

GTM2024: 14TH ANNUAL GLOBAL TECHMINING CONFERENCE

PROGRAM AUTHORS KEYWORDS

PROGRAM

Days: [Monday, September 16th](#) [Tuesday, September 17th](#)

Monday, September 16th

View this program: [with abstracts](#) [session overview](#) [talk overview](#)

13:30-14:45 Session 1: Welcome and Keynote

Welcome

General Conference Co-Chairs - Alan Porter and Denise Chiavetta

Program Chair - Rainer Frietsch

Keynote

[Soeren Auer](#) "**Leveraging NeuroSymbolic AI for Tech-Mining in the Open Research Knowledge Graph**"

CHAIR: [Rainer Frietsch](#)

LOCATION: [Spektrum](#)

14:45-15:15 Coffee Break

15:15-16:30 Session 2A: Innovative Approaches in Machine Learning

CHAIR: [Denilton Darold](#)

LOCATION: [Spektrum](#)

15:15 [Junyi Chen](#), [Mengjia Wu](#) and [Yi Zhang](#)

Explainable Prediction of Knowledge Recombination: A Synergised Method with Large Language Models and Graph Learning ([abstract](#))

PRESENTER: [Yi Zhang](#)

15:40 [Xin Li](#), [Wenya Ma](#), [Ning Gao](#) and [Qianqian Xie](#)

Early identification of potential disruptive technologies using outlier detection method and deep learning from patent data ([abstract](#))

PRESENTER: [Xin Li](#)

16:05 [Anne Kreuter](#), [Elena Senger](#) and [Yuri Campbell](#)

A Data Pipeline for Identifying and Classifying Fiber Composite Companies via Web Scraping and Machine Learning ([abstract](#))

PRESENTER: [Anne Kreuter](#)

15:15-16:30 Session 2B: Advanced Analytical Techniques in Emerging Topics and Industry Sustainability

CHAIR: [Martin G. Moehrle](#)

LOCATION: [Lux](#)

15:15 [Ziqiang Liu](#), [Haiyun Xu](#), [Lixin Yue](#), [Zenghui Yue](#) and [Zhengyin Hu](#)

Research on the Measurement Method of Hysteresis Effect in the Associated Evolution of Fund and its Funded Paper Topics ([abstract](#))

PRESENTER: [Haiyun Xu](#)

15:40 [Haiyun Xu](#), [Junhao Yang](#), [Chunjiang Liu](#), [Xin Zhang](#) and [Shuying Li](#)

Early Detection Method for Weak Signal in the Evolution Process of Emerging Topic Networks ([abstract](#))

PRESENTER: [Haiyun Xu](#)

16:05 [Shihhsin Chen](#), [Yen-Hao Chao](#), [Hung-Chi Chang](#) and [Wenhsin Chi](#)

A Study on Sustainability of Emerging Industries: A Comparative Text-Mining and Thematic Analysis ([abstract](#))

PRESENTER: [Hung-Chi Chang](#)

Tuesday, September 17th

View this program: [with abstracts](#) [session overview](#) [talk overview](#)

08:45-09:50 Session 3A: Power Talks

This session is a speed round of 5-8 minute **Power Talks**, showcasing research-in-progress

CHAIR: [Denise Chiavetta](#)

LOCATION: [Spektrum](#)

08:45 [Cristian Mejia](#)

**Societal Impact of Emerging Technologies: A Novel Approach
Combining Patent Data and Global News Media Analysis** ([abstract](#))

08:53 [Yanpeng Wang](#) and [Xuezhao Wang](#)

**Identifying S&T Priorities Using Domain Knowledge and Pre-trained
Model** ([abstract](#))

PRESENTER: [Xuezhao Wang](#)

09:01 [John Culbert](#), [Nina Smirnova](#) and [Philipp Mayr](#)

Automating Reproducible Bibliometrics with OpenAlex ([abstract](#))

PRESENTER: [John Culbert](#)

09:09 [Chao Tang](#), [Haiyun Xu](#), [Yan Qi](#), [Liang Chen](#) and [Xin Zhang](#)

**Identification of Key Core Technologies Based on Patent Data Analysis:
A Case Study of Small Molecule Drugs in the Field of Lung Cancer**
([abstract](#))

PRESENTER: [Haiyun Xu](#)

09:17 [Wenjun Sun](#), [Chongjun Xi](#), [Yajuan Zhao](#), [Lucheng Lyu](#) and [Ying Su](#)

Patent Technology Gap Technology Opportunity Forecasting Study
([abstract](#))

PRESENTER: [Wenjun Sun](#)

09:25 [Ping Zhao](#), [Xuezhao Wang](#) and [Fang Chen](#)

**Research on the Layout of the Industry Chain for Typical EDA Chips
Software** ([abstract](#))

PRESENTER: [Ping Zhao](#)

09:33 [Julian Jang-Jaccard](#), [Alain Mermoud](#) and [Thomas Berkane](#)

GitHub as a Tech Monitoring Tool: Case with Quantum Technologies
([abstract](#))

PRESENTER: [Julian Jang-Jaccard](#)

08:45-09:50 Session 3B: Power Talks

This session is a speed round of 5-8 minute **Power Talks**, showcasing research-in-progress

CHAIR: [Alan Porter](#)

LOCATION: [Lux](#)

08:45 [Man Jiang](#), [Siluo Yang](#) and [Jiaze Wei](#)

**Identifying Key-Core Technologies in Biosensor Development Based on
Semantic Associations of Technology Structure-Function** ([abstract](#))

PRESENTER: [Man Jiang](#)

08:53 [Vinicius Muraro](#) and [Alysson Mazoni](#)

**Digital Tools in the Circular Economy: A Scientometric Analysis Using
AI and Direct Citation Clustering** ([abstract](#))

PRESENTER: [Vinicius Muraro](#)

09:01 [Zhinan Wang](#), [Bo Yang](#), [Jian Liu](#) and [Heng Chen](#)

**The Emerging Family Model Based on Knowledge Gene Theory: A New
Tool for Discovering Technology Opportunities** ([abstract](#))

PRESENTER: [Zhinan Wang](#)

09:09 [Vinicius Muraro](#) and [Vitor Miranda de Souza](#)

**Knowledge Transfer from Interdisciplinary Research on Circular
Economy to Academic Disciplines - a bibliometrics study** ([abstract](#))

PRESENTER: [Vinicius Muraro](#)

09:17 [Chongjun Xi](#), [Yajuan Zhao](#), [Lucheng Lyu](#) and [Zhanyi Zhao](#)

Research on Patent Portfolio Identification Based on Matrix Similarity
([abstract](#))

PRESENTER: [Chongjun Xi](#)

09:25 [Mehdi Zamani](#), [Tetyana Melnychuk](#), [Anton Eisenhauer](#), [Ralph Gäbler](#) and
[Carsten Schultz](#)

**Investigating Past, Present, and Future Trends on the Interface Between
Marine and Medical Research & Development: A Quantitative Strategic
Foresight Analysis** ([abstract](#))

PRESENTER: [Mehdi Zamani](#)

10:00-11:15 Session 4A: AI Readiness, Scientific Contributions, and Frugal Innovations

CHAIR: [Yi Zhang](#)

LOCATION: [Spektrum](#)

10:00 [Nigel Walton](#) and [Sercan Ozcan](#)

An assessment of AI readiness for the adoption of AI technologies in organisations ([abstract](#))

PRESENTER: [Nigel Walton](#)

10:25 [Liyue Chen](#), [Jielan Ding](#), [Donghuan Song](#) and [Zihao Qu](#)

Exploring Scientific Contributions through Citation Context and Division of Labor ([abstract](#))

PRESENTER: [Liyue Chen](#)

10:50 [Laura M. Berensmeier](#), [Andre Herzberg](#) and [Martin G. Moehrle](#)

Assessing Frugal Inventions by means of Generative Artificial Intelligence ([abstract](#))

PRESENTER: [Andre Herzberg](#)

10:00-11:15 Session 4B: Leveraging Large Language Models (LLMs)

CHAIR: [Jue Wang](#)

LOCATION: [Lux](#)

10:00 [Alexander Sternfeld](#), [Andrei Kucharavy](#), [Dimitri Percia David](#), [Julian Jang-Jaccard](#) and [Alain Mermoud](#)

Extracting Semantic Entity Triplets by Leveraging LLMs ([abstract](#))

PRESENTER: [Andrei Kucharavy](#)

10:25 [Niloufar Farrokhzad](#), [Mehmet Abdulhayoglu](#) and [Bart Thijs](#)

Exploring Citation Impact in Circular Economy Research: An Analysis of Expected Citations Based on LLM-Generated Lexical Similarities Between Papers ([abstract](#))

PRESENTER: [Niloufar Farrokhzad](#)

10:50 [Chunjiang Liu](#), [Yikun Han](#), [Hongshen Pang](#), [Haiyun Xu](#) and [Ziqiang Liu](#)

Study on patent function words auto extraction based on a small LLM ([abstract](#))

PRESENTER: [Chunjiang Liu](#)

11:15-11:45 Coffee Break

11:45-13:00 Session 5A: Innovative Text Mining and Technological Insights

CHAIR: [Peter Neuhäusler](#)

LOCATION: [Spektrum](#)

11:45 [Jan-Tilman Seipp](#), [David Reuschenberg](#), [Eren Özveren](#), [Matthias Meyer](#), [Felix Köhler](#), [Leonhard Hennig](#), [David Harbecke](#) and [Phuc Tran Troung](#)

Deep Learning-based Text Mining for Technology Monitoring in the Automotive Domain ([abstract](#))

PRESENTER: [David Reuschenberg](#)

12:10 [Dongmei Ye](#), [Chongjun Xi](#), [Jia Yuan](#) and [Ying Huang](#)

Conceptualizing and Identifying Technological Leapfrogging: Insights from Punctuated Equilibria Theory ([abstract](#))

PRESENTER: [Dongmei Ye](#)

12:35 [Alysson Mazoni](#), [Paula Oddone de Souza](#), [Carolina Zabini](#) and [João Maricato](#)

Computational clues for finding information in text: application for UNESCO Geoparks' documents ([abstract](#))

PRESENTER: [Alysson Mazoni](#)

11:45-13:00 Session 5B: Advancing Knowledge Discovery and Analytics

CHAIR: [Li Tang](#)

LOCATION: [Lux](#)

11:45 [Zhengyin Hu](#), [Chen Wenjie](#), [Hongshen Pang](#) and [Xiaomei Wang](#)

A knowledge graph of hematopoietic stem cell oriented to scientific knowledge discovery ([abstract](#))

PRESENTER: [Zhengyin Hu](#)

12:10 [Fabian Siekmann](#)

Enhancing Trust in Online Product Review Analytics: Designing Reviewer Behavioral Visibility for New Product Development ([abstract](#))

12:35 [Robbie Gallucci](#) and [Gareth Jones](#)

Trade Marks Text Mining ([abstract](#))

PRESENTER: [Gareth Jones](#)

13:00-14:00 Lunch

14:00-15:15 Session 6A: Advancing Knowledge Discovery and Analytics

CHAIR: [Rainer Frietsch](#)

LOCATION: [Spektrum](#)

14:00 [Duenkai Chen](#)

News Sentiment Analysis Leveraging Large Language Model for International Relation Studies ([abstract](#))

14:25 [Rainer Frietsch](#), [Torben Schubert](#), [Peipei Yang](#), [Denilton Darold](#) and [Sonia Gruber](#)

Innovation research analysis: A topic modeling of publications across countries ([abstract](#))

PRESENTER: [Denilton Darold](#)

14:50 [Jue Wang](#), [Rainer Frietsch](#), [Peter Neuhäusler](#) and [Rosalie Hooi](#)

International collaboration and high citation: Global impact or home country effect? ([abstract](#))

PRESENTER: [Jue Wang](#)

14:00-15:15 Session 6B: Analyzing Technological Structures and Ecosystems

CHAIR: [Arash Hajikhani](#)

LOCATION: [Lux](#)

14:00 [Jing Ma](#)

A Motif Based Method for Technology Structural Similarity Analysis ([abstract](#))

14:25 [Yi-Ling Lo](#), [Shihhsin Chen](#) and [Hung-Chi Chang](#)

The Evolution of the Innovation Ecosystem in the Semiconductor Industry ([abstract](#))

PRESENTER: [Hung-Chi Chang](#)

14:50 [Vincent Holst](#), [Andres Algaba](#), [Floriano Tori](#), [Sylvia Wenmackers](#) and [Vincent Ginis](#)

The Illusion of Decline: Unpacking Intrinsic Network Effects in Scientific Disruption ([abstract](#))

PRESENTER: [Vincent Holst](#)

15:15-15:45 Coffee Break

15:45-16:45 Session 7: AI: Technical Implications and Ethical Issues for Bibliometrics

Joint Panel Discussion debriefing findings from the week's concurrent events: **GTM2024** and **Workshop on Bibliometric Measures of Epistemic Change**

Moderators: Jochen Gläser and Alan Porter

Panelists: Wolfgang Glänzel, Tommaso Ciarli, Cassidy Sugimoto, and Yi Zhang

CHAIR: [Alan Porter](#)

LOCATION: [Spektrum](#)

16:45-17:00 Session 8: GTM2024 Closing Comments

LOCATION: [Spektrum](#)

18:00-21:00 Joint GTM-STI Reception

LOCATION: [Atrium](#)