

Anthony M. Norcia

Professor (Research)
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Curriculum Vitae

Education

B.A. Psychology, University of Minnesota, 1975
Ph.D. Physiological Psychology, Stanford University, 1981
NIMH Post-doctoral Fellow, Brown University, 1981

Professional Experience

2010-present	Professor (Research), Department of Psychology, Stanford University, Stanford, CA
1993-2010	Senior Scientist, The Smith-Kettlewell Eye Research Institute, San Francisco, CA
1986-1992	Scientist, The Smith-Kettlewell Eye Research Institute, San Francisco, CA
1984-1986	Associate Scientist, The Smith-Kettlewell Eye Research Institute, San Francisco, CA
1982-1984	Research Psychologist, The Smith-Kettlewell Eye Research Institute, San Francisco
1980-1981	National Institute of Mental Health Post-Doctoral Trainee, Brown University, RI
1976-1980	Research Assistant, Department of Psychology, Stanford University, Stanford, CA
1975-1976	Senior Laboratory Technician, Institute of Child Development, University of Minnesota

Research Interests

My work centers around two overarching themes: the relationship between neural activity and conscious visual perception, and the role that visual experience plays in determining the course of visual development. I focus on early and mid-level visual processes that underlie the perception of objects and the layout of surfaces in the environment.

Advisory Panels

2014-present	President-Elect, Vision Sciences Society
2012-present	Board of Directors, Vision Sciences Society
2008-present	Trustee, Vision4Children Foundation, Liverpool, UK
2006-2007	Sensory, Motor and Cognitive Neuroscience Fellowship Study Section, National Institutes of Health
1990-1994	Visual Sciences (B) Study Section, National Eye Institute, National Institutes of Health

Program Committees

2001-present	Vision Sciences Society Program Review Board
2007	Organizing Committee, European Society for Visual Perception Meeting, Arrezzo, Italy
1995-1999	Chair, Vision Technical Group, Optical Society of America
1987-1989	Non-Invasive Assessment of the Visual System Topical Meeting, Optical Society of America

Honors

Association for Research in Vision and Ophthalmology, Inaugural Fellow, 2009
Research to Prevent Blindness Walt and Lilly Disney Award for Amblyopia, 2008
Edridge Green Lecturer, Royal College of Ophthalmology, Liverpool, May 2008
Catherine Doyle Kettlewell Chair of Research in Visual Science, 2000
William A. Kettlewell Chair of Research in Visual Science, 1992

Editorial Boards

2007-2015	Journal of Vision
2002-2015	Vision Research

1998-2002 Visual Neuroscience

Recent Journal Paper Reviews

Brain Research, British Journal of Ophthalmology, Experimental Brain Research, IEEE Transactions on Biomedical Engineering, Investigative Ophthalmology and Visual Science, Journal of the American Association of Pediatric Ophthalmology and Strabismus, Journal of Cognitive Neuroscience, Journal of Neurophysiology, Journal of Neuroscience, Journal of Physiology, Journal of Vision, Nature Neuroscience, NeuroImage, Pediatric Research, Proceedings of the National Academy of Sciences, Science, Vision Research, Visual Neuroscience

Recent Ad Hoc Grant Reviewing

Bi-national Science Foundation, Israel
Canadian Institute of Health Research
National Science Foundation
National Eye Institute
Netherlands Organisation for Scientific Research, Social Sciences
The Wellcome Trust, United Kingdom

Service to Stanford University

2012-2015 Committee on Research
2010-present Advisory Board for Center for Cognitive and Neurobiological Imaging

Service to Psychology Department

2011-present Design and management of Psychology Department shared EEG Laboratory
2013 Curriculum Committee

Teaching Contributions

Guest Lectures in Bio-Engineering 301C, Diagnostic Devices, Psychology 205 Cognitive Neuroscience, Psychology 60, Developmental Psychology.

Mentoring of Career Development Awardees

Jonathan Winawer (2013-present) Ph.D. 2007 Massachusetts Institute of Technology, Postdoc Stanford Psychology: 2007-2013. Current Position: Department of Psychology, New York University. NIH K99 Awardee: Multimodal imaging of spatiotemporal integration in the human visual system.

Jeffrey Tsai (2010-2015), MSEE, MD, Ph.D. 1994/2003/2001 Cornell University. Post-doc Smith-Kettlewell Eye Research Institute: 2008-2010. Current Position: Assistant Professor, Department of Neurology, University of Washington, Seattle, WA. NIH K23 Awardee: A multimodal imaging approach to understanding neural hyperexcitability.

Good William V. (1998-2003) MD University of Cincinnati, 1977. Current Position: Senior Scientist, The Smith-Kettlewell Eye Research Institute, San Francisco. NIH K23 Award: Pediatric Low Vision

Current post-doctoral fellows

Peter Kohler (2013 – present), Ph.D. 2013 Dartmouth University. Perception of image structure.

Francesca Pei (2011- present), Ph.D. 2006 University of Pisa, Italy. Visual system anomalies in Autism Spectrum Disorders and Epilepsy.

Current graduate student

Yiran Duan (2013-present), Graduate Student, Department of Psychology, Stanford University.

Past post-doctoral fellows and graduate students

- Holly Gerhard (2014- 2016), Ph.D. 2010 New York University. Development of binocular vision. Current Position: Research Scientist, Apple Computer.
- Jacek Dmochowski (2013 – 2015), Ph.D. 2008 Universite du Quebec. Electromagnetic source-imaging, brain stimulation, perceptual decision-making. Current Position: Assistant Professor, City College of New York.
- Emily A. Cooper (2013 – 2014), Ph.D. 2012 University of California, Berkeley. Depth perception. Current Position: Assistant Research Professor. Dartmouth College.
- Justin Ales (2007-2013), Ph.D. 2007 University of California, Berkeley. EEG source localization, non-linear analysis of the visual system. Current Position: Assistant Professor, St. Andrew's University, Scotland.
- Faraz Farzin (2010-2013), Ph.D. 2010 University of California, Davis. Visual system development. Current Position: Research Scientist, Netflix, Inc.
- Benoit Cottureau, (2009-2012), Ph.D. 2008 University of Paris VI. EEG/MEG source localization, binocular vision. Current Position: Tenured Researcher, CNRS Toulouse, France.
- Jeffrey Tsai (2008-2010), MSEE, MD, PhD. 1994/2003/2001 Cornell University. Visual system anomalies in epilepsy, functional connectivity measures for EEG/MEG, top-down control. Current Position: Assistant Professor, Department of Neurology, University of Washington, Seattle, WA.
- Melanie Palomares (2006-2009), Ph.D. 2006 Johns Hopkins University. Imaging and visual development. Current Position: Research Assistant Professor, Department of Psychology, University of South Carolina, Columbia, SC.
- Lawrence G. Appelbaum (2005-2006), Ph.D. 2005 University of California, Irvine. Computational Neuroimaging. Current Position: Assistant Professor, Department of Psychiatry, Duke University.
- Sean I. Chen (2003-2006), Ph.D. 2006 University of Liverpool. Fellow of the Royal College of Ophthalmologists (2000). Visual Development in Amblyopia (Thesis Advisor). Current Position: Consultant Ophthalmologist, Galway, Ireland.
- Giuseppe Mirabella (2002-2004), Ph.D. 2001 University of Toronto. Development of Visual Mechanisms in Infants. Current Position: Clinical Psychologist, Toronto, Ontario, Canada.
- T. Rowan Candy (1997-2000), Ph.D. 1997 University of California Berkeley. Development of human form and motion mechanisms. Current Position: Associate Professor, School of Optometry, Indiana University, Bloomington, IN.
- Ann Skoczenski (1996-1999), Ph.D. 1992 University of Rochester. Development of human form and motion mechanisms. Current Position; Human Resources Ombudsman, Harvard University.
- Rick J. Brown (1996-1998), Ph.D. 1995 Emory University. Development of binocular rivalry in infants. Current Position: Professor, Psychology, Citrus College, Glendora, CA.
- Uri Polat (1993-1996), Ph.D. 1993 Weizmann Institute of Science, Rehovot, Israel. Long-range interaction in visual cortex. Current Position: Professor, Goldschelger Eye Institute, Faculty of Medicine, Tel Aviv University.
- David H. Peterzell (1992-1994), Ph.D. 1991 University of Colorado. Spatial mechanisms in human vision. Current Position: Lecturer, Department of Psychology, University of California, San Diego.

Wolfgang Wesemann (1987-1989), Ph.D. 1986 University of Hamburg. Visual optics and cortical physiology.
Current Position: Director, Hoehere Fachshule fur Augenlinik (School of Optometry), Cologne,
Germany.

Deborah Orel-Bixler (1983-1984), Ph.D 1984 University of California, Berkeley. Spatial vision in amblyopia and
infants (Research Assistant, Thesis Advisor). Current Position: Professor of Clinical Optometry,
University of California, Berkeley.

Dale Allen (1982-1984), Ph.D. 1984 University of California, Berkeley. Development of chromatic mechanisms
in infants. (Research Assistant Thesis Advisor) Deceased.

Other Graduate Student Advising

Ph.D. Thesis committees

Jason Yeatman, Ph.D. Stanford Psychology (2014), Primary Advisor: Brian Wandell

Allen Gordon, Ph.D. Stanford Psychology (2014), Primary Advisor: Anthony Wagner

Cynthia Henderson, Ph.D. Stanford Psychology (2014), Primary Advisor: Jay McClelland

Sharareh Noorbalooshi, Ph.D. Stanford Electrical Engineering (2013), Primary Advisor: Jay McClelland

Michael Lim, Ph.D. Stanford Statistics (2013), Primary Advisor: Trevor Hastie

Jennifer Yoon, Ph.D. Stanford Psychology (2012), Primary Advisor: Ellen Markman

Esther Alonso-Prieta Ph.D. (2011) Department of Psychology, Catholic University of Louvain, Belgium.
Primary Advisor: Bruno Rossion

Ph.D. qualifying committees

Blair Kanishiro, Department of Music, Primary Advisor: Jonathan Berger

Sergey Stavisky, Neuroscience Program, Primary Advisor: Krishna Shenoy

Benjamin Naecker, Neuroscience Program, Primary Advisor: Stephen Bacchus

Joan Liu-Shuang, Department of Psychology, Catholic University of Louvain, Belgium. Primary Advisor: Bruno
Rossion

Research Support

2R01EY018875 Principal Investigator
National Institutes of Health/National Eye Institute
Disparity Processing in Human Visual Cortex

03/01/2012-02/28/2017

The goals of this project are to examine the flow of disparity information from V1 to extrastriate areas in
human cortex using a novel neuro-imaging technique, to determine the source of the velocity signal for
vergence eye movements and to study the development of motion and disparity interactions in infants.

R01 EY015790-03 Principal Investigator
National Institutes of Health/National Eye Institute
Form and Motion Integration

09/01/11-08/31/16

This project studies the integration of local estimates of motion direction and orientation into global patterns of optic flow using EEG and fMRI. Integration mechanisms will be studied in normal adults and in adults with amblyopia, focusing on processing mechanisms and the role of visual attention in modulating sensitivity. The normal development of these integration mechanisms will also be studied in human infants.

4740-SU-NSF-8076 Co-Principal Investigator
National Science Foundation

10/1/12-09/30/16

Symmetry group-based regularity perception in human and computer vision

The goal of this project is to study brain and perceptual mechanisms responsible for the detection of regularity and symmetry in visual images using a theoretical framework derived from group theory.

Recently Completed Research Support

The SONY Corporation, Principal Investigator

04/01/14-03/31/2015

Creating and Measuring Compelling Immersive Experience in Video Displays

The goal of this project is to use computational and electrophysiological methods to develop algorithms that can enhance the perceived realism of video imagery.

Simons Foundation, Autism Research Initiative, Co-Principal Investigator

10/01/2010-09/30/2013

Canonical neural computation in Autism Spectrum Disorder

The goal of this project is to use Visual Evoked Potentials to study cortical responses in persons diagnosed with Autism Spectrum Disorder in an effort to identify possible underlying cortical circuit abnormalities.

R01 EY017690-01A2 Principal Investigator
National Institutes of Health/National Eye Institute
Methods for Dynamic Functional Imaging

08/01/09-07/31/11

This project will develop signal-processing methods for non-linear analysis of visual evoked responses obtained from EEG/MEG recordings. These methods will be coupled with MRI and fMRI data to study the mechanisms by which objects are segmented from each other and their supporting backgrounds. The role of feedback from higher-level cortical areas onto earlier areas will be studied, as will the role of visual attention in the scene segmentation process.

R01 EY06579-21 Principal Investigator
National Institutes of Health/National Eye Institute
Normal and Abnormal Development of Spatial Vision

08/01/05-07/31/10

This project will study the neural mechanisms of texture and motion based segmentation as basic inputs to object processing in normal adults. The project uses frequency-domain non-linear analysis of EEG and MEG recordings, combined with fMRI. We will also study the role of normal binocular vision during development on segmentation performance in adult patients with strabismus.

Peer-Reviewed Publications

Lim M, Ales JM, Cottureau BR, Hastie T, Norcia AM (in revision) EEG/MEG source localization for matrix-valued features. *PLoS ONE*.

Kohler P, Clarke A, Yakovleva A, Liu Y, Norcia AM. Representation of maximally regular textures in human visual cortex. *J Neuroscience*.

Dmochowski J, Norcia AM (in press) Cortical components of reaction-time during perceptual decisions in

humans. *PLoS ONE*.

- Duan Y, Norcia AM, Yeatman JD, Mezer A. (2015) The Structural Properties of Major White Matter Tracts in Strabismic Amblyopia. *Invest Ophthalmol Vis Sci.*,56(9):5152-60. doi: 10.1167/iops.15-17097. PubMed PMID: 26241402; PubMed Central PMCID: PMC4525637.
- Cooper EA, Norcia AM. (2015) Predicting cortical dark/bright asymmetries from natural image statistics and early visual transforms. *PLoS Comput Biol.*, 28, 11(5):e1004268. doi: 10.1371/journal.pcbi.1004268. PubMed PMID: 26020624; PubMed Central PMCID: PMC4447361.
- Kaneshiro B, Perreau Guimaraes M, Kim HS, Norcia AM, Suppes P. A (2015) Representational Similarity Analysis of the Dynamics of Object Processing Using Single-Trial EEG Classification. *PLoS ONE*. 21;10(8):e0135697. PubMed PMID: 26295970; PubMed Central PMCID: PMC4546653.
- Dmochowski JP, Greaves AS, Norcia AM (2015) Maximally reliable spatial filtering of steady state visual evoked potentials. *NeuroImage*, 109, 63-72.
- Liu-Shuang J, Ales JM, Rossion B, Norcia AM (2015) Separable effects of inversion and contrast-reversal on face detection and response functions: a sweep VEP study. *Journal of Vision*, 15(2).
- Liu-Shuang J, Ales JM, Rossion B, Norcia AM (2015) The effect of contrast polarity reversal on face detection: evidence of perceptual asymmetry from sweep VEP. *Vision Research*, 108 8-19.
- Norcia AM, Appelbaum LG, Ales JM, Cottureau BR, Rossion B (2015) The steady-state Visual Evoked Potential in vision research: a review. *Journal of Vision*, 15(6).
- Hou C, Norcia AM, Good WV (2014) Visuocortical function in infants with a history of neonatal jaundice. *Invest Ophthalmol Vis Sci.* 55(10), 6443-6449. PMID: 25183760; PCMCID: PMC4197714.
- Boremanse A, Norcia AM, Rossion B (2014) Dissociation of part-based and integrated neural responses to faces by means of EEG frequency-tagging. *European J Neuroscience*, 40, 2987:2907.
- Cottureau BR, Ales JM Norcia AM (2014) How to use fMRI functional localizers to improve EEG/MEG source estimation. *J. Neuroscience Methods*, doi: 10.1016/j.jneumeth.2014.07.015. [Epub ahead of print].
- Cooper, EA, Norcia AM (2014) Perceived depth in natural images reflects encoding of low-level luminance statistics. *J. Neuroscience*, 34, 11761-11768.
- Hou C, Norcia AM (2014) Acuity-independent effects of visual deprivation on human visual cortex. *Proceedings National Academy Sciences*, 111, 120-128.
- Pei F, Balsdassi S, Norcia AM (2014) Electrophysiological measures of low-level vision reveal spatial processing deficits and hemispheric asymmetry in Autism Spectrum Disorder. *Journal of Vision*, 14(3), 1-12.
- Cottureau BR, Ales JM, Norcia AM (2014) The evolution of a disparity decision in human visual cortex. *NeuroImage*. 92:193-206. PubMed PMID: 24513152.
- Clark DA, Fitzgerald JE, Ales JM, Gohl DM, Silies MA, Norcia AM, Clandinin TR (2014) Flies and humans share a motion estimation strategy that exploits natural scene statistics. *Nature Neuroscience*. doi: 10.1038/nn.3600. [Epub ahead of print] PMID: 24390225; PubMed Central PMCID: PMC3993001.
- Liu-Shuang J, Norcia AM, Rossion B (2014) An objective index of individual face discrimination in the right occipito-temporal cortex by means of fast periodic oddball stimulation. *Neuropsychologia* 52:57-72.

- Cottareau BR, McKee SP, Norcia AM (2014) Dynamics and cortical distribution of neural responses to 2D and 3D motion in human. *J. Neurophysiology*. 111(3): 533-43. PubMed PMID: 24198326; PubMed Central PMCID: PMC3921412.
- Norcia AM (2013) Linking perception to neural activity as measured by Visual Evoked Potentials. *Visual Neuroscience*. 24:1-5.
- Cooper EA, Jiang H, Vildavski V, Farrell J, Norcia AM (2013) Assessment of OLED displays for vision Research. *Journal of Vision*, Oct 23;13(12):16. doi: 10.1167/13.12.16
- Boremanse A, Norcia AM, Rossion B (2013) An objective signature for visual binding of face parts in the human brain. *Journal of Vision*. Sep 10;13(11). doi:pil: 6. 10.1167/13.11.6. PubMed PMID: 24023273.
- Alonso-Prieto E, Belle GV, Liu-Shuang J, Norcia AM, Rossion B (2013) The 6Hz fundamental stimulation frequency rate for individual face discrimination in the right occipito-temporal cortex. *Neuropsychologia*. [Epub ahead of print] PubMed PMID: 24007879.
- Ales JM, Appelbaum LG Cottareau BT Norcia AM (2013) The time course of shape discrimination in the human brain. *NeuroImage*. 67: 77-88.
- Farzin F, Hou C, Norcia AM (2012) Piecing it together: infants' neural responses to face and object image structure. *Journal of Vision*. Dec 6;12(13):6. doi: 10.1167/12.13.6.
- Good WV, Hou C, Norcia AM (2012) Spatial contrast sensitivity vision loss in children with cortical visual impairment. *Invest Ophthalmol Vis Sci*. Oct 11. [Epub ahead of print] PubMed PMID: 23060143.
- Ales JM, Farzin, F, Rossion, B, Norcia AM (2012) An objective method for measuring face detection thresholds using the sweep steady-state visual evoked response. *Journal of Vision*. Sep 29;12(10). doi:pil: 18. 10.1167/12.10.18. PubMed PMID: 23024355.
- Palomares MC, Ales JM, Wade AR, Cottareau BT, Norcia AM (2012) Distinct effects of attention on the neural responses to form and motion processing: a SSVEP source-imaging study. *Journal of Vision*. Sep 26;12(10). doi:pil: 15. 10.1167/12.10.15. PubMed PMID: 23019120.
- Ales JM, Yates JY, Norcia AM (2012) On determining the intracranial sources of Visual Evoked Potentials: A reply to Kelly et al. (this issue). *NeuroImage*. **64C**: 703-711. PubMed PMID: 22982584.
- Cottareau BR, Ales JM, Norcia AM (2012) Increasing the accuracy of EEG/MEG cortical reconstructions using functional area source correlation constraints. *Human Brain Mapping*. Nov;33(11):2694-713. doi: 10.1002/hbm.21394. Epub 2011 Sep 21. PubMed PMID: 21938755.
- Appelbaum LG, Ales JM, Norcia AM. (2012) The time course of segmentation and cue-selectivity in the human visual cortex. *PLoS One*. **7(3)**: e34205. Epub 2012 Mar 27. PubMed PMID: 22479566; PubMed Central PMCID: PMC3313990.
- Cottareau BR, McKee SP, Ales JM, Norcia AM (2012) Disparity-specific spatial interactions: evidence from EEG Source-Imaging. *J. Neuroscience*. 32:826-840. PMID: 22262881 [PubMed - in process]
- Cottareau BR, McKee SP, Norcia AM (2012) Bridging the gap: global disparity processing in the human visual cortex. *J. Neurophysiology*. May;107(9):2421-9. Epub 2012 Feb 8. PubMed PMID: 22323636; PubMed Central PMCID: PMC3362244.
- Madan A, Norcia AM, Hou C, Pettet MW, Good WV (2012) Effect of Grade I and II Intraventricular Hemorrhage on Visuocortical Function in Very Low Birth Weight Infants. *Seeing and Perceiving*. PubMed PMID: 22371027.

- Tsai JJ, Wade AR, Norcia AM (2012) Dynamics of normalization underlying masking in human visual cortex. *J. Neuroscience*. 32(8):2783-2789. PMID: 22357861.
- Baker TJ, Norcia AM, Candy TR (2011) Orientation tuning in the visual cortex of 3-month-old human infants. *Vision Research*. 51:470-478.
- Cottareau BR McKee SP Ales JM Norcia AM (2011) Disparity-tuned population responses from human visual cortex. *J. Neuroscience*. 31:954-965.
- Farzin F, Norcia AM (2011) Impaired visual decision-making in individuals with amblyopia. *Journal of Vision*. Dec 6; 11(14). PMID:22147222.
- Fesi JD, Yannes MP, Brinckman DD, Norcia AM, Ales JM, Gilmore RO (2011) Distinct cortical responses to 2D figures defined by motion contrast. *Vision Research*. 51: 2110-2120. PMID: 21820002.
- Hou C, Norcia AM, Madan A, Tith S, Agarwal R Good WV (2011) Visual cortical function in very low birth weight infants without retinal or cerebral pathology. *Invest Ophthal Vis Sci*. 25: 9091-9098. PMID: 22025567
- Tsai JJ, Norcia AM, Ales JM, Wade AR (2011) Contrast gain control abnormalities in idiopathic generalized epilepsy. *Annals Neurology*. [Epub ahead of print] PMID: 2171062
- Ales JM, Yates JL, Norcia AM. (2010) V1 is not uniquely identified by polarity reversals of responses to upper and lower field stimuli. *NeuroImage*. 52: 1401-1409.
- Appelbaum LG, Ales JM, Cottareau, BR, Norcia AM. (2010) Configural specificity of lateral occipital cortex. *Neuropsychologia*, 48: 3323-3328.
- Glass HC, Berman JI, Norcia AM, Rogers EE, Henry RG, Hou C, Barkovitch AJ, Good WV. (2010) Quantitative fiber tracking of the optic radiation is correlated with Visual-Evoked Potential amplitude in preterm infants. *American J Neuroradiology*. 31: 1424-1429.
- Palomares, M, Pettet MW, Vildavski VY, Hou C, Norcia AM. (2010) Connecting the dots: how local structure affects global integration in infants. *J. Cognitive Neuroscience*. 22: 1557-1569.
- Appelbaum LG, Norcia AM. (2009) Attentive and pre-attentive aspects of figural processing. *Journal of Vision*. 9;9(11):18.1-12.
- Ales JM, Norcia AM. (2009) Assessing direction-specific adaptation using the steady-state visual evoked potential: results from EEG source imaging. *Journal of Vision*, 9: 1-13.
- Good WV, Hou C, Frieden IJ, Norcia AM. (2009) Evidence for visual compromise in preverbal children with orbital vascular birthmarks. *American J Ophthalmol*. 147: 679-682.
- Hou C, Gilmore, RO, Pettet MW Norcia AM. (2009) Spatio-temporal tuning of coherent motion evoked responses in 4-6 month old infants and adults. *Vision Research*. 49: 2509-2517.
- Norcia AM, Hale J, Pettet MW, McKee, SP, Harrad, RA. (2009) Disparity tuning of binocular facilitation and suppression after normal versus abnormal visual development. *Invest Ophthal Vis Sci*. 50: 1168-1175.
- Sterkin A, Yehezkel, O, Bonneh, YS, Norcia A, Polat U. (2009) Backward masking suppresses collinear facilitation in the visual cortex. *Vision Research*, 49:1784-1794.

- Hamer RD, Norcia AM. (2009) The Jitter Spatial Frequency Sweep VEP: A new paradigm to study spatiotemporal development of pattern- and motion- processing mechanisms in human infants. *Psychology & Neuroscience*, **2**, 2, 163-177.
- Hou C, Pettet MW, Norcia AM. (2008) Abnormalities of coherent motion processing in strabismic amblyopia: Visual Evoked Potential measurements. *Journal of Vision*. **8**(4), 1-12.
- Appelbaum LG, Wade AR, Vildavski VY, Pettet MW, Norcia AM. (2008) Figure ground interaction in human visual cortex. *Journal of Vision*, **8**(9): 1-19.
- Mirabella G, Norcia AM. (2008) Neural correlates of transformational apparent motion. *Perception*, **37**(9): 1368-1379.
- Sterkin A, Yehezkel O, Bonne Y, Norcia, A, Polat U. (2008) Multi-component correlate for lateral collinear interactions in the human visual cortex. *Vision Research*. **48**(15): 1641-1647.
- Gilmore RO, Hou C, Pettet MW, Norcia AM. (2007) Development of cortical responses to optic flow. *Visual Neuroscience* **24**(6): 845-56.
- Hou C, Good WV, Norcia AM. (2007) Validation study of VEP vernier acuity in normal-vision and amblyopic adults. *Invest Ophthalmol Vis Sci*. **48**(9): 4070-8.
- Pei F, Pettet MW, Norcia AM. (2007) Sensitivity and configuration-specificity of orientation-defined texture processing in infants and adults. *Vision Research*. **47**:338-48.
- Appelbaum LG, Wade AR, Vildavski VY, Pettet MW, Norcia AM. (2006). Cue-invariant networks for figure and background processing in human visual cortex. *J. Neuroscience*, **26**(45): 11695-708.
- Hou C, Pettet MW, Vildavski VY, Norcia AM. (2006) Neural correlates of shape-from-shading. *Vision Research*, **46**(6-7): 1080-90.
- Ing MR, Norcia A, Stager D Sr, Black B, Hoffman R, Mazow M, Troia S, Scott W, Lambert S. (2006) A prospective study of alternating occlusion before surgical alignment for infantile esotropia: one-year postoperative motor results. *J Amer Assoc Ped Ophth Strab*. **10**:49-53.
- Chen SI, Chandna A, Norcia AM, Pettet M, Stone D. (2006) The repeatability of best corrected acuity in normal and amblyopic children 4 to 12 years of age. *Invest Ophthalmol Vis Sci.*, **47**(2): 614-9.
- Mirabella G, Kjaer PK, Norcia AM, Good WV, Madan A. (2006) Visual development in very low birth weight infants. *Pediatric Research*. **60**:435-9.
- Chen SI, Norcia AM, Pettet MW, Chandna A. (2005) Measurement of position acuity in strabismus and amblyopia: specificity of the vernier VEP paradigm. *Invest Ophthalmol Vis Sci.*, **46**(12): 4563-70.
- Pei F, Pettet MW, Vildavski VY, Norcia AM. (2005) Event-related potentials show configural specificity of global form processing. *Neuroreport*. **16**(13): 1427-30.
- Norcia AM, Sampath V, Hou C, Pettet MW. (2005) Experience expectant development of contour integration mechanisms in human visual cortex. *Journal of Vision*, **5**(2): 116-30.
- Norcia AM, Pei F, Bonne Y, Hou C, Sampath V, Pettet MW. (2005) Development of sensitivity to texture and contour information in the human infant. *J. Cognitive Neuroscience*, **17**(4): 569-79.
- Norcia AM, McKee SP, Bonne Y, Pettet MW. (2005) Suppression of monocular direction under fused binocular stimulation: evoked potential measurements. *Journal of Vision* **5**(1):34-44.

- Hale J, Harrad RA, McKee SP, Pettet MW, Norcia AM. (2005) A VEP measure of the binocular fusion of horizontal and vertical disparities. *Invest Ophthalmol Vis Sci.* **46**(5):1786-90.
- Chandna A, Gonzales-Martin JA, Norcia AM. (2004) Recovery of contour integration in relation to LogMAR visual acuity during treatment of amblyopia in children. *Invest. Ophthalmol. Vis. Sci.*, **45**(11): 4016-22.
- Hou C, Pettet MW, Sampath V, Candy TR, Norcia AM. (2003) Development of the spatial organization and dynamics of lateral Interactions in human visual system. *J. Neuroscience*, **23**(25): 8630-40.
- Pei F, Pettet MW, Norcia AM. (2002) Neural correlates of object-based attention. *Journal of Vision.* **2**(9): 588-96.
- Skoczenski AM, Norcia AM. (2002) Late maturation of visual hyperacuity. *Psychological Science.* **13**(6): 537-41.
- Norcia AM, Candy TR, Pettet MW, Vildavski VY, Tyler CW. (2002) Temporal dynamics of the human response to symmetry. *Journal of Vision.* **2**(2): 132-39.
- Kasamatsu T, Polat U, Pettet MW, Norcia AM. (2001) Collinear facilitation promotes reliability of single-cell responses in cat striate cortex. *Experimental Brain Research.* **138**(2):163-72.
- Chen CC, Kasamatsu T, Polat U, Norcia AM. (2001) Contrast response characteristics of long-range lateral interactions in cat striate cortex. *NeuroReport.* **12**(4):655-61.
- Candy TR, Skoczenski A, Norcia AM. (2001) Normalization models applied to orientation masking in the human infant. *J. Neuroscience.* **21**: 4530-41.
- Chandna A, Pennefather PM, Kovacs I, Norcia AM. (2000) Contour integration deficits in anisometropia amblyopia. *Invest. Ophthalmol. Vis. Sci.* **42**: 875-78.
- Kovacs I, Polat U, Pennefather PM, Chandna A, Norcia AM. (2000) A new test of contour integration deficits in patients with a history of disrupted binocular experience during visual development. *Vision Research.* **40**:1775-83.
- Norcia AM, Harrad RA, Brown RJ. (2000) Changes in cortical activity during suppression in stereoblindness. *NeuroReport.*, **11**(5): 1007-12.
- Norcia AM, Wesemann W, Manny RE. (1999) Electrophysiological correlates of vernier and relative motion mechanisms in human visual cortex. *Visual Neuroscience.*, **16**: 1123-31.
- Brown RJ, Candy TR, Norcia AM. (1999) Development of rivalry and dichoptic masking in human infants. *Invest. Ophthalmol. Vis. Sci.*, **40**: 3324-33.
- Pennefather PM, Chandna A, Kovacs I, Polat U, Norcia AM. (1999) Contour detection threshold: repeatability and learning with "contour cards". *Spatial Vision*, **12**: 257-66.
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Selected Recent Talks

- Optical Society of America, Fall Vision Meeting (2013) Abnormal Preparatory activity in amblyopia: Deficits beyond early visual cortex
- Department of Psychology, University of California, Santa Cruz (2013) Imaging the dynamics of figure-ground segmentation.
- Center for Perceptual Systems, University of Texas, Austin (2012) *Imaging the dynamics of disparity encoding and disparity-based decision-making in human visual cortex*.
- Canonical Computation Working Group, La Prieta II (2012) Regulation of the contrast response function in development and disease. <http://www.carandinilab.net/canonicalneuralcomputation>
- Department of Psychology, University of Nevada, Reno (2012) *Neuroimaging the dynamics of figure-ground segmentation*.

Autism Working Group, Stanford University (2011) *Canonical computations, hyper-excitability and ASD's*.

Byer's Eye Research Institute Inauguration (2011) Imaging visual function in adults and patients with strabismus.

Alder Hey Children's Hospital Symposium, Liverpool, UK (2011) Early investigation of visual deficits in prematurity and CVI: Sweep VEP.

Bay Area Vision Research Day (2010) *Development of texture segmentation mechanisms*.

Canonical Computation Working Group, La Prieta I (2009) Normal and abnormal development of contrast gain control and contextual interactions.

Edridge Green Lecture, Royal College of Ophthalmology, Liverpool, (2008). *Normal and abnormal development of the position sense*.

Grand Rounds, Department of Ophthalmology, UCSF (2008) *Neural basis of fine position sensitivity*.

Boynton Colloquium Series, Center for Visual Science, University of Rochester (2007) *Imaging the dynamics of figure-ground segmentation*.

Annual Interdisciplinary Conference, Jackson Hole, WY (2007) *Periodic visual stimuli lead to anticipatory responses in human prefrontal cortex: results for EEG source imaging*.

Laboratory for Sensorimotor Research, National Eye Institute (2006) *Source-imaging of figure-ground processing in human visual cortex*.

Athinoula A. Martinos Center for Biomedical Imaging (2006) *Figure-ground processing in human visual cortex as studied by frequency-tagged EEG source imaging*.

Center for Neural Science, New York University (2006) *Differential modulation of local and global motion responses by sustained visual attention*.

Paediatric Ophthalmology Grand Rounds, Royal Liverpool Childrens' Hospital (2006) *New perspectives on vernier acuity*.

Oxyopia Seminar Series, School of Optometry, University of California, Berkeley (2005) *New perspectives on vernier acuity*.

Cognitive Neuroscience Seminar Series, University of California, San Francisco, (2005) Source-imaging of texture segmentation processes.

Weizmann Institute of Science, Rehovot, Israel (2004) *Contour integration mechanisms in human visual cortex*.

British Society for Clinical Electrophysiology of Vision, Keynote Address, Liverpool (2004) *Visual evoked responses as measures of visibility*.

Annual Interdisciplinary Conference, Jackson Hole, WY (2004) *Experience expectant development of contour integration mechanisms*

Computational Neuroimaging Conference, Stanford University (2004) *Development of configural sensitivity*.