

# THOMAS A. DINGUS, PH.D., CHFP

Distinguished Fellow, Institute for Critical Technology and Applied Science  
Newport News Shipbuilding Professor of Biomedical Engineering and Mechanics, Virginia Tech

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## SUMMARY

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### Current Positions:

- Distinguished Fellow, Institute for Critical Technology and Applied Science at Virginia Tech
- Endowed Professor in Department of Biomedical Engineering and Mechanics at Virginia Tech; principal investigator of more than \$150 million in sponsored research, more than 300 technical publications

### Past Experience, University Administration:

- Director of Virginia Tech Transportation Institute, the university's largest research institute; annual external funding equivalent to approximately 15% of all research conducted at Virginia Tech (\$50 million budget); growth from 15 to 550 employees; expenditures of approximately \$675 million; more than 100 private- and public-sector sponsors and more than 300 active projects (1996- 2021)
- Inaugural director of the Institute for Critical Technology and Applied Science (ICTAS), the first interdisciplinary investment institute at Virginia Tech; recruited by university provost and dean of engineering to establish early infrastructure, raise private funding, construct initial building, and make and manage first awards (2002-2003)
- Director, National Center for Advanced Transportation Technology, University of Idaho (1992)
- Associate Director, Center for Computer-Aided Design, University of Iowa (1993-1995)

### Past Experience, General:

- President of VTT, LLC, a \$5 million annual university-affiliated research corporation running the Global Center for Automotive Performance Simulation in Halifax County, Va. (2012 – 2021)
- Chairman of Transecurity, LLC, private for-profit corporation; revenue of more than \$4 million (2005 - 2014)
- Professor, Virginia Tech Department of Industrial and Systems Engineering (1996 - 2000)
- Associate professor, University of Iowa Department of Industrial Engineering (1993 - 1995)
- Adjunct professor, University of Idaho Department of Mechanical Engineering (1990 - 1992)
- Assistant and associate professor, University of Idaho Department of Psychology (1986 - 1992)
- Human factors engineer, Martin Marietta Aerospace, Denver, Colorado (1979 - 1983)
- Researcher, Air Force Human Resources Laboratory, Advanced Simulation Techniques Branch, Wright-Patterson Air Force Base (1978 - 1979)

### Education:

- Ph.D., Virginia Tech, Industrial Engineering and Operations Research (1987)
- M.S., Virginia Tech, Industrial Engineering and Operations Research (1985)
- B.S., Wright State University, Systems Engineering (1979)

### Notable Recognition:

- Inducted into the Virginia Tech College of Engineering Academy of Alumni Excellence, 2020
- Named one of "100 People to Meet in 2020" by Virginia Business Magazine, 2019
- Q&A panelist, "Autonomy" movie premiere feat. Malcolm Gladwell, SXSW, 2019
- Invited speaker, TedX Salon Talk, 2017
- Invited Speaker, Virginia Academy of Science, Engineering, & Medicine, Summit Meeting 2015
- Elected to the Virginia Governor's Unmanned Systems Commission, 2015
- Elected to the Board of Directors of the Association for Unmanned Vehicle Systems International (association with more than 7,500 members), 2015
- White House Champion of Change, White House Ceremony, May 2013
- Honored by Virginia Governor at InnoVAte Virginia for Entrepreneurship (the only academic honored), June 2013
- Elected to the Board of Directors of the Intelligent Transportation Society of America (industry association with 400 members), 2013
- Induction into the Virginia Tech Department of Industrial and Systems Engineering Academy of Distinguished Alumni, 2012
- Invited Keynote Speaker, Distracted Driving Summit hosted by U.S. Secretary of Transportation Ray LaHood, 2009
- Invited Paper and Keynote Address, National Academy of Engineering, Frontiers in Engineering, 2002
- Elected Fellow, Human Factors and Ergonomics Society, 2002
- Lifetime Achievement Award, Human Factors and Ergonomics Society for Safety Engineering, 2000

**THOMAS A. DINGUS, PH.D., CHFP**  
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Institute for Critical Technology and Applied Science  
Newport News Shipbuilding Professor of Engineering at Virginia Tech  
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## **EDUCATION**

Doctor of Philosophy (1987), Industrial Engineering and Operations Research (Human Factors Option), Virginia Polytechnic Institute and State University, Blacksburg, Virginia

Master of Science (1985), Industrial Engineering and Operations Research (Human Factors Option), Virginia Polytechnic Institute and State University, Blacksburg, Virginia

Bachelor of Science (1979), Systems Engineering (Human Factors Option), Wright State University, Dayton, Ohio

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## **EMPLOYMENT EXPERIENCE**

### **University Faculty Appointments**

Distinguished Fellow, Institute for Critical Technology and Applied Science, Virginia Tech (August 2021—Present)

- Responsible for helping to increase sponsored research funding across university departments, centers, and institutes

Newport News Shipbuilding Professor, Departments of Biomedical Engineering and Mechanics and Civil and Environmental Engineering, Virginia Tech (January 2001—Present)

- Responsible for instruction of undergraduate and graduate courses in transportation safety
- Responsible for conducting research and directing graduate students in the transportation program

Director of Virginia Tech Transportation Institute (January 1996—September 2021)

- Responsible for administering the university's largest research institute; annual external funding equivalent to approximately 15% of all research conducted at Virginia Tech (\$50 million budget); growth from 15 to 550

employees; expenditures of approximately \$675 million; more than 100 private- and public-sector sponsors and more than 300 active projects.

Professor, Department of Industrial and Systems Engineering, Virginia Tech (January 1996—December 2000)

- Responsible for instruction of undergraduate and graduate courses in safety and human factors
- Responsible for conducting research and directing graduate students in the human factors engineering program

Associate Professor, Department of Industrial Engineering, University of Iowa (January 1993—December 1995; Tenure granted April 1994)

- Responsible for instruction of undergraduate and graduate courses in human factors, safety, transportation, and industrial engineering
- Responsible for development of a graduate curriculum in human factors

Adjunct Professor, Department of Mechanical Engineering, University of Idaho (February 1990—December 1992)

- Responsible for teaching human factors and safety courses to mechanical engineering students
- Responsible for serving as a thesis advisor

Assistant and Associate Professor, Department of Psychology, University of Idaho (August 1986—December 1992; Promotion and tenure granted March 1992)

- Responsible for development of a graduate curriculum in human factors
- Responsible for instruction of undergraduate and graduate courses in human factors, engineering, and psychology
- Responsible for research in human factors and safety
- Responsible for direction of graduate students in human factors

### **University Administration**

Director, Virginia Tech Transportation Institute (January 1996—September 2002 and September 2003—September 2021)

- Responsible for procurement of program funding, development of industrial partnerships, coordination of faculty research activities, and general institute administration for more than 500 employees, including faculty, staff, and students

Founding Director, Institute for Critical Technology and Applied Science at Virginia Tech (September 2002—August 2003)

- Responsible for establishing the first large-scale, multidisciplinary research enterprise at Virginia Tech
- Responsible for development of policies, organization, and finance recommendations

Associate Director, Center for Computer-Aided Design, University of Iowa (January 1993—December 1995)

- Responsible for procurement of program funding, coordination, planning, and conduct of human factors-, health-, and safety-related driving research activities for the Iowa Driving Simulator
- Supervised four full-time staff and 15 graduate students

Director, National Center for Advanced Transportation Technology, University of Idaho (January 1992—December 1992)

- Responsible for procurement of program funding, development of industrial partnerships, coordination of faculty research activities, and general center administration

### **University Research**

Research Assistant, Vehicle Analysis and Simulation Laboratory, Virginia Polytechnic Institute and State University (September 1983—August 1986)

- Responsible for conducting research involving highway safety, advanced vehicle system design, and vehicle simulation
- Responsible for presenting course material and grading examinations for safety and human factors courses

Research Assistant, Perception Laboratory, Psychology Department, Wright State University (March 1977—March 1978)

- Assisted in performance of research studies involving human visual perception

### **Industry and Government**

President, VTT, LLC, Inc. (September 2012—September 2021)

- Non-profit, university-affiliated corporation of Virginia Tech Foundation that currently operates the Global Center for Automotive Performance Simulation on behalf of Virginia Tech

Chairman, Transecurity, LLC, Inc. (June 2005—April 2014)

- For-profit spin-off of VTTI that developed and marketed safety systems for trucks
- Revenue: \$4 million

Human Factors Engineer, Martin Marietta Aerospace, Denver, Colorado  
(July 1979—August 1983)

- Worked on all phases of complex system development, from proposal through testing and evaluation
- Promoted to senior engineer in 1981
- Supervised as many as six engineers on design projects, including large vehicle design, and human factors tests and evaluations

Researcher, Air Force Human Resources Laboratory, Advanced Simulation Techniques Branch, Wright-Patterson Air Force Base (March 1978—June 1979)

- Performed research studies involving motion and visual systems for advanced tactical aircraft simulators

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## **SELECTED CONSULTING EXPERIENCE**

Independent Safety and Human Factors Consultant (June 1984—Present);  
projects included:

- Vehicle test and evaluation, Google
- Future product development, Qualcomm
- Future of vehicle telematics, Daimler
- Simulation safety, Ford
- Human factors, GM
- Driver attention, State Farm Insurance
- Automobile navigation system development, Zexel, Inc.
- Simulator test planning, Hughes Aircraft
- Computer product design, Hewlett-Packard
- Training program evaluation, U.S. Army
- Control center design requirements, U.S. Navy
- Human factors test and evaluation, Lockheed Martin
- Consumer product liability litigation, various attorneys

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## **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

Human Factors and Ergonomics Society (Fellow, 1983-present)

Intelligent Transportation Society of America (Board of Directors, 2015-2019)

Association of Unmanned Vehicle Systems International (Board of Directors,  
2015-2018)

Society of Automotive Engineers (1986-present)

American Society of Safety Engineers (1986-present)

American Society for Engineering Education (1986-2018)

## **Professional Registration**

Certified Human Factors Professional, *Board of Certification in Professional Ergonomics*

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## **NOTABLE AWARDS**

Induction into the Virginia Tech College of Engineering Academy of Alumni Excellence, 2020

Named one of “100 People to Meet in 2020” by Virginia Business Magazine, 2019

Named White House Champion of Change for Innovation in Transportation, including an invited panel member at the White House, 2013

Best *Ergonomics in Design* Article Award for “Estimating Crash Risks” from Human Factors and Ergonomics Society, 2012

Induction into the Virginia Tech Department of Industrial and Systems Engineering Academy of Distinguished Alumni, 2012

Dean’s Award for Excellence in Research, Virginia Tech College of Engineering, 2002

A. R. Lauer Safety Award from the Human Factors and Ergonomics Society for outstanding contributions to the understanding of human factors in safety, 2000

Jerome H. Ely *Human Factors* Award for the most outstanding paper in Volume 37. Paper entitled: “Human Factors Field Evaluation of Automotive Headway Maintenance/Collision Warning Devices,” 1998

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## **RECENT HONORS**

Invited speaker, TEDx Salon Talk, Wilmington, Del., “The Automated-Vehicle (R)evolution,” October 2017, <https://youtu.be/uW-Xy8HOSUQ>

Invited Speaker, Virginia Academy of Science, Engineering, & Medicine, Summit Meeting 2015

Elected to Virginia Governor’s Unmanned Systems Commission, 2015

Elected to the Association for Unmanned Vehicle Systems International Board of Directors, 2015

Invited panelist, "Distracted Driving: Panel Discussion," RealClearPolitics, 2013

Invited to the Virginia Governor's Mansion for a reception celebrating InnoVAte Virginia as an outstanding innovator, 2013

Invited blogger for Huffington Post, *Don't Look Away From the Roadway*, November 12, 2013

Elected to the Intelligent Transportation Society of America Board of Directors, 2013

Invited keynote speaker, Driving Distraction from Nomadic Devices, Australasian College of Road Safety, Melbourne, Australia, 2011

Invited keynote speaker, "Driver Distraction and Fatigue," AA Research Foundation Symposium, Wellington, New Zealand, 2011

Invited to testify before the U.S. Congressional Subcommittee on Commerce, Trade and Consumer Protection, "Driven to Distraction: Wireless Devices and Vehicle Safety," 2009

Invited to testify before the U.S. Congressional Subcommittee Highways and Transit, "Assessing the Problem of Distracted Driving," 2009

Invited speaker, "Driving Distraction," U.S. Secretary of Transportation, Washington, DC, 2009

Invited keynote speaker, "Distracted Driving," National Safety Council, Arlington, VA, 2008

Invited keynote speaker, "Proven Methods of Changing Employee's Unsafe Behaviors," National Safety Council, Anaheim, CA, 2008

Invited speaker, "Texting While Driving Bill," Joint Commission on Technology and Science Commonwealth of Virginia, Richmond, VA, 2008

Invited speaker, driving human factors research for a Congressional Science Briefing, Washington, DC, 2007

Keynote speaker, naturalistic driving studies for the Graduated Driver's Licensing Conference, National Safety Council, Sedona, AZ, 2006

Appointed to the Joint Commission on Technology and Science Advisory Committee for the Commonwealth of Virginia, 2006

Invited speaker, "Distracted Driving," National Conference of State Legislators, Seattle, WA, 2005

Nominated by the Human Factors and Ergonomics Society to serve on the U.S. Transportation Security Administration Scientific Advisory Committee, 2003

Selected by the National Highway Traffic Safety Administration to serve on the Advisory Board for the National Advanced Driving Simulator, 2003

Invited to present to the National Academy of Engineering and submit paper, "Human Factors Applications in Surface Transportation," 2002

Elected Fellow of the Human Factors and Ergonomics Society, 2002

Awarded the Newport News Shipbuilding Professorship by the Honorifics Committee of the Virginia Tech College of Engineering, 2001

Invited to testify before U.S. Congressional Subcommittee, "Driver Distraction: Cell Phones and Other Devices in the Automobile," 2001

Invited to speak before the National Conference of State Legislators, driver attention and distraction, 2001

Invited to serve on the American Trucking Association Technology & Engineering Policy Committee, 2001

Summoned to provide expert testimony to the National Transportation Safety Board on the potential impact of technology on the future of truck safety, 1999

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## **SCHOLARLY RESEARCH**

### **Books**

Dingus, T., & Buchanan-King, M. (2020). *Survive the Drive: A Guide to Keeping Everyone on the Road Alive 2<sup>nd</sup> Edition*. Blacksburg, VA: VT Publishing.



Dingus, T., & Buchanan-King, M. (2015). *Survive the Drive: A Guide to Keeping Everyone on the Road Alive*. Blacksburg, VA: Blurb.

Barfield, W., & Dingus, T. (Eds.) (1998). *Human Factors in Intelligent Transportation Systems*. New York: Erlbaum.

### Book Chapters

Mollenhauer, M., Hulse, M., Dingus, T., Jahns, S., Carney, C. (2020). Design decision aids and human factors guidelines for ATIS displays. In *Ergonomics and safety of intelligent driver interfaces* (pp. 23-61). CRC Press

McLaughlin, S., Hankey, J., & Dingus, T. (2009). Driver measurement: methods and applications. In D. Harris (Ed.), *Engineering Psychology and Cognitive Ergonomics: HCII 2009, LNAI 5639* (pp. 404–413). Berlin, Heidelberg: Springer-Verlag.

Neale, V. L., & Dingus, T. A. (2005). Motor vehicle warnings. In: M. S. Wogalter (Ed.), *The Handbook of Warnings* (pp. 687 - 700). New Jersey: Lawrence Erlbaum Associates, Inc. (LEA).

Hanowski, R. J., & Dingus, T. A. (2000). Will intelligent transportation systems improve older driver mobility? In K. W. Schaie, M. Pietrucha (Eds.), *Mobility and Transportation in the Elderly* (pp. 279-298). New York: Springer Publishing Co.

Hanowski, R. J., Wierwille, W. W., Dingus, T. A., Hankey, J. M., & Moyer, M. J. (1999). Development of a model and computer program for assessment and evaluation of task demands associated with complex in-vehicle information systems. In A. G. Gale, I. D. Brown, C. M. Haslegrave, & S. P. Taylor (Eds.), *Vision in Vehicles VIII*. North-Holland: Elsevier Science B.V.

Wogalter, M. S., & Dingus, T. A. (1999). Methodological Techniques for Evaluating Behavioral Intentions and Compliance. In M. S. Wogalter, J. W. Brelsford, D. M. DeJoy, & K. R. Laughery (Eds.), *Warnings and Risk Communication* (pp. 53-81). London: Taylor & Francis.

Dingus, T. A., Jahns, S. K., Horowitz, A., & Knipling, R. (1998). Human factors design issues for crash avoidance systems. In W. Barfield and T. Dingus (Eds.), *Human Factors in Intelligent Transportation Systems* (pp. 55-93). New York: Erlbaum.

Fleischman, R. N., & Dingus, T. A. (1998). Human factors participation in large-scale intelligent transportation system design and evaluation. In W. Barfield and

T. Dingus (Eds.), *Human Factors in Intelligent Transportation Systems* (pp. 247-286). New York: Erlbaum.

Hulse, M. C., Dingus, T. A., & Barfield, W. (1998). Description and applications of advanced traveler information systems. In W. Barfield and T. Dingus (Eds.), *Human Factors in Intelligent Transportation Systems* (pp. 1-30). New York: Erlbaum.

Dingus, T. A., Gellatly, A., & Reinach, S. (1997). Human Computer Interaction Applications for Intelligent Transportation Systems. In M. Helander (Ed.), *Handbook of Human Computer Interaction* (pp. 1259-1282). London: Taylor & Francis.

Mollenhauer, M., Hulse, M., Dingus, T., Jahns, S., & Carney, C. (1997). Lea Aids and Human Factors Guidelines for ATIS Displays. In: Y. I. Noy (Ed.), *Ergonomics and Safety of Intelligent Driver Interfaces* (pp. 23-61). Mahwah, NJ: Erlbaum.

### **Invited Journal Paper of Note**

Dingus, T. A. (2003). Human Factors Applications in Surface Transportation. *Frontiers in Engineering: Reports on Leading-Edge Engineering from the 2002 National Academy of Engineering Symposium* (pp. 39-42). Washington, DC: The National Academies Press.

### **Journal Publications**

Dunn, N.J., Dingus, T.A., Soccolich, S., and Horrey, W.J. (2021). Investigating the impact of driving automation systems on distracted driving behaviors. *Accident Analysis & Prevention*, 156, 106-152.

Wotring, B., Dingus, T., Atwood, J., Guo, F., McClafferty, & Buchanan-King, M. (2020). The prevalence of cognitive disengagement in automobile crashes. *Applied Cognitive Psychology*.

Ehsani, J.P., Gershon, P., Brydon, J.B., Chunming, Z., Klauer, S.G., Dingus, T.A., and Simons-Morton, B.G. (2020). Hum experience and teenagers' crash risk the first year of independent driving. *JAMA Pediatrics*, 174, 573-580.

Sykes, K., Basantis, A., Dingus, T., Murray-Tuite, P., Neurauter, M.L. and Doerzaph, Z. (2020). Par in-vehicle active traffic and demand management (ATDM) system. *Transportation research part F: traffic psychology and behaviour*, 71, 119-144.

Simons-Morton, B., Gershon, P., O'Brien, F., Gensler, G., Klauer, S. G., Ehsani, J., ..., & Dingus, T. A. (2019). Crash rates over time among younger and older drivers in the SHRP2 Naturalistic Driving Study. *Journal of Safety Research, 73*, 245-251.

Simons-Morton, B. G., Gershon, P., Gensler, G., Klauer, S., Ehsani, J., Zhu, C., ... & Dingus, T. (2019). Kinematic risky driving behavior among younger and older drivers: Differences over time by age group and sex. *Traffic Injury Prevention, 20*(7), 708-712.

Ehsani, J. P., Kar, I. N., Klauer, S. G., Dingus, T. A., & Simons-Morton, B. (2019). Parent and teen factors associated with the amount and variety of supervised practice driving. *Safety Science, 119*, 214-218.

Dingus, T. A., Owens, J. M., Guo, F., Fang, Y., Perez, M., McClafferty, J., Buchanan-King, M., Fitch, G. M. (2019). The prevalence of and crash risk associated with primarily cognitive secondary tasks. *Safety Science, 119*, 98-105.

Antin, J. F., Lee, S., Perez, M. A., Dingus, T. A., Hankey, J. M., & Brach, A. (2019). Second strategic highway research program naturalistic driving study methods. *Safety Science*.

Gershon, P., Sita, K. R., Zhu, C., Ehsani, J. P., Klauer, S. G., Dingus, T. A., & Simons-Morton, B. G. (2019). Distracted driving, visual inattention, and crash risk among teenage drivers. *American journal of preventive medicine, 56*(4), 494-500.

Gershon, P., Simons-Morton, B., Ehsani, J., Klauer, S. G., Dingus, T. A., Zhu, C. (2018). Crash risk and risky driving behavior among adolescents during learner and independent driving periods. *Journal of Adolescent Health, 63*(5), 568-574.

Gershon, P., Simons-Morton, B., Zhu, C., Ehsani, J., Klauer, S. G., & Dingus, T. (2018). Vehicle Ownership and Other Predictors of Teenagers Risky Driving Behavior: Evidence from A Naturalistic Driving Study. *Accident Analysis & Prevention, 118*, 96-101.

Ankem, G., Klauer, C., Ollendick, T., Dingus, T., & Guo, F. (2018). How Risky Are ADHD Teen Drivers? Analysis of ADHD Teen Drivers Using Naturalistic Driving Data. *Journal of Transport & Health, 9*, S13.

Atwood, J., Guo, F., Fitch, G., & Dingus, T. A. (2018). The driver-level crash risk associated with daily cellphone use and cellphone use while driving. *Accident Analysis & Prevention, 119*, 149-154.

- Antin, J. F., Guo, F., Fang, Y., Dingus, T. A., Perez, M. A., & Hankey, J. M. (2017). A validation of the low mileage bias using naturalistic driving study data. *Journal of Safety Research*, 63, 115-120.
- Antin, J. F., Guo, F., Fang, Y., Dingus, T. A., Hankey, J. M., & Perez, M. A. (2017). The influence of functional health on seniors' driving risk. *Journal of Transport & Health*, 6, 237-244. doi:10.1016/j.jth.2017.07.003
- Ehsani, J. P., Klauer, S. G., Zhu, C., Gershon, P., Dingus, T. A., & Simons-Morton, B. G. (2017). Naturalistic assessment of the learner license period. *Accident Analysis & Prevention*, 106, 275-284. doi:10.1016/j.aap.2017.06.014
- Perez, M., Sudweeks, J. D., Sear, E., Antin, J. F., Lee, S., Hankey, J., & Dingus, T. A. (2017). Performance of basic kinematic thresholds in the identification of crash and near-crash events within naturalistic driving data. *Accident Analysis & Prevention*, 103, 10-19. doi:10.1016/j.aap.2017.03.005
- Simons-Morton, B. G., Ehsani, J. P., Gershon, P., Klauer, S. G., & Dingus, T. A. (2017). Teen Driving Risk and Prevention: Naturalistic Driving Research Contributions and Challenges. *Safety*, 3(4), 29.
- Gershon, P., Zhu, C., Klauer, S. G., Dingus, T., & Simons-Morton, B. (2017). Teens' distracted driving behavior: Prevalence and predictors. *Journal of Safety Research*, 63, 157-161.
- Ehsani, J. P., Haynie, D., Ouimet, M. C., Zhu, C., Guillaume, C., Klauer, S. G., ... & Simons-Morton, B. G. (2017). Teen drivers' awareness of vehicle instrumentation in naturalistic research. *Journal of Safety Research*, 63, 127-134.
- Ehsani, J. P., Li, K., Grant, B. J., Gershon, P., Klauer, S. G., Dingus, T. A., & Simons-Morton, B. (2016). Factors influencing learner permit duration. *Safety*, 3(1), 2.
- Perez, M., McLaughlin, S., Kondo, T., Antin, J., McClafferty, J., Lee, S., Hankey, J., & Dingus, T. (2016). Transportation safety meets big data: The SHRP 2 naturalistic driving database. *Journal of the Society of Instrument and Control Engineers*, 55(5), 415-421. doi:10.11499/sicejl.55.415
- Guo, F., Klauer, S. G., Fang, Y., Hankey, J. M., Antin, J. F., Perez, M. A., ... & Dingus, T. A. (2016). The effects of age on crash risk associated with driver distraction. *International journal of epidemiology*, 46(1), 258-265.

- Jahangiri, A., Rakha, H., & Dingus, T. A. (2016). Red-light running violation prediction using observational and simulator data. *Accident Analysis & Prevention, 96*, 316-328. doi:10.1016/j.aap.2016.06.009
- Dingus, T. A., Guo, F., Lee, S., Antin, J. F., Perez, M., Buchanan-King, M., & Hankey, J. (2016). Driver crash risk factors and prevalence evaluation using naturalistic driving data. *Proceedings of the National Academy of Sciences, 113*(10), 2636-2641. doi:10.1073/pnas.1513271113
- Noble, A. M., Dingus, T. A., & Doerzaph, Z. R. (2016). Influence of In-Vehicle Adaptive Stop Display on Driving Behavior and Safety. *IEEE Transactions on Intelligent Transportation Systems, 17*(10), 2767-2776.
- Simons-Morton, B. G., Klauer, S. G., Ouimet, M. C., Guo, F., Albert, P. S., Lee, S. E., ... & Dingus, T. A. (2015). Naturalistic teenage driving study: findings and lessons learned. *Journal of Safety Research, 54*, 41-e29.
- Jahangiri, A., Rakha, H. A., & Dingus, T. A. (2015). Developing a system architecture for cyclist violation prediction models incorporating naturalistic cycling data. *Procedia Manufacturing, 3*, 5543-5550.
- Dingus, T. A. (2014). Estimates of prevalence and risk associated with inattention and distraction based upon *in situ* naturalistic data. *Annals of Advances in Automotive Medicine, 58*, 60-68. Retrieved from [http://www.apps.vtti.vt.edu/PDFs/AAAM%20manuscript\\_Dingus.pdf](http://www.apps.vtti.vt.edu/PDFs/AAAM%20manuscript_Dingus.pdf)
- Klauer, S. G., Guo, F., Simons-Morton, B. G., Ouimet, M. C., Lee, S. E., & Dingus, T. A. (2014). Distracted Driving and Risk of Road Crashes among Novice and Experienced Drivers. *New England Journal of Medicine, 370*(1), 54-59.
- Ouimet, M. C., Brown, T. G., Guo, F., Klauer, S. G., Simons-Morton, B. G., Fang, Y., Lee, S. E., Gianoulakis, C., & Dingus, T.A. (2014). Higher crash and near-crash rates in teenaged drivers with lower cortisol response: An 18-month longitudinal, naturalistic study. *Journal of the American Medical Association, Pediatrics, 168*(6), 517-522. doi:10.1001/jamapediatrics.2013.5387
- Guo, F., Simons-Morton, B. G., Klauer, S. E., Ouimet, M. C., Dingus, T. A., & Lee, S. E. (2013). Variability in crash and near-crash risk among novice teenage drivers: a naturalistic study. *The Journal of Pediatrics, 163*(6), 1670-1676.
- Simons-Morton, B. G., Ouimet, M. C., Chen, R., Klauer, S. G., Chen, R., Lee, S. E., Wang, J., & Dingus, T. A. (2012). Peer influence predicts speeding

prevalence among teenage drivers. *Journal of Safety Research*, 43(5-6), 397-403. Retrieved from <http://dx.doi.org/10.1016/j.jsr.2012.10.002>

Dingus, T. A., Hanowski, R. J., & Klauer, S. (2011). Estimating crash risk. *Ergonomics in Design: The Quarterly of Human Factors Applications*, 19(4), 8-12.

Fitch, G. M., Lee, S. E., Klauer, S. G., Hankey, J. M., Sudweeks, J., & Dingus, T. A. (2011). Vehicle Lane Change Accidents: Literature Review. *Accident Reconstruction Journal*, 21(1), 11-16.

Fitch, G. M., Hankey, J. M., Kleiner, B. M., & Dingus, T. A. (2011). Driver comprehension of multiple haptic seat alerts intended for use in an integrated collision avoidance system. *Transportation Research Part F: Traffic Psychology and Behavior*, 14(4), 278-290.

Klauer, S. G., Simons-Morton, B., Lee, S. E., Ouimet, M. C., Howard, E. H., & Dingus, T. A. (2011). Novice drivers' exposure to known risk factors during the first 18 months of licensure: The effect of vehicle ownership. *Traffic Injury Prevention*, 12(2), 159-168.

Lee, S. E., Simons-Morton, B. G., Klauer, S. E., Ouimet, M. C., & Dingus, T. A. (2011). Naturalistic assessment of novice teenage crash experience. *Accident Analysis & Prevention*, 43(4), 1472-1479. Retrieved from <http://dx.doi.org/10.1016/j.aap.2011.02.026>

Simons-Morton, B. G., Ouimet, M. C., Zhang, Z., Klauer, S. G., Lee, S. E., Wang, J., Chen, R., Albert, P., & Dingus, T. A. (2011). The Effect of Passengers and Risk-Taking Friends on Risky Driving and Crashes/Near Crashes among Novice Teenagers. *Journal of Adolescent Health*, 49(6), 587-593. Retrieved from <http://dx.doi.org/10.1016/j.jadohealth.2011.02.009>

Simons-Morton, B. G., Ouimet, M. C., Zhang, Z., Klauer, S. G., Lee, S. E., Wang, J., Albert, P. S., & Dingus, T. A. (2011). Crash and Risky Driving Involvement Among Novice Adolescent Drivers and Their Parents. *American Journal of Public Health*, 101(12), 2362-2367.

Doerzaph, Z. R., Dingus, T. A., & Hankey, J. (2010). Improving Driver Safety through Naturalistic Data Collection and Analysis Methods. *SAE International Journal of Passenger Cars—Electronic and Electrical Systems*, 3(2010-01-2333), 162-169.

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### **Additional Refereed Publications with Paper Review**

Pnina Gershon, P., Ehsani, J.P., Sita, J.R., Zhu, C., Klauer, S., Dingus, T., and Simons-Morton, B.G. (2021). *Vehicle access of novice teens and the risk for crash/near-crash events*. Transportation Research Board. TRBAM-21-00800.

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- Owens, J. M., Dingus, T. A., Guo, F., Fang, Y., Perez, M., McClafferty, J., & Tefft, B. (2018). *Estimating the prevalence and crash risk of drowsy driving using data from a large-scale naturalistic driving study* (Paper No. 18-04410) [Extended Abstract]. Washington, DC: Transportation Research Board.
- Owens, J. M., Tefft, B., Guo, F., Fang, Y., Perez, M., McClafferty, J., & Dingus, T. A. (2018). *Crash risk of cell phone use while driving: case-crossover study of SHRP 2 Naturalistic Driving Data* (Paper No. 18-03148) [Extended Abstract]. Washington, DC: Transportation Research Board.
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McGehee D., Dingus, T. A., & Horowitz, A. (1994). An experimental field test of automotive headway maintenance/collision warning visual displays. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 38(17), 1099-1104. doi:10.1177/154193129403801706, Santa Monica, CA: Human Factors and Ergonomics Society.

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McGehee, D. V., Dingus, T. A., & Horowitz, A. D. (1992). The potential value of a front-to-rear-end collision warning system based on factors of driver behavior, visual perception and brake reaction time. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 36(13), 1003-1005. doi:10.1177/154193129203601318, Santa Monica, CA: Human Factors and Ergonomics Society.

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Dingus, T. A., Hathaway, J. A., & Hunn, B. P. (1991). A most critical warning variable: Two demonstrations of the powerful effects of cost on warning compliance. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 35(15), 1034-1038. doi: 10.1177/154193129103501503, Santa Monica, CA: Human Factors and Ergonomics Society.

Dingus, T. A., Hulse, M. C., Krage, M. K., Szczublewski, F. E., & Berry, P. (1991). A usability evaluation of navigation and information system "Pre-drive" functions. In *Conference Records of Papers at the 2nd Vehicle Navigation and Information Systems (VNIS) Conference*, 2, 527-536. doi:10.1109/VNIS.1991.205797

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Fleischman, R. N., Carpenter, J. T., Dingus, T. A., Szczublewski, F. E., Krage, M. K., & Means, L. G. (1991). Human Factors in the TravTek Demonstration IVHS Project: Getting Information to the Driver. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 35(15), 1115-1119. doi:10.1177/154193129103501520, Santa Monica, CA: Human Factors and Ergonomics Society.

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Dingus T. A., Antin, J. F., Hulse, M. C., & Wierwille, W. W. (1989). The use of multivariate cluster analysis for the classification of attentional demand for some new and some conventional automotive tasks. In A. Mital (Ed.), *Advances in Industrial Ergonomics and Safety I*. New York: Taylor & Francis.

Dingus, T. A., & Hankey, J. (1989). A practical approach to increasing mental workload sensitivity. In A. Mital (Ed.), *Advances in Industrial Ergonomics and Safety I*. New York: Taylor & Francis.

Hulse, M. C., Dingus, T. A., Fischer, T., & Wierwille, W. W. (1989). The influence of roadway parameters on driver perception of attentional demand. In A. Mital (Ed.), *Advances in Industrial Ergonomics and Safety I*, 451-456. New York: Taylor & Francis.

Antin, J. F., Dingus, T. A., Hulse, M. C., & Wierwille, W. W. (1988). The effects of spatial ability on automobile navigation. *Trends in Ergonomics/Human Factors V*. North Holland: Elsevier Science.

Dingus, T. A., Antin J. F., Hulse, M. C., & Wierwille, W. W. (1988). Human factors issues associated with in-car navigation system usage. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 32(19), 1448-1452. doi:10.1177/154193128803201930, Santa Monica, CA: Human Factors and Ergonomics Society.

Wierwille, W. W., Hulse, M. C., Fischer, T. J. & Dingus, T. A. (1988). Visual adaptation of the driver to high attentional demand situations while navigating with an in-car navigation display system. In *Vision in Vehicles III*. North Holland Press, Amsterdam.

Wierwille, W. W., Hulse, M. C., Fischer, T., & Dingus, T. A. (1988). Strategic use of visual resources by the driver while navigating with an in-car navigation display system. In *XXII FISITA Congress Technical Papers; Automotive Systems Technology: The Future* (SAE P-211; Vol. II).

Wierwille, W. W., Antin, J. F., Dingus, T. A. & Hulse, M.C. (1988). Visual attentional demand of an in-car navigation display system. In *Vision in Vehicles II*, 307-316. North Holland: Elsevier.

Hardee, H. L., Dingus, T. A., & Wierwille, W. W. (1986). Driver drowsiness detection using subsidiary task and driving performance measures. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 30(4), 398-402. doi:10.1177/154193128603000421, Santa Monica, CA: Human Factors and Ergonomics Society.

Ward, F., Dingus, T. A., Dingus, J., Jones, R., & Palmer, G. (1979). Perturbation of induced rotation as an index of pattern structure. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 23(1), 407-410. doi:10.1177/1071181379023001102, Boston, MA: Human Factors and Ergonomics Society.

### **Additional Refereed Publications with Abstract Review Only**

Knipling, R. R., Hanowski, R. J., Hickman, J. S., Olson, R. L., Dingus, T. A., & Carroll, R. J. (2005). Exposure-risk analysis of large truck naturalistic driving data. In *Proceedings of the 2005 International Truck and Bus Safety and Security Symposium*, 388-400.

Neale, V. L., Dingus, T. A., Garness, S. A., Keisler, A. S., & Carroll, R. J. (2002). The relationship between truck driver sleeper berth sleep quality and safety-related critical events. In *Proceedings of the Third International Truck and Bus Safety Research and Policy Symposium*, 65-78. Knoxville, TN: The University of Tennessee Transportation Center.

Robinson, G. S., Neale, V. L., Petersen, A., Belz, S. M., Cooper, L. M., Casali, J. G., & Dingus, T. A. (1999). On-road measurement of long-haul driver fatigue and performance using a critical incident-based computer-controlled data acquisition system. In *Proceedings of the Second International Truck and Bus Safety Symposium*, 65-75. Knoxville, TN: The University of Tennessee Transportation Center.

Stickgold, R., Pace-Schott, E., Hobson, J. A., Neale, V. L., & Dingus, T. A. (1999). On-road sleep and vigilance monitoring with the "Nightcap." In *Proceedings of the Second International Truck and Bus Safety Symposium*, 77-97. Knoxville, TN: The University of Tennessee Transportation Center.

Gellatly, A. W., Petersen, A., Ahmadian, M., & Dingus, T. A. (1997). The Virginia Tech Center for Transportation Research "Smart Truck" - An Instrumented Heavy Vehicle for Evaluation of Intelligent Transportation Systems. In *Proceedings of the 1997 SAE International Truck and Bus Meeting and Exposition*. Cleveland, OH: SAE International.

Reinach, S. R., Rizzo, M., McGehee, D. V., & Dingus, T. A. (1996). Application of a hazard analysis technique for the assessment of demented drivers. In *Proceedings of the International Conference on Traffic and Transport Psychology*. Valencia, Spain.

Rizzo, M., McGehee, D. V., Dingus, T. A., & Petersen, A. D. (1996). Development of an unobtrusively instrumented field research vehicle for objective assessments of driving performance. In *Proceedings of the International Conference on Traffic and Transport Psychology*. Valencia, Spain.

Mollenhauer, M. A., Dingus, T. A., & Hulse, M. C. (1995). Sensory modality allocation of advanced traveler information system displays. In *Institute of Transportation Engineers Conference Proceedings*.

McGehee, D., Mollenhauer, M., & Dingus, T. A. (1994). The decomposition of driver/human factors in front-to-rear-end automotive crashes: Design implications. In *Proceedings of the First World Congress on Applications of Transport Telematics and Intelligent Vehicle-Highway Systems*, 1726-1733. Paris, France.

McGehee, D. V., Dingus, T. A., Horowitz, A. B., Oberdier, L. M., & Parikh, J. S. (1993). Effect of a "headway" display on driver following behavior, experimental field test design and initial results. In *Intelligent Vehicles '93 Symposium, IEEE and SAE*. Tokyo, Japan.

Dingus, T. A., Hyde, R., Hyde, T., Frame, M., & Gill, R. (1988). The speed and accuracy of a spatial communication task as a function of operator location. In *Proceedings of the Human Factors Association of Canada*.

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## **KEYNOTE ADDRESSES AND RECENT INVITED PRESENTATIONS**

Dingus, T. A. (2019). Invited talk: What NDS tells us about driver distraction. TRB Executive Committee Briefing, National Academy of Sciences, Woods Hole, MA.

Dingus, T. A. (2019). Q&A panelist: "Autonomy" movie premiere, feat. Malcolm Gladwell. SXSW, Austin, TX.

Dingus, T. A. (2018). Invited panelist: University of Iowa and AAA Foundation for Traffic Safety Forum on Vehicle Technologies and Automation.

Dingus, T. A. (2018). Invited keynote: Deploying safe, robust, and reliable CAV technologies: Now comes the hard part. SAE International Automated and Connected Vehicle Systems Testing Symposium, Greenville, SC.

Dingus, T. A. (2017). Invited keynote: Naturalistic driving studies in the U.S. and their potential for automated driving. PEGASUS Symposium, Aachen, Germany.

Dingus, T. A. (2017). Invited talk: The automated-vehicle (r)evolution. TEDx Salon Talk, Wilmington, Del., <https://youtu.be/uW-Xy8HOSUQ>

Dingus, T. A. (2017). Invited keynote: The automation (r)evolution in the U.S. VDA Automotive SYS Conference, Berlin, Germany.

Dingus, T. A. (2015). Invited panelist: National Highway Traffic Safety Administration Drowsy Driving Forum, Washington, DC.

Dingus, T. A., McGhee, C., & Gustafson, D. (2015). Invited panelist: Governor's Transportation Conference, Washington, DC.

Dingus, T. A. (2015). Invited panelist: Virginia Governor's Unmanned Systems Commission, Washington, DC.

Dingus, T. A. (2015). Invited panelist: ITS America Meeting, Pittsburgh, PA.

Dingus, T. A. (2015). Invited panelist: Cognitive Distraction: What Were You Thinking? National Highway Traffic Safety Administration Cognitive Distraction Panel, Washington, DC. <https://www.youtube.com/embed/4H-UFhDCBUE>

Dingus, T. A. (2015). Invited speaker: 44<sup>th</sup> Southeast ADTSEA Conference, Myrtle Beach, SC.

Dingus, T. A. (2015). Naturalistic Assessment of Learner License Period: Supervised Practice Driving Study. Transportation Research Board Annual Meeting, Washington, DC.

Dingus, T. A. (2014). Estimates of prevalence and risk associated with x and distraction based upon *in situ* naturalistic data. State Farm/AAAM Engaged Driving Symposium, Washington, DC.

Dingus, T. A. (2012). Invited speaker: Huge Steps Forward in Systems Operations Strategies, ITS America 22<sup>nd</sup> Annual Meeting & Expo, National Harbor, MD.

Dingus, T. A. (2012). Invited speaker: Driver Distraction Policy: Recommendations, Promulgation, and Supporting Science, ITS America 22<sup>nd</sup> Annual Meeting & Expo, National Harbor, MD.

Dingus, T. A. (2012). Invited speaker: Driver Fatigue, Sleep Health & Safety, National Sleep Foundation Annual Meeting, Washington, DC.

Dingus, T. A. (2012). Invited speaker: Drive Smart: Driver Monitoring and Crash Risk Mitigation Systems, Transportation Research Board, Washington, DC.

Dingus, T. A. (2011). Keynote speaker: Driving Distraction from Nomadic Devices, Australasian College of Road Safety Melbourne, Australia.

Dingus, T. A. (2011). Invited speaker: Driver Distraction and Fatigue, AA Research Foundation Symposium, Wellington, New Zealand.

Dingus, T. A. (2011). Invited speaker: Moving Toward Zero: Understanding Driver Behavior and Associated Crash Risk, Institute of Transportation Engineers Technical Conference, Lake Buena Vista, FL.

Dingus, T. A. (2010). Invited speaker: Toward Zero Deaths: A National Strategy on Highway Safety, Develop National Strategic Plan, Washington, DC.

Dingus, T. A. (2010). Invited speaker: Highway Safety Priorities, Lifesavers National Conference, Philadelphia, PA.

Dingus, T. A. (2009). Invited keynote speaker: Driving Distraction Summit, U.S. Secretary of Transportation, Washington, DC.

Dingus, T. A. (2008). Invited speaker: Understanding Teen Driving Behavior through Naturalistic Driving, Southeast Conference, Myrtle Beach, SC.

Dingus, T. A. (2008). Invited speaker: Distracted Driving, National Safety Council, Arlington, VA.

Dingus, T. A. (2008). Invited speaker: Proven Methods of Changing Employee's Unsafe Behaviors, National Safety Council, Anaheim, CA.

Dingus, T. A. (2007). Invited speaker: Human factors research for the Congressional Science Briefing, Washington, DC.

Dingus, T. A. (2007). Invited speaker: Impact of driver performance and behavior on driving safety, especially driver drowsiness and inattention, Congressional Science Briefing, Washington, DC.



Dingus, T. A. (2006). Invited speaker: Distracted Driving, COVITS, Roanoke, VA.

Dingus, T. A. (2006). Keynote speaker: Naturalistic driving studies for the Graduated Driver's Licensing Conference, National Safety Council, Sedona, AZ.

Dingus, T. A. (2006). Invited panelist: Human Factors and Ergonomics Society Meeting, San Francisco, CA.

Dingus, T. A. (2006). Invited keynote speaker: Human Factors workshops, 48<sup>th</sup> Annual Meeting of the Transportation Research Board, Washington, DC.

Dingus, T. A. (2006). Invited speaker: The future of Naturalistic Driving Assessment, 48<sup>th</sup> Annual Meeting of the Transportation Research Board, Washington, DC.

Dingus, T. A. (2005). Invited speaker: Naturalistic Driving and the Virginia Tech 100 Car Study, 3<sup>rd</sup> International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design, Rockport, ME.

Dingus, T. A. (2005). Invited speaker: Distracted Driving, National Conference of State Legislators, Seattle, WA.

Dingus, T. A. (2005). Invited speaker: Lifesavers Conference, Charlotte, NC.

Dingus, T. A. (2005). Invited speaker: Association for the Advancement of Automotive Medicine's 49th Annual Scientific Conference, Key Biscayne, FL.

Dingus, T. A. (2003). Invited speaker: The effects of fatigue on performance, Beth-Israel Medical Center, New York, NY.

Dingus, T. A. (2003). Invited speaker: The future of crash causation research, Transportation Research Board, National Academy of Engineering.

Dingus, T. A. (2002). Invited keynote speaker: Society of Automotive Engineers Digital Car Conference, Detroit, MI.

Dingus, T. A. (2002). Invited keynote speaker: Lifesavers 2002, Lake Buena Vista, FL.

Dingus, T. A. (2002). Invited keynote speaker: Australian Biannual Conference on Truck Driving Fatigue, Perth, Western Australia.

Dingus, T. A. (2002). Invited keynote speaker: Red River Psychology Conference, Fargo, ND.

Dingus, T. A. (2002). Invited panelist: Daimler-Chrysler Expert Panel on the future of in-vehicle systems.

Dingus, T. A. (2001). Invited speaker: Distracted Driving, National Conference of State Legislators, Seattle, WA.

Dingus, T. A. (2001). Invited speaker: Trucking Safety for The American Trucking Association Annual Member Meeting.

Dingus, T. A. (2000). Invited speaker: National public forum on driver distraction, sponsored by the National Highway Traffic Safety Administration.

Dingus, T. A. (1999). Invited panelist: Importance of Integration for In-vehicle Displays at the Human Factors and Ergonomics Society Annual Meeting.

Dingus, T. A. (1999). Invited panelist: Workshop on the measurement of safety impact, sponsored by the IEA Committee for the International Harmonization of Research.

Dingus, T. A. (1999). Invited speaker: Symposium series, sponsored by the Ford Motor Company.

Dingus, T. A. (1998). Invited speaker: Human Factors Implications for Future Vehicles for symposium, sponsored by the Ford Motor Company.

Dingus, T. A. (1995). Invited speaker: Use of the Iowa Driving Simulator for Human Factors Testing of Rear-End Collision Avoidance Systems. SAE Government/Industry Meeting, Washington, DC.

Dingus, T. A. (1995). Invited speaker/paper: Safety evaluation of Intelligent Transportation Systems, sponsored by the National Highway Traffic Safety Administration.

Dingus, T. A. (1994). Invited speaker: Workshop on driver decision making, sponsored by the Volpe National Transportation Center and the Massachusetts Institute of Technology.

Dingus, T. A. (1994). Invited speaker: Symposium on human factors issues in Intelligent Vehicle Highway Systems, PATH Program, University of California, Berkeley.

## MAJOR TECHNICAL REPORTS AND PAPERS

Baker, S., Klauer, S., Baynes, P., Dingus, T. (2020). *Parent Perceptions of Real-Time and Non-Video Feedback from the Driver Coach Study*. Blacksburg, VA: National Surface Transportation Safety Center for Excellence.

Dunn, N., Dingus, T., & Soccolich, S. (2019). *Understanding the Impact of Technology: Do Advanced Driver Assistance and Semi-Automated Vehicle Systems Lead to Improper Driving Behavior?*. Washington, DC: AAA Foundation for Traffic Safety.

Midkiff, S. F., Herdman, T. L., Dingus, T. A., & Dougherty, W. (2019). *CC\*DN/ Networking Infrastructure: A Campus Research Network and Distributed Science DMZ* (Report No. 10411215). Alexandria, VA: National Science Foundation.

Owens, J. M., Dingus, T. A., Guo, F., Fang, Y., Perez, M., & McClafferty, J. (2018). *Crash Risk of Cell Phone Use While Driving: A Case-Crossover Analysis of Naturalistic Driving Data*. Washington, DC: AAA Foundation for Traffic Safety.

Owens, J. M., Dingus, T. A., Guo, F., Fang, Y., Perez, M., McClafferty, J., & Tefft, B. (2018). *Prevalence of Drowsy-Driving Crashes: Estimates from a Large-Scale Naturalistic Driving Study* (Research Brief). Washington, DC: AAA Foundation for Traffic Safety.

Klauer, C., Ankem, G., Guo, F., Baynes, P., Fang, Y., Atkins, W., Baker, S., Duke, R., Hankey, J. M., Dingus, T. A. (2017). *Driver Coach Study: Using Real-time and Post Hoc Feedback to Improve Teen Driving Habits*. Blacksburg, VA: National Surface Transportation Safety Center for Excellence.

Klauer, C., Ollendick, T., Ankem, G., Dingus, T. A. (2017). *Improving Driving Safety for Teenagers with Attention Deficit and Hyperactivity Disorder (ADHD)*. Blacksburg, VA: National Surface Transportation Safety Center for Excellence.

Dingus, T. A., Hankey, J. M., Antin, J. F., Lee, S. E., Eichelberger, L., Stulce, K. E., McGraw, D., Perez, M., & Stowe, L. (2015). *Naturalistic Driving Study: Technical Coordination and Quality Control* (SHRP 2 Report S2-S06-RW-1). Washington, DC: Transportation Research Board.

Dingus, T. A., Smith, B. L., & Park, H. (2015). *Prototyping and Evaluating a Smartphone Dynamic Message Sign (DMS) Application* (No. 54-6001805, 0031370150000). Blacksburg, VA: Connected Vehicle/Infrastructure University Transportation Center.

Fitch, G. A., Soccolich, S. A., Guo, F., McClafferty, J., Fang, Y., Olson, R. L., Perez, M. A., Hanowski, R. J., Hankey, J. M., & Dingus, T. A. (2013). *The impact of hand-held and hands-free cell phone use on driving performance and safety-critical event risk* (Report No. DOT HS 811 757). Washington, DC: National Highway Traffic Safety Administration.

Dingus, T. A. (2013). *DRIVE-SMART Driver Monitoring and Crash Risk Mitigation System* (Safety IDEA Project 18, Final Report).

Antin, J. F., Lee, S., Hankey, J., & Dingus, T. A. (2011). *Design of the In-Vehicle Driving Behavior and Crash Risk Study In Support of the SHRP 2 Naturalistic Driving Study* (SHRP 2 Report No. S2-S05-RR-1). Washington, DC: Transportation Research Board.

Guo, F., Klauer, S. G., McGill, M. T., & Dingus, T. A. (2010). *Evaluating the relationship between near-crashes and crashes: Can near-crashes serve as a surrogate safety metric for crashes?* (DOT HS 811 382). Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration.

Klauer, S. G., Guo, F., Sudweeks, J., & Dingus, T. A. (2010). *An analysis of driver inattention using a case-crossover approach on 100-car data* (DOT HS 811 334). Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration.

Fitch, G. M., Lee, S. E., Klauer, S., Hankey, J., Sudweeks, J., & Dingus, T. (2009). *Analysis of Lane-Change Crashes and Near-crashes* (Contract No. DTNH22-00-C-07007). Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration.

Klauer, S. G., Dingus, T. A., Neale, V. L., Sudweeks, J. D., & Ramsey, D. J. (2009). *Comparing Real-World Behaviors of Drivers with High versus Low Rates of Crashes and Near Crashes* (Report No. DOT-HS-811-091). Washington, DC: National Highway Traffic Safety Administration.

McLaughlin, S. B., Hankey, J. M., Dingus, T. A., & Klauer, S. G. (2009). *Development of an FCW Algorithm Evaluation Methodology with Evaluation of Three Alert Algorithms: 100-Car Follow-On Subtask 5* (Contract No. DOT-HS-811-145). Washington, DC: National Highway Traffic Safety Administration.

McLaughlin, S. B., Hankey, J. M., Klauer, S. G., & Dingus, T. A. (2009). *Contributing factors to run-off-road crashes and near-crashes* (Final Report No. DOT-HS-811-079). Washington, DC: National Highway Traffic Safety Administration.

Hanowski, R. J., Olson, R. L., Bocanegra, J., Hickman, J. S., Dingus, T. A., & Sudweeks, J. D. (2007). *Critical incidents that occur in the 10<sup>th</sup> and 11<sup>th</sup> hour of driving in commercial vehicle operations: Does risk increase in the 11<sup>th</sup> hour?* Arlington, VA: American Transportation Research Institute.

Lee, S., Perez, M., Doerzaph, Z., Stone, S., Neale, V., Brown, S., ... & Dingus, T. (2007). *Task 5 of the Intersection Collision Avoidance-Violation Project: Final Report* (DOT HS 810 749). Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration.

Dingus, T. A., Klauer, S. G., Neale, V. L., Petersen, A., Lee, S. E., Sudweeks, J., ... & Knipling, R. R. (2006). *The 100-Car Naturalistic Driving Study: Phase II – Results of the 100-Car Field Experiment* (Contract No. DTNH22-00-C-07007). Washington, DC: National Highway Traffic Safety Administration.

Hanowski, R. J., Olson, R. L., Hickman, J. S., & Dingus, T. A. (2006). *The 100-Car naturalistic driving study: A descriptive analysis of light vehicle-heavy vehicle interactions from the light vehicle driver's perspective, Data analysis results* (Report No. FMCSA-RRR-06-004; Contract No. DTNH22-00-C-07007, Task Order 6). Washington, DC: Federal Motor Carrier Safety Administration.

Klauer, S. G., Dingus, T. A., Neale, V. L., Sudweeks, J. D., & Ramsey, D. J. (2006). *The Impact of Driver Inattention on Near Crash/Crash Risk: An Analysis Using the 100-Car Naturalistic Driving Study Data* (Contract No. DTNH22-00-C-07007, Task Order 23). Washington, DC: National Highway Traffic Safety Administration.

Neale, V. L., Perez, M. A., Doerzaph, Z. R., Lee, S. E., Stone, S., & Dingus, T. A. (2006). *Intersection Decision Support: Evaluation of a Violation Warning System to Mitigate Straight Crossing Path Collisions: Final Report* (Report No. FHWA/VTRC 06-CR10). Charlottesville, VA: Virginia Transportation Research Council.

Blanco, M., Hankey, J. M., & Dingus, T. A. (2005). *Enhanced Night Visibility Series, Volume IV: Phase II – Study 2: Visual Performance During Nighttime Driving in Rain* (Report No. FHWA-HRT-04-135). McLean, VA: Federal Highway Administration.

Blanco, M., Hankey, J. M., & Dingus, T. A. (2005). *Enhanced Night Visibility Series, Volume III: Phase II – Study 1: Visual Performance During Nighttime Driving in Clear Weather* (Report No. FHWA-HRT-04-134). McLean, VA: Federal Highway Administration.

Dingus, T. A., Allen, G. R., Brich, S. C., Neale, V. L., Schroeder, A. D., Blanco, M., ... & Hankey, J. M. (2005). *Enhanced Night Visibility Series, Volume II: Overview of Phase I and Development of Phase II Experimental Plan* (Report No. FHWA-HRT-04-133). McLean, VA: Federal Highway Administration.

Edwards, C. J., Binder, S., Dingus, T. A., Gibbons, R. B., & Hankey, J. M. (2005). *Enhanced Night Visibility Series, Volume VIII: Phase II – Study 6: Detection of Pavement Markings during Nighttime Driving in Clear Weather* (Report No. FHWA-HRT-04-139). McLean, VA: Federal Highway Administration.

Hankey, J. M., McLaughlin, S. B., Gibbons, R. B., Williams, V. H., Clark, J., & Dingus, T. A. (2005). *Enhanced Night Visibility Series, Volume XVIII: Overview of Phase III* (Report No. FHWA-HRT-04-149). McLean, VA: Federal Highway Administration.

Hankey, J. M., Blanco, M., Neurauter, M. L., Gibbons, R. B., Porter, R. J., & Dingus, T. A. (2005). *Enhanced Night Visibility Series, Volume XII: Overview of Phase II and Development of Phase III Experimental Plan* (Report No. FHWA-HRT-04-143). McLean, VA: Federal Highway Administration.

Hankey, J. M., Blanco, M., Gibbons, R. B., McLaughlin, S. B., & Dingus, T. A. (2005). *Enhanced Night Visibility Series, Volume I: Executive Summary* (Report No. FHWA-HRT-04-132). McLean, VA: Federal Highway Administration.

Hanowski, R. J., Dingus, T. A., Sudweeks, J. D., Olson, R. L., & Fumero, M. C. (2005). *Assessment of the revised hours-of-service regulations: Comparison of the 10<sup>th</sup> and 11<sup>th</sup> hour of driving using critical incident data and measuring sleep quantity using actigraphy data* (Contract No. DTNH22-00-C-07007, Task Order 21). Blacksburg, VA: Virginia Tech Transportation Institute.

McLaughlin, S. B., Hankey, J. M., & Dingus, T. A. (2005). *Enhanced Night Visibility Series, Volume XIII: Phase III – Study 1: Comparison of Near Infrared, Far Infrared, High Intensity Discharge, and Halogen Headlamps on Object Detection in Nighttime Clear Weather* (Report No. FHWA-HRT-04-144). McLean, VA: Federal Highway Administration.

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## **RESEARCH GRANTS AND CONTRACTS**

### **Research Grants and Contracts Currently Active as Principal or Co-principal Investigator (non-proprietary)**

Chaka, M.R, Dingus, T.A., McLaughlin, S. B., Perez, M. A., Petersen, A. (July 2020 – July 2022). *Automated Mobility Partnership*. Contract Value: \$3,500,000.

Dingus, T. A. (1996 - ongoing). *Smart Road Management*. Virginia Transportation Research Council. Contract Value: \$10,024,977.20.

**Research Grants and Contracts Completed as Principal or Co-principal Investigator (non-proprietary)**

Dingus, T. A. (January 2018 – July 2019). *Understanding the Impact of Technology (Advanced Driver Assistance Systems)*. AAA Foundation for Traffic Safety. Contract Value: \$269,461.

Dingus, T. A., Chaka, M. R., McLaughlin, S. B., Perez, M. A., Petersen, A. (December 2017 – July 2020). *Automated Mobility Partnership*. Contract Value: \$9,000,000.

Smith, R., Dingus, T. A. (September 2017 – March 2019). *Examining FARS Drug Data Collection and Reporting Processes*. National Highway Traffic Safety Administration (NHTSA). Contract Value: \$633,623.

Smith, R., Dingus, T. A. (September 2017 – September 2019). *Drugs and Driving State of Knowledge*. National Highway Traffic Safety Administration. Contract Value: \$333,253.

Smith, R., Guo, F., Dingus, T. A. (September 2016 – March 2019). *Examination of the Legalization of Recreational Marijuana on the Driving While Intoxicated (DWI) System - Phase II, National Highway Traffic Safety Administration*. U. S. Department of Transportation. Contract Value: \$304,959.

Dingus, T. A. (November 2012 – December 2020). *VTT LLC Management Agreement*. VTT LLC. Contract Value: \$637,319.

Smith, R., Dingus, T. A. (January 2018 – September 2018). *Assess the Feasibility of Evaluating the Legal Implications of Marijuana*. AAA Foundation for Traffic Safety. Contract Value: \$69,890.

Dingus, T. A. (September 2016 – May 2017). *Virginia Smart Roads Surface Street Expansion*. Virginia Transportation Research Council. Contract Value: \$1,500,000.

Dingus, T. A. (September 2016 – May 2017). *Virginia Smart Roads Rural Testbed*. Virginia Transportation Research Council. Contract Value: \$750,000.

Owens, J. M., Dingus, T. A., Guo, F., Hankey, J. M., Perez, M. A. (January 2016 – March 2017). *Case-Crossover Analysis Of The Crash Risk Of Cell Phone Use While Driving*. AAA Foundation for Traffic Safety. Contract Value: \$218,177.

Dougherty, W. C., Herdman, T. L., Midkiff, S., Polys, N. F., Barrett, C. L., Dingus, T. A. (September 2015 – September 2017). *CC\*DNI Networking Infrastructure: A*



*Campus Research Network and Distributed Science DMZ*. National Science Foundation. Contract Value: \$498,519.

Dingus, T. A., Fitch, G., Guo, F., Owens, J., & Perez, M. (April 2015 – April 2016). *Crash Risks of Cognitive Distractions and Driver Drowsiness*. AAA Foundation for Traffic Safety. Contract Value: \$294,853.

Blanco, M., Dingus, T. A., & Fitch, G. (May 2014). *Electronic Systems Safety, IDIQ Task Order Contract*. National Highway Traffic Safety Administration. Estimated Contract Value: \$20,838,198.

Dingus, T. A. (November 2012 – December 2016). *VTT LLC Management Agreement*. VTT LLC. Contract Value: \$342,904.

Dingus, T. A., Doerzaph, Z., Bowman, D., Rakha, H., & Flintsch, G. (January 2012 – July 2016). *University Transportation Center Tier 1 Grant*. U.S. Department of Transportation: Research and Innovative Technology Administration (RITA). Grant Value: \$13,800,000 (multiple grants).

Dingus, T. A., & Klauer, S. G. (September 2011 – September 2015). *Research on Driving Risk among Teen Drivers*. National Institutes of Health, U.S. Department of Health and Human Services. Contract Value: \$4,000,000 (multiple contracts).

Dingus, T. A., Hankey, J. M., Antin, J. (June 2007 – October 2014). *Design of, and data collection for, the SHRP 2 In-Vehicle Driving Behavior and Crash Risk Study*. National Academy of Sciences. Contract Value: \$30,000,000 (multiple contracts).

Darab, J., Dingus, T. A. (August 2012 – August 2014). *Tire Initiative*. Hankook Tire Co. Ltd. Contract Value: \$161,778.

Dingus, T. A., Wilkinson, C. (July 2006 – June 2014). *National Surface Transportation Safety Center for Excellence*. Federal Highway Administration, matched with funding from the Virginia Department of Transportation, General Motors, Travelers Insurance, and the Federal Motor Carrier Safety Administration. Contract Value: \$7,463,881.

Dingus, T. A. (August 2012 – May 2013). *IALR-SoVA Motion Efforts*. Institute for Advanced Learning and Research. Contract Value: \$68,054.

Dingus, T. A., Cook, S. (February 2012 – October 2012). *National Tire Research Center Ride and Handling Testing*. Proprietary. Contract Value: \$250,000.

Dingus, T. A., Rakha, H. (February 2012 – June 2012). *Data Quality Needs Assessment*. Virginia Center for Transportation Innovation and Research. Contract Value: \$80,000.

Dingus, T. A., Petersen, A. (May 2011 – April 2012). *TRB Idea Project to Further Develop Miniaturized Data Acquisition Systems*. National Academy of Sciences. Contract Value: \$98,000.

Dingus, T. A., Taheri, S., Ball, K. (2010 – 2013). *National Tire Research Center Force and Moment Testing Machine*. General Motors, Virginia Tobacco Indemnification Commission. Contract Value: \$10,000,000.

McLaughlin, S., Dingus, T. A. (August 2010 – January 2014). *Motorcycle Safety Foundation 100-Motorcyclist Naturalistic Study*. Motorcycle Safety Foundation. Contract Value: \$1,585,456.

Dingus, T. A., Gaylord, C. (July 2006 – September 2013). *Smart Data Center*. Virginia Center for Transportation Innovation and Research. Contract Value: \$1,250,000.

Dingus, T. A., Petersen, A. (July 2010 – September 2012). *Development of Advanced Vehicle Instrumentation*. Virginia Center for Transportation Innovation and Research. Contract Value: \$462,204.

Dingus, T. A., Stowe, L. (September 2009 – March 2014). *SHRP 2 Naturalistic DAS Procurement*. National Academy of Sciences. Contract Value: \$9,850,000.

Dingus, T. A., Hanowski, R. (August 2006 – December 2006). *Instrumented Heavy-vehicle Study to Assess Driving Performance Associated with In-vehicle System Use*. DLA Piper Rudnick Gray US LLP. Contract Value: \$52,265.

Hanowski, R., Dingus, T. A. (August 2004 – September 2005). *Heavy Vehicle/Light Vehicle Interaction Data Collection and Countermeasure Research - Task Order 21*. National Highway Traffic Safety Administration. Contract Value: \$800,000.

Hanowski, R., Dingus, T. A. (February 2005 – June 2005). *Convex Survey – Task Order 26*. National Highway Traffic Safety Administration. Contract Value: \$50,000.

Hanowski, R., Dingus, T. A. (December 2004 – March 2008). *Commercial Vehicle Data Collection and Countermeasures Assessment*. University of Michigan. Contract Value: \$929,000.

Dingus, T. A., Neale, V. L., Klauer, S. G. (September 2004 – September 2005). *Study of Methodological and Crash Avoidance Issues Using the 100-Car Naturalistic Study - Task Order 23*. National Highway Traffic Safety Administration. Contract Value: \$472,210.

Schroeder, A., Dingus, T. A. (2004 – 2005). *Implementation Center*. (Lead University: George Mason University). Research and Special Project Administration. Contract Value: \$543,000.

Hanowski, R., Dingus, T. A. (September 2002 – September 2005). *Field Operational Test of a Heavy-Vehicle, Drowsy-Driver Warning System*. National Highway Traffic Safety Administration. Contract Value: \$3,821,000

Neale, V. L., Dingus, T. A. (February 2002 – February 2006). *IVI Intersection Collision Avoidance*. Federal Highway Administration. Contract Value: \$1,576,171.

Dingus, T. A., Neale, V. L., Klauer, S. (2001 – 2005). *Naturalistic Crash/Pre-Crash Data Collection: IVI Support for Addressing Rear-End and Lane Change crashes, and Full-Scale Naturalistic Data Collection Program Development*. National Highway Traffic Safety Administration. Contract Value: Task Order Contract, \$3,097,109.

Dingus, T. A., Hankey, J. M. (2001 – 2004). *Academic Partnerships Master Agreement*. General Motors. Task Order Contract Value: \$4,500,000.

Brinberg, D., Dingus, T. A. (September 2001 – September 2002). *Driver Distraction Information and Materials for Safety Campaign*. National Highway Traffic Safety Administration. Contract Value: \$100,000.

Dingus, T. A. (2000 – 2005). *Driver Behavior and Performance Field/Simulator Test and Evaluation*. National Highway Traffic Safety Administration. Contract Value: \$15,000,000.

Dingus, T. A. (September 2000 – August 2004). *Field Evaluation of Alternative Automated Systems for Reducing Illegal Passing of School Buses*. National Highway Traffic Safety Administration. Contract Value: \$250,000.

Dingus, T. A. (September 2000 – January 2003). *Development and Analysis of Innovative Approaches for Reducing the Aggressivity of Heavy Duty Trucks in Collisions with Passenger Vehicles*. National Highway Traffic Safety Administration. Contract Value: \$307,414.

Dingus, T. A., Hankey, J. M. (March 2000 – December 2000). *Major Automotive Corporation Advanced Vehicle R&D*. General Motors. Contract Value: \$372,091.

Hankey, J. M., Dingus, T. A., Neale, V. L., Brinberg, D., Green, W. (2000). *Advanced Product Testing*. Major Automotive Company (proprietary). Contract Value: \$375,000.

Wierwille, W. W., Hanowski, R., Dingus, T. A. (1999 – 2001). *Evaluation of Innovative Rear-signaling Techniques*. National Highway Traffic Safety Administration. Contract Value: \$784,000.

Dingus, T. A., Schreiner, C. (January 1999 – November 2000). *Investigation of Fog-induced-crash Countermeasures on Afton Mountain*. Virginia Transportation Research Council. Contract Value: \$37,473.

Dingus, T. A. (1999 – 2000). *Evaluation of a Crash Avoidance System*. General Motors. Contract Value: \$42,000.

Dingus, T. A. (1999 – 2000). *Evaluation of the Driver Workload required from Computer-based Driver Information Systems*. Ford Motor Company. Contract Value: \$28,000.

Dingus, T. A. (1999 – 2000). *Evaluation of an Advanced Rear Signaling Concept*. Ford Motor Company. Contract Value: \$50,000.

Dingus, T. A. (1999 – 2000). *Evaluation of a Crash Avoidance System*. General Motors. Contract Value: \$48,000.

Dingus, T. A., Lee, S. (August 1999 – December 2000). *Evaluation of an Innovative Rear Signaling System*. Ford Motor Company. Contract Value: \$50,000.

Dingus, T. A. (August 1999 – January 2000). *Side Near Obstacle Detection Human Factors Experimentation/Data Acquisition System Phase*. General Motors Corporation. Contract Value: \$45,713.

Dingus, T. A., Wierwille, W. W. (1999). *User Clinic Support for Advanced In-Vehicle Technology*. General Motors. Contract Value: \$12,000.

Dingus, T. A., Hankey, J. M. (March 1998 – November 2005). *Enhanced Night Visibility (ENV)*. Federal Highway Administration. Contract Value: \$2,700,131.

Dingus, T. A., Rakha, H. (1998 – 2004). *Mid-Atlantic Universities Transportation Center*. (Lead University: Penn State). Research and Special Project Administration. Contract Value (with matching sources): \$3,461,487.

- Wierwille, W. W., Hankey, J., Dingus, T. A. (October 1998 – July 2001). *Operational Review of Specialty Vehicles*. Federal Highway Administration. Contract Value: \$431,871.
- Dingus, T. A., Pethtel, R., Amanna, A. (1998 – 2000). *Smart Road Research Infrastructure*. Virginia Department of Transportation. Contract Value: \$975,000.
- Dingus, T. A., Neale, V. L. (1998 – 2000). *Accessibility of Navigation Functions While Driving and Guideline Development for Navigation and Route Guidance Driver-System Interface Transactions and Classes of Transactions*. SAE ITS Safety and Human Factors Committee. Contract Value: \$78,993.
- Dingus, T. A., Casali, J. G. (May 1997 – November 2001). *Impact of Sleeper Berth Usage on Driver Fatigue*. Federal Highway Administration. Contract Value: \$899,000.
- Wierwille, W. W., Dingus, T. A. (1997 – 2001). *Identification and Evaluation of Driver Errors*. Federal Highway Administration. Contract Value: \$776,987.
- Dingus, T. A., Wierwille, W. W. (1997 – 2000). *In-Vehicle Information Systems Behavioral Model and Design Support*. Federal Highway Administration. Contract Value: \$953,537.
- Dingus, T. A. (1997 – 1999). *Driver/Vehicle Performance Model*. Battelle Memorial Institute. Contract Value: \$82,336.
- Wierwille, W. W., Dingus, T. A. (1997 – 1999). *Impact of Local/Short Haul Operations on Driver Fatigue*. Federal Highway Administration. Contract Value: \$765,000.
- Dingus, T. A. (October 1997 – December 1999). *Intelligent Transportation System Research Center of Excellence*. Federal Highway Administration and Virginia Department of Transportation. Contract Value (with matching sources): \$4,900,000.
- Dingus, T. A. (1997 – 1998). *Human Factors Evaluation of Intelligent Cruise Control*. Ford Motor Company. Contract Value: \$44,513.
- Gellatly, A. W., Dingus, T. A. (1997). *Mobile Media*. Delco Electronics. Contract Value: \$76,748.
- Rakha, H., Dingus, T. A. (September 1996 – June 2012). *Mid-Atlantic Universities Transportation Center*. Penn State University. Contract Value: \$3,461,487.

Dingus, T. A. (1996 – 1997). *Safety Evaluation Support for Intelligent Transportation System Operational Field Tests*. Volpe National Transportation Center (Subcontract with Science Applications International Corporation). Subcontract Value: \$50,000.

Neale, V. L., Dingus, T. A. (1996 – 1997). *Improving the Conspicuity of Trailblazing Signs for Incident Management*. Virginia Transportation Research Council. Contract Value: \$47,601.

Dingus, T. A., McGehee, D. V., Bloomfield, J. (1995 – 1996). *Driving Simulator Support for Human Factors Testing*. National Highway Traffic Safety Administration Task Order. Contract Value: \$3,000,000.

McGehee, D. V., Dingus, T. A. (1995 – 1996). *Development of Standard Protocols for Experimentation using the National Advanced Driving Simulator*. National Highway Traffic Safety Administration. Contract Value: \$200,000.

Dingus, T. A., Stoner, J. S., Bartelme, M. A. (1995 – 1996). *Driving Simulation Evaluation of the Effectiveness of Retroreflective Raised Pavement Markers*. Federal Highway Administration. Contract Value: \$400,000.

Rizzo, M., Dingus, T. A., McGehee, D. V. (1994 – 1997). *Driving Ability and Crashes in Old Age and Dementia*. U.S. HHS Centers for Disease Control. Grant Value: \$509,130.

Romano, R., Dingus, T. A., Stoner, J. W. (1994 – 1997). *Development of Models and Test-Beds for Single Vehicle Roadway Departure Crash Avoidance Systems*. National Highway Traffic Safety Administration (Subcontract with Carnegie-Mellon University). Subcontract Value: \$636,400.

Dingus, T. A. (1994 – 1996). *Assessment of the Safety of Multifocal Intra-Ocular Implants for Driving*. Allergan Medical Optics. Contract Value: \$392,000.

Dingus, T. A. (1994 – 1995). *Guideline Development for Optimal In-vehicle Head-up Display Content*. Delco Electronics Corporation. Contract Value: \$130,000.

Dingus, T. A., Kearney, J., Cremer, J. (1994 – 1995). *Development of Prototype Simulation Scenarios for the Iowa Driving Simulator*. National Highway Traffic Safety Administration. Contract Value: \$400,000.

Dingus, T. A. (1993 – 1997). *Development of Models and Test-Beds for Rear-End Crash Avoidance Systems*. National Highway Traffic Safety Administration (Subcontract with Frontier Engineering). Subcontract Value: \$586,000.

Dingus, T. A., Hulse, M. C. (1993 – 1995). *The Potential for Advanced In-Vehicle Systems to Increase the Mobility of Elderly Drivers*. Midwest Transportation Center and Iowa Department of Transportation. Grant Value: \$90,000.

Dingus, T. A., Hulse, M. C. (1992 – 1996). *Advanced Traveler Information Systems (ATIS) and Commercial Vehicle Operations (CVO) Components of the Intelligent Vehicle/Highway System (IVHS)*. Federal Highway Administration (Subcontract with Battelle Memorial Institute). Subcontract Value: \$450,000.

Dingus, T. A., Hulse, M. C., McGehee, D. V. (1992 – 1993). *Instrumented Vehicle Evaluation of the TravTek System*. Federal Highway Administration (Subcontract with Science Application International Corporation). Subcontract Value: \$118,541.

Dingus, T. A. (1992). *Development and Human Factors Evaluation of a Front-to-Rear-End Collision Warning System*. General Motors Research Laboratories. Contract Value: \$20,000.

Lee, H. L., Osborne, H., Dingus, T. A. (1992). *Logger Safety Training Program for the Intermountain Northwest*. U.S. Occupational Safety and Health Administration. Grant Value: \$133,000.

Dingus, T. A., Hulse, M. C. (1991). *Analysis of Low Information Density Alternatives for In-Car Route Navigation Systems*. General Motors Research Laboratories. Contract Value: \$10,000.

Hulse, M. C., Dingus, T. A. (1991). *Analysis of the Idaho National Engineering Laboratory Safety Norm Survey*. E.G. & G., Idaho, Inc. Contract Value: \$5,800.

Dingus, T. A., Hulse, M. C. (1991). *Prototype Testing of the TravTek Navigation and Information System*. General Motors Research Laboratories. Contract Value: \$14,000.

Dingus, T. A. (1990). *Development of a Test Plan for the Hughes Driving Simulator*. Hughes Aircraft Corp. Contract Value: \$12,500.

Dingus, T. A. (Indefinite Quantity and Cost). *Human Factors Crash Avoidance Research*. National Highway Traffic Safety Administration (subcontract with Battelle Memorial Institute). Subcontract Value: \$800,000.

Dingus, T. A., Hulse, M. C. (1990). *Human Factors Test and Evaluation of TravTek Route Guidance Screen Alternatives*. General Motors Research Laboratories. Contract Value: \$13,900.

Hulse, M. C., Dingus, T. A. (1990). *Human Factors Test and Evaluation Of TravTek Nomenclature, Labeling, and Voice Message Content*. General Motors Research Laboratories. Contract Value: \$7,500.

Dingus, T. A. (1989). *Development of Effective Methods to Increase Risk Perception in Dangerous Situations*. Idaho Research Council. Grant Value: \$4,900.

Dingus, T. A. (1989). *Human Factors Design Evaluation of New Automotive Technologies*. General Motors Research Laboratories. Contract Value: \$11,000.

Stauffer, L. A., Dingus, T. A., Gill, R. T. (1989). *A Program to Test and Evaluate Equipment for the Disabled*. Idaho Research Council. Grant Value: \$6,500.

Dingus, T. A., Hulse, M. C. (1989). *Human Factors Test and Evaluation of the Highway Driver Assistant and TravTek Navigation and Information Systems*. General Motors Research Laboratories. Contract Value: \$23,000.

Dingus, T. A., Gill, R. T. (1988). *The Effects of Multiple Stressors on Pilot Performance*. Boeing Military Airplane Co. Contract Value: \$21,600.

Dingus, T. A., Hulse, M. C. (1988). *Software Interface Design for Asynchronous Computer Conferencing*. E.G. & G. Idaho, Inc. Contract Value: \$12,800.

Dingus, T. A., Hulse, M. C. (1988). *Effectiveness of Asynchronous Teleconferencing for Managing a Multi-Media Training Program*. E.G. & G. Idaho, Inc. Contract Value: \$4,500.

Dingus, T. A. (1987). *Effectiveness of Asynchronous Teleconferencing as a Medium for Training Army Reserve Officers*. E.G.&G. Idaho, Inc. Contract Value: \$19,200.

Gill, R. T., Dingus, T. A., Gordon, S. G. (1987). *Techniques for Augmenting the Communication of Spatial Information*. Boeing Military Aircraft Co. Contract Value: \$15,000.

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## **GRANTS AND CONTRACTS RESULTING FROM INITIATIVES WITH U.S. CONGRESSIONAL DELEGATIONS**

Dingus, T. A., Cook, S. (2007 – 2012). *Advanced Vehicle Research and Development*. Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU): \$5,113,560.



Dingus, T. A. (2006). *Roadside and Vehicle Safety Product Development at the Virginia Tech Transportation Institute*. Division A Transportation, Treasury, Housing and Urban Development, The Judiciary, and Independent Agencies Appropriations Act: \$2,000,000

Dingus, T. A. (2005 – 2009). *Virginia Smart Road Research and Operations Support*, Virginia Tech; Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU): \$6,025,000

Dingus, T. A. (2005 – 2009). *Surface Transportation Safety Center for Excellence*, Title V: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU): \$5,800,000 (with matching funds)

Dingus, T. A. (1998 – 2004). *Virginia Smart Road Research and Operations Support*, Virginia Tech, Transportation Efficiency Act for the 21<sup>st</sup> Century: \$6,025,000

Dingus, T. A. (1998 – 2004). *National Center for ITS Deployment*. Virginia Tech (with George Mason University and the University of Virginia), Transportation Efficiency Act for the 21<sup>st</sup> Century: \$3,600,000

Dingus, T. A. (1993 – 1998). *National Center for Advanced Transportation Technology*, University of Idaho, Intermodal Surface Transportation Efficiency Act: \$8,000,000

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## **EQUIPMENT DONATIONS**

Amanna, A., Pethtel, R. D., Dingus, T. A. (1998). Donation of magnetic tape for the Smart Road. 3M: \$105,000.

Amanna, A., Dingus, T. A. (1998). Donation of 10 spectrum snow towers and computer control protocol for the Smart Road. Snow Economics: \$104,500.

Amanna, A., Dingus, T. A. (1998). Discounts and donations of fiber optic transmission equipment for the Smart Road. Litton Network Access Systems: \$92,000

Amanna, A., Dingus, T. A. (1998). Donation of four miles of fiber optic cable for the Smart Road. Siecior/Corning: \$45,000

Dingus, T. A. (1998). Ford Contour, Crown Victoria, and Explorer for use as instrumented vehicles. Cooperative agreement between the Ford Motor Company and the Virginia Tech Center for Transportation Research: \$60,000.

Dingus, T. A. (1998). Peterbilt class 8 heavy tractor for use as an instrumented vehicle. Cooperative agreement between PACCAR Technical Center and the Virginia Tech Center for Transportation Research: \$86,000.

Dingus, T. A., Pethtel, R. D. (1997). Volvo/GM class 8 heavy truck tractor for use as an instrumented vehicle. Donation from Volvo/GM Heavy Truck to the Virginia Tech Center for Transportation Research: \$94,000.

Dingus, T. A. (1997). Ford Taurus sedan for use as an instrumented vehicle. Donation from the Ford Motor Company to the Virginia Tech Center for Transportation Research: \$21,000.

Dingus, T. A. (1994). Ford Taurus station wagon for use as an instrumented vehicle. Donation from the Ford Motor Company to the University of Iowa College of Engineering: \$18,000.

Dingus, T. A. (1994). Pontiac Grad Prix for use as a simulator test cab. Donation from Delco Electronics to the University of Iowa College of Engineering: \$12,000.

Dingus, T. A. (1990). *Human Factors Test and Evaluation of Equipment Design, Support Software and Instruction Manuals as Graduate Class Project*. Equipment donation from Hewlett-Packard: \$8,000.

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## **TEACHING-RELATED GRANTS AND PUBLICATIONS**

### **Grants for Teaching or Curriculum Development**

Dingus, T. A., Casali, J. G., Nussbaum, M. (1998 – 2001). *NIOSH Training Grant*. National Institute for Occupational Safety and Health. Grant Value: \$130,000.

Dingus, T. A., Casali, J. G. (1996 – 1998). *NIOSH Training Grant*. National Institute for Occupational Safety and Health. Grant Value: \$140,000.

### **Refereed Papers on Pedagogy**

Dingus, T. A., & Gillan, D. J. (1991). The thesis simulation: An approach for teaching research skills in a remote, non-thesis program. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 35(7)*, 505-507. doi: 10.1518/107118191786754860. Santa Monica, CA: Human Factors and Ergonomics Society.

Dingus, T. A. (1990). Teaching human factors design skills: Science or engineering doesn't do the trick. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 34(6), 525-528.  
doi:10.1177/154193129003400604. Santa Monica, CA: Human Factors and Ergonomics Society.

Dingus, T. A., Gordon, S. E., & Gill, R. T. (1990). A new program for the remote training of human factors professionals. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 34(6), 534-536.  
doi:10.1177/154193129003400606. Santa Monica, CA: Human Factors and Ergonomics Society.

Gill, R., & Dingus, T. A. (1990). Human factors and engineering design high school summer workshop. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 34(6), 522-524. doi:10.1177/154193129003400603.  
Santa Monica, CA: Human Factors and Ergonomics Society.

Dingus, T. A. (1989). Now that the first class has graduated: Some thoughts on beginning and maintaining a human factors program. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 33(7), 493-496.  
doi:10.1177/154193128903300701. Santa Monica, CA: Human Factors and Ergonomics Society.

Gill, R., & Dingus, T. A. (1987). A structured approach to teaching relative motion. In *Proceedings of the Society for Engineering Educators Annual Conference*.

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## **RECORD OF GRADUATE STUDENT ADVISING**

**Chairman of Committee for Ph.D. Students (Student, Title of Dissertation, Year, Last Known Position)**

### ***Virginia Tech***

A. Jahangiri, 2015, Civil and Environmental Engineering, San Diego State University

S. McLaughlin, "Analytic Assessment of Collision Avoidance Systems and Driver Dynamic Performance in Rear-End Crashes and Near-Crashes," 2007, Research Scientist and Center Director, Virginia Tech Transportation Institute

Z. Doerzaph, "Development of a Threat Assessment Algorithm for Intersection Collision Avoidance Systems," 2007, Executive Director, Virginia Tech Transportation Institute

S. Klauer, "Naturalistic Driving Assessment of Driving Distraction," 2005, Research Scientist and Group Leader, Virginia Tech Transportation Institute

C. Kieliszewski, "Determination of Probability Models of Driver Errors on Problematic Roadways and Intersections," 2005, Research Scientist, IBM

J. Barker (co-advised with Dr. Brian Kleiner), "Investigation of Visual and Cognitive Demands Related to Use of In-Vehicle Computer Technologies," ABD, Engineer, National Highway Traffic Safety Administration

E. Olsen, "Naturalistic Driving Assessment of Lane Change Parameters," 2003, Research Fellow, National Institutes of Health

M. Blanco, "Relationship between Driver Characteristics, Nighttime Driving Risk Perception, and Visual Performance under Adverse and Clear Weather Conditions and Different Vision Enhancement Systems," 2002, Research Scientist and Center Director, Virginia Tech Transportation Institute

J. Gallagher, "An Assessment of the Attention Demand Associated with the Processing of Information for In-Vehicle Information Systems (IVIS)," 1999, Industrial Engineer, Health Management Associates

R. Hanowski, "The Impact of Local/Short Haul Operations on Driver Fatigue," 1999, Research Scientist and Division Director, Virginia Tech Transportation Institute

A. Gellatly, "The Use of Speech Recognition Technology in Automotive Applications," 1997, Technical Fellow – User Experience, General Motors

### ***University of Iowa***

S. K. Jahns, "Guidelines for Automotive Head-Up Display Content and Format," 1996, Technical Engineering Manager, PACCAR Inc.

J. Hankey, "Driver Response to Intersection Incursions and its Implications for Anti-Lock Brake Use," 1996, Director of Research and Development, Virginia Tech Transportation Institute

M. Mollenhauer, "Safety Evaluation of the ADVANCE Traveler Information System," 1996, Research Scientist and Division Director, Virginia Tech Transportation Institute

Y. C. Liu, "Development of Design Guidelines for Advanced Traveler Information Displays," 1995, Professor Da-Yeh Institute of Technology, Taiwan ROC

**Chairman of Committee for M.S. Students (Student, Title of M.S. Thesis, Year, Last Known Position)**

***Virginia Tech***

A. Noble, 2015, Civil Engineering, Research Scientist, Battelle

S. Dawes, "Evaluation of Discomfort Glare and Pavement Marking Material Visibility for Eleven Headlamp Configurations," 2003, Human Factors Engineer, National Highway Traffic Safety Administration

W. Biever, "Supplemental Information Processing Effects on Driving," 2003, Accident Reconstruction Engineer, Kineticorp

C. Gaskins, "Field Evaluation of Alternative Automated Systems for Reducing Illegal Passing of School Buses," 2002, Ph.D. Student

R. Anders, "Improving the Conspicuity of Trailblazing Signs for Incident Management," 2000, Test Engineer, Army Research Lab

S. Stevens, "Assessing Risk Perception in Adult Caregivers Regarding the Use of Booster Seats in Vehicle," 2000, Engineer, U.S. Department of Transportation

J. Shutko, "An Investigation of Collision Avoidance Warnings on Brake Response Times of Commercial Motor Vehicle Drivers," 1999, Technical Specialist, Ford Motor Co.

T. Thomas, "Evaluation of Training Technique as a Means of Influencing Safety Knowledge, Risk Perception and Proper Respirator Donning Ability among Respiratory Protection Users," 1999, Safety Engineer, Lockheed Martin

M. Blanco, "Effects of In-Vehicle Information System (IVIS) Tasks on the Information Processing Demands of a Commercial Vehicle Operations (CVO) Driver," 1999, Research Scientist and Center Director, Virginia Tech Transportation Institute

S. McLaughlin, "Measurement of Driver Preferences and Intervention Responses as Influenced by Adaptive Cruise Control Deceleration Characteristics," 1998, Research Scientist and Center Director, Virginia Tech Transportation Institute

J. Barker, "Improving the Conspicuity of Trailblazing Signs for Incident Management," 1998, Engineer, National Highway Traffic Safety Administration

D. Collins, "An Examination of Driver Performance under Reduced Visibility Conditions when using an In-Vehicle Signing Information System," 1997, Senior Accident Investigator (Human Performance), National Transportation Safety Board

S. Hetrick, "Examination of Driver Lane Change Behavior and the Potential Effectiveness of Warning Onset Rules for Lane Change or 'Side' Crash Avoidance Systems," 1997, Industrial Engineer, Oracle, Inc.

### ***University of Iowa***

C. Carney, "The Effects of Warning Timing and Algorithm Design on Driver Responses to Emergency Responses," 1996, Research Associate, University of Iowa

T. L. Brown, "Driving Simulator Evaluation of Semi-Automated Vehicle Control Systems," 1996, Associate Research Scientist, University of Iowa

M. A. Mollenhauer, "Advanced Vehicle Systems to Increase the Mobility of Elderly Drivers," 1995, Research Scientist and Division Director, Virginia Tech Transportation Institute

S. K. Jahns, "Development of a Near-Miss Evaluation Methodology for the TravTek System," 1994, Technical Engineering Manager, PACCAR Inc.

### ***University of Idaho***

V. R. Lewis, "An Investigation of the Use of Multi-Media Techniques for Logger Safety Training," 1993, Human Factors Consultant

D. V. McGehee, "A Field Study Testing the Effectiveness of a Rear-end Collision Warning System," 1993, Director, Human Factors and Vehicle Safety Research Program, Public Policy Center, University of Iowa

M. Mitchell, "Determining Effective Display Format and Content Options for In-Car, Moving-Map Navigation and Information Systems," 1993, User Experience Design Consultant, Tangible UX

D. T. Castle, "Usability Assessment of Equipment Designed for Disabled Populations Using Multi-Attribute Utility Theory," 1992, Principal Human Factors Engineer and User Experience Architect, The Human Factor, Inc.

S. Wreggit, "The Effects of Cost of Compliance, Information and Physical Interactivity on Consumer Product Warning Compliance," 1991, User Experience Researcher, Mercedes-Benz R&D North America

J. A. Hathaway, "The Effects of Cost, Information and Salience on Warning Compliance in a Recreational Setting," 1990, Private Consultant

B. P. Hunn, "Increasing the Effectiveness of Persuasion Injury Control for Consumer Products," 1990, Chief, Human Factors Branch, Air Force Flight Test Center

J. Hankey, "The Effects of Combined Stressors on Pilot Performance," 1989, Director of Research and Development, Virginia Tech Transportation Institute

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## **ADVISING FOR GRADUATE STUDENT ORGANIZATIONS**

Faculty Advisor, Virginia Tech Chapter of the American Society of Safety Engineers Chapter, Awarded Most Outstanding Student Chapter of the Year, 1999, 1996 – 2000

Faculty Advisor, University of Iowa Chapter of the Human Factors and Ergonomics Society (new chapter formed under Dr. Dingus' guidance), 1994 – 1995

Faculty Advisor, University of Idaho Chapter of the Human Factors and Ergonomics Society, 1990 – 1992  
Human Factors Program Director, University of Idaho, 1989 – 1991

Human Factors Program Internship Coordinator, University of Idaho, 1988 – 1992

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## **SELECTED SERVICE TO THE PROFESSION**

Member, Virginia Governor's Unmanned Systems Commission, 2015 – 2016

Board of Directors, Association for Unmanned Vehicle Systems International, 2015 – 2018

Board of Directors, Intelligent Transportation Society of America, 2012 – 2019

Associate Editor, IEEE Transactions on Intelligent Transportation Systems, 2004 – 2009

Served on an expert panel concerning the state of the art in safety measurement sponsored by the Transportation Research Board, National Research Council, 1999

Editorial Board Member and Reviewer, *Transportation Human Factors*, New York: Erlbaum, 1997 – 2000

Invited Special Issue Editor, *ITS Journal*, 1997 – 1998

Served as a Transportation Research Board (National Academy of Sciences) special committee member to review the Federal Highway Administration Strategic Plan for Safety and Human Factors Research, 1997

Served as an expert for a workshop on ITS safety benefits estimation, sponsored by ITS America and the National Highway Traffic Safety Administration, 1997

U.S. Delegate, ISO TC 204, Advanced In-Vehicle Systems Standard (one of two U.S. delegates), 1996 – 1999

Program Chair, Forensics Professional Group, Human Factors and Ergonomics Society, 1996 – 1998

Chaired an expert panel on proactive safety benefits estimation techniques for the National Highway Traffic Safety Administration, 1996

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## **SELECTED SERVICE TO THE UNIVERSITY AND STATE**

Member, Civil and Environmental Engineering Honorifics Committee, Virginia Tech, 2012 – 2018

Member, Civil and Environmental Engineering Promotion and Tenure Committee, Virginia Tech, 2012 – 2013

Appointment by President to the Presidential Task Force, Virginia Tech, 2011 – 2013; Co-chair of the Building on Strengths, Creating Synergies, and Fostering Innovation Subcommittee

Member, President's Academic Council, Virginia Tech, 2011 – 2021



Expert, Joint Commission on Science and Technology, Virginia Legislature, 2009, 2010, 2011

Appointment by President to the University Committee on High Performance Computing, Virginia Tech, 2008 – 2021

Director, Institute for Critical Technology and Applied Science Search Committee, Appointed by the Dean, College of Engineering, 2003

Dean of Engineering Search Committee, Appointed by the Provost, 2002

Member, Updating the University Strategic Plan, Virginia Tech, 2001

Member, Task Force for Improvement of Research Faculty Policies, Appointed by the Provost, 1999 – 2000

Member, I-81 Safety Task Force, Appointed by Congressman Frank Wolf, 1998 – 1999

Chairman, Transportation Cross-Cutting Initiative Committee, Appointed by the Provost, 1997 – 2000

Research Program Peer Review Panelist, Virginia Transportation Research Council, Virginia Department of Transportation, 1997 – 1998

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## **SELECTED MEDIA PARTICIPATION—QUOTES, SPEECHES, AND INTERVIEWS**

*Thomas Dingus knows how to keep Americans alive on the road, but many are not listening*, The Washington Post, May 22, 2021, <https://www.washingtonpost.com/transportation/2021/05/22/thomas-dingus-knows-how-keep-americans-alive-road-many-are-not-listening/>

*Ohio state senator caught driving during work videoconference insists he wasn't distracted from the road*, May, 7, 2021, Yahoo!News, <https://news.yahoo.com/ohio-state-senator-caught-driving-041600497.html>

*'A terrible idea': Multitasking state senator drives while videoconferencing*, The Washington Post, May 6, 2021, <https://www.washingtonpost.com/transportation/2021/05/06/andrew-brenner-video/>

*Transportation institute exceeds record milestone; Looks to the future*, TheRoanokeStar.com, July 10, 2020, <https://theroanokestar.com/2020/07/10/transportation-institute-exceeds-record-milestone-looks-to-the-future/>

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