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Author: Gershon Buchsbaum <gershon@eniac.seas.upenn.edu> at ddn Date: 12/18/95 1:19 PM Priority: Normal BCC: John Tangney at AFOSR TO: saxonb@mail.rectech.upenn.edu at DDN Subject: F49620-92-J-0316 --TEXT only

AFOSR F49620-92-J-0316 Technical Report 8/31/95

A. Publications:

Papers

Courtney, Susan, M., Finkel, Leif, H., Buchsbaum, Gershon, A Multi-Stage neural network for Color Constancy and Color Induction, IEEE Transactions on Neural Networks, in press, 1995

Courtney, Susan, M., Finkel, Leif, H., Buchsbaum, Gershon, Network Simulations of Retinal and Cortical Contributions to Color Constancy, Vision Research 35, 413-434, 1995

Conference Proceedings/Abstracts:

Courtney, Susan, M., Buchsbaum, Gershon, Finkel, Leif, H., Cone Adaptation and Cortical Silent Surrounds Cooperate to Produce Color Constancy and Color Induction, Annual Meeting of the Optical Society of America Technical Digest Series Vol. 23, pp. 63 (1992).

Buchsbaum, Gershon, The Basic Building Blocks of Color Vision: A Generalized View of the Opponent Colors Transformation, Advances in Color Vision, Optical Society of America, Vol. 4 pp. 84-86 (1992).

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Eckert, Michael, P., Buchsbaum, Gershon, The Relationship Between Retinal Receptor Packing and Tracking Eye Movement, Investigative Ophthalmology & Visual Science (ARVO) Vol. 33 pp. 1144, 1992.

Courtney, Susan, M., Buchsbaum, Gershon, Finkel, Leif, H., Color Constancy and Color Contrast in a Physiologically-Based Network Model, Investigative Ophthalmology & Visual Science (ARVO) Vol. 33 pp. 704, 1992.

Courtney, Susan, M., Buchsbaum, Gershon, Finkel, Leif, H., The Effects of Color-Opponent and Cone-Specific Processing Stages on Color and Brightness Perception, Investigative Ophthalmology & Visual Science (ARVO) Vol. 34, pp. 746 (1993)

Levitan, Bennett, S., Buchsbaum, Gershon, Multirate Filtering: A New Approach to Modeling Signal Sampling and Propagation in Multiple Retinal Cell Layers, Investigative Ophthalmology & Visual Science (ARVO), Vol. 34, pp. 783 (1993)

Courtney, Susan, M., Finkel, Leif, H., Buchsbaum, Gershon, The Effect of Opponent processing and Spatial Integration on 'Equivalent surrounds' Investigative Ophthalmology & Visual Science (ARVO), Vol. 35, pp. 1637, 1994.

Courtney, Susan, M., Finkel, Leif, H., Buchsbaum, Gershon, "A Multi-Stage Biological Network Model for Color Constancy and Color Induction", International Conference on Neural Networks 1996 (submitted)

B. Researchers:

Faculty:

Buchsbaum, Gershon Finkel, Leif, H. Graduate students, Thesis title and present position:

Courtney, Susan, M., (Ph.D.) Retinal and Cortical Contributions to Color Constancy and Color Induction in a Multi-Stage Network (1993). Presently, Postdoctoral Fellow, NIH

Fan, Lawrence (M.Sc.) Rwsearch area: "Properties of Illuminant -Reflectance products and their relevance in Color Constancy" Accepted position with consulting company in computing and pharmaceuticals.

Hsu, Andrew (Ph.D. Candidate), "Signal processing in the primate retina: An ideal observer model." Graduation expected 9/96.

C. Honors:

Buchsbaum, Gershon, Elected Fellow of the Optical Society of America Buchsbaum, Gershon, Elected Fellow American Institute for Medical and Biological Engineering

AFOSR F49620-92-J-0316 New Invention Report 8/31/95

No patents or new inventions were created.

Gershon Buchsbaum