18th International Conference on

Naturalistic Decision Making

June 22 - 26, 2026

University of Virginia,

Charlottesville, Virginia, USA

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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 - 11:00	**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 - 11:00	**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	**Panels**	Newcomb Hall

AI and the Future of Expertise: Tensions and Possibilities
Neelam Naikar, Defence Science and Technology Group

Panelists:
Gary Klein[a], Shawna Perry[b], Sowmya Ramachandran[c], Erica Barhorst-Cates[d], Paul Ward[e], and Laura Militello[f]
[a]ShadowBox LLC
[b]SJP Consulting,LLC
[c]Stottler Henke Associates, Inc
[d]Pearson PLC and Monterey Technologies, Inc.
[e]Shield AI
[f]Applied Decision Science

12:00 - 13:00	**Lunch**	Newcomb Hall

DAY 1

13:00 - 14:30   **Outstanding Papers**   Newcomb Hall

The Importance of Context in Macrocognition
Robert R. Hoffman[a] and Patrick Brézillon[b]
[a]Institute for Human and Machine Cognition
[b]Sorbonne University

Metaphor as Cognitive Infrastructure: Surfacing Mental Models in Naturalistic Decision Making
Sharon Small[a], Pamela Ey[b], and Heather Cairns-Lee[c]
[a]Clean Langauge Institute, OR
[b]Queens University of Charlotte, NC
[c] IMD, Lausanne, Switzerland

Addressing the Challenge of Envisioned World Design Using Role and Task Analogs
Katie Ernst[a] and Laura Militello[a,b]
[a]Applied Decision Science, LLC
[b]Unveil 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]
[a]University 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], Robert Copeland[d], Dan Zelik[c], and David Malek[c]
[a]Colonie, NY Police Department
[b]Lockheed Martin Advanced Technology Laboratories
[c]Air Force Research Laboratory (AFRL) 711th Human Performance Wing (711HPW)
[d]US ARMY DEVCOM Aviation & Missile Center (AvMC)

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

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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

Situated Transfer: Extending Naturalistic-Design Making
Theory to Simulation-to-Workplace Skill Application
Jessica M. Johnson, PhD
Old Dominion University's Office of Enterprise Research and Innovation

Thinking Habits for a Complex World
Pamela Ey and Michael Legatt
Queens University of Charlotte NC, McColl School of Business

Artificial Macrocognition?: What Inductive Algorithms Don't Do
Abigail Post, Dane Morey, David Woods, Martijn Ijtsma
The Ohio State University

Interactive Experiences   Rice Hall – 2

de-escalAIt
Jared Peterson, Micah Condon
Shadowbox LLC

11:00 - 12:00   **Papers | NDM Methods**   Rice Hall – 1

Orienteering as Affordance-based Control
Chris Baber and Ben Squire
School of Computer Science, University of Birmingham, Birmingham. UK

Scaling Expertise: Automating Knowledge Elicitation for Designing
Simulations
Lia A. Dibello and Dee Andrews
Applied Cognitive Sciences Labs Inc.

Using Task Diagrams to Improve Cognitive Esports Training
Stanislaus Oshimeje, Nya McDougald, Kaitlyn Roose, and Elizabeth
Vienott
Psychology and Human Factors Dept, Michigan Technological University

DAY 2

11:00 - 12:00   **Interactive Experiences**   Rice Hall – 2

Collaborative Decision Making for Envisioned Automobile AI Technologies
Michelle H. Wang Whitlock, Rachel Morris, and Laura G. Militello
Applied Decision Science, LLC

12:00 - 13:00   **Lunch**   Rice Hall – Main

13:00 - 14:00   **Panel**   Rice Hall – Main

A Seat at the Table: The Role of NDM in AI
Laura Militello, Applied Decision Science

Panelists:
Katie Ernst[a], Megan E. Salwei[b], Patrick Waterson[c], Chris Baber[d], Neelam Naikar[e], Liz Sonenberg[f], and David Woods[g]
[a]Applied Decision Science, LLC
[b]Vanderbilt University Medical Center
[c]Loughborough University
[d]School of Computer Science, University of Birmingham
[e]Defence Science and Technology Group
[f]University of Melbourne
[g]The Ohio State University

14:00 - 15:00   **Papers | Healthcare: Training**   Rice Hall – 1

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]
[a]ShadowBox LLC
[b]Johns Hopkins University School of Medicine

Error Recovery Training Development Framework
Christen Sushereba[a], Laura Militello[a], Rachel Morris[a], Kent Etherton[b], Katelyn Kay[b] and Jennifer Winner[b]
[a]Applied Decision Science
[b]Air Force Research Laboratory

THURSDAY, JUNE 25, 2026

14:00 - 15:00

Papers | Healthcare: Training — Rice Hall - 1

Shared decision-making strategies for chronic rhinosinusitis surgery
Julie Diiulio[a], Laura Militello[a], Rachel Morris[a], Stephanie Smith[b], and Vijay Ramakrishan[c]
[a]Applied Decision Science, LLC, [b]Northwestern University, [c]Indiana University

Interactive Experience — Rice Hall - 2

Recognition-Primed Deception
Simon Henderson[a] and Apollo Robbins[b]
[a] Deception By Design
[b] Equivoke 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]
[a]Department of Systems and Information Engineering,
University of Virginia,
Charlottesville, Virginia, USA
[b]Lockheed Martin Corporation, Bethesda, Maryland, USA

Interactive Experience   Rice Hall – 2

Conceptual Diagrams: Picturing Naturalistic Decision Making?
Robert Hoffman[a] and John Flach[b]
[a]Institute for Human and Machine Cognition
[b]Wright State University

| 17:15 - 18:00 | **Poster Session** | Link Lab |

| 18:00 | **Dinner On Your Own** | Downtown Mall |

DAY 3

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

Critical Decision Making in Emergency Nursing: Findings from a Qualitative Study
Sudeep Hedge, PhD et al.
Department of Industrial Engineering, Clemson University

What Determines When Intuition is Supported by Conscious Analysis? A Naturalistic Study on Surgeons
Matylda Gerber
Mission Intuition

Context Matters: Survey Validation of Dynamic Goal Prioritization in Nurse-Patient Assignment
Elizabeth Meyers
University of Minnesota

Interactive Experience Rice Hall – 2

The Plot Thinkens: A decision practice experience
Brian Moon and Megan Leavens
Perigean Technologies

11:00 - 12:00 **Papers |** Military, Cyber, Response Rice Hall – 1

Counteracting LLM Misinformation
Katherine Walker[a], Marisa Bigelow[a], Patrick Hester[a] and Kaleb Embaugh[a]
[a]Mile Two LLC, Dayton, Ohio USA

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]
[a]Psychology and Human Factors Dept, Michigan Technological University
[b]User 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]
[a]University of Central Lancashire, UK
[b]National Fire Chiefs Council, UK
[c]Ben Weedon Rescue Trainer, Consultancy, UK
[d]Decision 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]
[a]ShadowBox, LLC, Dayton. OH; [b]Applied Decision Science, LLC, Dayton, OH; [c]Beville Operator Performance Specialists, Beavercreek, OH; [d]Flint Hills Resources, Rosemount, MN; [e]Marathon Petroleum Corporation, Findlay, OH; [f]INVISTA, Orange, TX

DAY 3

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]
[a]Stratogen Labs
[b]Northeastern Illinois University

Accelerated Learning Model for Increased Tactical Decision-Making Effectiveness in Unstructured Situations
Lia Dibello[a], Dee H. Andrews[a], Matt Fennel[a,b], and Randall Stone[c]
[a]ACSI labs, [b]Baylor University, [c]USMC Quantico Va

Interactive Experiences   Rice Hall – 2

How Associative Memory Corrupts Recognition-Primed Decision Making with Cognitive Biases
Benni Zaiser
York Regional Police, Aurora, Ontario, Canada

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
[a]The University of Edinburgh
[b]National 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]
[a]Department of Systems and Information Engineering, University of
Virginia
[b]Blue Trunk Foundation, Charlottesville, VA
[c]TIDI Products, Neenah, WI
[d]Department of Biomedical Engineering, University of Virginia
[e]Department of Computer Science, University of Virginia
[f]Department of Public Health Sciences, University of Virginia

Interactive Experiences　　　　Rice Hall – 2

Thinking Habits for a Complex World: Lighting a Candle
Pamela Ey and Michael Legatt
Queens University of Charlotte NC, McColl School of
Business

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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