

Curriculum Vitae

Dr. Ulrich Mayr
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Education/Degrees:

1984 Prediploma (Psychology), University of Konstanz
1988 Diploma (Psychology), Free University Berlin
1992 Dr. phil. (Psychology), Free University Berlin (summa cum laude)
2000 Habilitation (Psychology), University of Potsdam

Positions:

1988 - 1992 Doctoral Stipend at the Max Planck Institute for Human
Development and Education in Berlin
1992 - 1993 Research Scientist at the Max Planck Institute for Human
Development and Education in Berlin
1993 - 1994 Post Doctoral Student at the University of Oregon (financed through a "Otto-
Hahn Stipend" of the Max Planck Society)
1994 - 2000 Research Scientist and Instructor at the University of Potsdam
2000 - 2004 Associate Professor at the University of Oregon
2004 - 2005 Full Professor at the University of Oregon
2005 - 2006 Full Professor at University Bonn, Germany
2006 - Full Professor at the University of Oregon

Honors and Awards:

1988 - 1991 Doctoral Stipend of the Max Planck Society
1993 Otto-Hahn Medal for excellent dissertation of the Max Planck Society
2000 "Karl und Charlotte von Bühler" young-career award of the
German Psychological Association
2004 Price of the Berlin-Brandenburg Academy of Sciences

Funding:

1996-1997 PI, German Academic Exchange Service (DAAD), travel stipend for
collaborative work with Steve Keele, University of Oregon (Total: \$15,000)

1997 - 1999	PI, German Research Foundation, Subproject "Control and Representation of Sequential Action" in the context of the center grant "Innovationskolleg: Formal Models of Cognitive Complexity" (PIs: Giesbert Fansolow and Reinhold Kliegl), (Total: about \$120,000)
1998-2000	PI, German Research Foundation, "The Role of Episodic Accumulators Age-Related Slowing" (Total: about \$80,000)
2000-2003	Co-Investigator, Acquisition of a 1.5 Tesla (T) Magnetic Resonance Imaging (MRI) System for Research and Research Training in Cognitive Neuroscience, National Science Foundation. (\$929,890).
2000-2007	Co-Investigator, Acquisition of a Magnetic Resonance Imaging (MRI) System for Research on the Neural Basis of Human Cognition. Department of Defense Telemedicine and Advanced Technology Division (\$3,000,000).
2002-2006	PI, RO1-AG19296-01A, National Institutes of Health, "Low-Level Constraints on High-Level Selection" (\$600,000)
2007-2010	PI, R21-AGR21AG030783-01, National Institute of Aging, "Aging and Altruism: Towards a Neuroeconomic Model of Age-Related Changes in Giving" (\$500,000).
2008-2009	Co-PI, SBIR Phase 1, National Institute of Aging, "Improving General Cognitive Functioning in Seniors via Executive Control Training" (\$215,000).
2008-2010	Co-PI, DOD Grant 6188014, "Task Switching Following Mild Traumatic Brain Injury" (\$80,000).
2008-2009	Co-PI, CCARE-Grant, "Neural responses to receiving donations." (\$50,000).

Research Interests:

Executive control and its relation to memory and learning
Cognitive and neural architecture of sequential representations
Cognitive development across the life span
Neural basis of public-good decisions

Teaching Experience:

Introductory psychology, cognitive psychology at undergraduate and graduate level, cognitive neuroscience at undergraduate and graduate level, statistical methods at undergraduate level, neuropsychological diagnostics at graduate level

University Service:

Associate Department Head (2004-2006, 2007-2008)
Cognitive Search Committee: 2001(co-head), 2002, 2003 (head), 2006, 2007, 2008 (head)
Attneave Committee: 2001
Graduate Admissions Committee: 2001
Department Executive Committee: elected member 2001-2003
Executive Committee of the Lewis Neuroimaging Center: since 2002

Posner Retirement Conference Committee: 2002-2003 (head)
Committee selecting art for the Lewis Neuroimaging Center: 2002-2003
University Summer Research Award Committee: since 2002

Service to the Field:

Journal Reviews: Aging, Neuropsychology, and Cognition; Brain; Brain Research; Canadian Journal of Experimental Psychology; Cognition and Emotion; Cognitive Brain Research; Developmental Neuropsychology; Emotion; Ergonomics; Experimental Psychology; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Gerontology: Psychological Sciences; Journal of Memory and Language; Memory and Cognition; Nature Neuroscience, NeuroImage, Neuropsychologia; Neuropsychology; Psychological Bulletin; Psychological Bulletin and Review; Psychological Research; Psychological Science; Psychology and Aging; Quarterly Journal of Experimental Psychology; Trends in Cognitive Sciences; Science

Grant Reviews German Research Foundation
Israeli Science Foundation
National Science Foundation
Member of the Study Panel on Cognition and Student Learning of the US Department of Education
Ad-hoc member of National Institutes of Health Study Panel (Cognition and Perception, BBBP4) in cases of "member conflicts"

Associate Editor: Psychology and Aging (since 2007)

Editorial Boards: Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory, and Cognition; Psychology and Aging

Conference Organization: Key organizer of the conference "Aging and Executive Control" in Potsdam, Germany, 1999
Key organizer of the conference "Developing Individuality in the Human Brain" at the University of Oregon, 2003

Memberships:

American Psychological Association
American Psychological Society
Attention and Performance Advisory Council (invited member)
German Psychological Association (DGPS)
Psychonomic Society

Refereed Publications:

Silsupadol, P., Shumway-Cook, A., Lugade, V. van Donkelaar, P., Chou, L.S., Mayr, U, & Woollacott, M.J. (in press). Effects of Single- vs. Dual-task training on Balance Performance in Older Adults: A Double-blind, Randomized Controlled Trial. *Archives of Physical Medicine and Rehabilitation*.

- Siu, K.-C., Chou, L.S., Mayr, U., van Donkelaar, P., & Woollacott, M.H. (in press). Does inability to allocate attention contribute to balance during gait in older adults? *Journals of Gerontology: Medical Sciences*.
- Siu, K.-C., Chou, L.S., Mayr, U., van Donkelaar, P., & Woollacott, M.H. (2008). Attentional mechanisms contributing to balance constraints during gait: The effects of balance impairments. *Brain Research*.
- Bryck, R. & Mayr, U. (2008). Task selection cost asymmetry without task switching. *Psychonomic Bulletin and Review*, 15, 128-134.
- Mayr, U., & Awh, E. (2008). The elusive link between conflict and conflict adaptation, *Psychological Research*.
- Jost, K., Mayr, U., & Rösler, F. (2008). Is task switching nothing but cue priming? Evidence from ERPs. *Cognitive, Affective, & Behavioral Neuroscience*, 8, 74-84.
- *Harbaugh, B.T., *Mayr, U., & Burghart, D. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science*, 316, 1622 – 1625. (* joint lead authorship)
- Mayr, U. (2006). What matters in the cued task-switching paradigm: Tasks or cues? *Psychonomic Bulletin and Review*, 5, 794-799.
- *Spieler, D., *Mayr, U., & LaGrone, S. (2006). Outsourcing cognitive control to the environment: Adult age differences in the use of task cues. *Psychonomic Bulletin and Review*, 13, 787-793. (* joint lead authorship)
- Mayr, U., & Bell, T. (2006). On how to be unpredictable: Evidence from the voluntary task-switching paradigm. *Psychological Science*, 17, 774-780.
- Mayr, U., & Bryck, R.L. (2006). Outsourcing Control to the Environment: Effects of Stimulus/Response Locations on Task Selection. *Psychological Research*, 71, 107-116.
- Mayr, U., Diedrichsen, J., Ivry, R., & Keele, S. (2006). Dissociating task-set selection from task-set inhibition in prefrontal cortex. *Journal of Cognitive Neuroscience*, 18, 14-21.
- Bryck, R.L. & Mayr, U. (2005). Does executive task management require verbalization? *Memory & Cognition*, 33, 11-23.
- Deater-Deckard, K. & Mayr, U. (2005). Cognitive change in aging: identifying gene-environment correlation and nonshared environmental mechanisms. *Journals of Gerontology: Social Sciences*, 60, 24-31.
- Feroni, F. & Mayr, U. (2005). The power of a story: New, automatic associations from a single reading of a short scenario. *Psychonomic Bulletin and Review*, 12, 139-144.
- Krampe, R. T., Mayr, U., & Kliegl, R. (2005). Timing, sequencing, and executive control in repetitive movement production. *Journal of Experimental Psychology: Human Perception and Performance*, 31, 379-397.
- Mayr, U., & Bryck, R.L. (2005). Sticky rules: Integration between abstract rules and specific actions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 31, 337-350.
- Mayr, U. (2004). Consciousness and control. *Trends in Cognitive Science*, 8, 145-148.
- Keele, S., Ivry, R., Mayr, U., Hazeltine, E., & Heuer, H. (2003). The cognitive and neural architecture of sequence representation. *Psychological Review*, 110, 316-339.

- Mayr, U. & Kliegl, R. (2003). Differential effects of cue changes and task changes on task-set selection costs. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *29*, 362-372.
- Mayr, U., Awh, E., & Laurey, P. (2003). Does conflict adaptation require executive control? *Nature Neuroscience*, *6*, 450-452.
- Mayr, U. (2002). Inhibition of action rules. *Psychonomic Bulletin and Review*, *9*, 93-99.
- Mayr, U. (2002). On the dissociation between clustering and switching in verbal fluency: Comment on Troyer et al. (1998). *Neuropsychologia*, *40*, 562-566.
- Mayr, U. (2001). Age differences in the selection of mental sets: The role of inhibition, stimulus ambiguity, and response-set overlap. *Psychology and Aging*, *16*, 96-109.
- Mayr, U. & Liebscher, T. (2001). Is there an age deficit in the selection of mental sets? *European Journal of Cognitive Psychology*, *13*, 47-69.
- Mayr, U., Spieler, D., & Kliegl, R. (2001). Ageing and executive control: Introduction to the special issue. *European Journal of Cognitive Psychology*, *13*, 1-4.
- Oberauer K., Demmrich A., Mayr U., & Kliegl, R. (2001). Dissociating retention and access in working memory: An age-comparative study of mental arithmetic. *Memory and Cognition*, *29*, 18-33.
- Carstensen, L. L., Pasupathi, M., Mayr, U., & Nesselroade, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, *129*, 4-26.
- Helmuth, L., Mayr, U., & Daum, I. (2000). Sequence learning in patients with Parkinson's disease: A comparison between spatial-attention and number-response sequences. *Neuropsychologia*, *38*, 1143-1451.
- Krampe, R. T., Kliegl, R., Mayr, U., Engberg, R., & Vorberg, D. (2000) On the fast and slow of bimanual rhythm production: Parallel vs. integrated timing. *Journal of Experimental Psychology: Human Perception and Performance*, *26*, 206-233.
- Mayr, U., & Keele, S. (2000). Changing internal constraints on action: The role of backward inhibition. *Journal of Experimental Psychology: General*, *129*, 4-26.
- Mayr, U. & Kliegl, R. (2000). Task-set switching and long-term memory retrieval. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *26*, 1124-1140.
- Mayr, U., & Kliegl, R. (2000). Complex semantic processing in old age: Does it stay or does it go? *Psychology and Aging*, *15*, 29-34.
- Verhaeghen, P., Kliegl, R., & Mayr, U. (1997). Sequential and coordinative complexity in time-accuracy functions for mental arithmetic. *Psychology and Aging*, *12*, 555-564.
- Mayr, U. (1996). Spatial attention and implicit sequence learning: Evidence for independent learning of spatial and nonspatial sequences. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *19*, 1297-1320.
- Mayr, U., Kliegl, R., & Krampe, R. T. (1996). Sequential and coordinative processing dynamics across the life span. *Cognition*, *59*, 61-90.
- Kliegl, R., Mayr, U., & Krampe, R. T. (1994). Time-accuracy functions for the determination of person and process differences: An application to cognitive aging. *Cognitive Psychology*, *26*, 134-164.
- Baltes, M., Mayr, U., Borchelt, M., Maas, I., & Wilms, U. (1994). Everyday competence in old and very old age: An interdisciplinary perspective. *Ageing and Society*, *13*, 657-679.

- Mayr, U., & Kliegl, R. (1993). Sequential and coordinative complexity: Age-based processing limitations in figural transformations. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *19*, 1297-1320.
- Lindenberger, U., Mayr, U., & Kliegl, R. (1993). Speed and intelligence in old age. *Psychology and Aging*, *8*, 207-220.
- Kliegl, R., & Mayr, U. (1992). Commentary on Salthouse. *Human Development*, *35*, 343-349.
- Mayr, U., & Walschburger, P. (1991). Simultane Effekte und Nachwirkungen des Intensitäts- und Erfolgsaspektes bei der Bewältigung von Belastungen (Simultaneous effects and aftereffects of intensity and success of stress-related coping). *Zeitschrift für experimentelle und angewandte Psychologie*, *38*, 429-456.
- Doll, J., & Mayr, U. (1987). Intelligenz und Schachleistung: Eine Untersuchung an Schachexperten (Intelligence and chess performance: A study of chess experts). *Psychologische Beiträge*, *29*, 120-189.

Books and Chapters:

- Mayr, U., Harbaugh, B., & D. Tankersley, D. (in press). Neuroeconomics of charitable giving and philanthropy. In P. Glimcher, C.F. Camerer, E. Fehr, & R.A. Poldrack (Eds.), *Neuroeconomics: decision-making and the brain*. Academic Press.
- Mayr, U. (2007). Inhibition of task sets. In D. Gorfein & C. MacLeod (Eds.), *The place of inhibition in cognition*. Washington, DC: APA Books.
- Mayr, U., Keele, S.W., & Awh, E. (2005). *Developing individuality in the human brain: A tribute to Michael Posner*. Washington, DC: APA Books.
- Oberauer, K., Mayr, U., & Kluwe R. Gedächtnis und Lernen (Memory and learning). (2005). In H. Spada (Ed.) *Lehrbuch der allgemeinen Psychologie* (Textbook of cognitive psychology). Bern: Huber.
- Kliegl, R., Krampe, R.Th., & Mayr, U. (2003). Formal models of age differences in task complexity effects. In U. Staudinger & U. Lindenberger (Eds.), *Understanding human development*. Dordrecht, The Netherlands: Kluwer.
- Mayr, U. (2003). Principles of executive control. In F. Roesler, R. Kluwe, & F. Luer (Eds.) *Principles of Learning and Memory*. Basel, Switzerland: Birkhaeuser.
- Mayr U. (2003). Normales kognitives altern (Normative cognitive aging). In H.-O. Karhath & P. Thier (Eds.) *Neuropsychologie*. Berlin, Germany: Springer.
- Mayr, U. & Liebscher, T. (2001). Is there an age deficit in the selection of mental sets? In U. Mayr, D. Spieler, & R. Kliegl (Eds.), *Ageing and Executive Control*. Howe, UK: Psychology Press.
- Mayr, U., Spieler, D. M., & Kliegl, R. (Eds.), (2001). *Ageing and Executive Control*. Howe, UK: Psychology Press.
- Kliegl, R., Mayr, U., & Oberauer, K. (2000). Resource limitations and process dissociations in individual differences research. In U. v. Hecker, S. Dutke, & G. Sedek (Eds.). *Generative mental processes and cognitive resources: Integrative research on adaptation and control*. Dordrecht, The Netherlands:
- Kliegl, R., Mayr, U., Junker, M., & Fanselow, G. (1999). Testing age invariance in language processes. In S. Kemper & R. Kliegl (Eds.), *Constraints on language: Aging, grammar, and memory*. (pp. 137-168). Boston, Kluwer.

Heckhausen, J., & Mayr, U. (1998). Entwicklungsregulation und Kontrolle im Erwachsenenalter und Alter: Lebenslaufpsychologische Perspektiven (Developmental regulation and control across adulthood: A life-span psychological perspective). In H. Keller (Hrsg.), *Entwicklungspsychologie*. Bern: Huber.

Charness, N., Krampe, R. T., & Mayr, U. (1996). The role of practice and coaching in entrepreneurial skill domains: An international comparison of life-span chess skill acquisition. In K. A. Ericsson (Ed.), *The road to excellence: The acquisition of expert performance in the arts, sciences, sports, and games*. Mahwah, NJ: Erlbaum.

Kliegl, R., Mayr, U., & Krampe, R. T. (1995). Process dissociations in cognitive aging. In M. Bergener, J. C. Brocklehurst, & S. I. Finkel (Eds.), *Aging, health, and healing*. New York: Springer.

Mayr, U. (1994). *Age-based performance limitations in figural transformations: The effect of task complexity and practice*. Berlin: Edition Sigma.

Invited Talks and Conference Presentations (Selection):

Mayr, U. (March, 2008). *Navigating through Task Space: The Role of Cues, Inhibition, and Hierarchical Task-Space Representations*. Invited lecture at the University of Washington, St. Louis.

Mayr, U. (February, 2008). *Do old adults use too much cognitive control?* Invited lecture, Healthy Minds Conference, Sarasota, Florida.

Mayr, U. (October, 2007). *Memory, control, and conflict*. Invited lecture, Conflict as Signals Workshop, Binz, Germany.

Mayr, U. (June, 2006). *Navigating through Task Space: The Role of Cues and Inhibition*. Invited lecture at the Max Planck Institute for Human Development, Berlin, Germany.

Mayr, U., Spieler, D., & Lagrone, S. (April 2006). *Stimulus-induced perseveration of executive control in old age*. Presentation at the Cognitive Aging Conference, Atlanta, USA.

Mayr, U. (March, 2006). *Navigating through Task Space: The Role of Cues and Inhibition*. Invited lecture at the Ludwig Maximilian University, Munich, Germany.

Mayr, U. (March 2005). *Task-set inhibition*. Invited presentation at the conference "The place of inhibitory processes in cognition" at the University of Texas, Arlington, USA.

LaGrone, S.R., Mayr, U., & Spieler, D.H. (April 2004). *Turning off executive control: Large age differences in persistent processing of task cues*. Poster presented at the Cognitive Aging Conference, Atlanta, USA.

Bryck, R. & Mayr, U. (March, 2004). *Dissociating cue-switching from task-switching via fMRI*. Poster presented at the Cognitive Neuroscience Society Meeting, San Francisco, USA.

Bryck, R. & Mayr, U. (March, 2003). *Is verbalization critical for task management?* Poster presented at the Cognitive Neuroscience Society Meeting, New York, USA.

Mayr, U., Awh, E., & Laurey, K. (March, 2003). *Conflict adaptation without executive control*. Poster presented at the Cognitive Neuroscience Society Meeting, New York, USA.

Mayr, U. (September, 2002). *Selection of mental sets*. Invited lecture at the Summerschool of the DFG Schwerpunktprogramm "Executive Functions", Herrsching, Germany.

- Mayr, U. (July, 2002). *Selection of mental sets*. Invited lecture at the Max Planck Summerschool: "Tutorials in Behavioral and Brain Sciences", Kochlsee, Germany.
- Spieler, D., Mayr, U., & Di Lussus, N. (April, 2002). *Searching for age differences in visual search: Eye-movement analyses*. Poster presented at the Cognitive Aging Conference, Atlanta, USA.
- Mayr, U., (October, 2001). *On the nature of age differences in executive-control tasks*. Invited paper at the Graylyn Conference on Womens' Cognitive Health, Winston-Salem, USA.
- Mayr, U. (June, 2001). *Selecting between versus within sets*. Invited paper at the Conference "Control of Cognitive Processing" held by the Royal Netherlands Academy of Arts and Sciences.
- Mayr, U., (March, 2001). *Principles of executive control*. Invited paper at the Symposium "Principles of Learning and Memory" at the Hanse Kolleg, Delmenhorst, Germany.
- Mayr, U., (October, 2000). *Components of executive control*. Invited lecture at the Congress of the German Association for Psychological Research, Jena, Germany.
- Mayr, U. (April, 2000). *Age differences in the selection of mental sets*. Invited overview lecture at the Cognitive Aging Conference, Atlanta, USA.
- Mayr, U., (December, 1999). *Components of executive control*. Invited paper at the Symposium "Cognition on the Move" at the Max Planck Institute for Psychological Research, Munich, Germany.
- Mayr, U., & Keele, S. W. (July, 1998). *Backward inhibition during intentional shifts between task sets*. Poster presented at Attention and Performance XVIII, Windsor, U. K.
- Mayr, U. (September, 1997). *Components of executive control*. Invited paper presented at the Department of Psychology, University of California at Berkeley, Berkeley, USA.
- Mayr, U. (April, 1997). *Components of executive control*. Invited paper presented at the Max Planck Institute of Psychological Research, Munich, Germany.
- Mayr, U., Kliegl, R., & Krampe, R. (November, 1997). *Inhibition during intentional shifts between perceptual sets*. Paper presented at the 38rd Annual Meeting of the Psychonomic Society, Philadelphia, USA.
- Mayr, U. (October, 1996). *Components of executive control*. Invited paper presented at the Max Planck Institute of Neuropsychology, Leipzig, Germany.
- Mayr, U., Kliegl, R., & Krampe, R. (November, 1993). *Sequential and Coordinative Processing Dynamics Across the Life-span*. Paper presented at the 34rd Annual Meeting of the Psychonomic Society, Washington D. C., USA.