



# MD4SG

## Mechanism Design for Social Good



Dear MD4SG community,

This past semester, MD4SG members have shared presentations in our **working groups**, held regular meetups during **community socials**, and created a series of **Medium articles** highlighting current topics our community has been engaged in.

MD4SG aims to **improve equality, ensure diversity and inclusion, and spark collaboration and responsible human-centered research**. The events we organize—which include virtual social events, colloquium talks, workshops, and conferences—bring together researchers and practitioners across disciplines to discuss how to shape and achieve our community's goals.

We hope you enjoy our third MD4SG Newsletter, which highlights our activities during the first half of 2022. As always, we welcome your suggestions and feedback.

MD4SG Organizers

# EVENTS

The second annual

## **ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '22)**

will take place in Washington, DC, USA, on October 6–9, 2022.

The conference stems from the Mechanism Design for Social Good (MD4SG) initiative, with the goal of highlighting work in which techniques from algorithms, optimization, and mechanism design, along with insights from the social sciences and humanistic studies, can be used to improve access to opportunity for historically underserved and disadvantaged communities.

This year's submissions come from various disciplines and domains, including civic participation, data economies, discrimination and bias, economic inequality, economic development, education, environment and climate, healthcare, housing, labor markets, and law and policy.

For more details, view the track pages:

- [Research Track](#)
- [Policy & Practice Track](#)

Check out the [proceedings](#) from our inaugural conference, EAAMO '21, which ran online in October 2021.

For more information, please visit EAAMO '22 website



# EVENTS

## ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '22)

Program Co-Chairs:

- [Elena Falchetti](#) (Federal Reserve)
- [Dina Machuve](#) (Nelson Mandela African Institution of Science and Technology)
- [Bryan Wilder](#) (Harvard University & Carnegie Mellon University)
- [Angela Zhou](#) (University of California, Berkeley & University of Southern California)

General Chair: [Sanmay Das](#) (George Mason University)

Executive Committee:

- [Rediet Abebe](#) (University of California, Berkeley & Harvard Society of Fellows)
- [Kira Goldner](#) (Boston University)
- [Maximilian Kasy](#) (University of Oxford)
- [Jon Kleinberg](#) (Cornell University)
- [Illeen Kondo](#) (Federal Reserve Bank of Minneapolis)
- [Sera Linardi](#) (University of Pittsburgh)
- [Irene Lo](#) (Stanford University)
- [Ana-Andreea Stoica](#) (Columbia University)



# EVENTS

## ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '22)

We are thrilled to welcome our keynote speakers for EAAMO '22, who bridge various expertise domains and practitioner fields.



MARCELLA ALSAN  
HARVARD UNIVERSITY  
KENNEDY SCHOOL



NEEMA IYER  
DIGITAL CIVIL SOCIETY LAB,  
STANFORD UNIVERSITY  
CENTER ON PHILANTHROPY AND CIVIL  
SOCIETY



SELLO MOKWENA  
TSHWANE UNIVERSITY  
OF TECHNOLOGY



JOHN ROEMER  
YALE UNIVERSITY



KAREN SMILOWITZ  
NORTHWESTERN UNIVERSITY





**SELECTED  
MD4SG RESEARCH**

# SELECTED PROJECT

## INTERNATIONAL SUMMER RESEARCH PROGRAM COPOCYT-MD4SG 2022



The government of the state of San Luis Potosí, Mexico, through the San Luis Potosí Council for Science and Technology (COPOCYT) has organized an international summer research program in coordination with the MD4SG Latin America and Caribbean Working Group (MD4SG-LAC). These efforts promote **high-quality education and training, with an emphasis on vulnerable groups.**

The COPOCYT-MD4SG 2022 Summer of Research Program is designed to **support Indigenous women in San Luis Potosí who are pursuing postgraduate studies by leading the creation of research projects with a social impact for Indigenous peoples.** The program aligns with efforts of COPOCYT to promote STEM studies among Indigenous women in the Huasteca region of San Luis Potosí, especially through its successful ADA scholarships for graduate studies in STEM.

ADA scholars were invited to make proposals for potential interdisciplinary projects with an emphasis on access to opportunity for Indigenous communities in Mexico. Volunteer mentors from [MD4SG-LAC](#) used these proposals as a starting point to create summer research projects with the ADA scholars, who met with their mentors virtually on a regular basis from June to August to prepare reports and poster presentations to share with participants at EAAMO. The program will also provide support for these students to travel to EAAMO and participate in the conference in person.



# SELECTED PROJECT

## INTERNATIONAL SUMMER RESEARCH PROGRAM COPOCYT-MD4SG 2022

We wish the participants, COPOCYT, and MD4SG volunteers luck with the project and hope that this is the first of many. We are grateful to be able to support this MD4SG working group initiative, which aims to increase access to high-quality education for vulnerable groups!





# WORKING GROUP PROJECTS

## FAIR RANKING: A CRITICAL REVIEW, CHALLENGES, AND FUTURE DIRECTIONS



GOURAB KUMAR  
PATRO



LORENZO  
PORCARO



LAURA  
MITCHELL



QIUYUE ZHANG



MEIKE ZEHLIKE



NIKHIL GARG

Members of the MD4SG Discrimination and Equality in Algorithmic Decision-Making Working Group Gourab Kumar Patro, Lorenzo Porcaro, Laura Mitchell, Qiuyue Zhang, Meike Zehlike, and Nikhil Garg wrote a position paper on the current state of fair rankings (Fair Ranking: A Critical Review, Challenges, and Future Directions) that has been accepted for presentation at ACM Conference on Fairness, Accountability, and Transparency (FAcCT) 2022!

The paper summarizes the position of fairness in retrieval systems. More specifically, current fair ranking (or recommendation) system mechanisms often fail to recognize several real-world nuances like delayed impacts, uncertainties in outcomes, and ecosystem behavior. Thus, one must design fairness interventions using an impact-oriented approach with a holistic and long-term view of the ranking system in mind. With regard to these issues, algorithmic impact assessment could be of help. Various applied modeling techniques and simulation frameworks can be used for impact-oriented studies of fairness in ranking systems. However, data bottlenecks and legal hurdles might challenge the efforts toward a holistic view of ranking systems fairness.



# WORKING GROUP PROJECTS

## FAIR RANKING: A CRITICAL REVIEW, CHALLENGES, AND FUTURE DIRECTIONS

### **How did you meet?**

Our first meeting was held virtually in early December 2020, as part of the Ranking and Recommendation Systems project, a subgroup of the MD4SG Bias, Discrimination, and Fairness Working Group. We are a group of ten people—some from academia (PhD students, postdocs, and an assistant professor) and others from public and private institutions—spread all over the world.

### **How did you come up with the idea?**

We spent the first two to three months meeting once every two weeks and discussing what each of us was interested in exploring. Some of us were excited to do more experimental research with recommender systems and rankings, while others were more interested in reviewing the fair ranking literature. The difference in interest was partly due to a difference in our backgrounds. However, we all agreed that one of the major limitations of the current approaches in modeling fairness is its static representation and lack of a long-term, impact-oriented perspective. In the end, we chose to take that position and start our literature review around the topic to make the project as inclusive as possible, trying to take advantage of the interdisciplinarity of our group.

### **How did you collaborate?**

Based on the initial few discussions on fairness and ranking, we started splitting the literature review into main areas and assigning one part to each group member. Then, during our meetings, we discussed the main results found. We did this back-and-forth until we started to delineate a meaningful overall structure. At some point, we also started to look at deadlines for conferences and workshops in the area of fairness in rankings. Several times we failed to prepare something submittable (often going back to review more literature) before finally submitting our work to FAccT 2022.



# WORKING GROUP PROJECTS

## FAIR RANKING: A CRITICAL REVIEW, CHALLENGES, AND FUTURE DIRECTIONS

### **What were some obstacles you faced?**

Collaborating with people with a different social, cultural, linguistic, and academic background requires a lot of effort to make everyone feel comfortable and part of the project. Small differences, for instance in the vocabulary used for describing specific issues, can also occur between people coming from different backgrounds. In addition, collaborating during a global pandemic negatively influenced how we experienced this period of our lives. Apart from that, finding suitable time slots for meetings was also a challenge, since the group members were from different continents. However, we are quite happy that we overcame these obstacles, executed the project successfully, and published a very nice position paper with a lot of insights for the future of the fair ranking domain.

### **Any other messages for the general MD4SG audience?**

During the project execution, we realized that things that were obvious for some of us were not for others, due to our different backgrounds. As part of a working group with a strong interdisciplinary culture, it was important to take little steps to make everyone comfortable in discussing our views on collective decisions.

Since MD4SG collaborations often last for a long time—during which some might finish their PhD, others might change jobs, or postdocs might become professors—members should try to come out of their disciplinary comfort zones and preferably look for long-term cross-disciplinary collaboration goals. It is always important to ensure that everyone is doing their best based on what they know and that collaborating in a MD4SG working group is first and foremost an opportunity for personal and collective growth. While our team has not been able to meet in person, with COVID-19 restrictions being phased out, we hope to see future project groups having physical meetups at events like conferences and workshops.



# WG ACTIVITIES: ENVIRONMENT

## SUMMARY OF A PRESENTATION BY AVERY HILL FOR THE ENVIRONMENT AND CLIMATE WORKING GROUP

### ZOMBIE FORESTS: LONG-TERM WILDFIRE MANAGEMENT AND CALIFORNIA'S STANDING DEAD

Since the 1930s, California's Sierra Nevada has warmed by an average of 1.2°C per year. Warming directly primes forests for easier wildfire ignition, but the change in climate also affects vegetation species composition. Different types of vegetation support unique fire regimes with distinct probabilities of catastrophic wildfire. Anticipating vegetation transitions is an important but undervalued component of long-term wildfire management and adaptation. Vegetation transitions are more likely where the climate has become unsuitable but the species composition remains static. This vegetation climate mismatch (VCM) occurs in vegetation dominated by long-lived species—like many trees in the Sierras—and can result in vegetation conversions, particularly after a disturbance like wildfire.

In this project, we produced spatially explicit estimates of VCM within conifer-dominated forests in the Sierra Nevada. Observations from the 1930s Wieslander Survey provided a foundation for characterizing the historical relationship between Sierra Nevada vegetation and climate before the onset of recent, rapid climate change. A comparison of the historical climatic niche to the modern distribution of conifers and climate shows that more than 7,500 km<sup>2</sup> of modern Sierra Nevada coniferous forests (19.5% of the total) are out of equilibrium with the current climate, 95% of which is below an elevation of 2,356 m. For every 10% decrease in modeled habitat suitability, the probability of transition from conifer forests to angiosperm-dominated vegetation increased by 9.2%.

Maps of Sierra Nevada VCM can help guide long-term land management decisions by distinguishing areas likely to transition from those expected to remain stable in the near future. This can help direct limited resources to their most effective uses—whether by protecting land or managing vegetation transitions—in an effort to maintain biodiversity, ecosystem services, and public health in the Sierra Nevada.



An aerial, top-down view of a park or garden. The image shows a network of brown, paved paths that intersect and form various shapes, including a large central square and several smaller paths. The paths are surrounded by lush green grass. The overall scene is bright and clear, suggesting a sunny day.

# **MD4SG**

## **COMMUNITY BUILDING**

# SOCIAL EVENTS

The MD4SG Community Engagement Team organizes events on a regular basis to include and encourage discussion between both junior and senior MD4SG members.

**@ROOZBEH YOUSEFZADEH**

## COMMUNITY SOCIAL EVENTS

Community social events included discussions of MD4SG-related research, as well as introductions for new members and conversations around current topics (navigating graduate school; civic participation research and applications; social good practitioners' issues and experiences; data sharing and data economies; challenges in emerging nations and under-resourced settings; discrimination, bias and equity in algorithmic decision-making; social and economic inequality; environment and climate, etc.). We host community-wide socials bimonthly on Discord, as well as affinity socials, book clubs, movie screenings, and more. [Join us!](#)

Keep an eye out for our regional socials in July, which will feature four separate socials focused on Africa and the Middle East, Asia-Pacific, Europe, and Latin America and the Caribbean!

**@JESSICA FINOCCHIARO**

## EAAMO PAPER EXCHANGE

To help our members with their research, we organized a paper exchange for EAAMO '22 submissions. The idea behind this initiative was to match our members and do a paper exchange to **get feedback on their current papers**, regardless of seniority level or area of work.

Our efforts aim to nurture a peer review-like community to help with the writing process, generate ideas, improve oral and written communication, and develop skills to give and receive constructive feedback, aligned with our research community's goals and values.





# SOCIAL EVENTS

The MD4SG Community Team organizes events on a regular basis to include and encourage discussion between both junior and senior MD4SG members.

**@LOGAN STAPLETON**

## MD4SG EC MEETUP

**@CORINNA HERTWECK**

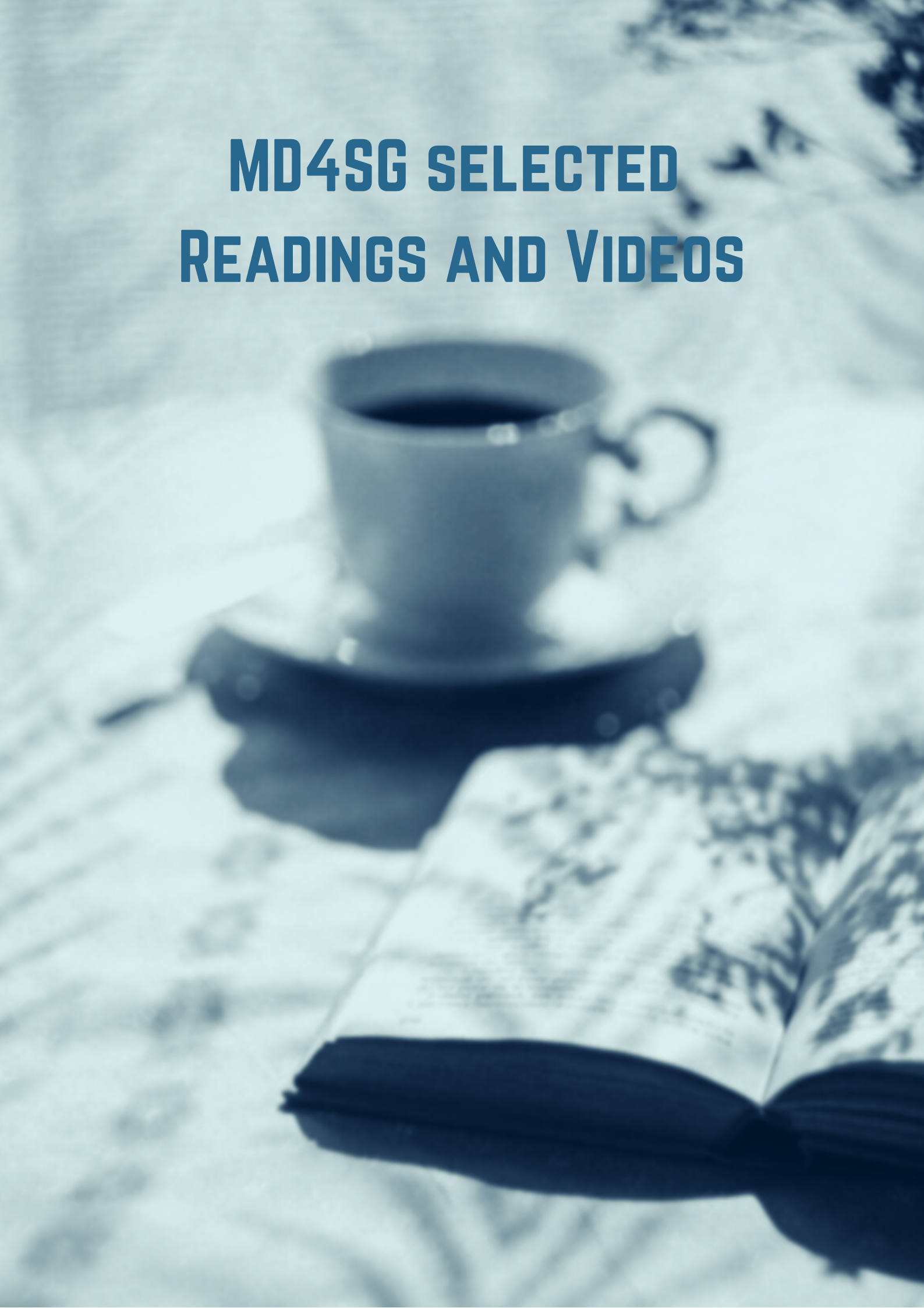
[Logan Stapleton](#) and [Corinna Hertweck](#) organized a **meetup at EC '22**, a conference that showcases advances in theory, empirics, and applications at the interface of economics and computation, which took place on **July 11-15, 2022**. The MD4SG meetup at EC '22 occurred **both online and in person**. If you want to socialize and discuss EC-related topics with us, follow the information on the [Slack channel](#) and [Google Group](#).

Among the efforts to engage our community and promote diversity and interdisciplinarity in our work, Renzhe Yu and Sakina Hansen are working on piloting a mentorship program to connect new/junior MD4SG members with established/senior members. Ofentse Rice has been working on building up a joint community social event with CMU Africa. Sara Kingsley has been coordinating MD4SG accessibility efforts to make our online platforms more accessible for all of our members. Within the [MD4SG Community Survey](#), an entire subsection devoted to **accessibility and disability inclusion** aims to assess how accessible and welcoming the technologies MD4SG used for various events have been and find technologies and platforms to make our community more welcoming for disabled members or persons living with disabilities.

We welcome and encourage feedback from the MD4SG community about additional steps we can take to make social events accessible to persons with disabilities. Please email [community@md4sg.com](mailto:community@md4sg.com) with any questions or recommendations. We hope to have you join us at our next event!



# **MD4SG SELECTED READINGS AND VIDEOS**



# MD4SG COLLOQUIUM TALKS



INGMAR WEBER

QATAR COMPUTING RESEARCH INSTITUTE

## COLLECTED FOR PROFIT, REPURPOSED FOR SOCIAL GOOD: USING ADVERTISING DATA TO MONITOR INTERNATIONAL DEVELOPMENT

Most of the big internet companies generate their revenue from targeted advertising. To offer advertisers advanced targeting capabilities, these companies collect large amounts of user data to build elaborate customer profiles. Based on these profiles, an advertiser can then choose the target group.

To help advertisers plan their advertising campaigns and related budget needs, the advertising platforms provide so-called audience estimates on how many of their users match the provided targeting criteria. In this talk, and in close collaboration with different UN agencies, you can see how these audience estimates are used to (i) monitor international migration, (ii) track digital gender gaps, and (iii) map wealth inequalities.

Data derived from the advertising platforms can provide valuable information that is complementary to other data sources, meaning that data collected for the explicit purpose of selling advertisements and maximizing profits can be repurposed for social good. At the same time, the work shows the risk of identifying vulnerable groups, rather than individuals, which is often not adequately considered in discussions focused on individual privacy. Furthermore, it raises questions on what the relationship between internet giants and statistical offices should be.

[YouTube link](#)



# MD4SG COLLOQUIUM TALKS



SAIPH SAVAGE  
NORTHEASTERN UNIVERSITY

## THE FUTURE OF AI FOR SOCIAL GOOD

The A.I. industry has powered a futuristic reality of self-driving cars and voice assistants to help us with almost any need. However, it has also created systematic challenges. For instance, while it has led to platforms where workers label data to improve machine learning algorithms, research has shown that these workers earn less than minimum wage.

We are also seeing the surge of AI algorithms that privilege certain populations and exclude others based on race. If we were able to address these challenges, we could create greater societal justice and enable AI that better addresses the needs of many people, especially groups we have traditionally excluded. In this talk, Saiph Savage discusses some of the urgent global problems that her research has uncovered from the AI industry.

In addition, we discuss how we can start to address these problems through the proposed "AI for Good" framework. The framework uses value-sensitive design to understand people's values and rectify harm. We have seen case studies in which this framework is used to design AI systems that improve the labor conditions of the workers operating behind the scenes in our AI industry. The talk concludes by presenting a research agenda for studying the impact of AI in society and researching effective socio-technical solutions in favor of workers.

[YouTube link](#)



# MD4SG COLLOQUIUM TALKS



SAMARA TRILLING  
JUSTFIX



JOHANNA MONGE  
JUSTFIX



DANIEL WALDINGER  
NEW YORK UNIVERSITY

## TYPE THREE SOCIAL CHANGE: TECH'S ROLE IN TENANT ORGANIZING AT JUSTFIX

JustFix's work building anti-eviction web apps early in the pandemic led us to change our philosophy on how tech can best serve tenants. We experienced the mismatch between legislative and software development cycles (not the way you'd think!), the limits of organizing within the system, and the power of open data to put external pressure on bad landlords and brokers. In this talk, we preview some of JustFix's new tool ideas that fit this "type three" paradigm of working outside existing systems to push for housing justice.

The discussion is moderated by Daniel Waldinger, bridging social, economic, and policy perspectives on public housing allocation.

[YouTube link](#)



# INTERVIEW WITH KATIE BRIDGES

JESSICA FINOCCHIARO AND THE CONVERSATIONS  
WITH PRACTITIONERS WORKING GROUP



KATIE BRIDGES



JESSICA FINOCCHIARO

Katie Bridges is a senior business intelligence analyst for the city of Boulder, Colorado, who has a passion for using data to inform decision-making in the public sphere. In addition to her professional role, Katie conducts training sessions for community members on data literacy. Communicating insights from data effectively is a skill that requires practice and creativity.

Katie explains that one way to improve data communication is through anonymized open datasets. For example, Katie has worked on the Open Data Hub in Boulder. Citizens can use open data to take their questions into their own hands.

To get a sense of what data is needed, Katie explains that in the case of the city of Boulder, outreach teams communicate data usage to residents in accessible ways, such as by handing out pamphlets. A racial equity program manager, neighborhood liaison, and communication liaison work together to ensure **all voices in the community are heard**. However, it is a **tremendous challenge to make open data available to everyone**, including residents without computer or internet access.

As far as data analytics, due to resource constraints, the public sector mostly focuses on **analysis rather than prediction**. Although some projects have started to use prediction, trying to determine where interventions might be necessary in the future requires building out a data warehouse.

We would again like to thank Katie for her insights!

Read the article





# INTERVIEW WITH GESINE REINICKE

KRISTEN SCOTT AND THE CONVERSATIONS  
WITH PRACTITIONERS WORKING GROUP



GESINE REINICKE



KRISTEN SCOTT

Gesine Reinicke is a training coordinator with SprInt, an education project that trains unemployed refugees and migrants as language and integration mediators (Sprach- und Integrationsmittler/-innen = SprInt).

Each SprInt program cycle includes ten to fifteen participants whose circumstances precluded them from integrating into the German job market. The goal is to improve the participants' knowledge of the German language and public institutions so they can **provide guidance to refugees and immigrants in three main sectors: education, social services, and health.**

However, challenges in the nonprofit sector are often financial. Administrative tasks are demanding and impact interactions with participants and project partners. Additionally, the financing structure can lead to unexpected, and even counterintuitive, outcomes.

As a practitioner, Gesine is concerned that there is too little research that draws on practical experience. Her advice for researchers is to do an internship with an organization that tackles the problems they want to study. Not only would it help them understand problems that cannot be easily theorized, but it would also give them an idea of the problems' complexity.

We thank Gesine for her insightful and inspiring conversation and for sharing her experiences with our Conversations with Practitioners Working Group and MD4SG.

[Read the article](#)



# HIGHLIGHTING OUR COMMUNITY'S IMPACT ON GLOBAL HEALTH

The topic of global health has been at the top of everyone's mind for the past few years due to the unprecedented damage wreaked by the COVID-19 pandemic. Now, as the world begins to slowly emerge from the heart of the crisis, the global research community continues its effort to turn attention toward the critical public health issues that affected the world's population well before the advent of the pandemic.

MD4SG researchers from various disciplines have long shared a common interest in healthcare and have previously worked on projects that push the frontiers of healthcare research at the intersection of computer science, operations research, and economics. Our members also helped to identify ways to improve fairness and efficiency in healthcare systems through market-based approaches.

On World Health Day (April 6), we **highlighted some of our members' key research projects within the area of public health.**

List of projects:

- [Large-Scale Clinical Trial of an AI-Augmented Intervention for HIV Prevention in Youth Experiencing Homelessness](#)
- [The Consequences of Medicare Pricing: An Explanation of Treatment Choice](#)
- [Socioeconomic Network Heterogeneity and Pandemic Policy Response](#)
- [Predicting No-Show Appointments in a Pediatric Hospital in Chile Using Machine Learning](#)
- [Heterogeneous Donor Circles for Fair Liver Transplant Allocation](#)
- [Optimal Testing and Containment Strategies for Universities in Mexico amid COVID-19](#)

[Read the article](#)



**MD4SG**  
**ORGANIZERS**

# ORGANIZERS



REDIET ABEBE



WANYI DAI LI



FRANCISCO  
MARMOLEJO COSSÍO



GEORGE OBAÍDO



ANA-ANDREEA  
STOICA



LILY XU



# MD4SG INITIATIVE-WIDE LEADERS



JESSICA FINOCCHIARO

Jessica Finocchiaro is a PhD candidate in the CS Theory Group at CU Boulder. From March 2020 to August 2021, she was a working group co-organizer for the Discrimination and Bias Working Group. She currently is a Community Engagement colead alongside Logan Stapleton.

Nikhil Garg is an assistant professor of Operations Research and Information Engineering (ORIE) at Cornell Tech. He received his PhD from Stanford University in 2020. He has been serving as the colead of the MD4SG working groups since November 2020.



NIKHIL GARG



LOGAN STAPLETON

Logan Stapleton is a PhD student in computer science at the University of Minnesota. He served as the Social cochair for the EAAMO '21 and workshop MD4SG '20 and has served as the Community Engagement colead since October 2020.

Bhushan Suwal is currently studying for a PhD in computer science at Boston University. He is interested in statistics and computational social science. He is a recent graduate of Tufts University, where he majored in computer science.



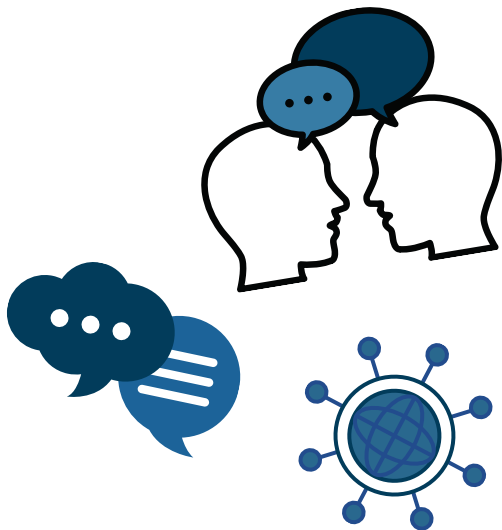
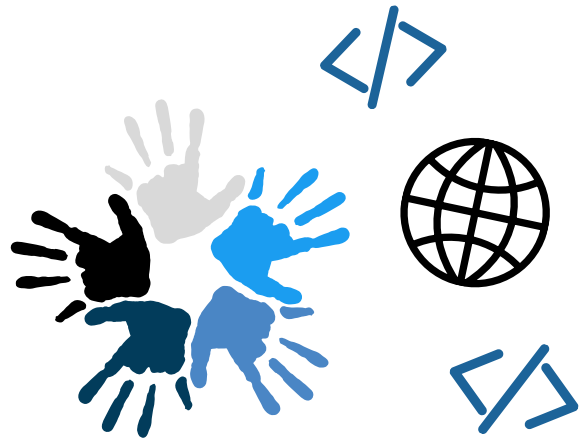
BHUSHAN  
SUWAL



# MD4SG LEADERSHIP

## MEMBERSHIP

- [Kehinde Aruleba](#) (New Membership)
- [Sritej Attaluri](#) (Website)
- [Daniela Cialfi](#) (Website)
- Gustavo Dias (New Membership)
- [Jude Imuede](#) (New Membership)
- Ifeoma Okoh (WG Membership)
- [Sandro Radovanović](#) (Website)

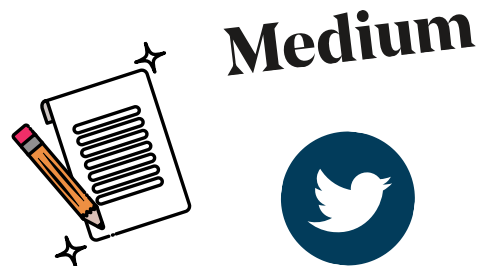


## COMMUNITY ENGAGEMENT

- [Andrés Abeliuk](#) (Regional LAC)
- Laadi Ayisheatu Salifu (Subcommunity)
- [Patricia Cabero Tapia](#) (Regional LAC)
- [Sakina Hansen](#) (Regional Europe)
- [Corinna Hertweck](#) (Regional Europe)
- Zainab Jamil (Regional Asia)
- [Sara C. Kingsley](#) (Accessibility)
- Rediet Moges (Regional Africa)
- Aaron Redda (Subcommunity)
- [Ofentse Rice](#) (Regional Africa)
- [Roozbeh Yousefzadeh](#) (Regional Middle East and North Africa)
- [Renzhe Yu](#) (Mentorship)

## SOCIAL MEDIA

- [Alex DiChristofano](#) (Social Media Lead)
- [Mir Masood Ali](#) (Twitter Manager)
- [Sandro Radovanović](#) (Communication)
- [Amita Shukla](#) (*Medium* Contributor)
- [Rhea Tibrewala](#) (Social Media Lead)





# WORKING GROUPS

The MD4SG Civic Participation Working Group addresses a key issue in the social and community context domain. Civic participation encompasses a wide range of formal and informal activities. Examples include voting, volunteering, participating in group activities, and community gardening.

## CIVIC PARTICIPATION

WORKING GROUP ORGANIZERS

PAUL GÖLZ

ANSON KAHNG

## CONVERSATIONS WITH PRACTITIONERS

The MD4SG community aims to bridge research and practice, but researchers have few opportunities to connect with practitioners. The aim of the MD4SG Conversations with Practitioners Working Group is to learn from practitioners. We want to know their stories, understand their challenges, and discover if tools from mechanism design apply to their domain.

WORKING GROUP ORGANIZERS

MATTHEW OLCKERS

KRISTEN SCOTT

The MD4SG Data Economies Working Group aims to better understand the challenges that arise across the data pipeline—from creation, ownership, accessibility, and sharing to data analysis and use. We are especially interested in understanding how access and sharing affect the benefits of the global data economy and whether benefits are distributed evenly among communities in the Global North and South.

## DATA ECONOMIES

WORKING GROUP ORGANIZERS

ALI ALKHATIB

CHARLES CUI



# WORKING GROUPS

## DEVELOPMENT

The MD4SG Development Working Group fosters collaboration and discussion among practitioners and academics to understand and tackle issues pertaining to the role and application of technology in addressing challenges in emerging nations and under-resourced settings. We study how techniques from algorithm and mechanism design, computational social science, and optimization can inform and help advance existing development policies and practices.

WORKING GROUP ORGANIZERS

TEJÚMÁDÉ ÀFÒNJÁ  
ILLENIN KONDO

Algorithms are often used to supplement or make decisions in a way that “optimizes” some objective; often these decisions are made under limited resource constraints specific to the given domain. The MD4SG Discrimination Working Group focuses on understanding how these optimization choices, constraints, and mechanisms impact different stakeholders of algorithmic systems.

## DISCRIMINATION

WORKING GROUP  
ORGANIZERS

SAMUEL GALLER  
RICHARD LANAS PHILLIPS

## ENVIRONMENT AND CLIMATE

The MD4SG Environment and Climate Working Group aims to address environmental challenges, particularly those that exacerbate the climate crisis, through the lens of computational and economic lenses. We are a diverse group of researchers from a variety of academic disciplines and geographic locations.

WORKING GROUP  
ORGANIZERS

ANDREW ROBERTS  
MATTHEW VONALLMEN



# WORKING GROUPS

## INEQUALITY

The MD4SG Inequality Working Group studies how optimization, incentive design, and machine learning can mitigate or magnify social and economic inequality. We are especially focused on provision and targeting of social programs: When and how should resources be directed specifically to the most vulnerable members of the population? How should these individuals be selected?

WORKING GROUP  
ORGANIZERS

SERA LINARDI  
CHIKA OKAFOR  
SAMUEL TAGGART

The MD4SG Latin America and Caribbean Working Group aims to develop a new topical focus on issues relevant to the region. This semester's focus will be on addressing challenges through a social cohesion and integration lens. Major themes include migration (especially the Venezuelan diaspora) and education.

## LATIN AMERICA AND CARIBBEAN

WORKING GROUP  
ORGANIZERS

MICHELLE GONZÁLEZ AMADOR  
FRANCISCO MARMOLEJO COSSÍO  
JUAN FELIPE PENAGOS  
TILSA ORÉ MÓNAGO

## ALGORITHMS, LAW, AND POLICY

The MD4SG Algorithms, Law, and Policy Working Group focuses on the complex relationship between algorithms and mechanisms on the one hand and law and policy on the other hand. Some of the topics the group will work on include but are not limited to free speech, content moderation, antitrust, the use of "black box" machine learning models, data-driven algorithms, and decision-support tools.

WORKING GROUP  
ORGANIZERS

FERNANDO DELGADO  
AYSE GIZEM YASAR



IF YOU ARE INTERESTED IN THIS  
MISSION

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For any questions or thoughts, contact us at [organizers@md4sg.com](mailto:organizers@md4sg.com)  
and share your suggestions for future colloquium speakers at this [link](#).

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