Maxwellian view display.

Awards

Vision Sciences Society Student Award & Travel Grant, May 2003
National Eye Institute Travel Fellowship, May 1999.
U. C. Irvine Social Science Merit Fellowship (\$20,000), 1997-1998.
Teaching Assistant Excellence Award, May 2001.

Professional Memberships

Vision Sciences Society, 2001 – present
Association for Research in Vision and Ophthalmology, 1997 – present
IEEE, 1989-1992, 2001-present

Language & Citizenship

English: native, German: very good. U.S. Citizenship Pending.