

April 2024

VITA

RICH IVRY

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EDUCATION

B.A. in Psychology, 1981, Brown University, Providence, RI  
M.S. in Psychology, 1983, University of Oregon, Eugene, OR  
Ph.D. in Psychology, 1986, University of Oregon, Eugene, OR

PROFESSIONAL EXPERIENCE

Distinguished Professor of Psychology, University of California, Berkeley, 2011-present  
Faculty member, Helen Wills Neuroscience Institute University of California, Berkeley, 1997-present.  
Faculty member, Graduate Group in Bioengineering, 2009-present  
Professor, Department of Psychology, University of California, Berkeley, 1997-2021  
Chair, Department of Psychology, University of California, Berkeley, 2011-2015.  
Director, Institute of Cognitive and Brain Sciences, University of California, Berkeley, 2000-2010, 2018-2019  
Vice-Chair, Department of Psychology, University of California, Berkeley, 2003-2010  
Associate Professor, University of California, Berkeley, 1993-1997  
Assistant Professor, University of California, Berkeley, 1990-1993  
Assistant Professor, University of California, Santa Barbara, 1987-1990  
Research associate, University of Oregon and Good Samaritan Hospital, Portland, Oregon, 1987-1988

AWARDS AND FELLOWSHIPS

Andrew Carnegie Prize in Mind and Brain Sciences, Carnegie Mellon University, 2024.  
Leverhulme Visiting Professorship, University of Glasgow, 2024  
Fellow, American Academy of Arts and Sciences, 2022  
Graduate Mentor Award, Department of Psychology, UC Berkeley 2022  
Outstanding Investigator Award (R35 program), National Institute of Health, 2020  
Fellow, American Association for the Advancement of Science, 2020  
International Visiting Research Scholar, Peter Wall Inst. for Advanced Studies, Univ. of British Columbia, 2019  
William James Fellow Award, Association for Psychological Science, 2016  
Distinguished Service Award, Division of Social Sciences, UC Berkeley 2015  
Distinguished Visiting Professor, Wales Institute of Cognitive Neuroscience, Univ. of Wales, 2009  
Fellow, American Psychological Society, 2006  
Fellow, Society of Experimental Psychologists, 2003  
Distinguished Visiting Professor Fellowship, University of Auckland  
Troland Research Award, National Academy of Sciences, 1997  
Centre International des Etudiants et Stagiaires Research Fellow, 1995  
Whitehall Fellowship in Neuroscience, 1994-1997  
FIRST Award, National Institute of Health, 1991-1996  
Alfred P. Sloan Research Fellow in Neuroscience, 1990-1993  
Senior Thesis Award, Brown University, 1981

## LECTURESHIPS

Leverhulme Lecture, University of Glasgow, 2024  
Donders Lecture, Radboud University Nijmegen, 2024  
Keynote Lecture, Society for Psychophysiological Research, 2022  
Keynote Lecture, Cognitive Science Society Annual Meeting, 2015  
Keynote Lecture, American Psychological Association, 2014  
Donders Lecture, Radboud University Nijmegen, 2012  
Pellecchia Memorial Lecture, University of Connecticut, 2010  
Donald O. Hebb Lecturer, McGill University, 2008  
Keynote Lecture, North American Society for the Psychology of Sport and Physical Activity, 1990

## EXTRAMURAL RESEARCH SUPPORT (direct costs)

National Institute of Health. 2022-2025. Exploring the parameter space of high frequency magnetic perturbation in manipulating neural excitability and plasticity. SBIR Award to Magnetic Tides, Inc (PI: L. Labruna). \$2,704,097 (with subcontract to UC Berkeley, PI: R. Ivry, \$270,000).

National Institute of Health. 2020-2028. Human Cerebellar Function in Multiple Task Domains. R35 Outstanding Investigator Award: \$3,900,000.

National Institute of Health. 2019-2021. Kilohertz-frequency, continuous-wave transcranial magnetic stimulation to increase the dynamic range of subthreshold neuromodulation. R21 award: \$135,000.

National Science Foundation. 2019-2021. EAGER: A novel, non-invasive approach to reliably alter cortical excitability using high frequency (kHz) transcranial magnetic perturbation. EAGER award: \$200,000.

National Institute of Health. 2018-2023. Specifying the Constraints on Cerebellar Dependent Sensorimotor Adaptation. R01 award: \$1,200,000. (last two years surrendered as part of conditions for R35 award).

National Institute of Health. 2018-2023. The role of the cerebellum in speech. \$1,950,000. (RO1, PIs: J. Houde and S. Nagarajan (UCSF), with subcontract to UCB, PI: Ivry, \$360,000)

National Institute of Health. 2016-2021. The Role of Ipsilateral Cortical Control of the Upper Limb in Monkey and Man. \$1,350,000. (RO1, PI: J. Carmena, Co-investigator: Ivry, \$550,000).

National Institute of Health. 2015-2020. Embodied decision making: The influence of action errors on reinforcement learning. RO1 award: \$1,200,000. (years 20-24 of RO1)

National Institute of Health. 2012-2017. Neural mechanism underlying hand choice during unimanual actions. RO1 award: \$1,100,000.

National Institute of Health. 2013-2016. Relationship of GABA to inhibitory mechanisms for response preparation. R21 award: \$250,000.

National Institute of Health. 2008-2013. Functional domain of the cerebellum in motor learning. RO1 award: \$1,000,000 (years 15-19 of RO1).

National Institute of Health. 2008-2012. Frontostriatal contributions to decision making and learning. \$3,500,000 (PI: Mark D'Esposito, Ivry Project 3 of Program Project, \$750,000).

US-Israel Binational Science Foundation. 2008-2011. Neural overlap of gesture and language for symbolic communication. \$180,000. (Co-investigator with M. Lavidor, Bar-Ilan Univ).

National Science Foundation. 2007-2010. The cerebellum as a state-estimator for the coordination of skilled movements. (PI: Ivry). \$570,000.

National Science Foundation. 2007-2010. PHYSNET: Physical interaction using the internet. \$1,000,000 (PI: Ruzena Basczy, Co-investigator, Ivry: \$240,000).

National Institute for Neurological Diseases and Stroke. 2003-2007. Functional substrates of long-term motor learning. RO1 award: \$1,800,000. (PI: Scott Grafton, Dartmouth College, Years 10-15, Co-investigator, Ivry: \$600,000).

McDonnell-Pew Foundation. 2002-2005. Cognitive and Neurobiological Research Consortium in Traumatic Brain Injury. \$2,688,788 (PI: Jamshid Ghajar, Cornell School of Medicine, Co-investigator, Ivry: \$210,000).

National Institute of Health, 2002-2007. Neural systems for event timing in action and cognition. (PI: Ivry) RO1 award: \$1,050,000 (years 11-14).

National Institute of Health, 2002-2007. Cognitive neuroscience and stroke. \$3,500,000 (PI: Robert Knight, Ivry Project 3 of Program Project, \$950,000).

National Institute of Health. 1999-2004. Sensorimotor interactions following callosotomy. \$3,200,000 (PI: Michael Gazzaniga, Dartmouth College, Ivry Project 3 of Program Project, \$740,000).

National Institute for Neurological Diseases and Stroke. 1999-2002. Functional substrates of motor sequence learning. RO1 award: \$1,400,000. (PI: Scott Grafton, Dartmouth College, Years 5-9; Co-investigator, Ivry: \$600,000).

National Science Foundation. 1998-2001. Learning complex motor tasks in natural and artificial systems. Principal Investigator: Stuart Russell (UC, Berkeley). \$1,200,000, Co-investigator, Ivry: \$150,000.

National Institute for Neurological Diseases and Stroke. 1997-2001. Timing and temporal coupling. (PI: Ivry) RO1 award: \$1,000,000 (Years 6-10).

National Institute of Neurological Diseases and Stroke. 1995-1998. Human motor learning: attention, awareness, and strategy. RO1 award: \$920,000. Principal Investigator: Scott Grafton (USC). Co-investigator, Ivry: \$360,000.

National Institute of Mental Health. 1994-1999. The posterior attentional system in perception and action. RO1 award: \$975,000. Principal Investigator: Robert Rafal (UC, Davis). Co-investigator, Ivry: \$300,000.

National Institute for Neurological Diseases and Stroke. 1994-1998. Hemispheric specialization in vision and audition. RO1 award: \$960,000.

National Science Foundation. 1994-1997. A formal model of visual feature integration. (PI: Ivry) \$180,000.

Whitehall Foundation. 1994-1997. The role of the cerebellum in temporal processing. (PI: Ivry) \$88,000.

National Institute for Neurological Diseases and Stroke. 1991-1996. Psychological and neural mechanisms of timing. RO1 Award: \$750,000 (FIRST Award).

Office of Naval Research Contract. 1987-1990. Modular conceptions of timing and sequencing in motor behavior. Co-Principal Investigator with Steve Keele. \$300,000.

#### PROFESSIONAL SERVICE AND MEMBERSHIPS

Committee Chair, Association for Psychological Science Fellows Committee, 2023 - present

Treasurer, Association for Psychological Science, 2018 – 2023

Panel Member, APS William James Fellow Award Selection Committee, 2019-2022

Grant Reviewer: Panel Member

National Science Foundation: Human Perception and Cognition, 1994-1997.

National Institute of Health: Sensory, Motor, & Cognitive Neuroscience: Fellowship Review Panel, 2006-2008.

National Institute of Health: Cognitive Neuroscience Review Panel, 2008-2013.

Member: *American Psychological Society, Psychonomic Society, Society for Cognitive Neuroscience, Society for Neuroscience, Neural Control of Movement Society, American Physiology Society*

## EDITORIAL SERVICE

### Senior Editor

eLife, 2016-2021

### Reviewing Editor

eLife, 2016

### Associate Editor

Journal of Cognitive Neuroscience, 2003-2016

### Editorial Board

Cerebellum, 2001-present

Psychological Research, 1998-2010.

Journal of Experiment Psychology: Human Perception & Performance, 1994-2008.

Journal of Motor Behavior, 1993-2005.

Behavioral and Cognitive Neuroscience Reviews, 2001-2006.

Journal of Cognitive Neuroscience, 1997-2003.

## TRAINEES (completed)

| <u>Ph.D students:</u> | <u>Years</u> | <u>Current Position</u>                                       |
|-----------------------|--------------|---|
| Paul Lebbly           | 1989-1995    | Neuropsychologist, Children's Hospital, Madera, CA            |
| Eliot Hazeltine       | 1991-1997    | Professor, Univ. of Iowa                                      |
| Nancy Kim             | 1991-1997    | Oculoplastic Surgeon, Mass Eye and Ear Infirmary              |
| Laura Helmuth         | 1992-1997    | Editor-in-Chief, Scientific American                          |
| Susan Ravizza         | 1995-2000    | Professor, Michigan State University                          |
| Brent Stansfield      | 1996-2001    | Director of Graduate Education, Wayne St. Univ.               |
| Jorn Diedrichsen      | 1998-2003    | Professor, Western Ontario University                         |
| Tim Justus            | 1999-2003    | Assoc. Professor, Pitzer College                              |
| Davina Chan           | 2000-2005    | Adjunct Professor, University of San Francisco                |
| Tim Verstynen         | 2001-2006    | Assoc. Professor, Carnegie Mellon University.                 |
| Neil Albert           | 2001-2007    | Associate Provost, Hamilton College                           |
| Aubrey Gilbert        | 2002-2007    | Ophthalmologist, Kaiser Medical Foundation                    |
| Flavio Oliveira       | 2003-2008    | Resident in Surgery, Stanford University                      |
| John Schlerf          | 2004-2010    | Senior Manager, Capitol One                                   |
| Jing Xu               | 2007-2011    | Asst. Professor, Univ. of Georgia                             |
| Becca Stoloff         | 2008-2012    | Curriculum Developer, Ada Developers Academy                  |
| Peter Butcher         | 2009-2014    | Data Scientist, NBCUniversal                                  |
| Sarah Hillenbrand     | 2009-2015    | High School Science Teacher, Oakland, CA                      |
| Brent Parsons         | 2011-2017    | Staff Scientist, Smith-Ketterwell Eye Inst, San Francisco, CA |

|                   |           |   |
|-------------------|-----------|---|
| Ryan Morehead     | 2012-2017 | Asst. Prof. (Lecturer), Univ. of Leeds (UK) |
| Darius Parvin     | 2014-2019 | Data Scientist, Bolt Labs                   |
| Christina Merrick | 2015-2021 | Research Scientist, Magnetic Tides, Inc.    |
| Maedbh King       | 2017-2022 | Post-doc, MIT                               |
| Jonathan Tsay     | 2018-2023 | Asst. Prof, Carnegie Mellon University      |

## Post-doctoral advisees:

|                   |           |  |
|-------------------|-----------|--|
| Liz Franz         | 1994-1998 | Professor, Univ of Otago (New Zealand)               |
| Laurence Casini   | 1997-1999 | Research Scientist, CNRS-Marseille                   |
| Bonnie Connor     | 1997-1998 | Rehabilitation Neuropsychologist                     |
| Jackie Shin       | 1999-2002 | Assoc. Professor, Indiana State Univ.                |
| Rebecca Spencer   | 2002-2007 | Professor, Univ. of Massachusetts                    |
| Shawn Ell         | 2003-2006 | Assoc. Professor, Univ. of Maine                     |
| Lisa Aziz-Zadeh   | 2005-2006 | Assoc. Professor, Univ. of Southern California       |
| Julie Duque       | 2006-2008 | Professor, Univ. Catholique, of Louven (Belgium)     |
| Ludovica Labruna  | 2007-2010 | CEO, Magnetic Tides, Inc.                            |
| Arne Ridderikhoff | 2007-2010 | Staff Scientist, Free Univ. Amsterdam (disabled)     |
| Chloe Meynier     | 2008-2009 | Photographer, Oakland, CA                            |
| Jordan Taylor     | 2008-2012 | Assoc. Professor, Princeton Univ.                    |
| Alit Stark        | 2011-2014 | Staff Scientist, Intendu Corp.                       |
| Matt Crossley     | 2012-2014 | Asst. Professor, Macquarie Univ. Australia           |
| Ian Greenhouse    | 2012-2017 | Asst. Professor, Univ. of Oregon                     |
| Ben Parrell       | 2014-2015 | Asst. Professor, Univ. of Wisconsin                  |
| Masamichi Hayashi | 2015-2017 | Staff Scientist, CiNet, Osaka, Japan                 |
| Hyosub Kim        | 2015-2018 | Asst. Professor, Univ. of Delaware                   |
| Sam McDougale     | 2019-2020 | Asst. Professor, Yale University (start July 2020)   |
| Assaf Breska      | 2016-2021 | Max Planck Research Group Leader, Tuebingen, Germany |
| Will Saban        | 2019-2022 | Asst. Professor (Sen. Lect), Tel Aviv Univ.          |

BOOKS

Ivry, R. and Robertson, L. (1998). The Two Sides of Perception. Cambridge, MA: MIT Press.

Gazzaniga, M., Ivry, R., and Mangun, R. (2018). Cognitive Neuroscience: The Biology of the Mind, 5<sup>th</sup> Edition. W.W. Norton, Inc. (earlier editions published in 1998, 2002, 2008, and 2013)

EDITED VOLUMES

Meck, W.H. and Ivry, R.B. (2016). Time in perception and action. Editors for special issue of Current Opinion in Behavioral Sciences, 9: 1-290.

ARTICLES, REVIEWS AND CHAPTERS

Beck, J., Prazdny, K., and Ivry, R. (1984). The perception of transparency with achromatic colors. Perception & Psychophysics, 35, 407-422.

Ivry, R. and Jusczyk, P. (1985). Perceptual classification of information in vowel-consonant syllables. Perception & Psychophysics, 37, 93-102.

Keele, S., Pokorny, R., Corcos, D., and Ivry, R. (1985). Do perception and motor production share common timing mechanisms? Acta Psychologica, 60, 173-193.

- Ivry, R. (1986). Force and timing components of the motor program. Journal of Motor Behavior, 18, 449-474.
- Beck, J., Sutter, A., and Ivry, R. (1987). Spatial frequency channels and perceptual grouping in texture segregation. Computer Vision, Graphics, and Image Processing, 37, 299-325.
- Ivry, R. and Cohen, A. (1987). The perception of doubly-curved surfaces from intersecting contours. Perception & Psychophysics, 41, 293-302.
- Keele, S., Ivry, R., and Pokorny, R. (1987). Force control and its relation to timing. Journal of Motor Behavior, 19, 96-114.
- Beck, J. and Ivry, R. (1988). On the role of figural organization in perceptual transparency. Perception & Psychophysics, 44, 585-594.
- Ivry, R. (1988). Storms on the horizon. Contemporary Psychology, 33, 312-313.
- Ivry, R., Keele, S., and Diener, H. (1988). Dissociation of the lateral and medial cerebellum in movement timing and movement execution. Experimental Brain Research, 73, 167-180.
- Keele, S., Cohen, A., Ivry, R., Liotti, M., and Yee, P. (1988). Tests of a temporal theory of attentional binding. Journal of Experimental Psychology: Human Perception and Performance, 14, 444-452.
- Keele, S. and Ivry, R. (1988). Modular analysis of timing in motor skill. In G. Bower (Ed.) The psychology of learning and motivation. Volume 21, pp. 183-228.
- Beck, J., Rosenfeld, A., and Ivry, R. (1989). Line segregation. Spatial Vision, 4, 75-101.
- Cohen, A. and Ivry, R. (1989). Illusory conjunctions inside and outside the focus of attention. Journal of Experimental Psychology: Human Perception and Performance, 15, 650-663.
- Inhoff, A., Diener, H., Rafal, R., and Ivry, R. (1989). The role of cerebellar structures in the execution of serial movements. Brain, 112, 565-581.
- Ivry, R. and Keele, S. (1989). Timing functions of the cerebellum. Journal of Cognitive Neuroscience, 1, 136-152.
- Keele, S., Nicoletti, R., Ivry, R., and Pokorny, R. (1989). Mechanisms of perceptual timing: Beat-based or interval-based judgments? Psychological Research, 50, 251-256.
- Prinzmetal, B. and Ivry, R. (1989). Damn the (behavioral) data, full steam ahead. Brain and Behavioral Sciences, 12. 413-414.
- Cohen, A., Ivry, R., and Keele, S. (1990). Attention factors in the learning of movement sequences. Journal of Experimental Psychology: Learning, Memory, & Cognition, 16, 17-30.
- Ivry, R. and Cohen, A. (1990). Dissociation of short- and long-range apparent motion in visual search. Journal of Experimental Psychology: Human Perception and Performance, 16, 317-332.
- Keele, S., Cohen, A., and Ivry, R. (1990). Motor programs: Concepts and issues. In M. Jeannerod (Ed.) Attention & Performance. Volume XIII. (pp. 77-110). Hillsdale, NJ: Erlbaum.
- Cohen, A. and Ivry, R. (1991). Density effects in conjunction search: evidence for a coarse location mechanism of feature integration. Journal of Experimental Psychology: Human Perception and Performance, 17, 891-901..

- Ivry, R. and Diener, H.C. (1991). Impaired velocity perception in patients with lesions of the cerebellum. Journal of Cognitive Neuroscience, 3, 355-366.
- Ivry, R. and Prinzmetal, W. (1991). Effect of feature similarity in illusory conjunctions. Perception & Psychophysics, 49, 105-116.
- Keele, S. and Ivry, R. (1991). Does the cerebellum provide a common computation for diverse tasks: A timing hypothesis. In A. Diamond (Ed.), Developmental and Neural Basis of Higher Cognitive Function. (pp. 179-211). Annals New York Academy of Sciences (Vol. 608).
- Lundy-Ekman, L, Ivry, R., Keele, S.W., and Woollacott, M. (1991). Timing and force control deficits in clumsy children. Journal of Cognitive Neuroscience, 3, 370-377.
- Ivry, R. (1992). An alternative to associative learning theories. Contemporary Psychology, 37, 209-210.
- Ivry, R. and Baldo, J. (1992). Is the cerebellum involved in learning and cognition? Current Opinion in Neurobiology, 2, 212-216.
- Ivry, R. and Cohen, A. (1992). Asymmetry in visual search for targets defined by differences in movement speed. Journal of Experimental Psychology: Human Perception & Performance, 18, 1045-1057.
- Ivry, R. and Gopal. H. (1992). Speech perception and production in patients with cerebellar lesions. In D.E. Meyer and S. Kornblum (Eds.) Attention & Performance Volume XIV: Synergies in Experimental Psychology, Artificial Intelligence, and Cognitive Neuroscience. (pp. 771-802). Cambridge: MIT Press.
- Ivry, R. and Hazeltine, R. (1992). Models of timing-with-a-timer. In F. Macar, V. Pouthas, and W. Freidman (Eds.) Time, Action, and Cognition. (pp. 183-189). Kluwer Publishers.
- Williams, H.G., Woollacott, M.H., and Ivry, R. (1992). Timing and motor control in clumsy children. Journal of Motor Behavior, 24, 165-172.
- Diener, H.C., Hore, J., Ivry, R., & Dichgans, J. (1993). Cerebellar dysfunction of movement and perception. Canadian Journal of Neurological Science, 20, 1-8.
- Ivry, R. (1993). Cerebellar involvement in the explicit representation of temporal information. In P. Tallal, A. Galaburda, R.R. Llinas, & C. von Euler (Eds.), Temporal Information Processing in the Nervous System: Special Reference to Dyslexia and Dysphasia. (pp. 214-230). Annals New York Academy of Sciences (Vol. 682).
- Ivry, R. and Corcos, D. (1993). Slicing the variability pie: Component analysis of coordination and motor dysfunction. In K. Newell and D. Corcos (Eds.) Variability and motor control. (pp. 415-447). Human Kinetics Publishers.
- Ivry, R. and Leiby, P. (1993). Hemispheric differences in auditory perception are similar to those found in visual perception. Psychological Science, 4, 41-45.
- Ivry, R. (1994). Movement and rhythm. In S. Macey (Ed.) Encyclopedia of Time. (pp. 402-403). Garland Publishing Co.
- Maddox, W.T., Prinzmetal, W., Ivry, R.B., and Ashby, F.G. (1994). A probabilistic multidimensional model of location discrimination. Psychological Research, 56, 66-77.
- Cohen, A., Ivry, R., Rafal, R., and Kohn, C. (1995). Activating response codes by stimuli in the neglected visual field. Neuropsychology, 9, 165-173.
- Grafton, S., Hazeltine, E., and Ivry, R. (1995). Functional mapping of sequence learning in normal humans. Journal of Cognitive Neuroscience, 7, 497-510.

- Ivry, R. and Hazeltine, R.E. (1995). The perception and production of temporal intervals across a range of durations: Evidence for a common timing mechanism. Journal of Experimental Psychology: Human Perception and Performance, 21, pp. 1-12.
- Papka, M., Ivry, R., and Woodruff-Pak, D. (1995). Selective disruption of eyeblink classical conditioning by concurrent tapping. Neuroreport, 6, 1493-1497.
- Prinzmetal, W., Henderson, D., and Ivry, R. (1995). Loosening the constraints on illusory conjunctions: The role of exposure duration and attention. Journal of Experimental Psychology: Human Perception & Performance, 21, 1362-1375.
- Ashby, F.G., Prinzmetal, W., Ivry, R., and Maddox, W.T. (1996). A formal theory of illusory conjunctions. Psychological Review, 103, 165-192.
- Clarke, S., Ivry, R., Grinband, J., Roberts, S., and Shimizu, N. (1996). Exploring the domain of the cerebellar timing system. In M. Pastor and J. Artieda (Eds.), Time, Internal Clocks, and Movement. Amsterdam: Elsevier. (pp. 257-280)
- Cohen, A. and Ivry, R. (1996). Different patterns of popout for direction of motion and for orientation. In T. Inui and J.L. McClelland (Eds), Attention & Performance XVI: Information Integration in Perception and Communication. Cambridge, MA: MIT Press. (pp. 579-595).
- Franz, E., Eliassen, J., Ivry, R., and Gazzaniga, M. (1996). Dissociation of spatial and temporal coupling in the bimanual movements of callosotomy patients. Psychological Science, 7, 306-310.
- Franz, E., Ivry, R., and Helmuth, L. (1996). Reduced timing variability in patients with unilateral cerebellar lesions during bimanual movements. Journal of Cognitive Neuroscience, 8, 107-118.
- Grondin, S., Ivry, R., Franz, E., Perreault, L., and Metthe, L. (1996). Markers influence on duration discrimination of intrermodal intervals. Perception & Psychophysics, 58, 424-433.
- Helmuth, L. and Ivry, R. (1996). When two hands are better than one: Reduced timing variability during bimanual movements. Journal of Experimental Psychology: Human Perception & Performance, 22, 278-293.
- Ivry, R. (1996). The representation of temporal information in perception and motor control. Current Opinion in Neurobiology, 6, 851-857.  
Reprinted in Squire, L.R. & Kosslyn, S.M. (1998). Findings and Current Opinion in Cognitive Neuroscience. MIT Press.
- Ivry, R. (1996). Representational issues in motor learning: Phenomena and theory. H. Heuer and S. Keele (Eds.) Handbook of Perception and Action. Volume 2. London: Academic Press. (pp. 263-330). (translation in German: Gottingen: Hogrefe.)
- Rafal, R., Gershberg, F., Egly, R., Ivry, R., Kingstone, A., and Ro, T. (1996). Response channel activation and the lateral prefrontal cortex. Neuropsychologia, 34, 1197-1202.
- Woodruff-Pak, D., Papka, M., and Ivry, R. (1996). Cerebellar involvement in eyeblink classical conditioning in humans. Neuropsychology, 10, 443-458.
- Hazeltine, E., Grafton, S.T., and Ivry, R. (1997). Attention and stimulus characteristics determine the locus of motor sequence learning: A PET study. Brain, 120, 123-140.
- Hazeltine, E., Helmuth, L.L., and Ivry, R. (1997). Neural mechanisms of timing. Trends in Cognitive Sciences, 1: 163-169.



- Helmuth, L., Ivry, R., and Shimizu, N. (1997). Preserved performance by cerebellar patients on tests of word generation, discrimination learning, and attention. Learning and Memory, 3, 456-474.
- Ivry, R. (1997). Cerebellar timing systems. International Review of Neurobiology, 41, 555-573.
- Papka, M., Ivry, R., Woodruff-Pak, D. (1997). Eyeblick classical conditioning and awareness revisited. Psychological Science, 8, 404-408.
- Grafton, S.T., Hazeltine, R.E., and Ivry, R.B. (1998). Abstract and effector-specific representations of motor sequences identified with PET. Journal of Neuroscience, 18, 9420-9428.
- Ivry, R., Franz, E., Kingstone, A., and Johnston, J., (1998). The PRP effect following callosotomy: Uncoupling of lateralized response codes. Journal of Experimental Psychology: Human Perception & Performance, 24: 463-480.
- Ivry, R. and Leiby, P. (1998). The neurology of consonant perception: Specialized module or distributed processors? In M. Beeman and C. Chiarello (Eds), Right Hemisphere Language Comprehension: Perspectives from Cognitive Neuroscience. Hillsdale, NJ: Erlbaum. (pp. 3-25).
- Mangels, J.A., Ivry, R.B., and Shimizu, N. (1998). Dissociable contributions of the prefrontal and neocerebellar cortex to time perception. Cognitive Brain Research, 7, 15-39.
- Ro, T., Cohen, A., Ivry, R.B., and Rafal, R.D. (1998). Response channel activation and the temporo-parietal junction. Brain and Cognition, 37, 461-476.
- Casini, L. and Ivry, R.B. (1999). Effects of divided attention on temporal processing in patients with lesions of the cerebellum or frontal lobe. Neuropsychology, 13, 10-21.
- Green, J.T., Ivry, R.B., and Woodruff-Pak, D.S. (1999). Timing in eyeblink conditioning and timed-interval tapping. Psychological Science, 10, 19-23.
- Grondin, S., Guiard, Y., Ivry, R.B., and Koren, S. (1999). Manual laterality and hitting performance in major league baseball. Journal of Experimental Psychology: Human Perception & Performance, 25, 747-754.
- Ivry, R.B. and Hazeltine, E. (1999). Subcortical locus of temporal coupling in the bimanual movements of a callosotomy patient. Human Movement Science, 18, 345-375.
- Kim, N., Ivry, R.B., and Robertson, L.C. (1999). Sequential priming in hierarchically organized figures: Effects of target level and target resolution. Journal of Experimental Psychology: Human Perception & Performance, 25, 715-729.
- Cui S.Z., Li E.Z., Zang Y.F., Weng X.C., Ivry R.B., & Wang J.J. (2000). Both sides of human cerebellum are involved in preparation and execution of sequential movements. NeuroReport, 11, 3849-3853.
- Diedrichsen, J., Ivry, R.B. Cohen, A. and Danziger, S. (2000). Asymmetries in a Unilateral Flanker Task Depend on the Direction of the Response: The Role of Attentional Shift and Perceptual Grouping. Journal of Experimental Psychology: Human Perception and Performance, 26, 113-126.
- Green, J.T., Ivry, R.B., and Woodruff-Pak, D.S. (2000). Dual-task and repeated measures designs: Utility in assessing timing and neural functions in eyeblink conditioning. In D.S. Woodruff-Pak & J.E. Steinmetz (Eds.), Eyeblick classical conditioning: Human. Kluwer. (pp. 95-117).
- Ivry, R.B. (2000). Exploring the role of the cerebellum in sensory anticipation and timing: Commentary on Tesche and Karhu. Human Brain Mapping, 9, 115-118.

- Ivry, R.B. (2000). The neurosciences from A to Z. Nature Neuroscience, 3, 1071-1072.
- Ivry, R.B. and Fiez, J.A. (2000). Cerebellar contributions to cognition and imagery. In M. Gazzaniga (Ed.), The Cognitive Neurosciences, 2<sup>nd</sup> Edition. Cambridge, MA: MIT Press. (pp. 999-1011).
- Ivry, R.B. and Hazeltine, E. (2000). Task switching in a callosotomy patient and normal participants: Evidence for response-related sources of interference. In S. Monsell and J. Driver (Eds.), Control of Cognitive Processes. Attention and Performance XVIII. Cambridge, MA: MIT Press. (pp. 401-423).
- Robertson, L.C. and Ivry, R.B. (2000). Hemispheric asymmetries: Attention to visual and auditory primitives. Current Directions in Psychological Science, 9, 59-63.
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