Chandramallika Basak
Curriculum Vitae

The Center for Vital Longevity, University of Texas at Dallas
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EDUCATION

2005	**Ph.D. / Experimental Psychology** Syracuse University *Advisor: Paul Verhaeghen*
2003	**M.S. / Experimental Psychology** Syracuse University *Advisor: Paul Verhaeghen*
2002	**M.S./ Applied Statistics** Syracuse University *Advisor: Martin Sliwinski*
1998	**M.Sc./ Psychology** University of Calcutta, India
1996	**B.Sc. (Honours)/ Mathematics** Bethune College, University of Calcutta, India.

ACADEMIC APPOINTMENTS

2018-	**Associate Professor** Department of Psychology, School of Behavioral and Brain Sciences; The Center for Vital Longevity University of Texas at Dallas
2011- 2018	**Assistant Professor** The Center for Vital Longevity, School of Behavioral and Brain Sciences, University of Texas at Dallas
2010-2011	**Assistant Professor** Department of Psychology, Rice University
2008- 2010	**Research Scientist** Beckman Institute, University of Illinois at Urbana-Champaign
2005- 2008	**Beckman Institute Postdoctoral Fellow / Biological Intelligence and Human Computer Interaction** Beckman Institute, University of Illinois at Urbana-Champaign

AWARDS AND HONORS

Early Career Researcher Award Cognitive Ageing Conference, Adelaide, Australia	2007
Beckman Institute Postdoctoral Fellowship Beckman Institute, University of Illinois at Urbana Champaign	2005-2008
Outstanding Dissertation Award, Syracuse University	2006
Syracuse University Teaching Fellowship Two-week summer fellowship to mentor incoming teaching assistants	2004; 2005 (declined)

Outstanding Teaching Assistant Award, Syracuse University 2003
Summer Research Fellowship, Syracuse University 2000, 2004
Syracuse University Graduate Student Fellowship 1999, 2001
Silver Medal, University of Calcutta, India 1998
For securing second rank, first class, in all-university M.Sc. (Psychology) examinations

PROFESSIONAL MEMBERSHIPS

Fellow of Psychonomic Society (2011- present)
Society for Neuroscience (2012-present)
American Psychological Association (2001- present)
Division 20: Adult Development and Aging (2001- present)
Division 21: Applied Experimental and Engineering Psychology (2013- present)
American Psychological Society (2004- present)
Cognitive Neuroscience Society (2010-2012)
Gerontological Society of America (2010-2013)

GRANTS AND FELLOWSHIPS

Current Funding

Optimizing Neurocognitive Functions in Healthy Aging
PI: Chandramallika Basak
Source: AWARE Dallas (Grant #20191484)
Period of Support: 06/30/20 – 05/31/2021. Total Award: $16,000.

Strategic Training to Optimize Neurocognitive Functions in Older Adults
PI: Chandramallika Basak
Source: National Institute of Aging (1R56AG060052-01)
Period of Support: 09/30/18 – 8/31/2021. Total Award: $764,685.

Plasticity-based Adaptive Cognitive Remediation for Alzheimer's Disease Phase II
PI: Hyun Kyu Lee
Source: National Institute of Aging (R44AG047722-04)
Site PIs: Basak (UT Dallas), Voss (UIowa)
Period of Support: 09/01/17 – 4/30/2021. Total Award: $1,826,304. Total subaward for Basak: $422,142

Past Funding

Attentional Control and Extensive Practice in Memory Updating: An fMRI study
PI: Chandramallika Basak
Source: Faculty Research Initiative, University of Texas at Dallas.
Period of support: 11/01/17-08/15/19. TDC: $10,000.

Influence of cardiovascular fitness of age-related differences in cognitive control.
PI: Chandramallika Basak
Source: Advanced Imaging Research Center (AIRC) Internal Award, University of Texas Southwestern Medical Center.
Period of support: 3/27/18 – 08/30/18. TDC: $13,500.

Encoding Specificity and Musical Expertise in Memory for Melodies: An fMRI Study
PIs: Chandramallika Basak and Walter Dowling

Source: Faculty Research Initiative, University of Texas at Dallas.
Period of support: 11/01/17-08/15/18. TDC: $5,000.

Impact of physical fitness on memory in older adults.
PI: Shuo Qin
Faculty Mentor: Chandramallika Basak
Source: Natural Sciences and Engineering Research Council (NSERC) grant
Period of Support: 10/01/2016 -09/30/2018. TDC: $42,000.

Targeted Cognitive Interventions in MCI Adults for an Active Mind
PI: Chandramallika Basak
Source: Darrel K Royal Fund for Alzheimer's Disease
Period of support: 11/1/2014-10/30/2017. Total Award: $165,000.

Neural Correlates of Cognitive Engagement in Elderly.
PI: Chandramallika Basak
Source: Faculty Research Initiative, University of Texas at Dallas. Period of support: 09/26/13-08/31/14. TDC: $5,000.

Cognitive and Brain Plasticity in Aging.
PI: Chandramallika Basak,
Source: Faculty Research Initiative, University of Texas at Dallas. Period of support: 10/10/2011-08/15/2012. TDC: $4,100.

Acting Out.
PI: Arthur F. Kramer
Co-investigators: Helga Noice, Tony Noice, Chandramallika Basak, Kirk Erickson, Neal Cohen.
Source: National Institute of Aging (NIA/NIH). Period of support: 10/1/2011-10/1/2015.

Capitalizing on Research on Animal and Human Brain Plasticity to Enhance WarFighter Training and Performance.
PI: Arthur F. Kramer
Co-investigators: Monica Fabiani, Gabriele Gratton, Daniel Simons, Walter R. Boot, Chandramallika Basak, Kirk Erickson, Wai-Tat Fu.
Source: Multidisciplinary University Research Initiative/ONR. Period of support: 09/15/2007-09/1/2012. TDC: $6,750,000.

Enhancing cognitive and neural plasticity in older adults through strategic cognitive training.
PI: Chandramallika Basak
Source: Social Sciences Research Institute Seed Money Grant Program, Rice University. Period of support: Jan 2011- Aug 2011. TDC: $19,931

Beckman Institute Fellowship.
PI: Chandramallika Basak
Source: Research Grant for Beckman Institute Post-Doctoral Fellowship Proposal, Beckman Institute, University of Illinois at Urbana-Champaign. Period of support: Aug 2005 – Aug 2008. Total Award: $25,000 + Salary for 3 years.

Teaching Associate Grant.
Recipient: Chandramallika Basak
Source: Syracuse University; Received for course development as an instructor. Total Award: $ 1,100.
Period of Support: Academic year 2003-2004.

TEACHING

University of Texas at Dallas

Instructor

Spring 2020. CGS/PSY/SPAU 4386 (Adult Development and Aging)
Spring 2020, Spring 2019, Spring 2018, Spring 2017, Spring 2016, Spring 2015, Spring 2014, Spring 2012. ACN/HCS/PSYC 6333 (Memory)
Fall 2019, Spring 2018, Fall 2017, Spring 2017, Fall 2016, Spring 2016, Fall 2015, Spring 2015, Fall 2014, Spring 2014, Spring 2013. PSY 3393/CGS 3340 (Experimental Projects in Psychology)

Guest Lecture in:

Fall 2011. HCS 6302 (Issues in Behavioral and Brain Sciences: Part I)
Spring 2016. CGS/NSC/PSY 4359 (Cognitive Neuroscience)

Rice University

Instructor

Spring 2011. PSYC 590 (Advanced Seminar in Neuroscience)
Fall 2010. PSYC 308 (Memory)

Guest Lecture in:

Fall 2010. PSYC 520 (Foundations of Cognitive Psychology)

Syracuse University

Instructor

Spring 2004. PSY 252 (Statistical Methods II)
Spring & Fall 2003. PSY 252 (Statistical Methods II)
Spring 2001. PSY 205 (Foundations of Human Behavior)

Teaching Assistant

Fall 2002. PSY 252 (Statistical Methods II)
Summer 2001. PSY 205 (Foundations of Human Behavior)
Fall 2000. PSY 205 (Foundations of Human Behavior)

Mentoring of post-doctoral fellows under direct supervision

Shuo Qin, PhD: Oct 2019 -Current
Kaoru Nashiro, PhD: Aug 2012- Oct 2014

Mentoring of doctoral students under direct supervision (UT Dallas)

Margaret O'Connell, PhD: Defended in Nov 2018
Shuo Qin, PhD: Defended in Aug 2019
Nicholas R. Ray, MS: Doctoral Candidate (ABD)
Evan T. Smith, MS: Doctoral Student
Paulina Skolasinka, MS: Doctoral Student
G. Hulon Sherard, BS: Doctoral Student

Mentoring of undergraduate honors thesis under direct supervision (UT Dallas)

Amsha Tummala Reddy, Spring 2019

Ashlyn Huang, Spring 2018
Aparna Gudimetla, Spring 2016

Mentored/Mentoring 13 Undergraduate Students across various projects and thesis (UT Dallas).

Mentored/Mentoring 18 M.S. Students (UT Dallas) of Applied Cognition and Neuroscience (17 students) and Psychological Sciences (1 student) masters programs.

SERVICE

Professional Societies And Organizations

Editorship/editorial board member:

Associate Editor in Cognitive Neuroscience, specialty section of *Frontiers in Human Neuroscience* (April 2020 – present).

Editorial Board Member of *Restorative Neuroscience and Neurology* journal (Jan, 2018- Dec, 2020)

Guest Associate Editor of special issue (*Effects of Game and Game-Like Training on Neurocognitive Plasticity*) at *Frontiers in Human Neuroscience* (2016).

Reviewing:

Member of Scientific Review Group for ETTN-10 202105 ZRG1 ETTN C10 for National Institutes for Health (NIH), Mar 2021.

Member of Scientific review Group for Cognition and Perception Study Section, National Institutes for Health (NIH), Aug 2020.

Member of Scientific Review Group for ETTN-10 2020/08 ZRG1 ETTN-C (10) B for National Institutes for Health (NIH), Jul 2020.

Member of Scientific Review Group for ETTN-10 Clinical Neurophysiology, Devices, Neuroprosthetics and Biosensors Small Business Panel for National Institutes for Health (NIH), Mar 2020.

Member of Special Emphasis Panel/Scientific Review Group 2020/01 ZRG1 BBBP-C (02) M for National Institutes for Health (NIH), Nov 2019.

Reviewer for UT Dallas' Office of Research's Internal Seed Grant: Workshop program (Dec, 2019).

Member of Special Emphasis Panel ZRG1 BBBP-J (51)RFA-OD-19-018: Clinical Trials Development for Co-Occurring Conditions in Individuals with Down Syndrome: Phased Awards for INCLUDE (R61/R33) for National Institutes for Health (NIH), Jun 2019.

Reviewer of abstracts for the awards for Dallas ACC, 2019.

Reviewer of abstracts for the graduate student awards for Psychonomics Society, 2018.

Member of review panel for National Science Foundation (NSF), BCS Division, 2018-2019.

Member of review panel for Alzheimer's Association, 2014-2016.

Member of review panel for National Science Foundation (NSF), Open Research Area for the Social Sciences, 2013.

Member of review panel for National Science Foundation (NSF), BCS Division 2010-2011.

Member of review panel for Smithsonian Institution and Indo-US Science & Technology Forum (IUSSTF)

Reviewer of abstracts for the Annual Meeting of the Gerontological Society of America, 2012.

Member of review panel for NIGMS' Minority Biomedical Research Support (MBRS) behavioral science grants (NIGMH/NIH)

Ad-Hoc Referee in the following journals:

Aging, Neuroscience and Cognition; Alzheimer Disease & Associated Disorders ; Archives of General Psychiatry; Brain Research; Developmental Psychology; Frontiers in Aging Neuroscience; Frontiers in Human Neuroscience; Journal of Experimental Psychology: Human Perception & Performance; Journal of Experimental Psychology: Learning, Memory and Cognition; Journal of Gerontology: Psychological Sciences; Memory and Cognition; Neuropsychologia; Quarterly Journal of Experimental Psychology, Psychology & Aging; Psychological Science; Psychophysiology; PLOSone; etc.

Mentoring:

Faculty mentor for a Post-doctoral Associate through APA Division 20 Mentor Matching Program (2018-2019)

Faculty mentor for a doctoral student through APA Division 20 Mentor Matching Program (2018-current)

Administrative Work: School Of Behavioral & Brain Sciences

Co-organized, with Dr. Ted Price, School of BBS's Science Lecture Series, 2018-2019.

Principal organizer of the Science Luncheon Series (Center for Vital Longevity) for Fall 2019, Fall 2016 & Spring 2013. Each semester included 6-7 external speakers and 4-5 local speakers.

BBS Strategic Planning Committee member, 2019- current.

Academic Advisory Council (AAC) member for Dean of the School of Behavioral and Brain Sciences, 2019 – 2020.

Admission committee member of Cognition & Neuroscience (CN) program's graduate students, 2012-2016.

Steering committee member: Brain, Learning and Technology.

Organized potential graduate student visits (CN program) with Dr. McIntyre and Dr. Filbey, Jan 2013.

Research presentations at center-wide luncheons at Center for Brain Health (2012, 2016), Callier Center (2011), Center for Vital Longevity (2011), Cognitive Science brown bag (2011) and Neuroscience brown bag (2012).

Member in 2 Ph.D. Thesis Committees of UTD students, 2013-2015.

Co-organized with Dr. Denise Park the Dallas ACC, 2015. Invited and organized visits of >20 external speakers; oversaw various events related to the conference.

Organized and conducted a video game workshop for the Director's Research Circle, Center for Vital Longevity, November 4, 2012. Location: iStation, Dallas, TX.

Research presentation to Advisor Council Members of Center for Vital Longevity, October 4, 2011. Location: Center for Vital Longevity.

Second Reader for PhD Student's Second Year Projects (UT Dallas) for 5 students in Cognition and Neuroscience or Psychological Sciences programs.

Second Reader for two Honors Thesis, one in BBS and another in Chemistry.

Administrative Work: Committees

Chair, and Supervising Professor, of dissertation committee for Evan T. Smith, 2021-present

Chair, and Supervising Professor, of dissertation committee for Nicholas R. Ray, 2020-present

Dissertation committee member for Amy Barraza-Berglund UT Dallas, 2020 - present

Outside Chair for Austin W. Kingsolver's Final Oral Defense of PhD Dissertation (PhD in Political Science), August 16, 2019.

Chair, and Supervising Professor, for Shuo Qin's Final Oral Defense of PhD Dissertation (PhD in Cognition and Neuroscience), August 14, 2019.

Outside Chair for Milana Cherie Thomas' Final Oral Defense of PhD Dissertation (PhD in Materials Science and Engineering), August 30, 2018.

Chair, and Supervising Professor, for Margaret Anne O'Connell's Final Oral Defense of PhD Dissertation (PhD in Psychological Sciences), November 6, 2018.

Dissertation Committee Member for Katherine Fitzharris' PhD proposal (Communication Sciences and Disorders), 2013-2014.

Dissertation Committee Member for Gerard Nisal Bischof's Final Oral Defense of PhD Dissertation (PhD in Cognition and Neuroscience), 2013-June 2, 2014.

MA thesis committee member for Becky Lundwal, Rice University, 2011

Dissertation committee member for Corinne Allen's Final Oral Defense of PhD Dissertation, Rice University, April 2012

Dissertation committee member for Yi Guo (Glasser) Final Oral Defense of PhD Dissertation, Rice University, May 2012

Ad-hoc Committee Member for mid-probationary review of Dr. Kristin Drogos (2019-2020)

Service: University, Center and Community

Invited Speaker at the UT Dallas *Research 411 Talk Show* hosted by the Office of Research Outreach and Engagement Campaign - #UTDResearchImpact (Feb 24, 2021).

Invited Speaker at Texas Academy of Mathematics and Science at the University of North Texas (Sep 18, 2020).

Invited Speaker at the Closing Symposium of the University of Amsterdam's Annual Summer School ("Gray matter: an interdisciplinary perspective on the aging brain"), co-hosted by the Institute for Interdisciplinary Studies and Amsterdam Brain and Cognition Center. (June 25, 2020).

Invited Panelist at the Audubon's Conservation Leaders for Young Women (ACL), (March 30, 2020). In this Career Panel, female high school students interested in STEM will sit in a round table conversation with female scientists, to learn about our chosen careers and the paths we took to get there.

Invited Speaker (Presentation title: "Improving Cognition") at the Jewish Community Center, Dallas, TX (March 6, 2020).

Invited Speaker at the Rotary Club; Canyon Creek Country Club, Richardson, TX. (February 24, 2020).

Invited speaker and panelist at STAND UP SCIENCE show in Dallas (Jan 4, 2020). It is a 2 hr show where stand-up comedians and scientists come together to give funny and provocative TED-like talks. https://www.shanemauss.com/club-dates-1/2020/1/4/dallas-tx?fbclid=IwAR3KlQxHo1S_gZKiWZXg28Fqgr-mj0Wq-ODp-DbvgZeUbxiQ0gRHl2iQDH4

Presentation ("Gamification and the Brain") to the Director's Research Circle of Center for Vital Longevity (CVL; Feb 2020).

Research presentation at the Grand Opening of the UT Dallas' BrainHealth Imaging Center (Nov 22, 2019).

Participation as one of the Principal Investigator in the open house of CVL's Director's Research Circle (Oct 15, 2019).

Ad-hoc Committee Member for mid-probationary review of Dr. Kristin Drogos (2019-2020)

Speaker and guest of journalist and media personality Ms. Maria Shriver, who held Purple Luncheon, a fundraiser event in Dallas for Women's Alzheimer's Movement (WAM; Oct 29, 2018).

Research demo station by Basak lab on "Illusory Perceptions and Memories" at the Annual Gala of the Perot Museum of Science and Technology, Dallas (Nov 2017). This demo has led to a collaboration between Chandramallika Basak and Perot Museum to hold future demos and establish stations on cognitive psychology.

Presentation on improving memory to senior citizens at the St. Andrew's Church, Plano, TX (Oct 2017).
Presentation on videogame training at Dallas Sherriff's quarterly meeting (Aug 16, 2017).
Presentation on videogame training at Dallas Police Departments' Executive Retreat, Kaufman, TX (April 12, 2017)
Interviewed by Dallas Morning News' Senior Living Section about "Distraction and Cognition" (April 10, 2017)
Presentation at William B. Travis Academy (DISD)'s *Fab Friday* (Mar, 2017)
Served as a mentor to high school female students of the Hillcrest High School (DISD), under the Young WISE Investigators Program of UT Dallas, on a brain-computer interface robotic arm project (2014-2016), and a drone project (2016-2017). For 2017-2018, I led a team of YWISE high school students from Richardson ISD on how to code game-like virtual cognitive tools and understand the neural underpinnings of these different cognitive tools using a portable EEG system. Shuo Qin, a graduate student from my lab, won the "Best Graduate Student Mentor" award for 2017-2018.
Presentation on improving memory to senior citizens group at the Highland Park Presbyterian Church; Mar 10, 2017.
Presentation on the factors of healthy aging at Hispanic 100, Dallas; Nov 9, 2016.
Research Presentation at Green Week Celebration at CBRE, Dallas; Oct 11, 2016.
Presentation on physical fitness and brain at the Jewish Community Center's inaugural "Fitizen" 2016 Day; May 25, 2016.
Presentation on healthy aging at Belmont Village (a senior living community); Dec 11, 2015.
Presentation at Dallas International School's Career Day (Mar, 2015)
Presentation on healthy aging at the UT Dallas' Retirees Association; Oct 15, 2014.
Interviewed for a documentary on Darrell K Royal on the awarded project and its relationship to Alzheimer's disease; Fall 2014; Austin, TX.
Presentation on technology and aging at the iACT Summit Meeting in Dallas; May 21, 2014.
Badminton Mixed Doubles winner, thus securing Gold medal for University of Texas at Dallas at the "Corporate Challenge", 2013.
Research presentation at the Scholar's Day, UT Dallas' recruiting event for prospective undergraduates; March 2, 2013.
UT Dallas' Badminton Mixed Doubles winner with a student in the BBS, thus representing the school in the intramurals; Apr 3, 2012.
Interviewed at Channel CW33 (News at 9) for research on video games and cognition; March 8, 2013.
Presentation on improving memory at Highland Springs (a senior living community), Richardson, for University of Texas at Dallas' *Good Neighbors* Program; Fall 2012.
Presentation on improving memory at The Tradition (a senior living community), North Dallas, for University of Texas at Dallas' *Good Neighbors* Program; Fall 2012.

PUBLICATIONS

* Refers to publications from students and post-docs from Basak lab, with Dr. Basak (PI) as the corresponding author.

1. *Smith, E.T., Bartlett, J.C., Krawczyk, D. C., & **Basak, C.** (2021). Are the Advantages of Chess Expertise on Visuo-Spatial Working Memory Capacity Domain Specific or Domain General? *Memory & Cognition.* DOI: https://doi.org/10.3758/s13421-021-01184-z

2. *Qin, S., & **Basak, C.** (2021). Comparing the effects of two cardiovascular health factors on working memory capacity in healthy aging: separate and combined effects of arterial elasticity and physical

fitness. *Journal of Gerontology: Psychological Sciences.* doi: 10.1093/geronb/gbab071. Epub ahead of print. PMID: 33914083.

3. *Smith, E. T., Bhaskar, B., Hinerman, A., & Basak, C. (2021). Corrigendum: Past Gaming Experience and Cognition as Selective Predictors of Novel Game Learning Across Different Gaming Genres. *Frontiers in psychology*, *12*, 687696. https://doi.org/10.3389/fpsyg.2021.687696

4. Berglund-Barraza, A., Tian, F., **Basak, C**., Hart, J., & Evans, J.L. (2020). Tracking changes in frontal lobe hemodynamic response in individual adults with Developmental Language Disorder following HD tDCS enhanced phonological working memory training: An fNIRS feasibility study. *Frontiers in Human Neuroscience, 14,* 362. https://doi.org/10.3389/fnhum.2020.00362

5. *Qin, S., & **Basak, C.** (2020b). Influence of multiple cardiovascular risk factors on task-switching in older adults: An fMRI study. *Frontiers in Human Neuroscience, 14,* 561877. https://doi.org/10.3389/fnhum.2020.561877

6. * Smith, E.T., Bhaskar, B., Hinerman, A., & **Basak, C.** (2020). Past gaming experience and cognition as selective predictors of novel game learning across different gaming genres. *Frontiers in Psychology, 11,* 786. https://doi.org/10.3389/fpsyg.2020.00786

7. **Basak, C.,** Qin, S., O'Connell, M.A. (2020). Differential effects of cognitive training modules on healthy aging and mild cognitive impairment: a comprehensive meta-analysis of randomized controlled trials. *Psychology and Aging, 35(2),* 220-249. http://dx.doi.org/10.1037/pag0000442.

8. * Qin, S. & **Basak, C.** (2020a). Age-related differences in brain activations during working memory updating: an fMRI study. *Neuropsychologia***,** *138, 107335.* https://doi.org/10.1016/j.neuropsychologia.2020.107335

9. Berglund-Barraza, A., Tian, F., **Basak, C.,** & Evans, J. (2019). Word frequency is associated with cognitive effort during verbal working memory: a functional Near Infrared Spectroscopy (fNIRS) study. *Frontiers in Human Neuroscience.* doi:10.3389/fnhum.2019.00433

10. **Basak, C.,** Qin, S., Nashiro, K., & O'Connell, M.A. (2018). Functional magnetic neuroimaging data on age-related differences in task switching accuracy and reverse brain-behavior relationships**.** *Data in Brief, 19,* 997-1007. https://doi.org/10.1016/j.dib.2018.05.059

11. *O'Connell, M.A., & **Basak, C.** (2018). Effects of task complexity and age-differences on task-related functional connectivity of attentional networks. *Neuropsychologia*, *114,* 50-64.

12. *Nashiro, K., Qin, S., O'Connell, M.A., & **Basak, C.** (2018). Age-related Differences in BOLD Modulation to Cognitive Control Costs in a Multitasking Paradigm: Global Switch, Local Switch, and Compatibility-Switch Costs. *Neuroimage, 172,* 146-161.

13. **Basak, C.** & Qin, S. (2018). Virtual cognitive training in healthy aging and mild cognitive impairment. In R. Pak & A.C. Mclaughlin (Eds.). *Aging, Technology, And Health.* New York: Elsevier. 215-235.

14. *Ray, N.R.R., O'Connell, M.A., Nashiro, K., Smith, E.T., Qin, S., & **Basak, C**. (2017). Evaluating the relationship between white matter integrity, cognition and varieties of video game learning. *Restorative Neurology and Neuroscience, 35(5),*437-456.

15. *Qin, S., Ray, N. R., Ramakrishnan, N., Nashiro, K., O'Connell, M. A. & **Basak, C.** (2016). Illusory conjunctions in visual short-term memory: Individual differences in corpus callosum connectivity and splitting attention between the two hemifields. *Psychophysiology*, *53*, 1639–1650. doi:10.1111/psyp.12735

16. Band, G. P. H., **Basak, C**., Slagter, H. A., & Voss, M. W. (2016). Editorial: Effects of Game and Game-Like Training on Neurocognitive Plasticity. *Frontiers in Human Neuroscience*, *10*, 123. http://doi.org/10.3389/fnhum.2016.00123

17. **Basak, C.** & O'Connell, M.A. (2016). To Switch or not to switch: Role of cognitive control in working memory training in older adults. Special issue on The Temporal Dynamics of Cognitive Processing, *Frontiers in Psychology, 7* (230), 1-18. http://doi.org/10.3389/fpsyg.2016.00230

18. Wong, C., N., Chaddock-Heyman, L., Voss, M.W., Burzynska, A.Z., **Basak, C**., Erickson, K.I., Prakash, R.S., Szabo-Reed, A., Phillips, A., Wojcicki, T., Mailey, E.L., McAuley, E., Kramer, A. (2015) Brain activation during dual-task processing is associated with cardiorespiratory fitness and performance in older adults. *Frontiers in Aging Neuroscience, 7,* 154. http://doi.org/10.3389/fnagi.2015.00154

19. Lee, H., Boot, W.R., Baniqued, P., Voss, M.W., Prakash, R.P., **Basak, C.**, & Kramer, A.F. (2015). The relationship between intelligence and training gains is moderated by training strategy. *PLOS ONE, 10(4),* 1-9. 10.1371/journal.pone.0123259

20. **Basak, C.,** & Zelinski, E. (2013). A hierarchical model of working memory and its change in healthy older adults. In T.P. Alloway & R.G. Alloway (Eds.). *Working memory: The connected intelligence.* New York, London: Psychology Press. 83-106.

21. Baniqued, P.L., Lee, H., Voss, M.W., **Basak, C**., Cosman, J., DeSouza, S., Severson, J., Salthouse, T., & Kramer, A.F. (2013). Selling points: What cognitive abilities are tapped by casual video games? *Acta Psychologica, 142(1),* 74-86. 10.1016/j.actpsy.2012.11.009

22. Mathewson, K.E., **Basak, C**., Maclin, E.L., Low KL, Boot, W.R., Kramer, A.F., Fabiani, M., & Gratton, G. (2012). Different slopes for different folks: Alpha and Delta EEG power predict subsequent video game learning rate and improvements in cognitive control tasks. *Psychophysiology, 49(12),* 1558-1570. 10.1111/j.1469-8986.2012.01474

23. Verstynen, T., Lynch, B., Miller, M., Voss, M., Prakash, R., Chaddock, L., **Basak, C.**, Szabo, A., Olson, E., Wojcicki, T., Fanning, J., Gothe, N., McAuley, E., Kramer, A., & Erickson, K. (2012). Caudate nucleus volume mediates the link between cardiorespiratory fitness and cognitive flexibility in older adults. *Journal of Aging Research. Article ID 939285*. doi:10.1155/2012/939285

24. Lee, H., Voss, M., Prakash, R.S., Boot, W.R., Vo, L., **Basak, C**., VanPatter, M., Gratton, G., Fabiani, M., & Kramer, A.F. (2012). Videogame training strategy-induced change in brain function during a complex visoumotor task. *Behavioral Brain Research, 232(2),* 348-357. 10.1016/j.bbr.2012.03.043

25. Prakash, R.S., Leon, A., Mourany, L., Lee, H., Voss, M., Boot, W.R., **Basak, C.**, Fabiani, M., Gratton, G., & Kramer, A.F. (2012). Examining neural correlates of skill acquisition in a complex videogame training program. *Frontiers in Human Neuroscience, 6,* 115. 10.3389/fnhum.2012.00115

26. Lee, H., Boot, W.R**., Basak, C**., Voss, M.W., Prakash, R.P., Neider, M., Erickson, K.I., Simons, D.J., Fabiani, M., Gratton, G., Low, K.A., & Kramer, A.F. (2012). Performance gains from directed training do not transfer to untrained tasks. *Acta Psychologica, 139(1),* 146-158. 10.1016/j.actpsy.2011.11.003

27. Voss, M.W., Prakash, R.P., Erickson, K.I., Boot, W.R., **Basak, C.**, Neider, M., Simons, D., Fabiani, M., Gratton, G., & Kramer, A.F. (2012). Effects of training strategies implemented in a complex videogame on functional connectivity of attentional networks. *Neuroimage, 59(1), 138-148.* 10.1016/j.neuroimage.2011.03.052

28. **Basak, C.**, & Verhaeghen, P. (2011). Aging and switching the focus of attention in working memory: age differences in item availability but not in item accessibility. *Journal of Gerontology: Psychological Sciences, 66(5),* 519-526. 10.1093/geronb/gbr028

29. **Basak, C.**, Voss, M.W., Erickson, K.I., Boot, W.R., & Kramer, A.F. (2011). Regional differences in brain volume predict the acquisition of skill in a complex real-time strategy video game. *Brain and Cognition, 76(3),* 407-414. 10.1016/j.bandc.2011.03.017

30. Scalf, P., **Basak, C.,** & Beck, D. (2011). Attention does more than modulate suppressive interactions: Attending to multiple items. *Experimental Brain Research, 212(2),* 293-304. 10.1007/s00221-011-2730-z

31. Erickson, K., Voss, M., Prakash, R., **Basak, C.**, Szabo, A., Chaddock, L., White, S., Wojcicki, T., Mailey, E., McAuley, E., & Kramer, A. F. (2011). Reply to Coen et al.: Exercise, hippocampal volume, and memory. *Proceedings of the National Academy of Sciences, 108(18), E90-E90.* 10.1073/pnas.1103059108

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INVITED OR REFEREED PRESENTATIONS TO PROFESSIONAL MEETINGS/SEMINAR/ COLLOQUIA ASSEMBLIES

1. **Basak, C.** (Invited speaker at Invited colloquia speaker at Center for Vital Longevity, University of Texas at Dallas, Dallas, TX, Oct 2020). *Cardiovascular Health as a Protective Factor Against Age-Related Declines in Executive Functioning.*
2. **Basak, C.** (Invited speaker at Dallas Aging and Cognition Conference, Dallas, TX, January 2022). *TBA.*
3. **Basak, C.** (invited speaker at University of Amsterdam, NL, June 2020). *Improving Neurocognition in Aging.*
4. **Basak, C.** (Invited speaker for 2 research presentations at South Western Psychological Association, Frisco, TX, March 2020). Cancelled due to COVID-19 epidemic.
5. **Basak, C.** (Invited speaker at Science Luncheon Series, Center for Vital Longevity, UT Dallas, Dallas, TX, Oct 2020). *Cardiovascular Health as a Protective Factor Against Aging Brain.*
6. **Basak, C.** (Invited speaker at *Intuitive Surgical Robotics Training and Education Research Meeting,* Department of Surgery, UTSW Medical School, Dallas, TX, August 16 2019). *Skill Acquisition and Memory for Aging Individuals.*
7. **Basak, C.,** Skolasinka, P.A., & Qin, S. (Invited speaker at Dallas-Austin Area Memory Meeting, Center for Vital Longevity, UT Dallas, Dallas, TX, September 2019*). Effects of Predictability, Switching, and Updating on Task Performance and Brain Activation Among Low Fit and High Fit Older Adults.*
8. Smith, E.T., Bartlett, J., Krawzyck, D., & **Basak, C.** (Invited speaker at Dallas-Austin Area Memory Meeting, Center for Vital Longevity, UT Dallas, Dallas, TX, September 2019). *Are the Advantages of Chess Expertise on Visuo-Spatial Working Memory Capacity Domain Specific or Domain General?*
9. **Basak, C.** (Invited speaker at University of Texas A&M, Commerce, TX, December 2018). *Aging brain and its plasticity.*
10. **Basak, C.** (Invited speaker at Dallas Austin Area Memory Meeting, Baylor University and VA, Waco, TX, September 2018). *Age-related differences during switching and updating mechanisms of cognitive control.*
11. Smith, E.T. & **Basak, C.** (Invited speaker at Dallas Austin Area Memory Meeting, Baylor University and VA, Waco, TX, September 2018). *Cognitive and gray matter predictors of two types of video-games in older adults.*
12. **Basak, C.** (Invited speaker at Dallas-Austin Area Memory Meeting, University of Texas, Austin, TX, September 2017). *Benefits of cognitive training in healthy aging and MCI: A meta-analysis and ToWMA*.
13. Ray, N.R.R., O'Connell, M.A., Nashiro, K., Smith, E.T., Qin, S. & **Basak, C.** (Invited speaker at Dallas-Austin Area Memory Meeting, University of Texas, Austin, TX, September 2017*).* Evaluating the relationship between white matter integrity, cognition and varieties of video game learning.
14. **Basak, C.** (Overview Talk of the *Plenary Session 5: Training and Training-Related Transfer to Daily Life*, Aging and Cognition Conference, Zurich, Switzerland, April 2017). *Benefits of cognitive training in healthy aging and MCI: A comprehensive meta-analysis*.
15. **Basak, C.** (Invited speaker at the Spring Lecture Series of Center for Children and Families, UT Dallas, Dallas, TX, March 2017). *Benefits of cognitive training in healthy aging and MCI: A comprehensive meta-analysis*.
16. **Basak, C.** (Invited speaker and panelist at "Neuroscience and Society" series hosted by American Association for the Advancement of Science (AAAS) and the Dana Foundation*,* Washington, D.C., March 2017*). Are all games create equal?*
17. O'Connell, M.A. & **Basak, C.** (Invited speaker at Dallas-Austin Area Memory Meeting*,* Center for Vital Longevity, Dallas, TX, Sep, 2016*). Long-term semantic memory influences working memory.*
18. Qin, S. & **Basak, C.** (Invited speaker at Dallas-Austin Area Memory Meeting*,* Center for Vital Longevity, Dallas, TX, Sep, 2016*). Corpus Callosum, Illusory conjunctions and Visual Short-term Memory.*

19. **Basak, C.** (Invited colloquia speaker at University of Texas, Arlington, TX, Mar, 2016). *Devising the best strategies to improve cognition though cognitive training.*
20. **Basak, C.** (Invited colloquia speaker at University of Texas, Austin, TX, Mar, 2016). *Cognitive training, Plasticity and Aging.*
21. **Basak, C.** (Invited speaker at Texas Organization of Rural & Community Hospitals Conference (TORCH), San Antonio, Texas, Jun, 2013). *Cognitive training strategies: Brain and cognition in healthy aging.*
22. **Basak, C.** (*Symposium 4: Cognition, Mind to Behaviors- From Neurological Infrastructure to Social Behavior Applications***,** BIT's 3rd Annual Congress of Neurotalk, Beijing, China, May 2012). *Brain volume, strategy manipulations and video game learning induced plasticity.*
23. **Basak, C.** (Invited colloquia speaker at Texas A&M University, College Station, TX, Dec, 2012). *Fitness, brain and cognition in older adults*.
24. **Basak, C.** (Invited colloquia speaker at Wofford College, Spartanburg, SC, Nov, 2012). *Different folks for different folks: Effective training strategies, transfer and biomarkers of cognitive training.*
25. **Basak, C.** (Invited colloquia speaker at University of Zurich, INAPIC, Switzerland, Jun 2011). *Inducing cognitive and brain plasticity in older adults.*
26. **Basak, C.** (Invited colloquia speaker at Davis School of Gerontology, University of Southern California, Los Angeles, CA, March, 2011). *A hierarchical model of working memory.*
27. **Basak, C.** (Invited colloquia speaker at Center for Vital Longevity, University of Texas at Dallas, Dallas, TX, Jan 2011). *Keeping mind and body fit: Its effects on brain and cognition in older adults.*
28. **Basak, C.** (Invited colloquia speaker at Université de Provence, Marseilles, France, Apr, 2008). *Working Memory, plasticity and elderly.*
29. **Basak, C.** (Invited colloquia speaker at Washington University, St. Louis, MO, Jun 2006). *Video game training and cognitive plasticity in elderly.*
30. **Basak, C.** (Invited speaker and workshop director at Indian Statistical Institute, Calcutta, India, May 2006). *Video game training and cognition.*
31. **Basak, C.** (Invited speaker at Duke University, Durham, NC, January, 2005). *Three tiers of working memory: Accessibility and availability.*

SELECTED ORAL PRESENTATIONS TO PROFESSIONAL MEETINGS

1. **Basak, C.,** Sun, A., Qin, S. & Dowling, W.J. (Talk at the DataBlitz Session 2, Annual virtual meeting for the Cognitive Neuroscience Society, Mar 2021). *Encoding Specificity, Updating and Musical Expertise in Working Memory for Melodies: An fMRI Study*
2. **Basak, C.**, Smith, E., & Fishwick, P. (*Symposium: Technology to Support Successful Aging*, American Psychological Association, APA 2020 Virtual, Aug, 2020). Development and Implementation of an App to Support Cognitive Functioning: the ViCTOR Trial.
3. **Basak, C.** & Qin, S. (*Symposium: Modifiable Factors in Cognitive Aging*, American Psychological Association, APA 2020 Virtual, Aug, 2020). Cardiovascular health as a protective factor against age-related declines in switching and updating: two fMRI studies.
4. *Smith, E.T., Bartlett, J., Krawzyck, D. & **Basak, C.** (Plenary Session; Presented by **Basak, C.**, Annual meeting for Psychonomics Society, New Orleans, Nov, 2018). Are the Advantages of Chess Expertise on Visuo-spatial Working Memory Capacity Domain Specific or Domain General?
5. **Basak, C.**, Qin, S., O'Connell, M.A. (*Symposium: Cognitive and Neural Plasticity in Old Age*, Cognitive Aging Conference, Atlanta, G.A, May, 2018). Comparing cognitive benefits from single-component and multi-component cognitive training modules: A meta-analysis of randomized controlled trials in healthy aging and mild cognitive impairments.

6. **Basak, C.,** Qin, S. & O'Connell, M.A. (*Plenary session*, Annual meeting for Psychonomics Society, Vancouver, Canada, Nov, 2017). Differential effects of cognitive training modules on healthy aging and mild cognitive impairment: A comprehensive meta-analysis of randomized controlled trials.
7. Qin, S., Nashiro, K., O'Connell, M.A., & **Basak, C.** (*Nanosymposium*, Society for Neuroscience, Washington D.C, Nov 2017). Age-related differences in brain activation during continuous memory updating.
8. O'Connell, M.A. & **Basak, C**. (*Nanosymposium*, Society for Neuroscience, Washington D.C., Nov. 2017). Effects of task complexity and age on functional connectivity of attentional networks.
9. **Basak, C.** (Symposium, 21st IAGG World Congress of Gerontology and Geriatrics, San Francisco, CA, July, 2017). Playing for Keeps: Effects of video game training on neural and cognitive plasticity in older adults**.**
10. **Basak, C.,** O'Connell, Nashiro, K., Qin, S. & Smith, E. (*Plenary session*, Annual meeting for Psychonomics Society, Boston, MA, Nov, 2016). What's your game? Game playing strategy interacts with video game learning and cognitive gains in older adults.
11. **Basak, C.,** Nashiro, K., O'Connell, M.A., Chen, X., & Qin, S. (*Plenary session*, Annual meeting for Psychonomics Society, Chicago, IL, Nov, 2015). RTS video game training in older adults: Immediate and long-term cognitive gains, and individual differences in gaming.
12. Qin, S., Nashiro, K., O'Connell, M.A., Chen, X., & **Basak, C.** (*Nanosymposium,* Society for Neuroscience, Chicago, IL, Oct 2015). Age-related differences in task load, response compatibility and selective attention in task switching: An fMRI study.
13. **Basak, C.,** O'Connell, M.A., Qin, S., Nashiro, K., Chen, X., & Druskis, M. (Armadillo Conference, Waco, TX, Oct, 2015). Determining the cognitive and neural mechanisms of varieties of videogame learning.
14. **Basak, C.,** O'Connell, M.A., Qin, S., Nashiro, K., Chen, X., & Druskis, M. (*Game Symposium*, American Psychological Association, Toronto, July 2015). Cognitive and neural plasticity from videogame training.
15. **Basak, C.** (*Symposium*, ICPS, Psychological Science, Amsterdam, Mar 2015). Playing for keeps: Effects of Real-time strategy game training on cognition and neural activity.
16. **Basak, C.** (Presentation at Dallas ACC, Jan 2015). Playing for keeps: The aging brain on video games.
17. O'Connell, M. A**.,** & **Basak, C.** (Armadillo Conference, Norman, OK., Oct., 2014). *Testing a hierarchical model of working memory: Age and long-term memory's influence on verbal recognition memory.*
18. **Basak, C.** (*Plenary session: Working Memory I*; Annual Meeting of Psychonomic Society, Nov 2013, Toronto, Canada). *A New Model of Working Memory: Investigating the Best Strategies to Enhance Attentional Focus and Untrained Cognitive Skills.*
19. **Basak, C.,** Boot, W.R., & Kramer, A.F. (*Symposium: Engaged Aging through Technology*, 121st Annual Convention of American Psychological Association: Division 21, Honolulu, HI, Jul, 2013). *The best ways to boost cognition: Separate and combined effects of video game training and physical fitness training.*
20. **Basak, C. (***Symposium*: *Cognitive Reserve in Aging: Can Leisure Activities Increase Neuroplasticity?* 25th APS Annual Convention, Washington, DC, May, 2013). *Video game training: Strategy induced changes in cognitive abilities and brain function.*
21. **Basak, C.**, Kim, J.S., Voss, M.W., Prakash, R., Erickson, K.I., Szabo, A., McAuley, E., & Kramer, A.F. (*Plenary Session 7: Health and Cognition*, Cognitive Aging Conference, 2012, Atlanta, USA). *Determining a causal relationship between fitness and cognition in late adulthood.*
22. **Basak, C.**, Kim, J., Erickson, K., Voss, M., Szabo, A., McAuley, E., & Kramer, A.F. (*Paper: Cognition: Lifestyle and Other Interventions*, 64th Annual Scientific Meeting, Gerontological Society of America, 2011, Boston, MA). *Cardiorespiratory fitness predicts cognitive abilities in late adulthood.*
23. **Basak C.** (Armadillo XX, 2010, College Station, TX). *Multiple indices of working memory.*

24. **Basak C**., Voss M.W., Boot W.R., Erikson K.I., Kramer A.F. (*Plenary Session 6: Training*, 20th Cognitive Aging Conference- Down Under, 2007, Adelaide, Australia). *Can older adults benefit from videogame training? Relationship among cognition, game performance and brain structure*.
25. **Basak C**., Kramer A., Verhaeghen P. (*Plenary Session 8: Dual tasks and Attention*; Cognitive Aging Conference, 2006, Atlanta). *Aging, focus-switching and working memory span: Exploring the role of pointer predictability.*
26. Verhaeghen P., **Basak C.** (*Plenary Session 7: Cognitive Control*: Cognitive Aging Conference, 2004, Atlanta). *Aging and control over the switching of the focus of attention: Evidence for a new age-sensitive process.*
27. **Basak C**., Verhaeghen P. (CSAIL, 2005, Hood River, OR). *Circles of working memory: Exploring the capacity of the focus of attention and the retrieval dynamics of focus-switching.*
28. *Verhaeghen P., Cerella J., **Basak C.** (*Plenary session*, Presented by **Basak, C.** at the 2003 Annual Meeting of the Psychonomic Society, Vancouver, Canada). *Extensive training in N-Back task expands the size of focus of attention from 1 to 4.*
29. **Basak C.** (Presentation at 2003 Annual E.F. Gardner Conference on Measurement and Evaluation). *Time-series analysis of response time measures applied to practice effects on an N-Back task.*
30. **Basak C**., Verhaeghen P. (Presentation at 2002 Annual E.F. Gardner Conference on Measurement and Evaluation). *Subitizing and counting processes, aging, and Stroop effect: Capacity differences, speed equivalence.*
31. Dutta A., **Basak C**., Mukhopadhyay P., Das S.K., Ganguli P.K., Roy T., Maity B. (Presentation at IANCON '99, Calcutta, India). *Neural network of cognitive functions: An imaging and psychometric correlation.*