**Thematic Labs:** Ecosystems for Research, Education & Community in Emerging Areas of Data Science / AI / Machine Learning

**Scientific Machine Learning Lab (Braga-Neto)**
- Scientific Computation (SC) + Machine Learning (ML)
- Data-driven model discovery via large-scale simulation
- ML-guided acceleration of numerical simulations
- Materials Informatics, Reservoir & Supernova Models

**Data Justice Lab (Tang)**
- Themes: diversity, inclusion, ethics, social justice
- Domains: health, education, economy, environment
- Algorithmic fairness, data equity, bias reduction
- Social media analysis, social sensing, NLP

**VIVID (Visualization) Lab (McNamara)**
- Data interaction through multimodal human sensing
- Nonvisual displays, AR & VR, 3D materialization
- Communication, perception, immersion, engagement
- Analysis renderings: climate change, impacts, hazards

**Operational Data Science Lab (Duffield)**
- Texas A&M as a Living Lab for Data Science
- Enhance: transport, facilities, research admin
- Leverage: urban science, disaster management
- Vertical Integration: knowledge, systems, practice

**Educational Labs (Rodriguez, Narayanan)**
- Industry engagement to student ed.
- New program development
- MS Data Science (w/ Coll. Sci & Eng)
- Cert Data Analytics Petroleum Industry

**Students (Rahman, Tao)**
- Competitions, Hackathons
- Traineeship program
- Ambassador program
- Bring Your Own Data

**Project Development (Tao)**
- Infrastructure and urban science
- Agriculture and hydroinformatics
- AgriLife, TWRI, ITEC, Geosciences
- Funding: NIST, Microsoft, TX

**Industry and WFD (Green)**
- Workforce Development & Consortia
- Computational Data Science Workshop
- Online Biomedical Data Science
- 200+ TAMIDS Research Affiliates

**Academic Outreach (Foucart)**
- Visiting Researcher program
- National Labs relations
- Peer Institute relations

**Engaging Faculty (Ding)**
- Seminars, Tutorials, Workshops
- Coffee Connections
- Career Initiation Fellows
- Course Development Grants

---

Dr. Nick Duffield, Director  
Royce E. Wisenbaker Professor I, Electrical & Computer Engineering  
Texas A&M Institute of Data Science | https://tamids.tamu.edu  
duffieldng@tamu.edu | (979) 845-7328 | https://tx.ag/duffield