



GMSys 2024

Second International ACM Green Multimedia Systems Workshop

15-18 April, 2024, Bari, Italy



GMSys'24 aims to tackle the challenge of reducing energy consumption in multimedia systems, specifically focusing on video streaming. Given that video streaming accounts for over half of the digital data traffic and plays a significant role in the global impact of digital technologies on climate change, it has become increasingly important to address its environmental footprint. The demand for video streaming continues to rise, driven by technical advancements, consumer preferences, changing economic conditions, business models, and the rise of content platforms. Video streaming involves several stages, including content production, provisioning, delivery, and consumption. Within these stages, the primary challenge lies in finding ways to make video streaming more environmentally friendly without compromising quality. Factors such as resolution, bitrate, device type, and network speed all play a crucial role in determining the resources required for video streaming, ultimately influencing energy consumption and emissions.

Topics of interest include (but are not limited to):

- **Content production & provisioning**
 - Energy usage analysis for video encoding
 - Energy-efficient video encoding
 - Energy-efficient techniques for video encoding in Computing Continuum
 - AI approaches for energy efficiency in video encoding
- **Content delivery**
 - Energy usage analysis for video delivery
 - Green video streaming over 5G and 6G networks
 - Energy-efficient video streaming
 - AI approaches for energy efficiency in video communication networks
 - Energy-efficient approaches for video caching distribution at multiple locations, e.g., CDN
- **Content consumption**
 - Energy usage analysis for decoding and displaying video on user devices
 - Energy-efficient video decoding techniques
 - AI approaches for energy efficiency in video decoding
 - Educating users regarding utilization of green multimedia services
 - Understanding user attitudes and behavior for green video streaming
- **End to End Video Streaming**
 - Holistic energy optimization of a video streaming system
 - Usage of AI/ML for digital twins to improve future streaming workflows energy consumption and efficiency

Submission Guidelines

- Full/research papers: up to 6 pages, including references
- Short/industry position paper: 1-2 page(s) (+1 page for references, if any)
- Papers must include author names and affiliations for single-blind peer reviewing by the program committee, using ACM style format

Important Dates

- Paper Submission: January 26, 2024
- Notification: March 8, 2024
- Camera ready deadline: March 22, 2024



Organizing Committee

Samira Afzal Post-Doctoral Researcher, Alpen-Adria-Universität Klagenfurt, Austria

Robert Seeliger Senior Expert New Media and Video Sustainability Lead at Fraunhofer FOKUS, Germany

Christian Herglotz Substitute Professor, Chair of Computer Engineering, Brandenburgisch-Technische Universität Cottbus Senftenberg, Germany

Christian Timmerer Full Professor, Director Christian Doppler Lab ATHENA, Alpen-Adria-Universität Klagenfurt, Austria

Tobias Hoßfeld Full Professor, Chair of Communication Networks, University of Würzburg, Germany

Raimund Schatz Senior Scientist and Thematic Coordinator, AIT Austrian Institute of Technology, Austria

<https://athena.itec.aau.at/gmsys24/>
gmsys24@itec.aau.at