



## Special Track: **Data-Efficient Visual Computing for Environmental and Social Good**

**20<sup>th</sup> International Symposium on Visual Computing**

Las Vegas, NV, USA

November 17-19, 2025

<http://www.isvc.net>

### **Scope**

Wildfires and biodiversity loss are intensifying due to climate change, threatening ecosystems and communities globally. At the same time, visual data from satellites, UAVs, thermal sensors, and ground-based imaging is becoming increasingly vital for monitoring these phenomena. However, often such data is constrained by occlusions, seasonal gaps, resolution limitations, or sparse labels, especially in remote and resource-limited regions. This special track focuses on advancing data-efficient visual computing and Generative AI methods to address the challenges of limited, noisy, or incomplete visual data in the context of wildlife conservation and wildfire monitoring.

We invite research that explores data-efficient approaches for visual understanding in such contexts, including, but not limited to generative modeling, self and semi-supervised learning, domain adaptation, multimodal fusion, and simulation-based augmentation. The goal is to foster innovations that improve the usability, reliability, and interpretability of visual systems deployed in real-world environmental settings.

## Topics

Topics of interest include but are not limited to:

- Generative models for synthetic data, gap-filling, and simulation
- Few-shot, zero-shot, and self-supervised learning for ecological vision tasks
- Domain adaptation across sensors, geographies, and time
- Multimodal fusion (RGB, thermal, hyperspectral, LiDAR, audio-visual)
- Visual understanding for animal detection, habitat classification, and fire mapping
- Uncertainty-aware and interpretable models for mission-critical applications
- Human-in-the-loop and active learning strategies for ecological labeling
- Simulation-driven digital twins for habitat modeling and fire forecasting

## Organizers

**Ankita Shukla**, University of Nevada, Reno, NV, USA

**Gullal Singh Cheema**, Leibniz University, Hannover, Germany

**Lokender Tiwari**, TCS Research, India

**Dhanajay Kimothi**, Cloudsofi, CA, USA

**Ambuj Mehrish**, Singapore University of Technology and Design, Singapore

## Important Dates

Same as ISVC deadlines. Please visit: <http://www.isvc.net/>

## Paper Submission Instructions

Same as ISVC paper submission instructions, see <http://www.isvc.net/index.php/paper-submission/>

