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18th International Conference on

Naturalistic Decision Making



June 22 - 26, 2026

**University of Virginia,
Charlottesville, Virginia, USA**

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www.naturalisticdecisionmaking.org

ABOUT THE CONFERENCE

For nearly four decades, the field of Naturalistic Decision Making (NDM) has been concerned with the study of how people make decisions in complex real-world settings.

What we have learned about NDM has changed the way we train decision makers, the types of decision support we provide, and the way we design organizations.

Since 1989, the NDM conferences have been the world's leading conferences on Naturalistic Decision Making. The conferences have alternated between the U.S. and Europe biennially, and have served to disseminate new development in knowledge elicitation, training, system design, evaluation, and teamwork.

**“[NDM] MAKES A DIFFERENCE
TO HOW WE CAN UTILISE
DECISION PSYCHOLOGY
POSITIVELY TO ENRICH OUR
WORKING LIVES.”**

JULIE GORE
ORGANIZATIONAL PSYCHOLOGIST AND NDMA SECRETARY

WHY ATTEND?

HERE'S WHAT OTHERS ARE SAYING:

"I found the group of professionals at the NDM Conference to be welcoming, collaborative, constructive with feedback, and had an enthusiasm to continue to develop this field of study and practice." Ashley Ferkol

"I'm truly energized by the NDM conference providing an opportunity for a stimulating exchange of ideas between informed, thoughtful, passionate, curious, and diverse thinkers." Liza Papautsky

"As a practitioner and being relatively new to NDM, the possibility to collaborate with experts in the community is invaluable." Richard Feenstra

"I attended the NDM conference in June and it was such an amazing learning experience that I would like to continue the discussion. I believe that NDM still has a lot to offer to decision theory." Gertrude Spiteri

"I find NDM methods and NDM research to be remarkably useful in real world business situations — to the point where I don't know why more people don't write about or read about NDM methods." Cedric Chin

KEYNOTE SPEAKERS



DAN DWORKIS

Dan is an emergency physician and scientist who serves as Chief Medical Officer at the Mission Critical Team Institute and founder of The Emergency Mind Project. His work focuses on how individuals and mission-critical teams apply knowledge under pressure. He is the author of *The Emergency Mind: Wiring Your Brain for Performance Under Pressure*.

<https://www.linkedin.com/in/dandworkis/>



MARSHA IVINS

Marsha S. Ivins is a former NASA astronaut and aerospace engineer who flew five Space Shuttle missions. She supported major milestones in human spaceflight, including work tied to the Mir program and early International Space Station assembly. Since leaving NASA, she has continued work in human systems integration supporting human space exploration.

https://www.nasa.gov/wp-content/uploads/2016/01/ivins_marsha.pdf



TIMOTHY WILSON

Timothy is Sherrell J. Aston Professor Emeritus of Psychology at UVA and a leading social psychologist whose work explores the limits of introspection, self-knowledge, and how we can better predict and shape our own behavior. He is the author of *Strangers to Ourselves: Discovering the Adaptive Unconscious* and *Redirect: The Surprising New Science of Psychological Change*.

www.batten.virginia.edu/people/timothy-wilson



AGENDA

Newcomb Hall, Rotunda, Rice Hall, Link Lab
University of Virginia, Charlottesville, Virginia

Note: All times are in EDT

MONDAY, JUNE 22, 2026

9:00 - 12:00	Exploring NDM with the Experts	Rice Hall
13:00 - 16:00	Road to Insight Workshop with Gary Klein	Rice Hall
	Exploring NDM with the Experts	Rice Hall

TUESDAY, JUNE 23, 2026

9:00 - 12:00	CTA Institute, Lite	Rice Hall
	Accelerating Expertise in Coaches and Athletes	OSC
13:00 - 16:00	UVA Research Showcase	Rice Hall/Various
	Accelerating Expertise in Coaches and Athletes	OSC
18:00	Pre Conference Social	Carter Mountain Orchard

MAIN CONFERENCE STARTS

WEDNESDAY, JUNE 24, 2026

All listed content has been tentatively accepted.

8:00 - 9:00	Breakfast & Registration	Newcomb Hall
9:00 - 10:00	Welcome	Newcomb Hall
10:00 - 11:00	Keynote #1 Dan Dworkis	Newcomb Hall
11:00 - 12:00	<p>Panels</p> <p><u>AI and the Future of Expertise: Tensions and Possibilities</u> Neelam Naikar, Defence Science and Technology Group</p> <p>Panelists: Gary Klein^a, Shawna Perry^b, Michael Webb^c, Erica Barhorst-Cates^d, Paul Ward^e, and Laura Militello^f ^aShadowBox LLC ^bSJP Consulting,LLC ^cQuantum Leap ^dPearson PLC and Monterey Technologies, Inc. ^eShield AI ^fApplied Decision Science</p>	Newcomb Hall
12:00 - 13:00	Lunch	Newcomb Hall

WEDNESDAY, JUNE 24, 2026

13:00 - 14:30

Outstanding Papers

Newcomb Hall

The Importance of Context in Macrocognition

Robert R. Hoffman^a and Patrick Brézillon^b^aInstitute for Human and Machine Cognition^bSorbonne University

Metaphor as Cognitive Infrastructure: Surfacing Mental Models in Naturalistic Decision Making

Sharon Small^a, Pamela Ey^b, and Heather Cairns-Lee^c^aClean Language Institute, OR^bQueens University of Charlotte, NC^cIMD, Lausanne, Switzerland

Addressing the Challenge of Envisioned World Design Using Role and Task Analogs

Katie Ernst^a and Laura Militello^{a,b}^aApplied Decision Science, LLC^bUnveil Systems, LLC

Sensemaking in Security Assessment: An Interview Study of Expert Decision Making

Andrew Wilson^a, Marco A. Perez-Cisneros^a, and Antonio Casillas-Zamora^a^aUniversity of Guadalajara, Centro Universitario de Ciencias Exactas e Ingenierías

14:30 - 15:00

Break

15:00 - 16:30

Panel

Newcomb Hall

NDM Successes and Challenges

Laura Militello, Applied Decision Science, LLC

Panelists:

James Gerace^a, Kevin Oden^b, Jennifer Winner^c, Kristine Hadeed^d, Dan Zelik^c, and David Malek^c^aColonie, NY Police Department^bLockheed Martin Advanced Technology Laboratories^cAir Force Research Laboratory (AFRL) 711th Human Performance Wing (711HPW)^dCentral Valley IAF Sponsoring Committee

WEDNESDAY, JUNE 24, 2026

17:00 - 18:00

Social

Newcomb Hall

18:00 - 20:00

Dinner

Rotunda

20:00 - 22:00

NDM at 40

Newcomb
Theater

THURSDAY, JUNE 25, 2026

8:00 - 9:00	Breakfast	Rice Hall - Main
9:00 - 10:00	Keynote #2 Marsha Ivins	Rice Hall - Main
10:00 - 11:00	Papers NDM Models	Rice Hall - 1
	<p><u>Situated Transfer: Extending Naturalistic-Design Making Theory to Simulation-to-Workplace Skill Application</u> Jessica M. Johnson, PhD Old Dominion University's Office of Enterprise Research and Innovation</p> <p><u>Thinking Habits for a Complex World</u> Pamela Ey and Michael Legatt Queens University of Charlotte NC, McColl School of Business</p> <p><u>Artificial Macrocognition?: What Inductive Algorithms Don't Do</u> Abigail Post, Dane Morey, David Woods, Martijn Ijtsma The Ohio State University</p>	
	Interactive Experiences	Rice Hall - 2
	<p><u>de-escalAlt</u> Jared Peterson, Micah Condon Shadowbox LLC</p>	
11:00 - 12:00	Papers NDM Methods	Rice Hall - 1
	<p><u>Orienteering as Affordance-based Control</u> Chris Baber and Ben Squire School of Computer Science, University of Birmingham, Birmingham. UK</p> <p><u>Scaling Expertise: Automating Knowledge Elicitation for Designing Simulations</u> Lia A. Dibello and Dee Andrews Applied Cognitive Sciences Labs Inc.</p> <p><u>Using Task Diagrams to Improve Cognitive Esports Training</u> Stanislaus Oshimeje, Nya McDougald, Kaitlyn Roose, and Elizabeth Vienott Psychology and Human Factors Dept, Michigan Technological University</p>	

THURSDAY, JUNE 25, 2026

11:00 - 12:00	Interactive Experiences	Rice Hall - 2
	<p><u>Collaborative Decision Making for Envisioned Automobile AI Technologies</u> Michelle H. Wang Whitlock, Rachel Morris, and Laura G. Militello Applied Decision Science, LLC</p>	
12:00 - 13:00	Lunch	Rice Hall - Main
13:00 - 14:00	Panel	Rice Hall - Main
	<p><u>A Seat at the Table: The Role of NDM in AI</u> Laura Militello, Applied Decision Science</p> <p>Panelists: Katie Ernst^a, Megan E. Salwei^b, Patrick Waterson^c, Chris Baber^d, Neelam Naikar^e, Liz Sonenberg^f, and David Woods^g ^aApplied Decision Science, LLC ^bVanderbilt University Medical Center ^cLoughborough University ^dSchool of Computer Science, University of Birmingham ^eDefence Science and Technology Group ^fUniversity of Melbourne ^gThe Ohio State University</p>	
14:00 - 15:00	Papers Healthcare: Training	Rice Hall - 1
	<p><u>Error Recovery Training Development Framework</u> Christen Sushereba^a, Laura Militello^a, Rachel Morris^a, Kent Etherton^b, Katelyn Kay^b and Jennifer Winner^b ^aApplied Decision Science ^bAir Force Research Laboratory</p> <p><u>Shared decision-making strategies for chronic rhinosinusitis surgery</u> Julie Diiulio^a, Laura Militello^a, Rachel Morris^a, Stephanie Smith^b, and Vijay Ramakrishan^c ^aApplied Decision Science, LLC, ^bNorthwestern University, ^cIndiana University</p>	

THURSDAY, JUNE 25, 2026

14:00 - 15:00

Interactive Experience

Rice Hall - 2

Recognition-Primed Deception

Simon Henderson^a and Apollo Robbins^b^a Deception By Design^b Equivoque LLC

15:00 - 16:00

Papers | Sport

Rice Hall - 1

Advancing Decision Making in Rugby: A Pedagogical Framework for Developing Decision-Making Skills Through Shared Mental Models

Riki Tahere^a and Pam Richards^{b,c}^a Canterbury Rugby Football Union, NZ^b University of Lancashire, UK^c Decision Archetype Ltd, UK

Accelerating Expertise and Expert Performance in Sports and Beyond: An Undergraduate Honors Course

Peter Fadde

Southern Illinois University

Applying Macrocognitive Models in practice: A case study of the 3P-CDM and AS-CDM in sport coaching

Jamie Taylor^a and Robert Hoffman^b^a School of Health and Human Performance, Faculty of Science and Health, Dublin City University, Glasnevin, Dublin, Ireland^b Institute of Human and Machine Cognition, Pensacola, Florida, USA

Interactive Experience

Rice Hall - 2

Engaging the Disability Community in Naturalistic Decision Making Research

Jessica Arora^a, Eleanore Rae Scheer^a, and Rupa S. Valdez^{a,b}^a Department of Systems and Information Engineering, University of Virginia ^b Department of Public Health Sciences, University of Virginia

THURSDAY, JUNE 25, 2026

16:00 - 17:00

Papers | Systems

Rice Hall - 1

Expertise in Robotics Engineering

Matthew Johnson, Robert R. Hoffman
Institute for Human and Machine Cognition

Risk Foresight in AI-Driven Technologies:

Comparing Effects of Structured Premortem Approaches:

Anusha Kannan, Katrina Carlson, Elizabeth S. Veinott and Shane T. Mueller

Psychology and Human Factors Department
Michigan Technological University

Trust, Risk, and Reliance in Human-autonomy Teaming

Kevin Byrne^a, Matthew L. Bolton^a, Gabriel J. Collins^b, and
Mauricio Castillo-Effen^b

^aDepartment of Systems and Information Engineering,
University of Virginia,
Charlottesville, Virginia, USA

^bLockheed Martin Corporation, Bethesda, Maryland, USA

Interactive Experience

Rice Hall - 2

Conceptual Diagrams: Picturing Naturalistic Decision

Making?

Robert Hoffman^a and John Flach^b

^aInstitute for Human and Machine Cognition

^bWright State University

17:15 - 18:00

Poster Session

Link Lab

18:00

Dinner On Your Own

Downtown Mall

FRIDAY, JUNE 26, 2026

8:00 - 9:00	Breakfast	Rice Hall - Main
9:00 - 10:00	Keynote #3 Tim Wilson	Rice Hall - Main
10:00 - 11:00	Papers Healthcare: Research	Rice Hall - 1
	<p><u>Critical Decision Making in Emergency Nursing: Findings from a Qualitative Study</u> Sudeep Hedge, PhD et al. Department of Industrial Engineering, Clemson University</p>	
	<p><u>What Determines When Intuition is Supported by Conscious Analysis? A Naturalistic Study on Surgeons</u> Matylda Gerber Mission Intuition</p>	
	<p><u>Context Matters: Survey Validation of Dynamic Goal Prioritization in Nurse-Patient Assignment</u> Elizabeth Meyers University of Minnesota</p>	
	Interactive Experience	Rice Hall - 2
	<p><u>The Plot Thinkens: A decision practice experience</u> Brian Moon and Megan Leavens Perigeon Technologies</p>	
11:00 - 12:00	Papers Military, Cyber, Response	Rice Hall - 1
	<p><u>Counteracting LLM Misinformation</u> Katherine Walker^a, Marisa Bigelow^a, Patrick Hester^a and Kaleb Embaugh^a ^aMile Two LLC, Dayton, Ohio USA</p>	

FRIDAY, JUNE 26, 2026

11:00 - 12:00

Papers | Military, Cyber, Response

Rice Hall - 1

Effective Large Scale Collaboration during Disaster Response: North Dakota Flood Response

Elizabeth Veinott^a and Don Cox^b^aPsychology and Human Factors Dept, Michigan Technological University^bUser Experience, Ping Identity

Advancing Cognitive Task Analysis: Capturing Shared Mental Models and critical Transition Points in Complex Technical Water Heights Rescue

Ben Weedon^{a,b,c} and Pam Richards^{a,d}^aUniversity of Central Lancashire, UK^bNational Fire Chiefs Council, UK^cBen Weedon Rescue Trainer, Consultancy, UK^dDecision Archetype Ltd., UK

Interactive Experience

Rice Hall - 2

Design the Debate, Don't Drift: Naturalistic Decision-Making for High Velocity Calls

Cheryl Haynes CEC, SPHR, CFP

Cheryl Haynes Achievementor LLC

12:00 - 13:00

Lunch

Rice Hall - Main

13:00 - 14:00

Panel

Rice Hall - Main

Naturalistic Decision Making in the Oil & Gas Industry

Joseph Borders^a, Michelle Wang Whitlock^b, and Kari Hoy^a

Panelists:

David Strobhar^c, Allen Schmaltz^d, Emily Dvorak^e, and Vance Flosenzier^f^aShadowBox, LLC, Dayton, OH; ^bApplied Decision Science, LLC, Dayton, OH; ^cBeville Operator Performance Specialists, Beavercreek, OH; ^dFlint Hills Resources, Rosemount, MN; ^eMarathon Petroleum Corporation, Findlay, OH; ^fINVISTA, Orange, TX

FRIDAY, JUNE 26, 2026

14:00 - 15:00

Papers | Models

Rice Hall - 1

Expert Decisions Without Decision-Making: The Situation Shaping Hypothesis

Jared Peterson and Joseph Borders
ShadowBox LLC, Dayton, OH USA

Activating Pathways to Insight: Creative Problem-Solving in High-Pressure Entrepreneurial Environments

Roy Naquin^a and Tim Basadur^b
^aStratogen Labs
^bNortheastern Illinois University

Accelerated Learning Model for Increased Tactical Decision-Making Effectiveness in Unstructured Situations

Lia Dibello^a, Dee H. Andrews^a, Matt Fennell^{a,b}, and Randall Stone^c
^aACSI labs, ^bBaylor University, ^cUSMC Quantico Va

Interactive Experiences

Rice Hall - 2

Cognitive Skills Training for Emergency Medical Technicians and Paramedics – An Interactive Demonstration

John Schmitt^a, Matthew Levy^b, Micah Condon^a, Gary Klein^a, and Ayse Gurses^b
^aShadowBox LLC
^bJohns Hopkins University School of Medicine

15:00 - 16:00

Papers | Healthcare: Models

Rice Hall - 1

Enhancing Decision-Making Expertise in Organ Retrieval Surgeons: Using Applied Cognitive Task Analysis to support innovation in organ preservation in the UK

Ashley Ferkol^{*a}, Gala Morozova^{*a}, Hugh Richards^a, Amanda Martindale^a, and Ian Currie^{a,b}
*Joint First Authorship. Corresponding Author: gala.morozova@ed.ac.uk
^aThe University of Edinburgh
^bNational Health Service Blood and Transplant

FRIDAY, JUNE 26, 2026

15:00 - 16:00

Papers | Healthcare: Models

Rice Hall - 1

Expert Surgical Teams Significantly improve Performance – Influence of Case Complexity and Multiple Handoffs

Lygia Stewart, MD

Professor of Surgery, Department of Surgery, University of California, San Francisco, and Chief General Surgery, San Francisco VA Medical Center

Demonstrating Misalignment of Disabled Individuals' Work Systems and Mental Models with the Designer's Conceptual Model and System Image Using Mobile Health Apps

Jessica Arora^a, Eleanore Rae Scheer^a, Claire Wellbeloed-Stone^b, Courtney C. Rogers^a, Mary Collins^c, Harshal Patel^a, Yeongju Lee^d, Anika Potluri, and Rupa S. Valdez^{a,b,f}

^aDepartment of Systems and Information Engineering, University of Virginia

^bBlue Trunk Foundation, Charlottesville, VA

^cTIDI Products, Neenah, WI

^dDepartment of Biomedical Engineering, University of Virginia

^eDepartment of Computer Science, University of Virginia

^fDepartment of Public Health Sciences, University of Virginia

Interactive Experiences

Rice Hall - 2

The Secret Life of Metaphor: Surfacing Metaphor with Clean Language Questions – Interactive Experience

Sharon Small and James Ramirez

Clean Language Institute, Grants Pass, OR, USA

16:00 - 17:00

Closing

Rice Hall - Main

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