MARC POMPLUN

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Department of Computer Science
University of Massachusetts Boston
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CONTACT

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RESEARCH INTERESTS

Human Vision, Visual Attention and Eye Movements, Computational Modeling and Data Analysis Methods.

EDUCATION

Bielefeld University, Bielefeld, Germany 01/1995 – 06/1998
Ph.D. in Computer Science
Advisor: Prof. Dr. Helge Ritter
Dissertation: Analysis and Models of Eye Movements in Comparative Visual Search.
Graduated with distinction and Best Dissertation at Bielefeld University Award in 1998

Bielefeld University, Bielefeld, Germany 10/1990 – 12/1994
M.S. (Diplom) in Computer Science
Advisors: Prof. Dr. Helge Ritter, Prof. Dr. Boris Velichkovsky
Master's thesis: Distribution of Attention in Ambiguous Images

PROFESSIONAL EXPERIENCE

University of Massachusetts Boston, Boston, MA 01/2015 – 08/2015
Acting Chair, Department of Computer Science

University of Massachusetts Boston, Boston, MA 09/2012 - present
Professor of Computer Science

University of Massachusetts Boston, Boston, MA 09/2007 - present
Associate Professor of Computer Science
Promoted to Full Professor in 09/2007 with
rating "excellent" in research, teaching, and service.

Boston University, Boston, MA 09/2007 - present
Adjunct Associate Professor of Cognitive and Neural Systems

New York University, New York City, NY 06/2007 – 08/2008
Visiting Scholar during sabbatical

Boston University, Boston, MA 12/2003 – 08/2007
Adjunct Assistant Professor of Cognitive and Neural Systems

University of Massachusetts Boston, Boston, MA 01/2002 – 08/2007
Assistant Professor of Computer Science
Promoted to tenured Associate Professor in 09/2007 with
rating "excellent" in research, teaching, and service.

York University, Toronto, Canada 09/2000 – 12/2001
Research Scientist in the Department of Computer Science and the
Centre for Vision Research
Advisor: Prof. John Tsotsos

University of Toronto, Toronto, Canada 07/1998 – 08/2000
Post-Doctoral Fellow in the Department of Psychology
Advisor: Prof. Eyal Reingold

SELECTED HONORS AND AWARDS

PAST AND CURRENT

Best Dissertation at Bielefeld University Award 1998
Financial award: approximately $2,000

Post-Doctoral Research Award 10/1998 – 09/2000
Sponsor: Deutsche Forschungsgemeinschaft (DFG)
Funds: approximately $78,000

Outstanding Achievement Award for Research 2007
Awarded by the College of Science and Mathematics at UMass Boston
Single recipient chosen from more than 100 active researchers in the college

Grant from SR Research, Mississauga, Canada 06/2003 -08/2010
Role: PI
Grant title: Algorithm development for the EyeLink Eye Tracking System
Funds: $70,200

Grant from the US Department of Education 09/2004 – 08/2009
Role: Co-PI (PI: Peter Fejer)
Grant title: GAANN (Graduate Assistance in Areas of National Need)
Grant number: P200A040140
Funds: $585,840

Grant from NIH/National Eye Institute 08/2007 – 07/2009
Role: PI (no Co-PIs)
Grant title: A General Model of Saccadic Selectivity in Visual Search
Grant number: R15 EY017988
Funds: $209,463

Grant from NIH/National Eye Institute 04/2010 - 03/2012
Role: PI (no Co-PIs)
Grant Title: The Remapping of Visual-Perceptual Space by Saccadic Adaptation
Grant number: R21 EY019545
Funds: $281,920

Grant from NSF 09/2011 - 08/2014
Role: Co-PI (PI: Matthew Schneps, University of Massachusetts Boston)
Grant Title: Investigating a Framework for STEM-Reading to Support Secondary School Students with Reading Disabilities
Grant number: HRD-1131039
Funds: $286,000

Grant from NIH/National Eye Institute 12/2011 – 05/2015
Role: PI (no Co-PIs)
Grant Title: Semantic Guidance of Visual Attention
Grant number: R01 EY021802
Funds: $668,663

Grant from Mitsubishi Electric Research Laboratories 06/2014 – 05/2015
Role: PI (no Co-PIs)
Grant Title: Automatic Calibration for In-Vehicle Eye Tracking
Funds: $14,000

Grant from NSF 09/2015 - 08/2018
Role: Co-PI (PI: Pasha Antonenko, University of Florida)
Grant Title: SL-CN: Project LENS: Leveraging Expertise in Neurotechnologies to Study Individual Differences in Multimedia Learning
Grant number: SMA-1540888
Funds: $765,000

TEACHING

COURSES TAUGHT AT UMASS BOSTON

Spring 2017: CS 320L "Applied Discrete Mathematics"

Fall 2016: CS 410 "Introduction to Software Engineering"

Spring 2016: CS 470/670 "Introduction to Artificial Intelligence"

Fall 2015: Sabbatical (textbook writing)

Spring 2015: CS 320L "Applied Discrete Mathematics"

Fall 2014: CS 675 "Computer Vision"

Spring 2014: CS 410 "Introduction to Software Engineering"

Fall 2013: CS 320L "Applied Discrete Mathematics"
CS 675 "Computer Vision"

Spring 2013: CS 320L "Applied Discrete Mathematics"

Fall 2012: CS 470/670 "Introduction to Artificial Intelligence"

Spring 2012: CS L271 "Introduction to Cognitive Science" (team-taught with Dr. Shukla, Psychology)
CS 320L "Applied Discrete Mathematics"
CS 410 "Introduction to Software Engineering"

Fall 2011: CS 320 "Applied Discrete Mathematics"

Spring 2011: CS 320 "Applied Discrete Mathematics"
CS 675 "Computer Vision"

Fall 2010: CS 320 "Applied Discrete Mathematics"
CS 672 "Neural Networks"

Spring 2010: CS 320 "Applied Discrete Mathematics"

Fall 2009: CS L271 "Introduction to Cognitive Science" (entire course)
CS 620 "Theory of Computation"

Spring 2009: CS 672 "Neural Networks"

Fall 2008: CS L271 "Introduction to Cognitive Science" (team-taught with Dr. Blaser, Psychology)

Spring 2008: Sabbatical at New York University

Fall 2007: CS 675 "Computer Vision"

Spring 2007: CS L271 "Introduction to Cognitive Science" (team-taught with Dr. Blaser, Psychology)
CS 320 "Applied Discrete Mathematics"
CS 670 "Introduction to Artificial Intelligence"

Fall 2006: CS 320 "Applied Discrete Mathematics"
CS 620 "Theory of Computation"

Spring 2006: CS L271 "Introduction to Cognitive Science" (team-taught with Dr. Kaldy, Psychology)
CS 670 "Introduction to Artificial Intelligence"

Fall 2005: CS 620 "Theory of Computation"

Spring 2005: CS L271 "Introduction to Cognitive Science" (team-taught with Dr. Kaldy, Psychology)
CS 670 "Introduction to Artificial Intelligence"
CS 675 "Computer Vision"

Fall 2004: CS 620 "Theory of Computation"

Spring 2004: CS 410 "Introduction to Software Engineering"
CS 670 "Introduction to Artificial Intelligence"

Fall 2003: CS 620 "Theory of Computation"

Spring 2003: CS 320 "Applied Discrete Mathematics"

CS 670 "Introduction to Artificial Intelligence"

Fall 2002: CS 410 "Introduction to Software Engineering"

Spring 2002: CS 320 "Applied Discrete Mathematics"

Throughout: A total of 18 independent study courses related to ongoing research projects.

COURSE TAUGHT AT YORK UNIVERSITY, TORONTO, CANADA

Spring 2001: COSC 2001 "Introduction to the Theory of Computation"

COURSES TAUGHT AT BIELEFELD UNIVERSITY, BIELEFELD, GERMANY

Summer 1997: Modeling Eye Movements Using an Active Camera System II (one-year graduate lab course).

Winter 1996/1997: Modeling Eye Movements Using an Active Camera System I (one-year graduate lab course).

Winter 1995/1996: Modeling Basic Perceptual and Cognitive Processes (graduate seminar)

Summer 1995: Computer Science and Psychology (undergraduate seminar)

Winter 1994/1995: Implementation of Elementary Algorithms (undergraduate seminar)

TEACHING ASSISTANCE AT BIELEFELD UNIVERSITY, BIELEFELD, GERMANY

Summer 1994: Introduction to Neural Computation (graduate course)

Winter 1993/1994: Artificial Intelligence I (graduate course)

Summer 1993: Software Engineering (undergraduate lab course)

NEW COURSES DEVELOPED AND TAUGHT AT UMASS BOSTON

CS675 "Computer Vision"

CS672 "Neural Networks" (redevelopment)

CSL271 "Introduction to Cognitive Science," cross-listed as PSYCH L271

MENTORING

POST-DOCTORAL FELLOWS ADVISED

Dr. Chia-Chien Wu
Project: Semantic Guidance of Visual Attention 07/2012 – 11/2014
Dr. Wu is now a Post-Doctoral Fellow at Harvard Medical School.

Dr. Elena Carbone 08/2003 - 03/2004
Project: A Neural Model for Simulating the Fröhlich Misperception Effect.
Dr. Carbone is now a researcher at Bielefeld University, Germany

Dr. Seok-Woo Jang 10/2002 - 04/2003
Project: Adaptive Estimation of Motion Patterns in Image Sequences
Dr. Jang is now on faculty at Soongsil University, Seoul, South Korea

PH.D. STUDENTS ADVISED

Shaohua Jia 09/2013 – present
Project: Automatic System Calibration for In-Vehicle Gaze Tracking

Dohyong Koh 09/2013 – present
Project: Machine Learning for Eye Tracking in Low-Vision Patients

Akram Bayat 09/2012 - present
Project: Deep Neural Networks for Semantic Image Analysis

Farahnaz Ahmed Wick 09/2010 – 08/2016
Project: Top-Down and Bottom-Up Biases in Visual Attention
Farahnaz Ahmed Wick is currently a Post-Doctoral Fellow at Harvard Medical School.

Nada Attar 09/2010 – 08/2016
Project: Enhancing Cognitive Load Measurement and User performance in Human-Computer Interaction.
Nada Attar is currently interviewing for tenure-track faculty positions.

Hsueh-Cheng (Nick) Wang 01/2008 – 12/2012

Projects: Semantic Guidance of Visual Attention,
Attentional Capture by Texts in Real-World Scenes

Thesis: "Computational Modeling of Eye Movements – from Reading to Scene Viewing"

After graduation, Nick Wang worked as a Post-Doctoral Fellow in the Computer Science and Artificial Intelligence Laboratory at MIT and is currently an Assistant Professor in the Department of Electrical and Computer Engineering at National Chiao Tung University, Taiwan.

Alex Hwang 01/2005 – 12/2009

Projects: Modeling the Feature Selectivity of Eye Movements during Search
Semantic Influences on Visual Search in Natural Images

Thesis: "Modeling the Control of Attention by Visual and Semantic Factors in Real-World Scenes"

Alex Hwang is currently an Investigator at the Schepens Eye Research Institute at Harvard University.

Tyler Garaas 09/2005 – 05/2009

Projects: Whole-Field Saccadic Adaptation and Perceptual Space
Peri-Saccadic Perceptual Mislocalization of Objects
The Inspection Time Paradigm and Cortical Plasticity
A Biologically Inspired Active Robot Vision System
Visual Attention in the Depth Dimension

Thesis: "Real-Time Active Robotic Vision using Biologically Inspired Neural Models"

Tyler Garaas is currently a Researcher at Amazon, Inc.

Mei Xiao 09/2003 – 02/2008

Projects: Adaptive Gaze-Controlled Human-Computer Interaction
The Effect of Audio-Visual Perceptual Integration on Eye Movements

Thesis: "Eye-Movement Analysis for Advanced Human-Computer Interaction"

Mei Xiao is currently a Scientific Software Engineer at The Jackson Laboratory in Hartford, Connecticut.

M.S. STUDENTS ADVISED

Divya Bajaj: A Scripting Language for Interactive Eye Tracking Experi Radar 09/2016 – present

Vyom Jhaveri: Machine Learning for Audio Data Classification 09/2016 – present

Hiroshi Nohmi: Software for the Airborne FMCW Synthetic Aperture Radar 09/2008 – 08/2009

Frank Marino: Neural Modeling of Dendritic Computation 12/2007 – 06/2009

Andreas Lennartz: Algorithmic Target Inference During Visual Search 04/2006 – 02/2007

May Wong: The Effect of Sound on Smooth Pursuit Eye Movements 09/2006 – 08/2007

Heri Mariwa: Piecewise Mental Rotation 09/2005 – 08/2006

Shantanu Inamdar: Interaction between Eye Movement and Working Memory 01/2003 – 05/2005

Yan Zhang: A Gaze-Controlled Active Vision System 03/2002 – 06/2003

Naing Maw: Studying Face Recognition in Gaze-Contingent Displays 03/2002 – 06/2003

HONORS AND MCNAIR PROGRAM STUDENTS ADVISED

Henry Lo: Feature Weighting in Retinal Visual Error Computation 09/2008 – 12/2010

Judelande Hyppolite: The Eye-Hand Span in Human-Computer Interaction 09/2003 – 05/2004

Sindhura Sunkara: Measuring Cognitive Workload in HCI 09/2002 – 06/2003

OTHER UNDERGRADUATE STUDENTS ADVISED

A total of 15 undergraduate students, most of whom published a conference or journal paper. Eight of these students were awarded undergraduate research funding by UMass Boston.

SERVICE TO THE PROFESSION

REVIEWER FOR THE FOLLOWING JOURNALS:

- Psychological Science
- Attention, Perception & Psychophysics
- Journal of Experimental Psychology: Human Perception and Performance
- Current Biology
- Consciousness and Cognition
- Quarterly Journal of Experimental Psychology
- Neural Networks

- Image and Vision Computing
- Journal of Vision
- Vision Research
- Biological Cybernetics
- Journal of Virtual Reality and Broadcasting
- Behavior Research Methods
- Computer Vision and Image Understanding
- Journal of Engineering and Computer Innovations
- International Journal of Computer Vision
- IEEE Transactions on Robotics
- IEEE Transactions on Biomedical Engineering
- IEEE Transactions on Vehicular Technology
- IEEE Transactions on Image Processing
- ACM Transactions on Accessible Computing
- Frontiers in Perception Science
- Frontiers in Computational Neuroscience
- Frontiers in Psychology
- Visual Cognition
- Philosophical Transactions of the Royal Society
- Nature Scientific Reports
- Trends in Cognitive Sciences
- Cerebral Cortex
- Cognition
- International Journal of Psychophysiology
- Collabra

EDITORIAL BOARD MEMBER FOR THE FOLLOWING JOURNALS:

- Frontiers in Perception Science

SPECIAL ISSUE EDITOR FOR THE FOLLOWING JOURNAL:

- Frontiers in Psychology
- Frontiers in Human Neuroscience

CO-CHAIR, WORKSHOPS CHAIR, AND SPECIAL TRACK CHAIR FOR THE FOLLOWING CONFERENCE:

- Fifth International Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2010), Boston, MA

WORKSHOP CHAIR FOR THE FOLLOWING CONFERENCE:

- Sixth International Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2011), York, UK.

KEYNOTE SPEAKER FOR THE FOLLOWING CONFERENCES:

- NeuroHAM Conference on Neural Processing in Humans, Animals, and Machines (NeuroHAM 2015) at Boston University.
- 1st International Workshop on Solutions for Automatic Gaze Data Analysis (SAGA 2013), Bielefeld, Germany.

PROGRAM COMMITTEE MEMBER FOR THE FOLLOWING CONFERENCES:

- European Conference on Eye Movements (ECEM 2015)
- Eye Tracking Research and Applications (ETRA 2014)
- Eye Tracking Research and Applications (ETRA 2012)
- 5th International Conference on Bioinformatics and Computational Biology (BICoB 2014)
- 4th International Conference on Bioinformatics and Computational Biology (BICoB 2013)
- 3rd International Conference on Bioinformatics and Computational Biology (BICoB 2012)
- 2nd International Conference on Bioinformatics and Computational Biology (BICoB 2011)
- Sixth International Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2011)
- Fifth International Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2010)
- Annual Meeting of the Cognitive Science Society (CogSci 2011)
- Eye Tracking Research and Applications (ETRA 2010)

- Annual Meeting of the Cognitive Science Society (CogSci 2009)
- Eye Tracking Research and Applications (ETRA 2008)
- International Workshop on Attention in Cognitive Systems (WAPCV 2008)
- Eye Tracking Research and Applications (ETRA 2006)
- Annual Meeting of the Cognitive Science Society (CogSci 2005)

REFEREE FOR THE FOLLOWING CONFERENCES:

- Meeting of the Vision Sciences Society (VSS 2017)
- Meeting of the Vision Sciences Society (VSS 2016)
- Meeting of the Vision Sciences Society (VSS 2015)
- Meeting of the Vision Sciences Society (VSS 2014)
- 2011 IEEE IVMSP (Image, Video, and Multidimensional Signal Processing Technical Committee)
- Annual Meeting of the Cognitive Science Society (CogSci 2008)
- Annual Meeting of the Cognitive Science Society (CogSci 2007)
- Annual Meeting of the Cognitive Science Society (CogSci 2006)
- Annual Meeting of the Cognitive Science Society (CogSci 2004)
- Annual Meeting of the Cognitive Science Society (CogSci 2003)
- International Joint Conference on Artificial Intelligence (IJCAI 2001)

OTHER REVIEWING SERVICE:

- NSF grant proposal reviewer
- NASA grant proposal reviewer
- Proposal reviewer for the Netherlands Organization for Scientific Research
- Proposal reviewer for the City University of Hong Kong
- Book reviewer for Lawrence Erlbaum Publishers
- Book reviewer for John Wiley & Sons
- Book reviewer for Franklin, Beedle & Associates
- Book reviewer for Cengage Learning
- Book reviewer for MIT Press
- Book reviewer for SAGE Publications

- Wellcome Trust grant proposal reviewer

PH.D. COMMITTEE MEMBER FOR THE FOLLOWING STUDENTS:

- **Paul Fomenky,** Department of Computer Science, UMass Boston, 2015-present.
- **Joseph Cohen,** Department of Computer Science, UMass Boston, 2013-2016.
- **Dawei Wang,** Department of Computer Science, UMass Boston, 2014-2016.
- **Yang Mu**, Department of Computer Science, UMass Boston, since 2013-2015.
- **Roman Sizov**, Department of Computer Science, UMass Boston, 2013-2015.
- **Bahar Akbal**, Department of Computer Science, UMass Boston, 2012-2014.
- **Saaid Baraty**, Department of Computer Science, UMass Boston, 2010-2013.
- **Anya Potter**, Department of Psychology, UMass Boston, 2010-2011.
- **Paskorn Champrasert**, Department of Computer Science, UMass Boston, 2010-2011.
- **Chonho Lee**, Department of Computer Science, UMass Boston, in 2010.
- **Selim Mimaroglu**, Department of Computer Science, UMass Boston, in 2009.
- **Li Jie**, Department of Electrical and Computer Engineering, McGill University, in 2008.
- **Kai Essig**, Faculty of Technology, Bielefeld University, Bielefeld, Germany, in 2007.
- **Rick Butterworth**, Department of Computer Science, UMass Boston, in 2006.
- **Arash Fazl**, Department for Cognitive and Neural Systems, Boston University, in 2006.
- **Arthur Pearson**, Department of Psychology, UMass Boston, since 2005.
- **Duke Han**, Department of Psychology, UMass Boston, in 2004.
- **Hendrik Kösling**, Faculty of Technology, Bielefeld University, Bielefeld, Germany, in 2003.

COMMITTEE SERVICE AT UMASS BOSTON

- **Important Departmental Committees:**
    - Acting Department Chair (Spring 2015)
    - Faculty Recruitment Committee (2002/2003, 2003/2004, 2006/2007, 2008/2009, 2012/2013, 2013/2014, Chair: 2014/2015)
    - Staff Recruitment Committee (2004/2005, Chair: 2008/2009)
    - Personnel Committee (2004/2005, Chair: 2009/2010, 2011-present)

- AQUAD Steering Committee (2006/2007, 2013-2015)
- ABET Accreditation Committee (Chair: 2009-present)

- **University Committees:**
  - Faculty Council GenEd Distribution subcommittee (2006-2009)
  - UMass Boston Institutional Review Board (IRB) (2009-2012)
  - University Committee on Majors, Honors and Special Programs (MHSP) (2009-2014, Chair 2012-2014)
  - UMass Boston Proposal Preparation Grant Review Committee (2012 – 2014)

OTHER SERVICE:

- Coach of the UMass Boston Team for the ACM International Programming Competition in 2005 and 2006
- Supervised science fair project of Shaneka Davis, South Boston High School: "How Easily can People Adapt to Gaze-Controlled Typing Interfaces?" in 2004.
- Supervisor of the UMass Boston Team for the Computer Society International Design Competition (CSIDC 2003)
- Faculty Advisor of the ACM Student Chapter at UMass Boston from 2002 to 2007
- Organizer of the TICS ("Talks in Cognitive Science") Colloquium Series with speakers and audiences from the Boston area since 2002

CONSULTING

Consultant for **BluB0X Security, Inc.** 07/2015 – present
Data Scientist/Engineer for multimodal face recognition algorithms
Team Leader: Niels Haering

Consultant for **Brigham and Women's Hospital** 09/2005 – present
Project: "Alertness and Cognitive Performance in Sleep-Restricted Older People"
PI: Jeanne Duffy, Division of Sleep Medicine

Consultant for **Harvard-Smithsonian Center for Astrophysics** 08/2007 – 03/2014
Project: "Computer Displays for Dyslexic Researchers"
PI: Matthew Schneps, Laboratory for Visual Learning

Consultant for **Brandeis University** 10/2006 – 10/2009
Project: "Imitation of Hand Movement Sequences"
PI: Robert Sekuler, Department of Psychology

SELECTED INVITED TALKS (SINCE 2003)

Harvard Medical School, Visual Attention Lab 04/2016
Research Seminar
Title of Talk: "Reading a Searcher's Mind: Algorithmic Inference of Search Targets from Eye-Movement Patterns"

MIT, Department of Brain and Cognitive Sciences (BCS) 04/2016
Center for Brains, Minds and Machines (CBMM) Seminar
Title of Talk: "Computational Methods in Eye-Movement Research"

Boston University (Keynote Speech) 06/2015
NeuroHAM: A three-day conference on neural processing in humans, animals, and machines
Title of talk: "Guidance of Visual Attention by Low- and High-Level Features in Real-World Scenes"

Schepens Eye Research Institute, Harvard University 10/2014
VIVO Colloquium
Title of Talk: "Distorted object perception following whole-field adaptation of saccadic eye movements"

Bielefeld University, Germany (Keynote Speech) 10/2013
1st International Workshop on Solutions for Automatic Gaze Data Analysis
Title of talk: "Guidance of Visual Attention by Low- and High-Level Features in Real-World Scenes"

New York University, Department of Psychology and Center for Neural Science 06/2012
Carrasco Lab Seminar
Title of Talk: "Visual Search in Virtual 3D Displays"

Suffolk University, Department of Computer Science 07/2011
NSF REU Program Seminar
Title of Talk: "Cognitive Load in Visual Tasks"

Boston University, Department of Computer Science 03/2011
Department Seminar
Title of Talk: "Semantic Guidance of Visual Attention"

Harvard Medical School, Visual Attention Lab 03/2010
Research Seminar

Title of Talk: "Towards a Multi-Level Computational Model of Attentional Guidance"

State University of New York, College of Optometry 04/2009
Schnurmacher Institute for Vision Research Seminar
Title of Talk: "Studying Human Vision using Gaze-Contingent Stimulus Presentation and Feature Analysis."

Boston University, Department of Cognitive and Neural Systems 03/2009
"Models of Visual Perception" Seminar
Title of Talk: "Modeling Visual Attention during Search & Calibration of Visuospatial Perception by Post-Saccadic Error"

Boston University, Department of Computer Science 02/2009
Department Seminar
Title of Talk: "Informativeness of Visual Feature Dimensions Controls Attention during Real-World Search"

Rutgers University, Department of Cognitive Science 03/2008
Perceptual Science Seminar
Title of Talk: "A Model of Top-Down Control of Attention during Visual Search in Real-World Scenes"

New York University, Department of Psychology and Center for Neural Science 07/2007
Perception and Attention Seminar
Title of Talk: "Feature Guidance in Visual Search"

13th Annual German-American Kavli Frontiers of Science symposium 05/2007
Co-sponsored by the Humboldt Foundation and the U.S. National Academy of Sciences. Attendees were selected by a committee of Academy members from among "distinguished young researchers across disciplines who had already made recognized contributions to science."
Title of Talk: "Selectivity of Eye Movements during Visual Search"

Harvard University, Department of Psychology 11/2006
Vision Lab Seminar
Title of Talk: "Saccadic Selectivity in Complex Visual Search Displays"

Schepens Eye Research Institute, Harvard University 03/2006
Research Colloquium
Title of Talk: "The Gaze-Contingent Display Paradigm"

Brigham and Women's Hospital, Visual Attention Lab 02/2006
Research Seminar
Title of Talk: "Saccadic Selectivity in Visual Search"

Boston University, Department of Cognitive and Neural Systems 03/2005
Research Seminar
Title of Talk: "Feature Selectivity of Saccadic Eye Movements"

Boston University, Department of Cognitive and Neural Systems 03/2005
Graduate Seminar on Models of Visual Perception
Title of Talk: "Guidance of Visual Attention in Real-World Scenes"

Boston University, Department of Cognitive and Neural Systems 03/2005
Graduate Seminar on Models of Visual Perception
Title of Talk: "Modeling Eye Movements in Visual Search"

Suffolk University, Department of Mathematics and Computer Science 03/2005
Department Seminar
Title of Talk: "Building and Evaluating Gaze-Controlled Human-Computer Interfaces"

US Air Force Workshop on Integrated Models of Cognitive Systems (IMoCS) 03/2005
in Saratoga Springs, New York
Title of Talk: "Area Activation II: Predicting saccadic selectivity in visual search tasks."

University of Lübeck, Germany, Institute for Neuro- and Bioinformatics 06/2004
Lunch Seminar
Title of Talk: "Eye Movements as a Research Subject in Cognitive Science"

"Eyes-Tea" Boston Area Eye-Movement Seminar Series 12/2003
Title of Talk: "The Gaze-Contingent Display Paradigm"

Institute for Theoretical Physics and Mathematics in Tehran, Iran 08/2003
Presented ten invited talks during a two-week visit
Topics: Eye-movement research and neural modeling of cognitive processes

Biomedical Engineering Department, Boston University 04/2003
Brain and Vision Research Laboratory & Neurovisual Clinic Seminar
Title of talk: "Attending to Motion: A Neural Model for Localizing and Labeling Simple Motion Patterns in Image Sequences"

Boston University, Department of Cognitive and Neural Systems 03/2003
Graduate Seminar on Vision in Man, Monkey, and Machine
Title of Talk: "Direct Measurement of the Visual Span"

PUBLICATIONS

BOOKS AND BOOK CHAPTERS (9 published/to appear)

1. Pomplun, M. (undergraduate/graduate textbook to appear in 2017). *Hands-On Computer Vision*. Singapore: World Scientific Publishing.
2. Pomplun, M. & Suzuki, J. (Eds.) (2012). *Developing and Applying Biologically-Inspired Vision Systems: Interdisciplinary Concepts.* Hershey, Pennsylvania: IGI Global.
3. Garaas, T.W. & Pomplun, M. (2010). The visual implications of inspection time. In D. Zhang, Y. Wang, and W. Kinsner (Eds.), *Advances in Cognitive Informatics*. New York: Springer, pp. 62-71.

4. Pomplun, M. (2007). Advancing area activation towards a general model of eye movements in visual search. In W.D. Gray (Ed.), *Integrated Models of Cognitive Systems.* New York: Oxford University Press, pp. 120-131.

5. Pomplun, M., Carbone, E., Koesling, H., Sichelschmidt, L. & Ritter, H. (2006). Computational Models of Visual Tagging. In G. Rickheit & I. Wachsmuth (Eds.), *Situated Communication*. Berlin: Mouton de Gruyter, pp. 213-246.

6. Shen, J., Reingold, E. M., Pomplun, M. & Williams, D. E. (2003). Saccadic selectivity during visual search: The influence of central processing difficulty. In J. Hyönä, R. Radach & H. Deubel (Eds), *The Mind's Eyes: Cognitive and Applied Aspects of Eye Movement Research* (pp. 65-88). Amsterdam: Elsevier Science Publishers.

7. Pomplun, M. (dissertation commercially published in 1998). *Analysis and Models of Eye Movements in Comparative Visual Search.* Göttingen: Cuvillier.

8. Pomplun, M., Rieser, H., Ritter, H. & Velichkovsky, B.M. (1997). Augenbewegungen als kognitionswissenschaftlicher Forschungsgegenstand. In Kluwe, R.H. (Ed.), *Kognitionswissenschaft: Strukturen und Prozesse intelligenter Systeme*, 65-106. Wiesbaden: Deutscher Universitätsverlag.

9. Velichkovsky, B.M., Pomplun, M. & Rieser, H. (1996). Attention and communication: Eye-movement-based research paradigms. In Zangemeister, W.H., Stiehl, H.S. & Freksa, C. (Eds.), *Visual Attention and Cognition*, 125-154. Amsterdam: Elsevier.

JOURNAL PAPERS (6 submitted, 50 published)

10. Yazdanbakhsh, A., Wu, C., Cao, B., Dali, V.,Gagliardi, C., Barthelemy, O., Salazar, R., Pomplun, M. & Cronin-Golomb, A. (submitted). Involuntary saccades and binocular coordination during visual pursuit in Parkinson's disease.

11. Mariwa, H.P., Xu, Y. & Pomplun, M. (submitted). Piecewise mental rotation.

12. Pomplun, M., Sunkara, S., Fairley, A.V. & Xiao, M. (submitted). Using pupil size as a measure of cognitive workload in video-based eye-tracking studies.

13. Xiao, M. & Pomplun, M. (submitted). The effects of gaze input and stereoscopic depth on human-computer interaction in a monitoring task.

14. Schneps, M.H., Chen, C., Pomplun, M., Wang, J., Crosby, A.D. & Kent, K. (submitted). Re-inventing reading for an age of technology.

15. Schneps, M.H., Pomplun, M., Rose, L.T., Sonnert, G., Heffner-Wong, A., Thomson, J., Hecker, L., Banerjee,M. & Greenhill, L. (submitted). Experience matters: visuospatial strengths of scientists and students with and without dyslexia.

16. Attar, N., Schneps, M.H. & Pomplun, M. (2016). Working memory load predicts visual search efficiency: Evidence from a novel pupillary response paradigm. *Memory & Cognition*, 44 (7), 1038-1049.

17. Ahmed Wick, F., Garaas, T.W. & Pomplun, M. (2016). Saccadic adaptation alters the attentional field. *Frontiers in Human Neuroscience*, 10: 568.

18. Wang, J., Schneps, M.H., Antonenko, P., Chen, C. & Pomplun, M. (2016). Is reading impairment associated with enhanced holistic processing in comparative visual search? *Dyslexia*, 22 (4), 345-361.

19. Akbal-Delibas, B., Farhoodi, R., Pomplun, M. & Haspel, N. (2016). Accurate refinement of docked protein complexes using evolutionary information and deep learning. *Journal of Bioinformatics and Computational Biology*, 14 (3).

20. Akbal-Delibas, B., Pomplun, M. & Haspel, N. (2015). Accurate Prediction of Docked Protein Structure Similarity. *Journal of Biological Chemistry*, 22 (9), 892-904.

21. Borji, A., Lennartz, A. & Pomplun, M. (2015). What do eyes reveal about the mind? Algorithmic inference of search targets from fixations. *Neurocomputing*, 149, Part B, 788-799.

22. Wu, C.C., Wang, H.C. & Pomplun, M. (2014). The Roles of Scene Gist and Spatial Dependency among Objects in the Semantic Guidance of Attention in Real-World Scenes. *Vision Research*, 105, 10-20.

23. Wu, C.C., Ahmed Wick, F. & Pomplun, M. (2014). Guidance of Visual Attention by Semantic Information in Real-World Scenes. *Frontiers in Psychology*, 5:54.

24. Wang, H.C., Hsu, L.C., Tien, Y.M. & Pomplun, M. (2014). Predicting raters' transparency judgments of English and Chinese morphological constituents using Latent Semantic Analysis. *Behavior Research Methods*, 46 (1), 284-306.

25. Luo, G., Garaas, T., & Pomplun, M. (2014). Salient stimulus attracts focus of peri-saccadic mislocalization. *Vision Research*, *100*, 93-98.

26. Schneps, M.H., Thomson, J.M., Chen, C., Sonnert, G. & Pomplun, M. (2013). E-readers are more effective than paper for some with dyslexia. *PLoS ONE*, 8(9), e75634.

27. Pomplun, M., Garaas, T.W. & Carrasco, M. (2013). The effects of task difficulty on visual search strategy in virtual 3D displays. *Journal of Vision*, 13 (3):24, 1–22.

28. Schneps, M.H., Thomson, J.M., Sonnert, G., Pomplun, M., Chen, C. & Heffner-Wong, A. (2013). Shorter lines facilitate reading in those who struggle. *PLoS ONE*, 8(8), e71161.

29. Wang, H. C., Schotter, E., Angele, B., Yang, J. M., Simovici, D., Pomplun, M., & Rayner, K. (2013). Using Singular Value Decomposition to Investigate Degraded Chinese Character Recognition: Evidence from Eye Movements During Reading. *Journal of Research in Reading*, 36, S35- S50.

30. Pomplun, M., Silva, E., Ronda, J.M., Cain, S.W., Münch, M.Y., Czeisler, C.A. & Duffy, J.F. (2012). The effects of circadian phase, time awake, and imposed sleep restriction on performing complex visual tasks: Evidence from comparative visual search. *Journal of Vision*, 12(7):14, 1–19.

31. Wang, H.C. & Pomplun, M. (2012). The attraction of attention to texts in real-world scenes. *Journal of Vision*, 12(6):26, 1–17.

32. Schneps, M.H., Sonnert, G., Brockmole, J. & Pomplun, M. (2012). History of reading struggles linked to enhanced learning in low spatial frequency scenes. *PLoS ONE*, 7(4), e35724.

33. Schneier, F.R., Pomplun, M., Sy, M. & Hirsch, J. (2011). Neural response to eye contact and paroxetine treatment in generalized social anxiety disorder. *Psychiatry Research: Neuroimaging*, 194, 271-278.

34. Hwang, A.D., Wang, H.C. & Pomplun, M. (2011). Semantic guidance of eye movements in real-world scenes. *Vision Research*, 51, 1192-1205.

35. Spering, M., Pomplun, M. & Carrasco, M. (2011). Tracking without perceiving: A dissociation between eye movements and motion perception. *Psychological Science*, 22, 216-225.

36. Garaas, T. W., & Pomplun, M. (2011). Distorted object perception following whole-field adaptation of saccadic eye movements. *Journal of Vision*, 11(1):2, 1–11.

37. Luo, G., Garaas, T. W., Pomplun, M., & Peli, E. (2010). Inconsistency between peri-saccadic mislocalization and compression: Evidence for separate "what" and "where" visual systems. *Journal of Vision*, 10(12):32, 1–8.

38. Nestor, P.G., Klein, K., Pomplun, M., Niznikiewicz, M. & McCarley, R.W. (2010). Gaze cueing of attention in schizophrenia: Individual differences in neuropsychological functioning and symptoms. *Journal of Clinical and Experimental Neuropsychology*, 32, 281-288.

39. Cohen, N.J., Pomplun, M., Gold, B.J. & Sekuler, R. (2010). Sex differences in the production and acquisition of complex skilled movements. *Experimental Brain Research*, 205, 183-193.

40. Wang, H.C., Pomplun, M., Chen, M., Ko, H. & Rayner, K. (2010). Estimating the effect of word predictability on eye movements in Chinese reading using latent semantic analysis and transitional probability. *Quarterly Journal of Experimental Psychology*, 63, 1374-1386.

41. Wang, H.-C., Hwang, A. D. & Pomplun, M. (2010). Object Frequency and Predictability Effects on Eye Fixation Durations in Real-World Scene Viewing. *Journal of Eye Movement Research*, 3(3):3, 1-10.

42. Hwang, A.D., Higgins, E.C. & Pomplun, M. (2009). A model of top-down attentional control during visual search in complex scenes. *Journal of Vision*, 9 (5):25, 1-18.

43. Garaas, T.W. & Nieuwenhuis, T., & Pomplun, M. (2008). A gaze-contingent paradigm for studying continuous saccadic adaptation. *Journal of Neuroscience Methods*, 168, 334-340.

44. Gold, B.J., Pomplun, M., Rice, N.J., & Sekuler, R. (2008). A new way to quantify the fidelity of imitation: Preliminary results with gesture sequences. *Experimental Brain Research*, 187, 139-152.

45. Garaas, T.W. & Pomplun, M. (2008). Inspection time and visual-perceptual processing. *Vision Research*, 48, 523-537.

46. Xiao, M., Wong, M., Umali, M., & Pomplun, M. (2007). Using eye-tracking to study audio-visual perceptual integration. *Perception*, 36, 1391-1395.

47. Xu, Y., Higgins, E.C., Xiao, M., & Pomplun, M. (2007). Mapping the color space of saccadic selectivity in visual search. *Cognitive Science*, 31, 877-887.

48. Carbone, E. & Pomplun, M. (2007). Motion misperception caused by attentional feedback connections: A neural model simulating the Fröhlich effect. *Psychological Research*, 71, 709-715.

49. Pomplun, M. (2006). Saccadic selectivity in complex visual search displays. *Vision Research*, 46, 1886-1900.

50. Essig, K., Pomplun, M. & Ritter, H. (2006). A neural network for 3D gaze recording with binocular eye trackers. *International Journal of Parallel, Emergent, and Distributed Systems*, 21 (2), 79-95.

51. Jang, S.W., Pomplun, M., Kim, G.Y. & Choi, H.I. (2005). Adaptive robust estimation of affine parameters from block motion vectors. *Image and Vision Computing*, 23 (14), 1250–1263.

52. Tsotsos, J.K., Liu, Y., Martinez-Trujillo, J.C., Pomplun, M., Simine, E. & Zhou, K. (2005). Attending to Visual Motion. *Computer Vision and Image Understanding*, 100, 4-30.

53. Tarasevich, P., Pomplun, M., Fillion, S. & Broberg, D. (2005). The Enhanced Restricted Focus Viewer. *International Journal of Human-Computer Interaction*, 19 (1), 35-54.

54. Martinez-Trujillo, J.C., Tsotsos, J.K., Simine, E., Pomplun, M., Wildes, R., Treue, S., Heinze, H.J. & Hopf, J.M. (2005). Selectivity for Speed Gradients in Human Area MT/V5. *Neuroreport*, 16 (5), 435-438.

55. Shen, J., Reingold, E.M. & Pomplun, M. (2003). Guidance of Eye Movements during Conjunctive Visual Search: The Distractor-Ratio Effect. *Canadian Journal of Experimental Psychology*, 57, 76-96.

56. Pomplun, M., Reingold, E.M. & Shen, J. (2003). Area activation: A computational model of saccadic selectivity in visual search. *Cognitive Science*, 27, 299-312.

57. Charness, N., Reingold, E.M., Pomplun, M. & Stampe, D.M. (2001). The perceptual aspect of skilled performance in chess: Evidence from eye movements. *Memory & Cognition*, 29, 1146-1152.

58. Pomplun, M., Reingold, E.M. & Shen, J. (2001). Investigating the visual span in comparative search: The effects of task difficulty and divided attention. *Cognition*, 81, B57-B67.

59. Pomplun, M., Reingold, E.M. & Shen, J. (2001). Peripheral and parafoveal cueing and masking effects on saccadic selectivity in a gaze-contingent window paradigm. *Vision Research*, 41, 2757 - 2769.

60. Pomplun, M., Sichelschmidt, L., Wagner, K., Clermont, T., Rickheit, G. & Ritter, H. (2001). Comparative visual search: A difference that makes a difference. *Cognitive Science*, 25 (1), 3-36.

61. Reingold, E.M., Charness, N., Pomplun, M. & Stampe, D.M. (2001). Visual Span in Expert Chess Players: Evidence from Eye Movements. *Psychological Science*, 12, 49-56.

62. Shen, J., Reingold, E.M. & Pomplun, M. (2000). Distractor ratio influences patterns of eye movements during visual search. *Perception*, 29, 241-250.

63. Mataric, M. & Pomplun, M. (1998). Fixation behavior in observation and imitation of human movement. *Cognitive Brain Research*, 7, 191-202.

64. Pomplun, M., Ritter, H. & Velichkovsky, B.M. (1996). Disambiguating complex visual information: Towards communication of personal views of a scene. *Perception*, 25 (8), 931-948.

65. Velichkovsky, B.M., Challis, B.H. & Pomplun, M. (1995). Arbeitsgedächtnis und Arbeit mit dem Gedächtnis: Visuell-räumliche und weitere Komponenten der Verarbeitung. *Zeitschrift für Experimentelle Psychologie*, 4, 672-701.

REFEREED CONFERENCE PROCEEDINGS PAPERS (3 submitted, 47 published).

66. Bayat, A. & Pomplun, M. (submitted). A Breakthrough Strategy in Biometric Identification through Eye-Movement Patterns. *Conference on Computer Vision and Pattern Recognition* (CVPR 2017), Honolulu, Hawaii.

67. Ahmed Wick, F., Wick., M. & Pomplun, M. (submitted). Filling in the Details: Perceiving from Low-Fidelity Visual Input. *The 5th International Conference on Learning Representations (ICLR 2017),* Toulon, France.

68. Bayat, A. & Pomplun, M. (submitted). The Influence of Text Characteristics on Eye-Movement Behavior during Reading. *ACM CHI Conference on Human Factors in Computing Systems (CHI 2017),* Denver, CO.

69. Attar, N. & Pomplun, M. (2016). Enhancing Reading Interfaces and Comprehension Measuerment with Eye Tracking Data. *IEEE 2nd International Conference on Human-Computer Interaction (ICHCI'16),* Chennai, India, pp. 1-6.

70. Attar, N., Wu, C., Sia, D. & Pomplun, M. (2016). A Deeper Understanding of Optimal Viewing Position Using Eye Fixations and Character Recognition on Text-Viewing and Reading Tasks. *ACM Symposium on Eye Tracking Research and Applications (ETRA 2016),* Charleston, SC, pp. 209-212.

71. Attar, N., Fomenky, P., Ding, W.. & Pomplun, M. (2016). Improving Cognitive Load Measurement through Preprocessing of Pychophysical Data by Random Subspace Time-Series Method. *IEEE 2nd International Conference on Human-Computer Interaction (ICHCI'16),* Chennai, India, pp. 1-6.

72. Huang, H., Lin, N.C., Barrett, L., Springer, D., Wang, H.C., Pomplun, M. & Yu, L.F. (2016). Analyzing visual attention via virtual environments. *SIGGRAPH ASIA 2016: Virtual Reality meets Physical Reality: Modelling and Simulating Virtual Humans and Environments*, Macao, pp. 1- 8.

73. Bayat, A., Pomplun, M. & Tran, D. (2014). A Study on Human Activity Recognition Using Accelerometer Data from Smartphones. Proceedings of the 11th International Conference on Mobile Systems and Pervasive Computing (MobiSPC'14).

74. Akbal-Delibas, B., Pomplun, M. & Haspel, N. (2014). AccuRMSD: A Machine Learning Approach to Predicting Structure Similarity of Docked Protein Complexes. Proceedings of the *Fifth ACM Conference on Bioinformatics, Computational Biology and Health Informatics (ACM-BCB 2014),* Newport Beach, California.

75. Attar, N. & Pomplun, M. (2016). Enhancing Reading Interfaces and Comprehension Measuerment with Eye Tracking Data. *IEEE 2nd International Conference on Human-Computer Interaction (ICHCI'16),* Chennai, India, pp. 1-6.

76. Attar, N., Wu, C.C. & Pomplun, M (2014). The Effect of Immediate Accuracy Feedback in a Multiple-Target Visual Search Task. Proceedings of the *Thirty-Sixth Annual Meeting of the Cognitive Science Society (CogSci 2014),* Quebec City, Canada.

77. Akbal-Delibas, B., Pomplun, M. & Haspel, N. (2014). An Artificial Neural Network to Predict RMSDs of Docked Protein Complexes. Proceedings of the *22nd Annual International Conference on Intelligent Systems for Molecular Biology (ISMB 2014),* Boston, Massachusetts.

78. Wu, C.C., Wang, H.C. & Pomplun, M. (2013). The Role of Scene Gist and Spatial Dependency among Objects in the Semantic Guidance of Attention. Proceedings of the *Thirty-Fifth Annual Meeting of the Cognitive Science Society, 2013*, Berlin, Germany.
79. Wang, H.C., Lu, S., Lim, J.H. & Pomplun, M. (2012). Visual attention is attracted by text features even in scenes without text. *Proceedings of the Thirty-Fourth Annual Meeting of the Cognitive Science Society*, 2012, Sapporo, Japan.
80. Wang, H.C., Hsu, L.C., Tien, Y.M. & Pomplun, M. (2012). Estimating semantic transparency of constituents of English compounds and two-character Chinese words. *Proceedings of the Thirty-Fourth Annual Meeting of the Cognitive Science Society*, 2012, Sapporo, Japan.
81. Plummer, P., Wang, H.C., Tzeng, Y., Pomplun, M. & Rayner, K. (2012). Modeling concept activation in working memory during online sentence processing. *Proceedings of the Thirty-Fourth Annual Meeting of the Cognitive Science Society*, 2012, Sapporo, Japan.
82. Wang, H.C. & Pomplun, M. (2011). The attraction of visual attention to texts in real-world scenes. *Proceedings of the Thirty-Third Annual Meeting of the Cognitive Science Society, 2011*, Boston, Massachusetts.
83. Hwang, A.D., Wang, H.C. & Pomplun, M. (2009). Semantic guidance of eye movements during real-world scene inspection. *Proceedings of the Thirty-First Annual Meeting of the Cognitive Science Society, 2009*, Amsterdam, the Netherlands.
84. Garaas, T.W., Duzcu, H., Marino, F. & Pomplun, M. (2009). A design for real-time neural modeling on the GPU incorporating dendritic computation. *Proceedings of the Fifth International Workshop on Artificial Neural Networks and Intelligent Information Processing (ANNIIP 2009)*. Milan, Italy.
85. Garaas, T.W. & Pomplun, M. (2009). Autonomous camera control by neural models in robotic vision systems. Proceedings of the *6th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2009)*. Milan, Italy.
86. Garaas, T.W., Pepe, R., Lo, H.Z., Nestor, P.G. & Pomplun, M. (2009). Neural adaptability and inspection time. Proceedings of the *6th IEEE International Conference on Cognitive Informatics (ICCI 2009),* Hong Kong, China.
87. Ding, W., Chen, P., Al-Mubaid, H. & Pomplun, M. (2009). A Gaze-Controlled Interface to Virtual Reality Applications for Motor- and Speech-Impaired Users. Proceedings of the *2009 HCI International,* San Diego, California.
88. Garaas, T.W. & Pomplun, M. (2007). Elementary Motion Analysis Using a Retina-Inspired Neural Network. *Proceedings of BIONETICS 2007, Workshop on Computing and Communications from Biological Systems: Theory and Applications (CCBS 2007)*. Budapest, Hungary.
89. Xiao, M., Garaas, T. & Pomplun, M. (2007). A Robust Neural Network Approach for Determining 3D Gaze Position. *Proceedings of the 12th International Conference on Human-Computer Interaction (HCII 2007)*, Beijing, China.
90. Garaas, T.W., Xiao, M. & Pomplun, M. (2007). Personalized spell checking using neural networks. *Proceedings of the 12th International Conference on Human-Computer Interaction (HCII 2007)*, Beijing, China.

91. Garaas, T.W. & Pomplun, M. (2007). The Visual Implications of Inspection Time. In D. Zhang, Y. Wang, and W. Kinsner (Eds.), *Proceedings of the 6th IEEE International Conference on Cognitive Informatics 2007* (pp. 62 - 71). Lake Tahoe, California, USA.

92. Hwang, A.D., Higgins, E.C. & Pomplun, M. (2007). How chromaticity guides visual search in real-world scenes. *Proceedings of the Twenty-Ninth Annual Meeting of the Cognitive Science Society, 2007*, Nashville, Tennessee.

93. Umali, M. & Pomplun, M. (2005). Voluntary versus Involuntary Perceptual Switching: Mechanistic Differences in Viewing an Ambiguous Figure. In B.G. Bara, L. Barsalou & M. Bucciarelli (Eds.), *Proceedings of the Twenty-Seventh Annual Meeting of the Cognitive Science Society, 2005*, Stresa, Italy, pp. 2218-2223.

94. Carbone, E. & Pomplun, M. (2005). Simulating the Fröhlich Effect of Motion Misperception as a Result of Top-Down Attentional Modulation in the Visual System. In B.G. Bara, L. Barsalou & M. Bucciarelli (Eds.), *Proceedings of the Twenty-Seventh Annual Meeting of the Cognitive Science Society, 2005*, Stresa, Italy, pp. 390-395.

95. Pomplun, M., Carbone. E., Sichelschmidt, L., Velichkovsky, B.M. & Ritter, H. (2005). How to Disregard Irrelevant Stimulus Dimensions: Evidence from Comparative Visual Search. In W. Kinsner, D. Zhang, Y. Wang & J. Tsai (Eds.), *Proceedings of the 4th IEEE International Conference on Cognitive Informatics (ICCI 2005)*, University of California, Irvine, USA, pp. 183-192.

96. Xiao, M., Hyppolite, J.R., Pomplun, M., Sunkara, S. & Carbone, E. (2005). Compensating for the Eye-Hand Span Improves Gaze Control in Human-Computer Interfaces. *Proceedings of the 11th International Conference on Human-Computer Interaction (HCII 2005)*, Las Vegas, Nevada (on CD).

97. Maw, N.N. & Pomplun, M. (2004). Studying Human Face Recognition with the Gaze-Contingent Window Technique. In K. Forbus, D. Gentner & T. Regier (Eds.), *Proceedings of the Twenty-Sixth Annual Meeting of the Cognitive Science Society, 2004*, Chicago, Illinois, pp. 927-932.

98. Essig, K., Pomplun, M. & Ritter, H. (2004). Application of a Novel Neural Approach to 3D Gaze Tracking: Vergence Eye-Movements in Autostereograms. In K. Forbus, D. Gentner & T. Regier (Eds.), *Proceedings of the Twenty-Sixth Annual Meeting of the Cognitive Science Society, 2004*, Chicago, Illinois, pp. 357-362.

99. Koesling, H., Carbone, E., Pomplun, M., Sichelschmidt, L. & Ritter, H. (2004). When More Seems Less – Non-Spatial Clustering in Numerosity Estimation. *Proceedings of the Early Cognitive Vision Workshop*, May 28 - June 1, 2004, Isle of Skye, Scotland.

100. Tsotsos, J.K., Pomplun, M., Martinez-Trujillo, J.C. & Zhou, K. (2004). Attending to Visual Motion: Localizing and Classifying Affine Motion Patterns. *Proceedings of the Canadian Conference on Computer and Robot Vision*, May 17 - 20, 2004, London, Ontario, pp. 452-462.

101. Hyppolite, J.R., Pomplun, M. & Carbone, E. (2004). The Eye-Hand Span in Human-Computer Interaction. *Proceedings of the 18th National Conference On Undergraduate Research (NCUR) 2004*, Indiana University/Purdue University (IUPUI), Indianapolis, Indiana, April 15-17, 2004.

102. Jang, S., Pomplun, M. & Shin, M.C. (2003). Block Matching Integrating Intensity, Hue and Range. In B. Michaelis & G. Krell (Eds.), Pattern Recognition. Lecture Notes in Computer Science (LNCS) 2781. *Proceedings of the 25th DAGM Symposium, Magdeburg, Germany (pp. 442-449)*. Berlin: Springer.

103. Inamdar, S. & Pomplun, M. (2003). Comparative Search Reveals the Tradeoff between Eye Movements and Working Memory Use in Visual Tasks. In R. Alterman & D. Kirsh (Eds.), *Proceedings of the Twenty-Fifth Annual Meeting of the Cognitive Science Society, 2003*, Boston, Massachusetts, pp. 599-604.

104. Pomplun, M. & Sunkara, S. (2003). Pupil dilation as an indicator of cognitive workload in human-computer interaction. In D. Harris, V. Duffy, M. Smith & C. Stephanidis (Eds.), *Human-Centred Computing: Cognitive, Social, and Ergonomic Aspects. Vol. 3 of the Proceedings of the 10th International Conference on Human-Computer Interaction, HCII 2003*, Crete, Greece, 542-546.

105. Sunkara, S. & Pomplun, M. (2003). Evaluating Human-Computer Interface Usability based on Pupillary Response. *17th National Conference on Undergraduate Research, NCUR 2003*, Salt Lake City, Utah.

106. Jang, S., Pomplun, M., Kim, G. & Choi, H. (2003). Extracting Motion Model Parameters with Robust Estimation. In Lecture Notes in Computer Science (LNCS) 2667. *Proceedings of the International Conference on Computational Science and Its Applications (ICCSA 2003)* (pp. 633-642). Berlin: Springer.

107. Tsotsos, J.K., Pomplun, M., Liu, Y., Martinez-Trujillo, J.C. & and Simine, E. (2002). Attending to Motion: Localizing and Classifying Motion Patterns in Image Sequences. In H.H. Bülthoff, S.-W. Lee, T.A. Poggio, C. Wallraven (Eds.), *Proceedings of the Second International Workshop on Biologically Motivated Computer Vision*, BMCV 2002, Tübingen, Germany, 439-452.

108. Pomplun, M., Trujillo-Martinez, J., Simine, E., Liu, Y., Treue, S. & Tsotsos, J.K. (2002). A neurally-inspired model for detecting and localizing simple motion patterns in image sequences. *Proceedings of the 4th Workshop Dynamic Perception*, Bochum, Germany, 47-52.

109. Pomplun, M., Ivanovic, N., Reingold, E.M., Shen, J. (2001). Empirical Evaluation of a Novel Gaze-Controlled Zooming Interface. In M.J. Smith, G. Salvendy, D. Harris & R.J. Koubek (Eds.), *Usability Evaluation and Design: Cognitive Engineering, Intelligent Agents and Virtual Reality. Proceedings of the 9th International Conference on Human-Computer Interaction 2001*, New Orleans, USA.

110. Pomplun, M. & Mataric, M.J. (2000). Evaluation metrics and results of human arm movement imitation. *Proceedings of the First IEEE-RAS International Conference on Humanoid Robots (Humanoids-2000)*, MIT, Cambridge, MA.

111. Pomplun, M., Reingold, E.M., Shen, J. & Williams, D.E. (2000). The area activation model of saccadic selectivity in visual search. In Gleitman, L.R. & Joshi, A.K. (Eds.), *Proceedings of the Twenty Second Annual Conference of the Cognitive Science Society*, 375-380. Mahwah, NJ: Erlbaum.

112. Pomplun, M. & Ritter, H. (1999). A three-level model of comparative visual search. In Hahn, M. & Stoness, S.C. (Eds.), *Proceedings of the Twenty First Annual Conference of the Cognitive Science Society*, 543-548.

113. Clermont, T., Pomplun, M., Prestin, E. & Rieser, H. (1998). Eye-movement research and the investigation of dialogue structure. In J. Hulstijn & A. Nijholt (Eds.), *Formal Semantics and Pragmatics of Dialogue. Proceedings of the Thirteenth Twente Workshop on Language Technology*, 61-75.

114. Velichkovsky, B.M., Sprenger, A. & Pomplun, M. (1997). Auf dem Weg zur Blickmaus: Die Beeinflussung der Fixationsdauer durch kognitive und kommunikative Aufgaben. In Liskowsky, R., Velichkovsky, B.M. & Wünschmann, W. (Eds.), *Software-Ergonomie '97: Usability Engineering*, 317-327.

115. Pomplun, M., Velichkovsky, B.M. & Ritter, H. (1994). An artificial neural network for high precision eye movement tracking. In Nebel, B. & Dreschler-Fischer, L. (Eds.), *Lecture notes in artificial intelligence: AI-94 Proceedings*, 63-69. Berlin: Springer Verlag.

OTHER REFEREED CONFERENCE PRESENTATIONS (1 submitted, 85 published)

116. Bayat, A., Bayat, A.H. &, Pomplun, M. (submitted). Information Fusion based on Fixation Patterns and Semantic Analysis for Observer Identification during Reading. *Annual Meeting of the Vision Sciences Society* (VSS 2017), St. Petersburg, Florida.

117. Schneps, M., Chen, C., Pomplun, M., Crosby, A. & Kent, K. (2016, May). Re-Inventing Reading: Rapid multi-channel processing of language accelerates reading. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2016), St. Petersburg, Florida.

118. Schneps, M., Chen, C., Pomplun, M., Crosby, A. & Kent, K. (2016, May). Re-Inventing Reading: Rapid multi-channel processing of language accelerates reading. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2016), St. Petersburg, Florida.

119. Wang, J., Schneps, Antonenko, P., Pomplun, M., & Dawson, K. (2016, May). Do Dyslexic Learners Benefit from Holistic Processing in a Comparative Visual Search Task? Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2016), St. Petersburg, Florida.

120. Yazdanbakhsh, A., Wu, C., Cao, B., Dali, V., Gagliardi, C., Pomplun, M. & Cronin-Golomb, A. (2016, May). Involuntary Saccades and Binocular Coordination during Visual Pursuit in Parkinson's Disease. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2016), St. Petersburg, Florida.

121. Attar, N., Fomenky, P., Ding, W. & Pomplun, M. Modeling an Unsupervised Time-Series Learning Method for Visual Search Leveraging Preprocessed Cognitive Load Pupil Data. *The 45th Annual Meeting of the Society for Computers in Psychology (SCiP)*, Chicago, USA, 2015.

122. Pomplun, M. (2015, June). Guidance of visual attention by low- and high-level features in real-world scenes. *NeuroHAM 2015*, Boston, Massachusetts.

123. Ahmed Wick, F. & Pomplun, M. (2015, May). The semantic advantage in object memorization. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2015), St. Petersburg, Florida.

124. Schneps, M., Chen, C., Pomplun, M., Crosby, A. & Kent, K. (2015, May). Re-Inventing Reading: Rapid multi-channel processing of language accelerates reading. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2015), St. Petersburg, Florida.

125. Wu, C.C., Attar, N.H., & Pomplun, M. (2015, May). Involuntary semantic bias in search for words and word pairs. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2015), St. Petersburg, Florida.

126. Wu, C.C., Wang. H.C., & Pomplun, M. (2014, May). Spatial dependency of objects, but not scene gist contributes semantic guidance of attention. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2014), St. Petersburg, Florida.

127. Ahmed Wick, F., Saura, L., Wu. C.C. & Pomplun, M. (2014, May). Semantic bias in visual working memory. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2014), St. Petersburg, Florida.

128. Guillory, S., Kaldy, Z., Shukla, M. & Pomplun, M. (2014, May). Pupil Response Predicts Memory Strength in a Visual Short-term Memory Task. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2014), St. Petersburg, Florida.

129. Attar, N.H., Wu, C.C. & Pomplun, M. (2014, May). Immediate Feedback During Multiple-Target Visual Search Improves Accuracy. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2014), St. Petersburg, Florida.

130. Ahmed Wick, F., Saura, L., Wu. C.C. & Pomplun, M. (2014, April). Semantic bias in visual working memory. Poster at the *21st Annual Meeting of the Cognitive Neuroscience Society*, Boston, MA.

131. Pomplun, M. (2013, October). Guidance of visual attention by low- and high-level features in real-world scenes. *1st International Workshop on Solutions for Automatic Gaze Data Analysis (SAGA 2013)*, Bielefeld, Germany.

132. Attar, N.H., Schneps, M.H. & Pomplun, M. (2013, May). Pupil size as a measure of working memory load during a complex visual search task. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2013), Naples, Florida.

133. Schneps, M., Thomson, J., Sonnert, G., Pomplun, M., Chen, C., & Heffner-Wong, A. (2013, May). E-readers configured for short lines facilitate reading in those who struggle. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2013), Naples, Florida.

134. Ahmed-Wick, F., Garaas, T.W., & Pomplun, M. (2013, May). Saccadic adaptation modulates inhibition of return. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2013), Naples, Florida.

135. Pomplun, M., Silva, E., Ronda, J.M., Cain, S.W., Münch, M.Y., Czeisler, C.A. & Duffy, J.F. (2012, June). Circadian phase and time awake influence performance on complex visual tasks. Poster presented at *Sleep 2012*, Boston, MA.

136. Wu, C.C., Wang. H.C., & Pomplun, M. (2013, May). The contribution of scene gist and spatial dependency of objects to semantic guidance of attention. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2013), Naples, Florida.

137. Wang, H.C., Schotter, E.R., Angele, B., Yang, J., Simovici, D., Pomplun, M. & Rayner, K. (2012, June). Using Singular Value Decomposition to Investigate Degraded Chinese Character Recognition: Evidence from Eye Movements During Reading. Oral presentation at *China International Conference on Eye Movements* (CICEM) 2012.

138. Attar, N.H., Schneps, M.H. & Pomplun, M. (2012, May). Working memory load increase predicts visual search efficiency. Poster at the *Annual Meeting of the Vision Sciences Society* (VSS 2012), Naples, Florida.

139. Higgins, E.C., Pomplun, M., Tran, R. & Rayner, K. (2011, November). Saccadic adaptation to random error. Poster at the *Annual Meeting of the Psychonomic Society*, Seattle, WA.

140. Ahmed-Wick, F., Garaas, T.W., Eglington, L. & Pomplun, M. (2011, August). Saccadic adaptation alters the attentional field. Poster at the *16th European Conference on Eye Movements (ECEM2011)*, Marseille, France.

141. Wang, H.C., Angele, B., Schotter, E., Yang, J., Simovici, D., Pomplun, M. & Rayner, K. (2011, August). Singular value decomposition is a valid predictor of stroke importance in reading Chinese. Poster at the *16th European Conference on Eye Movements (ECEM2011)*, Marseille, France.

142. Wang, H.C. & Pomplun, M. (2011, July). The attraction of visual attention to texts in real-world scenes – are Chinese texts attractive to non-Chinese Speakers? Poster at the *Asia-Pacific Conference on Vision (APCV 2011)*, Hong Kong, China.

143. Eglington, L., Ahmed-Wick, F. & Pomplun, M. (2011, May). Visual Attention and Working Memory. Poster presented at the *17th Massachusetts Statewide Undergraduate Research Conference*, Amherst, Massachusetts.

144. Diaz-Merced, W.L., Schneps, M.H., Brickhouse, N., Pomplun, M., Brewster, S. & Mannone, J. (2011, May). Exploring Sound to Convey Information. *218th Meeting of the American Astronomical Society (AAS)*, Boston, MA.

145. Schneps, M.H., Brockmole, J.R., Rose, L.T., Pomplun, M., Sonnert, G. & Greenhill, L.J. (2011, May). Dyslexia Linked to Visual Strengths Useful in Astronomy. *218th Meeting of the American Astronomical Society (AAS)*, Boston, MA.

146. Wang, H.C. & Pomplun, M. (2011, January). How does text in real-world scenes attract attention? Poster presented at the *MIT Scene Understanding Symposium (SUnS 2011)*, Cambridge, MA.

147. Wang, H.C., Tien, Y.M., Hsu, L.C. & Pomplun, M. (2010, July). The role of semantic transparency in the processing of two-character Chinese words. Poster at the *Asia-Pacific Conference on Vision (APCV 2010)*, Taipei, Taiwan.

148. Luo, G., Garaas, T.W., Pomplun, M. & Peli, E. (2010, May). Peri-saccadic mislocalization centered at salient stimulus instead of saccade target. Submitted to the *Meeting of the Visual Sciences Society 2010*. Naples, Florida, USA.

149. Hwang, A.D. & Pomplun, M. (2010, May). The dynamics of top-down and bottom-up control of visual attention during search in complex scenes. Poster presented at the *Meeting of the Visual Sciences Society 2010*. Naples, Florida, USA.

150. Ahmed, F., Hwang, A.D., Walsh, E.C. & Pomplun, M. (2010, May). Conspicuity of Object Features Determines Local versus Global Mental Rotation Strategies. Poster presented at the *Meeting of the Visual Sciences Society 2010*. Naples, Florida, USA.

151. Schneps, M., Brockmole, J., Heffner-Wong, A, Pomplun, M., Hwang, A.D., Schneps, M. & Sonnert, G. (2010, May). The Role of Gist in Dyslexia. Poster presented at the *Meeting of the Visual Sciences Society 2010*. Naples, Florida, USA.

152. Wang, H.C., Hwang, A.D. & Pomplun, M. (2009, August). Frequency and predictability effects on eye fixation time in real-world scene viewing. Talk at the *15th European Conference on Eye Movements (ECEM 2009)*. Southampton, UK.

153. Garaas, T.W**.** & Pomplun, M. (2009, May). Distortion in perceived object size accompanies saccadic adaptation. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

154. Spering, M., Pomplun, M. & Carrasco, M. (2009, May). Differential effects of suppressed visual motion information on perception and action during binocular rivalry flash suppression. Talk at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

155. Pomplun, M., Garaas, T.W. & Carrasco, M. (2009, May). The effects of task demands on the dynamics of visual search in virtual 3D displays. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

156. Luo, G., Garaas, T.W., Pomplun, M. & Peli, E. (2009, May). Does saccadic space compression mean size shrinking? Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

157. Marino, F., Garaas, T.W. & Pomplun, M. (2009, May). On the perception of temporal visual events. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

158. Lo, H., Garaas, T.W. & Pomplun, M. (2009, May). Measuring the properties of the post-saccadic visual error calculation. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

159. Ackermann, J.F., Pomplun, M. & Landy, M.S. (2009, May). Conservatism in a 2AFC Discrimination Task. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

160. Schneps, M., Rose, T.L., Martinez-Conde, S. & Pomplun, M. (2009, May). Covert Orienting Reflex: Involuntary pupil response predicts microsaccade production. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

161. Hwang, A.D., Wang, H.C. & Pomplun, M. (2009, May). Semantic guidance of eye movements during real-world scene inspection. Poster at the *Meeting of the Visual Sciences Society 2009*. Naples, Florida, USA.

162. Hwang, A.D., Higgins, E.C. & Pomplun, M. (2009, January). A model of top-down attentional control during visual search in complex scenes. Poster presented at the *MIT Scene Understanding Symposium (SUnS 2009)*, Cambridge, MA.

163. Hwang, A.D., Wang, H.C. & Pomplun, M. (2009, January). Semantic guidance of eye movements during real-world scene perception. Poster presented at the *MIT Scene Understanding Symposium (SUnS 2009)*, Cambridge, MA.

164. Umali, M., Pomplun, M., & Hirsch, J. (2008, November). Cognitive and stimulus-driven guidance in feature-based visual search. *The 38nd Annual Meeting of the Society for Neuroscience* in Washington, D.C.

165. Garaas, T.W., Marino, F. & Pomplun, M. (2008, November). A neural system for efficient visual search in autonomous robotics. Talk given at the *IEEE International Conference on Technologies for Practical Robot Applications*. Woburn, Massachusetts, USA.

166. Hwang, A.D. & Pomplun, M. (2008, May). A model of top-down control of attention during visual search in real-world scenes. Lecture presented at the *2008 Annual Meeting of the Vision Sciences Society*, Naples, Florida.

167. Garaas, T.W. & Pomplun, M. (2008, May). The effect of target size and information density on saccadic adaptation during real-world image search. Poster presented at the *2008 Annual Meeting of the Vision Sciences Society*, Naples, Florida.

168. Umali, M., Pomplun, M., & Hirsch, J. (2008, April). Top-Down & Bottom-Up Regulation of Feature Prioritization in Comparative Visual Search. Poster presented at the *2008 Annual Meeting of the Cognitive Neuroscience Society*, San Francisco, California.

169. Xiao, M., Melo, H., Garaas, T., Hwang, A. & Pomplun, M. (2007, July). Cognitive effects of gaze input and stereoscopic depth on human-computer interaction. Poster presented at the *Twenty-Ninth Annual Meeting of the Cognitive Science Society, 2007*, Nashville, Tennessee.

170. Gold, B.J., Pomplun, M., Rice, N.J., & Sekuler, R. (2007, May). A novel approach to studying human imitation. Oral presentation at the *Eleventh Internaltional Conference on Cognitive and Neural Systems*, Boston, Massachusetts.

171. Garaas, T., Xiao, M. & Pomplun, M. (2006, July). Implicit and Explicit learning as it relates to machine vision systems. Research poster presented at the *2006 ACM SIGGRAPH Conference*, Boston, Massachusetts.

172. Xu, Y., Higgins, E., Xiao, M., & Pomplun, M. (2006, April). Color and the guidance of visual search. Poster presented at the *12th Massachusetts Conference On Undergraduate Research*, Boston, Massachusetts.

173. Alshibli, A., Pomplun, M., Stefanescu, D., Xu, Z., & Zinoviev, D. (2006, March). Evaluation of Web Page Complexity through Pupil Dilation Measurement. Oral presentation at the *2006 Suffolk University Academic Conference*, Boston, Massachusetts.

174. Kaldy, Z., Blaser, E., Kibbe, M., & Pomplun, M. (2005, May). What drives visual salience in young infants? Poster presented at the *Annual Meeting of the Vision Sciences Society, May 6-11*, Sarasota, Florida.

175. Blaser, E., Kaldy, Z., Eddy, K., & Pomplun, M. (2005, May). Determining salience for complex objects. *Poster presented at the Annual Meeting of the Vision Sciences Society, May 6-11*, Sarasota, Florida.

176. Pomplun, M., Weng, Z., Wong, M. & Hu, C. (2005, March). Area Activation II: Predicting saccadic selectivity in visual search tasks. Invited oral presentation at the *US Air Force Workshop on Integrated Models of Cognitive Systems (IMoCS)*, March 3-6, Saratoga Springs, New York.

177. Koesling, H., Pomplun, M. & Ritter, H. (2004, August). One + One = Two? - The Effects of Non-Spatial Object Clustering on Numerosity Estimation. *27th Annual Meeting of the European Conference on Visual Perception (ECVP)*, Budapest, Hungary.

178. Carbone, E. & Pomplun, M. (2004, July). Motion misperception caused by attentional feedback connections: A neural model simulating the Fröhlich effect. Visual Processing in Microgenesis: Feedforward or Reentrant? *German-Estonian Inter-University Symposium,* Hiiumaa Island, Estonia.

179. Martinez-Trujillo, J.C., Tsotsos, J.K., Simine, E., Pomplun, M., Wildes, R., Treue, S., Heinze, H.J. & Hopf, J.M. (2004, May). A human cortical specialization for the processing of velocity gradients in moving stimuli. *Fourth Annual Meeting of the Vision Sciences Society,* Sarasota, Florida.

180. Hyppolite, J.R., Pomplun, M. & Carbone, E. (2004, May). The Eye-Hand Span in Human-Computer Interaction. *10th Massachusetts Conference On Undergraduate Research*, Boston, Massachusetts.

181. Tsotsos, J.K., Martinez-Trujillo, J.C., Simine, E., Pomplun, M., Treue, S., Heinze, H.J. & Hopf, M. (2003, November). A human cortical specialization for the processing of speed gradient information in moving stimuli. *The 33rd Annual Meeting of the Society for Neuroscience*, New Orleans, Louisiana.

182. Simine, E., Martinez-Trujillo, J.C., Pomplun, M. & Tsotsos, J.K. (2003, June). Human integration time thresholds for discriminating transient changes in the direction of moving stimuli change with signal intensity. *York Conference in Honour to Dr. D. Regan.*

183. Sunkara, S. & Pomplun, M. (2003, May). Using Pupil Dilation to Evaluate the Usability of Human-Computer Interfaces. *9th Massachusetts Conference On Undergraduate Research*, Boston, Massachusetts.

184. Fazl, A. & Pomplun, M. (2002, November). Eye Movements to Crowded Stimuli: The First Landing Position is Less Accurate. *The 32nd Annual Meeting of the Society for Neuroscience* in Orlando, Florida.

185. Schreiber, K., Simine, E., Martinez-Trujillo, J.C., Pomplun, M. & Tsotsos, J.K. (2002, November). Integration time for detecting transient changes in the direction of moving stimuli changes with signal intensity. *The 32nd Annual Meeting of the Society for Neuroscience* in Orlando, Florida.

186. Reingold, E. M., Charness, N., Pomplun, M., & Stampe, D. M. (2001, August). Expertise attenuates change blindness: Evidence from a gaze-contingent window paradigm. *11th European Conference on Eye Movements,* Turku, Finland.

187. Reingold, E. M., Shen, J., & Pomplun, M. (2001, August). The influence of the central discrimination difficulty on saccadic selectivity in visual search. *11th European Conference on Eye Movements,* Turku, Finland.

188. Shen, J., Reingold, E. M., & Pomplun, M. (2000, September). Distraction of saccade selection by a color singleton. *Conference on "Eye Movements and Vision in the Natural World".* Amsterdam, the Netherlands.

189. Pomplun, M., Reingold, E.M., Shen, J. & Williams, D.E. (2000, May). Modeling saccadic selectivity in visual search tasks. *19th Banff Annual Seminar in Cognitive Science,* Banff, Canada.

190. Sprenger, A., Pomplun, M. (2000, January). Optimizing eye-movement data by using neural nets. *Okulomotorik Workshop Zuerich*, Switzerland.

191. Reingold, E. M., Shen, J., & Pomplun, M. (1999, September). How does the distractor ratio influence the patterns of eye movements? *10th European Conference on Eye Movements,* Utrecht, the Netherlands.

192. Reingold, E. M., Pomplun, M. & Shen, J. (1999, September). Guidance of search processes by parafoveal information. *10th European Conference on Eye Movements,* Utrecht, the Netherlands.

193. Pomplun, M., Shen, J. & Reingold, E. M. (1999, July). The visual span in comparative visual search. *6th Annual Conference of the Cognitive Science Association for Interdisciplinary Learning*, Hood River, Oregon.

194. Clermont, T., Koesling, H., Pomplun, M., Prestin, E. & Rieser, H. (1998, October). Eye-movement Research and the Investigation of Dialogue Structure. *The Second Swedish Symposium on Multimodal Communication*, Lund, Sweden.

195. Carbone, E., Pomplun, M. & Sichelschmidt, L. (1998, April). Kann Rot egal sein? Irrelevante Information bei vergleichender visueller Suche. *40. Tagung experimentell arbeitender Psychologen*, Marburg, Germany.

196. Velichkovsky, B.M., Sprenger, A., Pomplun, M. & Unema, P. (1997, November). Eye movements and encoding manipulations in two visual memory tasks. *Abstracts of the Psychonomic Society 38th Annual Meeting*, Philadelphia, USA. p.73.

197. Pomplun, M., Wagner, K., Velichkovsky, B.M. & Ritter, H. (1997, September). Eye movements in comparative visual search. *9th European Conference on Eye Movements*, Ulm, Germany.

198. Velichkovsky, B.M., Sprenger, A., Pomplun, M. & Unema, P. (1997, September). Eye movements dissociate levels of processing. *9th European Conference on Eye Movements*, Ulm, Germany.

199. Carbone, E., Pomplun, M. & Sichelschmidt, L. (1996, April). Untersuchung visueller Aufmerksamkeitsprozesse waehrend vergleichender Suche. *38. Tagung experimentell arbeitender Psychologen*, Eichstaett, Germany.

200. Pomplun, M., Rieser, H. & Velichkovsky, B.M. (1996, January). Übertragung von Blickbewegungen und Kooperationsexperimente. *Zweite Fachtagung der Gesellschaft für Kognitionswissenschaft (KogWis96)*, Hamburg, Germany.

201. Pomplun, M., Velichkovsky, B.M., Rieser, J. & Ritter, H. (1995, September). New paradigms in eye-movement research. *Eighth European Conference on Eye Movements*, Derby, UK.

TECHNICAL REPORTS (14 published)

202. Hwang, A.D., Higgins, E.C. & Pomplun, M. (2009). Informativeness guides visual search in natural scenes. *University of Massachusetts Boston Computer Science Technical Report 2/2009.*

203. Lennartz, A. & Pomplun, M. (2009). The feasibility of gaze tracking for "mind reading" during search. *University of Massachusetts Boston Computer Science Technical Report 1/2009.*

204. Marino, F., Garaas, T.W., Zhang, V. Y., Maw, N. N. & Pomplun, M. (2008). Real-time camera control using eye-movement patterns. *University of Massachusetts Boston Computer Science Technical Report 1/2008.*

205. Pomplun, M. & Mataric, M. (2007). A segmentation algorithm for the comparison of human limb trajectories. *University of Massachusetts at Boston Computer Science Technical Report 1/2007.*

206. Pomplun, M. & Mataric, M.J. (2000). Evaluation metrics and results of human arm movement imitation. *IRIS Techical Report IRIS-00-384, University of Southern California.*

207. Pomplun, M., Prestin, E. & Rieser, H. (1998). Eye-movement research and dialogue structure. CRC 360 *Technical Report 12/1998, University of Bielefeld.*

208. Faisal, A.A., Fislage, M., Pomplun, M., Rae, R. & Ritter, H. (1998). Observation of human eye movements to simulate visual exploration of complex scenes. *Technical Report, University of Bielefeld.*

209. Pomplun, M., Carbone, E., Sichelschmidt, L., Velichkovsky, B.M. & Ritter, H. (1998). How to disregard irrelevant stimulus dimensions: Evidence from comparative visual search. *CRC 360 Technical Report 7/1998, University of Bielefeld.*

210. Koesling, H., Pomplun, M. & Ritter, H. (1998). The effects of structural information on perceived numerosity in two-dimensional object distributions. *CRC 360 Technical Report 2/1998, University of Bielefeld.*

211. Mataric, M.J. & Pomplun, M. (1997). What do people look at when watching human movement? *Brandeis University Computer Science Technical Report CS-97-194.*

212. Pomplun, M., Sichelschmidt, L., Wagner, K., Velichkovsky, B.M., Rickheit, G. & Ritter, H. (1995). Visuelle Suchprozesse beim Vergleich zweidimensionaler Objektmengen, Teil I: Zur Rolle der lokalen Verteilungsparameter. *CRC 360 Technical Report 9/1995, University of Bielefeld.*

213. Clermont, T., Meier, C., Pomplun, M., Prestin, E., Rieser, H., Ritter, H. & Velichkovsky, B.M. (1995). Augenbewegung, Fokus und Referenz. *CRC 360 Technical Report 8/1995, University of Bielefeld.*

214. Pomplun, M., Ritter, H. & Velichkovsky, B.M. (1995). Disambiguating Complex Visual Information: Towards Communication of Personal Views of a Scene. *CRC 360 Technical Report 2/1995, University of Bielefeld.*

215. Pomplun, M., Ritter, H. & Velichkovsky, B.M. (1995). An Artificial Neural Network for High Precision Eye Movement Tracking. *CRC 360 Technical Report 1/1995, University of Bielefeld.*