Mark Nawrot

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Education

1991 - 1995	Post-Doctoral, Behavioral Neurology, University of Iowa College of Medicine, Iowa City IA
1988 - 1991	PhD, Psychology, Vanderbilt University, Nashville TN
1986 - 1988	MS, Psychology, Northwestern University, Evanston IL
1982 - 1986	BSc (1st Class Honours), Psychology, University of Alberta, Edmonton AB

Academic Positions

2023 – 2025	Interim Dean, College of Graduate and Interdisciplinary Studies North Dakota State University, Fargo ND
2007 - present	Professor, Department of Psychology North Dakota State University, Fargo ND
2016 - 2023	Department Chair, Department of Psychology North Dakota State University, Fargo ND
2001 - 2007	Associate Professor, Department of Psychology North Dakota State University, Fargo ND
1995 - 2001	Assistant Professor, Department of Psychology North Dakota State University, Fargo ND
1994 - 1995	Visiting Professor, Department of Psychology Cornell College, Mount Vernon, Iowa
1993 - 1995	Research Scientist, Human Factors Group, Center for Computer Aided Design, College of Engineering, University of Iowa
1991 - 1995	Post-Doctoral Associate, Visual Function Laboratory Department of Neurology, University of Iowa

Administrative Experience

Interim Dean, College of Graduate and Interdisciplinary Studies – 2023-2025

Budget of $2.4 million
11 staff members, 5 Interdisciplinary Program Directors
1991 graduate students

The responsibilities of the Interim Dean include the following:

- Serve as the university-wide leader and advocate for graduate education.
- Ensure the quality of graduate education at NDSU continually meets the highest standards at the national level.
- Work collaboratively with the academic colleges to enhance all facets of graduate education, including graduate research, creative activity and teaching.
- Develop and support initiatives aimed at graduate student recruitment, retention, and success.
- Manage the operations and budget of the College, including management of professional staff members.
- Develop strategies and opportunities to enhance resources for graduate assistantships and fellowships, including grant writing and fund raising.
- Work with faculty members from across the campus serving on the Graduate Council to enhance graduate education.

- Communicate the value of NDSU graduate education to stakeholders, in order to support graduate level programming.
- Promote professional development for diverse career paths and graduate student success.
- Serve with integrity, transparency, and impartiality.

Chair – Department of Psychology – 2016-2023

Budget of $2.2 million
16 faculty, 16 part-time academic instructors, 2 staff members
450 psychology majors, 375 psychology minors, 12+ graduate students

The responsibilities of the Department Chair include the following:

- Manage budget effectively to promote the mission of the department.
- Oversee the recruitment of highly qualified faculty and staff.
- Encourage diversity and implements mechanisms for attracting and retaining women and underrepresented groups; encourages respect for all persons in the unit.
- Provide leadership for the department: recognize and maintain strengths in curricula and programs; articulate a vision for the future; prepare for new directions; emphasize accomplishments to enhance optimistic spirit.
- Serve as a public relations representative of the department: foster and maintain collegial relationships with peers and colleagues through the University; attend official NDSU functions; Enhance local, statewide and national visibility and recognition for the department.
- Encourage and facilitate faculty development activities; foster good teaching; facilitate research accomplishments; ensure that mentorship is available, especially for new faculty.
- Supervise, evaluate, and reward tenure-track, nontenure-track, and part-time faculty.
- Supervise, evaluate, and reward staff for performance in their assigned functions.
- Prepare department reports, as requested, on time.
- Communicate effectively: communicate frequently and effectively with department faculty to promote shared governance and decision making, including decisions related to the budget, curriculum, and personnel; communicate to the department from campus administration; communicate department needs and wishes to the Dean and other relevant administrators; deal with public requests to the department.
- Optimize student, faculty and staff morale by reducing, resolving, and preventing conflicts.
- Organize departmental activities; lead efficient and effective department meetings; manage efficient and effective department committees; ensure that social activities take place.
- Know and ensure that all faculty, staff, and students are following the relevant department, college, and NDSU policies.
- Lead department efforts for student recruitment and retention: oversee student advising; Encourage student outreach activities
- Optimize class scheduling and teaching assignments based on current and anticipated need

Academic and Research Awards and Fellowships

Professorial

North Dakota State University	
University Mentoring Excellence Award	2021
College of Science and Mathematics, NDSU	
Paul Juell Mentoring Award	2019
North Dakota State University	
Robert Odney Excellence in Teaching Award	2006
College of Science and Mathematics, NDSU	
Award for Excellence in Teaching	2004
College of Science and Mathematics, NDSU	
James A. Meier Junior Professor	1998-2001
Mortar Board Preferred Professor, North Dakota State University	1998

Post-Doctoral

MRC Post-doctoral Fellowship	1993
NSERC Post-doctoral Fellowship	1991
Medical Research Council of Canada (MRC)	1991
- Post-doctoral Fellowship *(Declined)*	
McDonnell-Pew Program in Cognitive Neuroscience	1991
- Training Fellowship Grant - $ 114,566	

Graduate

Graduate Research Award - Vanderbilt University	1991
Dissertation Enhancement Award - Vanderbilt University	1990
University Scholarship - Vanderbilt University	1989, 1990
University Fellowship - Vanderbilt University	1988
University Scholarship - Northwestern University	1987
University Fellowship - Northwestern University	1986
NSERC - Post-Graduate Fellowship *(Declined)*	1986

Undergraduate

Natural Science and Engineering Council of Canada (NSERC) -Summer Research Fellowship	1984
Rutherford Scholarship	1982

Service

Department of Psychology

Department Chair	2016 - 2023
Resources and Equipment Committee	1996 - 2004
– Chair	2011 - 2016
Curriculum Committee	2008 - 2009
Ad Hoc Budget Committee	2015 - 2016
Safety Trainer	1996 - 2004
Faculty Search Committee	1997 - 2002, 2011
Doctoral Program Proposal Committee	1999

College of Science and Mathematics

Curriculum Committee	1996 - 2011
- Chair	2003 - 2011
Dean Search Committee	1998 -1999, 2002
Awards Committee	2011 – 2014
- Chair	2013 - 2014
PTE Committee	2014 – 2016
- Chair	2015 - 2016
College Realignment Committee	2016
- Chair - Life-Sciences section	

University

University Senate	1998 - 2002
Academic Affairs	2003 - 2007
Standing Committee for Faculty Rights – interim	2010 - 2014
Faculty Advisor - Sportsmen's Club	1998 - 2006
Faculty Advisor - NDSU Paintball Club	1998 - 2004
Faculty Advisor – Women's Softball Club	2011 - 2014
Faculty Advisor – Longboarding NDSU	2011 - 2013
Graduate School Fellowship Review Committee	2015 -2016
Faculty Awards and Recognition Committee	2022 - 2023
Ad-Hoc Committees:	
Attendance	2007
Endowed Professorships	2007

Equity, Diversity, & Inclusion Training

Leading for Equity, Diversity and Inclusion in Higher Education, University of Michigan (via Coursera)
Equal Opportunity/Title IX Training Session, NDSU
Equal Opportunity/Title IX Training Session – _Supervisor Supplement, NDSU
Community of Respect, Module 1: Cultural and Cultural Diversity, NDSU
Community of Respect, Module 2: Redefining Diversity, NDSU
Community of Respect, Module 3: Microaggressions, NDSU
Community of Respect, Module 4: Confronting Bias, NDSU

Research

Research Grants – Funded
(a list of unfunded research proposals is available by request)

OSR-9452892
NSF/ND EPSCoR $40,000 5/15/96 - 7/31/98
The perception of depth from motion and binocular disparity.
(PI: Nawrot)

NDSU Grant-In-Aid $4,000 5/15/96 - 5/30/97
An objective technique to study depth perception.
(PI: Nawrot)

P20 RR11817
NIH IDeA $ 82,633 9/30/96-8/31/99
Investigation of the visual perception of depth.
(PI: Nawrot)

NSF/ND EPSCoR $86,000 1998
NDSU Laboratory for the study of human psychophysiology
(PI: McCourt; Collaborators: Arnell, Blakeslee, Mark, Nawrot, Rokke, Wittrock)

R01 EY12541
NIH/NEI $241,629 9/15/99-8/31/04
Eye movements in the perception of depth from motion
(PI: Nawrot)

RNEST
ND EPSCOR $450,000 2002-2005
Multisensory Center
(Co-Investigator, PI: McCourt)

NIH/NCRR/COBRE $10,129,600 9/04-5/09
Center for Visual Neuroscience
(Co-Investigator / Internal Advisor, PI: McCourt)

NIH/NICHD $216,000 1/09 – 12/12
The development of depth perception from motion parallax in human infants
(Collaborators: M. Nawrot, PI: E.S. Nawrot;)

NIH/NCRR/COBRE – Revised/Renewal ~$10,000,000 6/10 – 5/15
Center for Visual & Cognitive Neuroscience
(Project PI: Co-Investigator, PI: McCourt)

NIH/NIMGM/COBRE – Revised/Renewal ~$5,000,000 8/16 – 7/21
Center for Visual & Cognitive Neuroscience
(Co-Investigator, PI: McCourt)

NIH/NEI $435,000 9/19 – 6/24
Neural mechanisms underlying the computation of depth from motion parallax.
(PI: Nawrot)

Publications:

h-index = 23
citations = 22516
i10 index = 34
Erdös Number = 5

- Peer Reviewed Papers

Caelli, T. & Nawrot, M. (1987). Localization of signals in images. *Journal of the Optical Society of America A, 4*, 2274-2280.

Nawrot, M. & Blake, R. (1989). Neural integration of information specifying structure from stereopsis and

motion, *Science, 244*, 716-718.
Nawrot, M. & Sekuler, R. (1990). Assimilation and contrast in motion perception: explorations in cooperativity, *Vision Research, 30*, 1439-1451.
Nawrot, M. & Blake, R. (1991). The interplay between stereopsis and structure from motion. *Perception & Psychophysics, 49*, 230-244.
Nawrot, M. & Blake, R. (1991). A neural network model of kinetic depth. *Visual Neuroscience, 6*, 219-227.
Rizzo, M., Nawrot, M., Blake, R. & Damasio, A. (1992). A human visual disorder resembling a V4 lesion in monkey. *Neurology, 42*, 1175-1180.
Steinman, S. & Nawrot, M. (1992). Real-time color frame animation for visual psychophysics on the macintosh computer, *Behavioral Research Methods, Instruments, and Computers, 24*, 439-452.
Nawrot, M. & Blake, R. (1993). On the perceptual identity of dynamic stereopsis and kinetic depth. *Vision Research, 33*, 1561-1571.
Schall, J. D., Nawrot, M., Blake, R. & Yu, K. P. (1993). Visually guided attention is neutralized when informative cues are visible but unperceived. *Vision Research*, 33, 2057-2064.
Nawrot, M. & Rizzo, M. (1993). Assessment of shape perception with motion, stereo, and texture cues. In *Ophthalmic and Visual Optics/Non-Invasive Assesment of the Visual System* (Optical Society of America, Washington) Vol 3., 252-255.
Nawrot, M., Shannon, E. S. & Rizzo, M. (1993). Measuring visual function. *Current Opinion in Ophthalmology, 4*; VI:30-37.
Rizzo, M. & Nawrot, M. (1993). Human visual cortex and its disorders. *Current Opinion in Ophthalmology, 4*; VI: 38-47.
Nawrot, M. & Blake, R. (1993). Visual Alchemy: Stereoscopic adaptation produces kinetic depth from random noise. *Perception, 22*, 635-642.
Nawrot, M. & Rizzo, M. (1995). Motion perception deficits from mid-line cerebellar lesions in human. *Vision Research, 35*, 723-731.
Rizzo, M., Nawrot, M. & Zihl, J. (1995). Perception of 2-D shape and 3-D structure from motion and non-motion cues in central akinetopsia. *Brain, 118,* 1105-1127.
Nawrot, M., Shannon, E. & Rizzo, M. (1996). The relative efficacy of cues for 2-D form perception. *Vision Research, 36*, 1141-1152
Barton, J., Rizzo, M., Nawrot, M. & Simpson, T. (1996). Optical blur and the perception of global coherent motion in random dot cinematograms. *Vision Research, 36*, 3051-3059
Patterson, R., Donnelly, M., Phinney, R., Nawrot, M., Whiting, A. & Eyle, T. (1997). Speed discrimination of stereoscopic (cyclopean) motion. *Vision Research, 37*, 871-878.
Nawrot, M. & Rizzo, M. (1998). Chronic motion perception deficits with cerebellar lesions in human. *Vision Research, 38*, 2219-2224.
Rizzo, M. & Nawrot, M. (1998). Perception of movement and shape in Alzheimer's disease. *Brain. 121*, 2259-2270.
Thompson, A, & Nawrot, M. (1999). Abnormal depth perception from motion parallax in amblyopic observers. *Vision Research, 39*, 1407-1413.
Rizzo, M., Anderson, S., Dawson, J. & Nawrot, M. (2000). Vision and cognition in Alzheimer's disease. *Neuropsychologia ,38(8),* 1157-69.
Nawrot, M., Rizzo, M., Rockland, K. & Howard, M. (2000). A transient deficit of first- and second-order motion perception in human. *Vision Research, 40(24),* 3435-3446.
Nawrot, M. (2003). Eye movements provide the extra-retinal signal required for the perception of depth from motion parallax. *Vision Research, 43*, 1553-1562
Nawrot, M. (2003). Depth from motion parallax scales with eye movement gain. *Journal of Vision, 3(11)*, 841-851, http://journalofvision.org/3/11/17/, doi:10.1167/3.11.17.
Nawrot, M., Nordenstrom, B. & Olson, A. (2004). Disruption of eye movements by ethanol intoxication affects perception of depth from motion parallax. *Psychological Science, 15*, 858-865.
Nawrot, M. & Joyce, L. (2006). The pursuit theory of motion parallax. *Vision Research, 46*, 4709-4725.
Nawrot, M ., Frankl, M. & Joyce, L. (2008). Concordant eye movement and motion parallax asymmetries in esotropia. *Vision Research, 48*, 799-808.
Rizzo, M., Nawrot, M., Sparks, J., & Dawson, J. (2008). First and second order motion perception after focal cerebral lesions. *Vision Research, 48*, 2682-2688.
Nawrot, E., Mayo, S. & Nawrot, M. (2009). Development of motion parallax in infancy. *Attention, Perception & Psychophysics, 71*, 194-199.
Nawrot, M. & Stroyan, K. (2009). The motion/pursuit law for visual depth perception from motion parallax. *Vision Research, 49,* 1969- 1978.
Nadler, J. W., Nawrot, M., Angelaki, D. E. & DeAngelis, G. C. (2009). MT neurons combine visual motion with a smooth eye movement signal to code depth sign from motion parallax. *Neuron, 63,* 523-532.
Stroyan, K. & Nawrot, M. (2012). Visual depth from motion parallax and eye pursuit. *Journal of*

Mathematical Biology, 64, 1157-1188. http://dx.doi.org/10.1007/s00285-011-0445-1

Nawrot, M. & Stroyan, K. (2012). Integration time for the perception of depth from motion parallax. *Vision Research, 59, 64-71*. http://dx.doi.org/10.1016/j.visres.2012.02.007

George, J. M., Johnson, J. I. & Nawrot, M. (2013). In pursuit of perspective: Does linear perspective disambiguate depth from motion parallax? *Perception, 42*, 631-641.

Nawrot, E. & Nawrot, M. (2013). The role of eye movements in depth from motion parallax during infancy. *Journal of Vision*, 13, 1-13.

Nawrot, M., Ratzlaff, M., Leonard, Z., & Stroyan, K. (2014). Modeling depth from motion parallax with the motion/pursuit ratio. *Frontiers in Psychology*, *5*. doi: 10.3389/fpsyg.2014.01103

Holmin, J., & Nawrot, M. (2015). Motion parallax thresholds for unambiguous depth perception. Vision Research, 115, 40-47.

Ratzlaff, M. & Nawrot, M. (2016). A pursuit theory account for the perception of common motion in motion parallax. *Perception*, 45(9), 991-1007.

Holmin, J., & Nawrot, M. (2016). The effects of aging on the perception of depth from motion parallax. *Attention, Perception, & Psychophysics*, 1-11.

Holmin, J., Lauer, S. & Nawrot, M. (2016). Implied motion produces real depth. *Visual Cognition*.

Holmin, J., & Nawrot, M. (2017). Aging does not affect integration times for the perception of depth from motion parallax. *Vision Research*, *140*, 81-88. DOI: 10.1016/j.visres.2017.05.016

Nawrot, E., & Nawrot, M. (2019). Convergence and divergence to radial optic flow in infancy. *Journal of Vision*, 19(13):6, 1–11.

Gagrani, M., Ndulue, J., Anderson, D., Kedar, S., Gulati, V., Shepherd, J., High, R., Smith, L., Fowler, Z., Khazanchi, D., Nawrot, M. & Ghate, D. (2022). What do patients with glaucoma see: a novel iPad app to improve glaucoma patient awareness of visual field loss. *British Journal of Ophthalmology*, 106:218-222.

- Invited Chapters

Nawrot, M. (2003). Disorders of motion and depth. In: Neurologic Clinics of North America 21: Vision and the Brain: Part II (Eds. J. Barton & M. Rizzo). pp. 609-629. Harcourt/WB Saunders: Philadelphia.

Nawrot, M. (2011). Parallax and the brain. McGraw-Hill Yearbook of Science & Technology (invited)

- Proceedings

Nawrot, M. (2001). Depth perception in driving: Alcohol intoxication, eye movement changes and the disruption of motion parallax. Proceedings of the First International Driving Symposium on Human Factors in Driver Assessment, Training and Vehicle Design. Aspen Co. pp. 76-80.

- Book Reviews

Nawrot, M. (1996). A personal view of perception. Contemporary Psychology, 41, 676-677. A review of Julesz, Bela (1995) Dialogues on Perception. Cambridge, MA: MIT Press

Nawrot, M. (1997). The perception of structure in our world. Contemporary Psychology. A review of Epstein, William, and Rogers, Sheena (Eds.) (1995) Perception of Space and Motion. San Diego, CA: Academic Press

- Software Publications

Buffington, J., Nawrot, M. & Sekuler, R. (1987). MacCinematogram 1.07d, Software Survey Section, Vision Research, 27, ppV-VI.

Steinman, S. & Nawrot, M. (1992). Software for the generation and display of random-dot cinematograms on the macintosh computer, Behavioral Research Methods, Instruments, and Computers, 24, 573-574.

- Abstracts

Nawrot, M. & Sekuler, R. (1989). Assimilation and contrast in motion perception: explorations in cooperativity. Invest. Ophth. Vis. Sci. (ARVO), 30, 72.

Blake, R. & Nawrot, M. (1989). Evidence indicating a common neural substrate for stereopsis and structure from motion. Invest. Ophth. Vis. Sci. (ARVO), 30, 263.

Nawrot, M. & Blake, R. (1990). A network model of interactions between motion and stereopsis in the specification of structure. Invest. Ophth. Vis. Sci. (ARVO), 31, 529.

Nawrot, M. & Blake, R. (1991). Visual alchemy: stereoscopic adaptation creates kinetic depth from noise. Invest. Ophth. Vis. Sci. (ARVO), 32, 155.

Blake, R. & Nawrot, M. (1991). Detection of coherent motion by cats and by humans. Invest. Ophth. Vis. Sci. (ARVO), 32, 805.

Rizzo, M., Blake, R. & Nawrot, M. (1991). Human brain damage mimicking a V4 lesion. Invest. Ophth. Vis. Sci. (ARVO), 32, 2198.

Blake, R. & Nawrot, M. (1991). Stereopsis and kinetic depth: two sides of the same coin? Optical Society of

America, 17, 194.
Nawrot, M. & Rizzo, M. (1992). Abnormal motion perception with human cerebellar lesions. Invest. Ophth. Vis. Sci. (ARVO), 33, 2188.
Yu, K., Blake, R. & Nawrot, M. (1992). Do rival motion aftereffects combine binocularly? Invest. Ophth. Vis. Sci. (ARVO), 33, 3394.
Nawrot, M. (1993).The role of the cerebellum in visual motion perception. Eighteenth Annual Interdisciplinary Conference, January 17-23, 1993, Jackson Hole, WY.
Nawrot, M., Rizzo, M., & Damasio, H. (1993). Motion perception in humans with focal cerebral lesions. Invest. Ophth. Vis. Sci. (ARVO), 34, 1231.
Rizzo, M., Nawrot, M. & Zihl, J. (1993). Peception of structure-from-motion and non-motion cues in central akinetopsia. Invest. Ophth. Vis. Sci. (ARVO), 34, 1231.
Grabowski, T., Damasio, H., Frank, R., Boles Ponto, L., Watkins, G., Hichwa, R., Rizzo, M. & Nawrot, M. (1993). A technique for the neuroanatomical analysis of functional brain images. Society for Neuroscience Abstracts, 19 (2), 1604.
Nawrot, M. & Blake, R. (1994). Size-distance invariance with kinetic depth and dynamic stereopsis. Invest. Ophth. Vis. Sci. (ARVO), 35, 3382.
Donnelly, M., Whiting, A., Eyle, T., Nawrot, M., Phinney, R., Busch, J. & Patterson, R. (1994). Stereoscopic motion discrimination without position cues: evidence for hypercyclopean motion processing. Invest. Ophth. Vis. Sci. (ARVO), 35, 58.
Nawrot, M. (1996). Perceived depth from observer-induced motion parallax determined with size-distance invariance. Invest. Ophth. Vis. Sci. (ARVO), 37, S289.
Rizzo, M. & Nawrot, M. (1996). 3D motion perception in Alzheimer's disease. National Academy of Neurology.
Nawrot, M. (1997). Role of slow eye movements in depth from motion parallax. Invest. Ophth. Vis. Sci. (ARVO), 38, S694.
Rizzo, M. & Nawrot, M. (1997). A transient deficit of first- and second-order motion perception in human. Invest. Ophth. Vis. Sci. (ARVO), 38, S237.
Nawrot, M. (1997). Role of slow eye movements in depth from motion parallax. Joint North Dakota/South Dakota State Conference.
Nawrot, M. (1998). Optokinetic eye movements required for motion parallax. Invest. Ophth. Vis. Sci. (ARVO). 39(4), S462
Rizzo, M., Cummings, T., Anderson, S. & Nawrot, M. (1998). Visual function profiles in Alzheimer's Disease. Invest. Ophth. Vis. Sci. (ARVO).
Nawrot, M. & Nordenstrom, B. (1999) Eye movements, retinal motion and depth percepts in simple motion parallax displays (ARVO). Investigative Ophthalmology and Visual Science, 40(4), S167, Abstract 897.
Rizzo, M., Nawrot, M. & Dawson, J. (1999). Separate processing of 1st and 2nd order motion in human brain. Society for Neuroscience.
Nawrot, M. (2000). Veiwing distance, eye movements, and the perception of relative depth from motion parallax. Invest. Ophth. Vis. Sci. (ARVO). 41(4), S45
Rizzo, M., Anderson, S., Dawson, J. & Nawrot, M. (2000). Visual function and cognitive deficts with cerebral lesions. Invest. Ophth. Vis. Sci. (ARVO).
Rizzo, M., Bateman,K. & Nawrot, M. (2001). Perception of shape from motion after dorsal or ventral visual pathway lesions. Invest. Ophth. Vis. Sci. (ARVO).
Rizzo, M., Nawrot, M. & Bateman,K. (2001). Perception of Shape from Static Texture Cues with Lesions in Dorsal and Ventral Visual Association Cortex in Humans. Society for Neuroscience.
Rizzo, M., Nawrot, M. & Bateman,K. (2001). Impairment of Shape Perception due to Static and Dynamic Cerebral Dystereopsis. American Academy of Neurology.
Nawrot, M., Nordenstrom, B., Olson, A., Stark, A. & Drayton, A. (2002) Reducing slow eye movement gain affects the perception of depth from motion parallax. (Accepted for Invest. Ophth. Vis. Sci. (ARVO))
Nawrot, M., Bell.N. & Agarwal, D. (2002). Eye movements and lateral translation disambiguate the perceived direction of kinetic depth rotation. Vision Sciences Society (VSS)
Rizzo, M., Nawrot, M. & Skaar,N. (2002). Perception of depth from motion parallax in humans with lesions in visual association cortex. Society for Neuroscience. 673.10
Nawrot, M. (2003). Translating sound does not affect eye movements or the perception of depth from motion parallax. Journal of Vision, 3(9), 797a, http://journalofvision.org/3/9/797/, doi:10.1167/3.9.797
Christman, C., Setterberg, S., & Nawrot, M. (2003). Motion perception with 5-HT2 receptor-blocking medications. Journal of Vision, 3(9), 290a, http://journalofvision.org/3/9/290/, doi:10.1167/3.9.290.
Nawrot, M., Frankl, M. & Stockert, C. (2004). Elevated motion parallax thresholds are related to eye movement anomalies in strabismus. Vision Sciences Society (VSS)
Frankl, M & Nawrot, M. (2005) Extra-retinal signals in motion parallax: Support from eye movement asymmetries in strabismus. Vision Sciences Society (VSS) http://journalofvision.org/5/8/991/

Nawrot, M. & Stockert, C. (2005) Motion parallax in movies: Background motion, eye movement signals, and depth. Vision Sciences Society (VSS). http://journalofvision.org/5/8/644/

Stockert, C. Joyce, L, & Nawrot. M. (2006) Eye movement suppression of optokinetic after-nystagmus disambiguates depth from motion parallax. Vision Sciences Society (VSS). http://journalofvision.org/6/6/373/

Joyce, L., Stockert, C.& Nawrot. M. (2006). Eye movements, not head translations, determine of perceived depth sign in motion parallax Vision Sciences Society (VSS). http://journalofvision.org/6/6/374/

Nawrot, E. S. & Nawrot, M. (2006) The development of depth from motion parallax in infancy Vision Sciences Society (VSS). http://journalofvision.org/6/6/293/

Nawrot, M., Joyce, L., & Ogden, P. (2007). Does retinal slip explain deficits in the perception of depth from motion parallax? [Abstract]. Journal of Vision, 7(9):745, 745a, http://journalofvision.org/7/9/745/, doi:10.1167/7.9.745.

Joyce, L., & Nawrot, M. (2007). The effects of blood alcohol content on pursuit and perceived depth from motion parallax [Abstract]. Journal of Vision, 7(9):746, 746a, http://journalofvision.org/7/9/746/, doi:10.1167/7.9.746.

Nawrot, M., & Joyce, L. (2008). Hering's law tested with the pursuit theory of motion parallax [Abstract]. Journal of Vision, 8(6):661, 661a, http://journalofvision.org/8/6/661/, doi:10.1167/8.6.661.

Nawrot, M., Leker, L. & Stroyan, K. (2009). Does the motion/pursuit law accurately characterize the perception of depth from motion parallax? [Abstract]. Journal of Vision, 9(8):638, 638a, http://journalofvision.org/9/8/638/, doi:10.1167/9.8.638.

Nawrot, E., Nawrot, M. & Yonas, A. (2010). Smooth Pursuit Eye Movements and Depth from Motion Parallax in Infancy. [Abstract] Journal of Vision, 10(7): 471, doi:10.1167/10.7.471

Nawrot, M. & Stroyan, K. (2010). Integration time for the mechanisms serving the perception of depth from motion parallax. [Abstract] Journal of Vision, 10(7): 50; doi:10.1167/10.7.50

Nawrot, M. (2010). Using the dynamic geometry of the motion/pursuit ratio to study motion parallax. [Abstract] Journal of Vision 10 (15) 2; doi: 10.1167/10.15.23

Nawrot, E., Livingood, J., Wenner, J., & Nawrot, M. (2011). Depth from motion parallax in infancy: The role of smooth pursuit and ocular following response eye movements. [Abstract] Journal of Vision 11(11): 420; doi:10.1167/11.11.420

Stroyan, K. & Nawrot, M. (2011). The peak motion/pursuit ratio and structure from motion parallax. [Abstract] Journal of Vision 11(11): 63; doi:10.1167/11.11.63.

Nawrot, M. Ratzlaff, M, Leonard, Z. & Stroyan, K. (2011). Modeling perceived depth from motion parallax with the motion/pursuit ratio. [Abstract] Journal of Vision 11(11): 705; doi:10.1167/11.11.705

Nawrot, M. Ratzlaff, M, Leonard, Z. & Stroyan, K. (2011). Modeling perceived depth from motion parallax with the motion/pursuit ratio. [Abstract] 2011 Central Region IDeA Conference, Omaha, Nebraska, May 23-25.

Nawrot, M., Nawrot, E. & Stroyan, K. (2011). Perceived depth magnitude from motion parallax. European Conference on Visual Peception.

Stroyan, K. & Nawrot, M. (2011). Visual depth perception and Mathematica. 2011 Wolfram Technology Conference. (http://www.wolfram.com/events/technology-conference/2011/presentations/VisualDepthPerceptionAndMathematica.zip)

Nawrot, M. Ratzlaff, M, Leonard, Z., Johnson, J. & Stroyan, K. (2012). Assessing extra-retinal signal magnitude in the perception of depth from motion parallax. Abstract, Vision Sciences Society.

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Nawrot, M. Holmin, J. & Stroyan, K. (2013). Perceived depth magnitude with motion parallax and binocular disparity cue combination. Abstract, Vision Sciences Society.

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Nawrot, M. & McCourt, M. (2015) NDSU Center For Visual And Cognitive Neuroscience (CVCN) Core Facilities: Driving Simulator Core. Poster. Regional BRIN/COBRE meeting, Grand Forks, ND.

Nawrot, M., Lauer, S., Holmin, J., Bartlett, T. & Breider. T. (2016). Depth Constancy in the Apparently Circular Curvature Task with 3D Printed Stimuli. Abstract, Vision Sciences Society.

Lauer, S., Nawrot, M., & Holmin, (2016). Implied motion does not generate an internal motion signal for the perception of depth from motion parallax. Abstract, Vision Sciences Society.

Holmin, J. & Nawrot, M. (2016). Aging Affects Temporal Processing of Motion and Depth from Motion Parallax. Abstract, Vision Sciences Society.

Nawrot, M., Christianson, G. & Stroyan, K. (2016). The motion/pursuit law's limit on depth from motion parallax. European Conference on Visual Perception.

Nawrot, E. & Nawrot, M. (2016). The development of convergence and divergence to radial optic flow in infancy. European Conference on Visual Perception.

Lauer, S. & Nawrot, M. (2018). Depth from motion parallax is disambiguated by pursuit eye movements in the absence of vertical perspective. Abstract, Vision Sciences Society, Journal of Vision, 18, DOI: 10.1167/18.10.124

Nawrot, M., Thompson, B. & Lauer, S. (2018). Temporal properties of persistence and change in perceived depth from motion parallax. Abstract, Vision Sciences Society. Journal of Vision, 18, DOI: 10.1167/18.10.125

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Nawrot, M., Johnson, E., & Delisi, M. (2020). Understanding the cause of perceptual depth-sign ambiguity with dihedral angles created with motion parallax. Abstract, Vision Sciences Society. Journal of Vision, 20 (11), 1440.

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Magnetic Stimulation. Abstract, Vision Sciences Society. Journal of Vision, 24(10):1390. https://doi.org/10.1167/jov.24.10.1390.

Johnson, E., Corbett, S., Akech, A., Hardin, H., Birkholz, S.A., Delisi, M., Johnson, J.S., Nawrot, M. (2024). Involvement of cerebellar vermis in the perception of depth from motion explored with Transcranial Magnetic Stimulation. Abstract, Vision Sciences Society. Journal of Vision, 24(10):1346. https://doi.org/10.1167/jov.24.10.1346.

- Colloquia (invited)

McGill University, Department of Psychology - March, 1993; The role of the cerebellum in visual motion perception.

University of Iowa, Department of Psychology - January, 1994; Seeing in 3-D: Depth from motion and stereopsis.

Cornell College, Department of Psychology - March, 1994; Motion perception deficits in brain damaged patients.

York University, Department of Psychology - April, 1994; The neuroanatomy of human motion perception.

North Dakota State University, Department of Psychology - March, 1995; The neuroanatomy of human motion perception.

North Dakota State University, Department of Psychology - February, 1996; The perception of depth from motion and stereopsis.

North Dakota State University, Department of Psychology - January, 1997; The role of slow eye movements in depth from motion parallax.

University of Iowa, Neuroscience Program - February, 1998; Active perception: role of eye movements in the perception of depth from motion parallax.

Vanderbilt University, Department of Psychology - September, 2002; Slow eye movements in the perception of depth from motion parallax

North Dakota State University, Department of Psychology - March, 2004; Seeing in 3D: stereopsis, motion parallax & eye movements.

University of California, Berkely, School of Optometry, Oxiopia Series - May, 2004; Slow eye movements in the perception of depth from motion parallax

Washington University, St. Louis, Anatomy and Physiology - December, 2004; Slow eye movements in the perception of depth from motion parallax

University of North Dakota, School of Medicine, Neuroscience/Psychiatry Grand Rounds – October, 2005; Eye movement systems and their role in depth perception

National Eye Institute, National Institutes of Health, Bethesda, MD - September, 2006; The pursuit theory of motion parallax.

North Dakota State University, Department of Psychology - January, 2008; The pursuit theory of motion parallax: Drunks, crossed-eyes, monkeys, babies, movies, and pending adventures.

North Dakota State University, Department of Psychology - March, 2013; Developing a mathematical model of motion parallax.

North Dakota State University, Department of Psychology - September, 2017; Seeing Depth

Technische Universität Berlin **&** Humboldt-Universität Berlin; Science of Intelligence - March 2022; Pursuit eye movements in the perception of depth from motion parallax.

- Symposia (Invited)

Nawrot, M. (2010). Using the dynamic geometry of the motion/pursuit ratio to study motion parallax. Optical Society of America, Fall Vision Meeting, Rochester NY - October, 2010

Profession

- Editorial Board for:

Frontiers in Psychology - Perception Science
Frontiers in Neuroscience - Perception Science

- Ad Hoc Reviewer for:

National Science Foundation
Natural Sciences and Engineering Research Council of Canada

ACM Transactions on Applied Perception
Attention, Perception & Psychophysics
Behavior Research Methods
Cerebral Cortex
Consciousness & Cognition

Current Biology
Frontiers in Neuroscience
Journal of Alzheimer's Disease
Journal of Experimental Psychology: Applied
Journal of Neuroscience
Journal of the Optical Society of America, A
Journal of Robotics and Autonomous Systems
Journal of Vision
Neurobiology of Aging
Neuropsychologia
NeuroReport
Optics and Lasers in Engineering
Perception
Perception & Psychophysics
PLOS One
Psychological Science
Psychopharmacology
Scientific Reports/Nature
Vision Research
Visual Neuroscience

Scientific Review Committee –
SciGraph Asia
International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design

Teaching

Department of Psychology, Cornell College, Mt. Vernon, IA
Psychology 3-394, Research Methods
Psychology 9-376, BioPsychology

Department of Psychology, North Dakota State University, Fargo, ND
University Studies 150, Foundations of Science (team taught course)
University Studies 189, Skills for Academic Success
Psychology 260, Introduction to Neuroscience (Online and F-2-F)
Psychology 350, Research Methods I (Online and F-2-F)
Psychology 351, Research Methods II
Psychology 465/665, Psychobiology
Psychology 718, Visual Neuroscience
Psychology 727, Advanced Topics in Visual Perception
Psychology 790, Graduate Seminar
Psychology 794, Teaching Practicum