2022 ISMS Doctoral Consortium

Wednesday, June 15th, 2022 (EDT)

Hosted by ISMS and Yale School of Management

Brief Schedule

Zoom Meeting Link for AM: Click Here

Meeting ID: 999 9706 7437

10:30 AM - 10:45 AM (EDT)	**Welcome Remarks** Jiwoong Shin, *VP of Education, ISMS* Kusum Ailawadi, *President of ISMS*
10:45 AM - 11:45 AM (EDT)	**The Art of Publishing: A Panel Discussion** Sachin Gupta (JMR, Cornell) David Schweidel (IJRM, Emory) Shrihari Sridhar (JM, Texas A&M) Thomas Otter (QME, Goethe Univ) Raphael Thomadsen (Management Science, WashU) Olivier Toubia (Marketing Science, Columbia)
11:45 AM - 12:00 PM (EDT)	**History of Marketing Science and ISMS** Russ Winer (NYU Stern)
12:00 PM - 12:30 PM (EDT)	**Lunch Break**
12:30 PM - 12:45 PM (EDT)	**MSI** Earl Taylor: MSI Chief Knowledge Officer
12:45 PM - 1:00 PM (EDT)	**Award Ceremony** Kusum Ailawadi, *President of ISMS* ISMS Doctoral Dissertation Award Winners from 2021: Ziwei Cong (Hong Kong University of Science and Technology) Zheng Gong (University of Toronto) Runshan Fu (Carnegie Mellon University) Wei Lu (University of Toronto) Alexey Sinyashin (UC Berkeley) ISMS Early-Stage Research Grant Winners from 2021: Rupali Kaul (Stanford University) Youngtak Kim (University of Georgia) Xinyao Kong (University of Chicago) Jiaqi Shi (UC Irvine) Chutian Wang (University of Maryland)

1:00 PM - 2:15 PM (EDT)	**Session 1** **Presentation A:** *What Makes Theory Work Exciting?* Anthony Dukes (USC), Krista Li (Indiana), Dmitri Kuksov (UTD) (Zoom Link Here, Meeting ID: 932 2068 3440) **Presentation B:** *Bayesian Methods in an Era of New Technology and Big Data* Greg Allenby (OSU), Eric Bradlow (Wharton), Sha Yang (USC) (Zoom Link Here, Meeting ID: 956 5498 3383) **Presentation C:** *Field Experiments: Methods and Findings* Tat Chan (WashU), Noah Lim (NUS), Dina Mayzlin (USC) (Zoom Link Here, Meeting ID: 923 5106 5271)
2:15 PM - 2:30 PM (EDT)	Break
2:30 PM - 3:45 PM (EDT)	**Session 2** **Presentation A:** *Algorithm, Game Theory, and Marketing Strategy: Fun and Games with Algorithms!* Ganesh Iyer (Berkeley), Woocheol Shin (Florida), Juanjuan Zhang (MIT) (Zoom Link Here, Meeting ID: 987 0667 3247) **Presentation B:** *Opportunities and Challenges in AI/ML in marketing* Avi Goldfarb (Toronto), Olivier Toubia (Columbia), K. Sudhir (Yale) (Zoom Link Here, Meeting ID: 988 5483 4112) **Presentation C:** *Digital Recommendation Systems and Product Design* Anocha Aribarg (Michigan), Nitin Mehta (Toronto), Yanwen Wang (UBC) (Zoom Link Here, Meeting ID: 945 2750 5816)
3:45 PM - 4:00 PM (EDT)	Break
4:00 PM - 5:15 PM (EDT)	**Session 3** **Presentation A:** *Making Sense of Image, Audio and Video Data* Daria Dzyabura (NES), Oded Netzer (Columbia), Puneet Manchanda (Michigan) (Zoom Link Here, Meeting ID: 957 3921 6524) **Presentation B:** *ML, Algorithm and Personalization* Anja Lambrecht (LBS), Sanjog Misra (Chicago), Hema Yoganarasimhan (Univ of Washington) (Zoom Link Here, Meeting ID: 967 7577 4266) **Presentation C:** *Research Collaboration with Industry* JP Dube (Chicago), Harikesh Nair (Google), Baohong Sun (CKGSB) (Zoom Link Here, Meeting ID: 937 5973 0486)

Morning Sessions (10:00 a.m. - 1:00 p.m. EDT)

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/99997067437

Meeting ID: 999 9706 7437

International numbers available:
https://yale.zoom.us/u/abdJ6wwxP

The Art of Publishing: A Panel Discussion with Editors

Discussion Leaders: Sachin Gupta (JMR), David Schweidel (IJRM), Shrihari Sridhar (JM), Thomas Otter (QME), Raphael Thomadsen (MS), Olivier Toubia (MKS)

History of Marketing Science and ISMS

Discussion Leader: Russ Winer

The field of marketing science has a rich history of modeling marketing phenomena using the disciplines of economics, statistics, operations research, and other related fields. This history has not gone previously unnoticed. A number of fascinating retrospective articles about the origins of the field of marketing science authored by some of its pioneers appeared in a special section of the Fall 2001 issue of Marketing Science.

An article by Steckel and Brody highlighted the importance of understanding the history of any field. They noted three reasons: (1) understanding our history is just simply interesting as would be finding our genealogical roots; (2) history helps us to better understand how a field evolves and why it is where it is now, and (3) history also aids of predictions of where a field is headed.

The purpose of this talk is to highlight the events, people, and institutions that constitute the history of marketing science and have led us to our current status as providing a rigorous structure to better understand marketing phenomena.

MSI (Marketing Science Institute)

Discussion Leader: Earl Taylor, MSI Chief Knowledge Officer

Award Ceremony

Discussion Leaders: Kusum Ailawadi, President of ISMS (Tuck School at Dartmouth).

Award Winners from 2021

2021 ISMS Doctoral Dissertation Proposal Award Winners:

Ziwei Cong (Hong Kong University of Science and Technology) – Vithala R. and Saroj V. Rao ISMS Doctoral Dissertation Award

"Monetizing User-Generated Content: Design and Incentive"

Zheng Gong (University of Toronto) – Sheth Foundation ISMS Doctoral Dissertation Award

"Growing Influence"

Runshan Fu (Carnegie Mellon University) – ISMS Doctoral Dissertation Award

"How Does Estimate Affect Housing Market Outcomes Across Socio-economic Segments?"

Wei Lu (University of Toronto) – ISMS Doctoral Dissertation Award

"Reputation, Product Development and Platform Design"

Alexey Sinyashin (UC Berkeley) – ISMS Doctoral Dissertation Award

"Optimal Policies for Differentiated Green Products: Characteristics and Usage of Electric Vehicles"

2021 ISMS Doctoral Dissertation Early Stage Research Grant Winners:

Rupali Kaul (Stanford University)

Youngtak Kim (University of Georgia)

Xinyao Kong (University of Chicago)

Jiaqi Shi (UC Irvine)

Chutian Wang (University of Maryland)

Session 1 (1:00 p.m. - 2:15 p.m. EDT)

What Makes Theory Work Exciting?

Discussion Leaders: Anthony Dukes, Krista Li, Dmitri Kuksov

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/93220683440

Meeting ID: 932 2068 3440

International numbers available:
https://yale.zoom.us/u/ab3nFu1beE

What makes theory work exciting? Answer: Theorists. This session explores the traits of good theory work in marketing from the perspective of active researchers in the field.

Discussion leaders will present their latest research and share insights on choosing topics and theoretical methods.

Bayesian methods in an era of new technology and big data

Discussion Leaders: *Greg Allenby, Eric Bradlow, Sha Yang*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/95654983383

Meeting ID: 956 5498 3383

International numbers available:
https://yale.zoom.us/u/abdJ6wwxP

While many scholars and practitioners believe that "big data" obviates the need for Bayesian methods, which "thrives" when data are sparse, nothing could be further from the truth.

Neither increased volume of measurement (big data), nor increased precision, frequency and ubiquity of measurement (technology-enabled data) reduce the need for methods that allow for priors, provide finite sample inferences, and an understanding of the full posterior distribution.

In this session, we provide a number of rich examples of Bayesian methods that will provide both an understanding of how they work, their computational advantages (and challenges) and why their application was both needed and managerially important.

Field Experiments: Methods and Findings

Discussion Leaders: Tat Chan, Noah Lim, Dina Mayzlin

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/92351065271

Meeting ID: 923 5106 5271

International numbers available: https://yale.zoom.us/u/ad150oi0jB

In this session we discuss several recent developments, both methodological and substantive, that relate to field experiments.

First, when randomization of treatment status is infeasible, we propose a novel experimental design, built upon the instrumental variable approach, to overcome such challenges. Three studies on online platforms are used as demonstrations.

Second, we present work featuring randomized field experiments and/or quasi- field experiments on the topic of behavioral nudges.

Finally, we present a field experiment that relates to online reviews.

Session 2 (2:30 p.m. - 3:45 p.m. EDT)

Algorithm, Game Theory, and Marketing Strategy: Fun and Games with Algorithms! Theoretical foundations of algorithmic learning in strategic interactions and in markets

Discussion Leaders: *Ganesh Iyer, Woocheol Shin, Juanjuan Zhang*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/98706673247

Meeting ID: 987 0667 3247

International numbers available:
https://yale.zoom.us/u/adKyHyu6Hk

This talk will discuss how theory can enable the development of optimal algorithmic design and examine strategic decision making using algorithms.

Presentations will provide examples of constructing theory to distill meaning from unorganized data, developing theoretical micro-foundations to understand machine learning architectures, and modeling strategic agent behavior to make machine learning explainable and accountable.

It will present important examples of marketing strategy (such as competitive targeting and pricing, online advertising) in the presence of algorithmic decision making by firms.

Opportunities and Challenges in AI/ML in marketing

Discussion Leaders: *Avi Goldfarb, Olivier Toubia, K. Sudhir*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/98854834112

Meeting ID: 988 5483 4112

International numbers available:
https://yale.zoom.us/u/abdJ6wwxP

AI/ML offers a wide range of application opportunities in marketing, but there are also barriers and challenges to achieve its full potential.

This session will discuss research on (i) explainable AI; (ii) ethical issues (e.g., privacy, bias) in AI use; and (iii) system level changes necessary to realize AI's potential.

Digital Recommendation Systems and Product Design

Discussion Leaders: *Anocha Aribarg, Nitin Mehta, Yanwen Wang*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/94527505816

Meeting ID: 945 2750 5816

International numbers available: https://yale.zoom.us/u/avW8TXE0N

We will discuss topical issues related to recommendation systems and product design in digital markets. We will first discuss two important issues related to digital recommendation systems.

First, while previous research has shown that fake reviews can bias consumer choices, we ask the opposite: can consumers make biased decisions even when reviews are unbiased? We show that consumers may fall prey to confirmation bias by selecting and interpreting reviews to support choices they already want to make.

Second, we look at live-streaming videos on E-commerce platforms, a new form of video-based product reviews. We discuss whether and to what extent live-streaming videos impact the product sales, and whether this impact varies across different brands and across different types of hosts.

Finally, we will discuss an important design issue related to serialized media content: should a platform release all the content of a serial simultaneously to its consumers or should it release it sequentially over time, or should it follow a hybrid strategy where it releases a fraction of the content simultaneously and the rest sequentially?

Session 3 (4:00 p.m. - 5:15 p.m. EDT)

Making Sense of Image, Audio and Video Data

Discussion Leaders: *Daria Dzyabura, Oded Netzer, Puneet Manchanda*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/95739216524

Meeting ID: 957 3921 6524

International numbers available:
https://yale.zoom.us/u/ad9opW9bpc

Marketing academics and practitioners today are faced with new types of data. Rather than simply transactions or structured product attributes, our models must incorporate data such as text, image and video in order to accurately capture the underlying process.

While images have always been an important part of firms' marketing efforts, recent technical advances and the rise of digital platforms enhanced consumers' ability to take and share images and videos, and led to a tremendous increase in the importance of visual communication. Social media outlets have become more image rich, new versions of mobile phones have enhanced ability to take, store, and share photos, and storage and communication infrastructures have become more accessible. These processes have increased the significance of images in consumer life in general, and in marketing in particular.

The abundance of visual data, together with the development of image processing tools and advanced modeling techniques, provides unique opportunities for marketing researchers, in both academia and practice. However, with the opportunity come challenges.

In this session, we will discuss how to conduct rigorous quantitative analysis combining different forms of unstructured data using machine learning and econometric methods.

ML Algorithm and Personalization

Discussion Leaders: *Anja Lambrecht, Sanjog Misra, Hema Yoganarasimhan*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/96775774266

Meeting ID: 967 7577 4266

International numbers available:
https://yale.zoom.us/u/abdJ6wwxP

Effective personalization at scale remains the ultimate holy grail for marketers and has drawn interest from both academics and practitioners for a long period of time. Nevertheless, until recently, individual-level personalization at scale was, at best, a

theoretical possibility. With advances in computing power and data storage, combined with the theoretical developments at the intersection of machine learning and causal inference, we are now closer than ever, to achieving this goal.

A growing body of research over the last few years, spanning marketing, computer science, economics, and statistics, has collectively attacked this problem from various angles and provided us with solutions that are both theoretically well-founded and practically feasible.

In this session, the speakers will talk about the recent developments at the intersection of machine learning, algorithms, and personalization based on their research in this area.

Research Collaboration with Industry

Discussion Leaders: *JP Dube, Harikesh Nair, Baohong Sun*

Join from PC, Mac, Linux, iOS or Android:
https://yale.zoom.us/j/93759730486

Meeting ID: 937 5973 0486

International numbers available: https://yale.zoom.us/u/aqVoT8Nrn

To obtain novel and granular data, marketing academics are increasingly collaborating directly with individual businesses on peer-reviewed, scientific research. These collaborations can be a win-win opportunity for the researcher to obtain novel data and for the business to gain cutting-edge insights using state-of-the-art methods and conceptual logic. The researcher can also benefit by learning the specific "big questions" being asked by practitioners, which often diverge from current academic trends.

Ideally, the collaboration provides a timely "proof-of-concept" of the real-world impact of marketing science on business performance. We will also provide tips on how to develop a working relationship with a company without compromising the integrity of the scientific inquiry.

In particular, privacy issues associated with increasingly granular company data can create problematic incentives, especially if some "results" could put the corporate partner in a difficult position from a shareholder, PR and/or legal perspective. Of particular concern are contractual arrangements that grant ex post veto rights to the corporate partners or that might require censorship of certain results.