

*American Statistical Association Casualty Actuarial Society *International Biometric Society (ENAR and WNAR) International Chinese Statistical Association International Indian Statistical Association *Institute of Mathematical Statistics International Society for Bayesian Analysis International Statistical Institute Korean International Statistical Society Royal Statistical Society *Statistical Society of Canada

*Indicates the founding societies of JSM



Explore the program via the official JSM 2019 app!

Sponsored by IBM

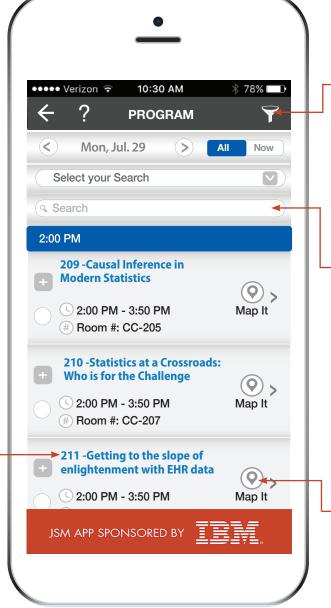


Looking for the complete JSM program schedule and abstracts? Just click the Program icon!

Scroll through all JSM sessions, the Professional Development program, business and committee meetings, and JSM hours and events by day.

Want to read a speaker's abstract before attending their talk? Tap

on the session title and you will see all the speaker abstracts for the session, including their start times.



AVAILABLE **FREE** ON GOOGLE PLAY AND THE APP STORE.



Need to know when speed sessions are taking place?

- Simply select "Contributed Speed" from the filter options—and *voila!*
- Trying to find something specific? Search for a speaker or find an abstract via keyword or session title.

You can even filter your search for specific sponsors or session type!

Not sure where a room is located? just

hit the "Map It" icon and the app will show you.

Don

Don't forget to leave feedback

about the presentations you see. Just click the "Thumbs-Up" icon above the abstract text in the app.

Good to Know

JSM OCENT AND HERE TO HELP! DO Questi learn th

DOCENT PROGRAM

Questions? New to JSM? Find a JSM docent to help you learn the ropes. JSM docents are experienced JSM attendees wearing an orange button (pictured) who can help you make the most of your experience.



Password: abbvie19

PLEASE READ

the complete conduct policy before attending: www.amstat.org/ASA/ Meetings/Meeting-Conduct-Policy.aspx.

Emergency Telephone Messages

In case of emergency, messages may be left during registration hours by calling (303) 228-8325. We will attempt to contact the registrant using the contact information provided in their registration.

Assistance for Those with Disabilities

Please contact a staff member at the Help Desk in the registration area if you have a disability that may impede your participation.

Child Care

Kiddie Corp is the official child care provider for JSM 2019.

Arrangements should have been made in advance. Please contact Kiddie Corp at (858) 455-1718 or *info@kiddiecorp.com* for any questions or possible availability.

Policies Electronic Devices

All cell phones, pagers, and other electronic devices should be silenced before attending any session or meeting.

Smoking

Smoking is not permitted at any JSM function, unless the event is held outside.

Recycling

The Colorado Convention Center has single stream recycling throughout the facility and a back of house compost collec-

tion program to help minimize the amount of materials hauled to landfills. In addition, there is



an advanced donation program for left-over conference materials. Items collected are stored in an onsite reclaim room and offered to local organizations for use.

Activities Conduct Policy

As a professional society, the American Statistical Association (ASA) is committed to providing an atmosphere that encourages the free expression and exchange of ideas. Consistent with this commitment, it is the policy of the ASA that all participants in ASA activities will enjoy a welcoming environment free from unlawful discrimination, harassment, and retaliation. All participants in ASA activities also agree to comply with all rules and conditions of the activities, which are subject to change without notice.





JSM Proceedings

Eligibility guidelines and author instructions for JSM 2019 presenters are available at www. *amstat.org/meetings/jsm/* 2019/proceedings.cfm. The submission site will be open August 27, 2019, through September 30, 2019 (11:59 p.m. EDT).

JSM CHALLENGE

Take the JSM Challenge via the JSM 2019 app! Earn points for each question you answer and task you complete to win prizes at the end of the week! The JSM Challenge runs Saturday through Thursday, with new questions and tasks each day. Prizes will be awarded to the top four participants on the leaderboard within the JSM app as of noon Thursday. And if enough attendees participate, we'll add glow sticks to the JSM Dance Party!

Don't miss out on the opportunity to have fun and win great prizes! Download the JSM app from Google Play or the App Store. For all other devices, a web version is available at www.tripbuilder.net/html5/jsm2019.







About DiDi Chuxing

Didi Chuxing is the world's leading mobile transportation platform. DiDi is committed to work with communities and partners to solve the world's transportation, environmental and employment challenges using big data-driven deep-learning algorithms. By continuously improving the user experience and creating social value. DiDi strives to build an open, efficient, and sustainable transportation ecosystem.

DiDi @ JSM 2019

DiDi will present at JSM 2019 with Invited Paper, Contributed Papers, Poster & Oral Presentations, Booth Talks, and Career Services.

Meet us at booth #335 and chat with our researchers!

Find out more online at www.didiglobal. com





Hours of Operation

Registration and ASA Membership/Help Desk/Press Desk CC-D Lobby

Saturday 7:30 a.m. – 6:00 p.m.

Sunday 7:30 a.m. – 8:30 p.m.

Monday – Tuesday 7:30 a.m. – 6:00 p.m.

Wednesday 7:30 a.m. – 4:30 p.m.

Thursday 7:30 a.m. – 10:30 a.m.



Sunday 9:00 a.m. – 7:00 p.m.

Monday – Wednesday 7:00 a.m. – 6:00 p.m.

Thursday 7:00 a.m. – 10:30 a.m.

Career Service CC-Hall D

Saturday 9:00 a.m. – 5:00 p.m. (Pre-registered attendee badge pick-up and onsite registration only)

Sunday 1:00 p.m. – 6:00 p.m.

Monday – Tuesday 8:00 a.m. – 5:30 p.m.

Wednesday 8:00 a.m. – 2:30 p.m. (onsite registration closes at noon)

EXPO 2019 and ASA Store CC-Hall C

Sunday 1:00 p.m. – 6:00 p.m. 8:30 p.m. – 10:30 p.m.

Monday – Tuesday 9:00 a.m. – 5:30 p.m.

Wednesday 9:00 a.m. – 2:30 p.m.

Cyber Center CC-D Lobby

Saturday 7:30 a.m. – 6:00 p.m.

Sunday 7:30 a.m. – 8:30 p.m.

Monday – Tuesday 7:30 a.m. – 6:00 p.m.

Wednesday 7:30 a.m. – 4:30 p.m.

Thursday 7:30 a.m. – 10:30 a.m.

JSM Luggage Storage CC-D Lobby

Wednesday 8:00 a.m. – 6:30 p.m.

Thursday 8:00 a.m. – 1:00 p.m.



Denver Restaurant & Tourism Information Center CC-F Lobby

Saturday – Wednesday 10:00 a.m. – 5:00 p.m.

Quiet Reflection Room CC-206 Sunday CC-202 Monday–Thursday

Sunday 7:30 a.m. – 10:30 p.m.

Monday 7:00 a.m. – 11:00 p.m.

Tuesday 7:00 a.m. – 9:30 p.m.

Wednesday 7:00 a.m. – 6:30 p.m.

Thursday 7:30 a.m. – 12:00 p.m.

JSM is pleased to provide this space for brief prayer, meditation, or individual reflection. The room is available to all attendees while open and cannot be reserved for private use. Please respect these guidelines and the rights of all persons while using the space. This includes adhering to the Activities Conduct Policy.

LEGEND:

CC = Colorado Convention Center H = Hyatt Regency Denver at Colorado Convention Center

Featured Speakers

SUNDAY, JULY 28



IMS Medallion Lecture I

4:00 p.m. • CC-607

On Statistical Thinking in Deep Learning YEE WHYE TEH University of Oxford



JSM Public Lecture

6:00 p.m. • CC-Four Seasons 1

Data Tripper: Distinguishing Authorship of Beatles Songs Through Data Science

MARK GLICKMAN Harvard University

MONDAY, JULY 29



IMS Medallion Lecture II 8:30 a.m. • CC-207

Learning and Exploiting Low-Dimensional Structure in High-Dimensional Data

DAVID DUNSON Duke University



IMS Wald Lecture I

10:30 a.m. • CC-Four Seasons 1

Statistical Learning with Sparsity TREVOR J. HASTIE Stanford University



IMS Medallion Lecture III 2:00 p.m. • CC-201

Breaking Curse of Dimensionality in Nonparametrics

HELEN ZHANG University of Arizona



ASA President's Invited Address 4:00 p.m. • CC-Four Seasons 2–4

Coming to Our Census: How Social Statistics Underpin Our Democracy (and Republic)

TERESA A. SULLIVAN University of Virginia (Emerita)



IMS Presidential Address and Awards Ceremony

8:00 p.m. • CC-Four Seasons 1

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XIAO-LI MENG Harvard University

TUESDAY, JULY 30



IMS Rietz Lecture 10:30 a.m. • CC-207 Selective Inference: The Silent

Killer of Replicability YOAV BENJAMINI Tel Aviv University



IMS Wald Lecture II

2:00 p.m. • CC-Four Seasons 1

Statistical Learning with Sparsity TREVOR J. HASTIE Stanford University Follow us on Twitter @AmstatNews Use #JSM2019



ASA Deming Lecture 4:00 p.m.• CC-Four Seasons 2–4 Walking with Giants: A Research Odyssey NICHOLAS FISHER University of Sydney



ASA President's Address and Awards 8:00 p.m.• CC-Four Seasons 2-4

Reinforcing the Impact of Statistics on Society

KAREN KAFADAR University of Virginia

WEDNESDAY, JULY 31



IMS Medallion Lecture IV 8:30 a.m. • CC-607

Hierarchical Communities in Networks: Theory and Practice

ELIZAVETA LEVINA University of Michigan



IMS Wald Lecture III 10:30 a.m. • CC-Four Seasons 1

Statistical Learning

with Sparsity TREVOR J. HASTIE Stanford University



COPSS Awards and Fisher Lecture 4:00 p.m. • CC-Four Seasons 2–4

An Observational Study Used to Illustrate Methodology for Such Studies

PAUL ROSENBAUM University of Pennsylvania

Featured Events

FIRST TIMER

JSM First-Time Attendee Orientation and Reception

Sunday, July 28, 12:30 p.m. – 2:00 p.m. H-Centennial Ballrooms D–E

Join fellow first-timers at this orientation reception and learn how to get involved in JSM.



JSM Student Mixer

Sponsored by Two Sigma Monday, July 29, 6:00 p.m. – 7:30 p.m. H-Centennial Ballroom D The Student Mixer provides an opportunity for students to join their contemporaries for

JSM Dance Party

Tuesday, July 30, 9:30 p.m. – 12:00 a.m. H-Centennial Ballrooms D–E

a fun-filled time

A fun highlight of JSM, the dance party is held right after the ASA President's Address and Awards. There are snacks, a cash bar, and music!

Introductory Overview Lectures

Sunday, July 28, 2:00 p.m. CC-Four Seasons 1 Session 2 - Forensic Statistics

Sunday, July 28, 4:00 p.m. CC-Four Seasons 1 Session 44 - The ABC of Approximate Bayesian Computation

Monday, July 29, 8:30 a.m. CC-Four Seasons 1 Session 97- Likelihood Principle

Monday, July 29, 2:00 p.m. CC-205 **Session 209 -** Causal Inference in Modern Statistics

Tuesday, July 30, 8:30 a.m. CC-Four Seasons 1 **Session 268 -** Modern Risk Analysis

Wednesday, July 31, 8:30 a.m. CC-Four Seasons 1 Session 435 - Pedagogy and Technology for Teaching Statistics





Late-Breaking Session

Monday, July 29, 2:00 p.m. CC-207

Session 210 - Statistics at a Crossroads: Who Is for the Challenge?



JSM Opening Mixer and Invited Poster Session

Sponsored by Eli Lilly & Company and LinkedIn Sunday, July 28, 8:30 p.m. – 10:30 p.m. CC-Hall C

All conference attendees are encouraged to come together for the kick-off social event of JSM.

Hope Endures

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Spotlight Denver

Want to explore Denver, but don't want to miss any exciting JSM sessions? Luckily, JSM attendees don't need to venture out to get a taste of the city. Join us for featured events throughout the week in the Spotlight area.



Password: abbvie19 Monday and Wednesday 10:00 a.m. JSM Coffee House Refresh with a cup of

freshly brewed coffee or a selection of Celestial Seasonings teas.

Sunday, July 28 1:00 p.m. Spotlight Denver Kick-Off

Swing by and kick-off JSM with a Colorado chili bar. Sample Colorado buffalo and bean chili, Colorado pork green chili, and white bean vegetable chili—all with an assortment of toppings. Enjoy while it lasts!

3:30 p.m. Specialty House-Made Donuts

Sweet tooth? Taste test fresh, warm donut holes made to order by pastry chefs, along with a selection of signature sauces and toppings. Grab one or two (while supplies last) and mingle with other attendees.

Monday, July 29 9:00 a.m. Denver Insider Tips

Whether you seek tips for activities and food nearby or the variety of options surrounding dynamic Denver, Visit Denver will be here to guide you.



Shiyang Ma (left) and Qiuyi Wu, both from Rochester, NY, play Jenga in the JSM 2018 Spotlight.

JSM PHOTO BOOTH

Create memories with your friends using fun props.



POPCORN BREAK

10:00 a.m. JSM Coffee House

Refresh with a cup of freshly brewed coffee or a selection of Celestial Seasonings teas.

11:00 a.m. – 3:00 p.m. JSM Photo Booth

Create memories with your friends using fun props.

1:30 p.m. Popcorn Break

Sponsored by XLSTAT

Enjoy an afternoon pick-me-up with a tasty bag of popcorn.

3:30 p.m. Denver Microbrew Tasting

Sponsored by RTI International

Stop by to taste a variety of local Denver microbrews such as Colorado Native, Boulder Beer Hazed and Infused, and Colorado cider (while supplies last).

Tuesday, July 30 10:00 a.m. Get Your JSM Energy Fix

Sponsored by Google

Come check out this alternative to a coffee break. Power up with fresh smoothies and energy bars.

1:30 p.m. Popcorn Break

Enjoy an afternoon pick-me-up with a tasty bag of popcorn.

3:30 p.m. Sample Denver Wines

Sponsored by Biogen

Denver has wine? Who knew? Don't miss this chance to taste local wines (while supplies last).

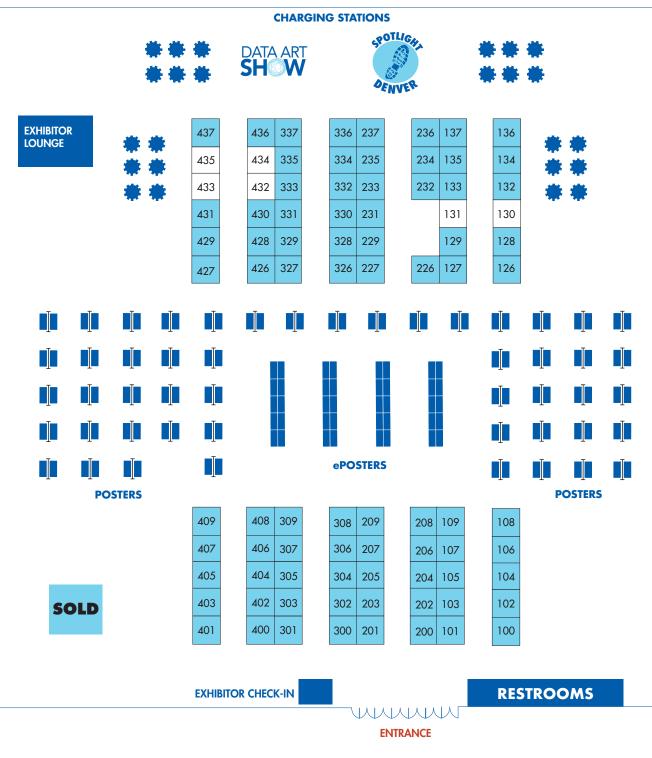
Wednesday, July 31 10:00 a.m. JSM Coffee House

Refresh with a cup of freshly brewed coffee or a selection of Celestial Seasonings teas.









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Food Concessions

Looking for lunch? Why not head to the EXPO and grab something to eat while you check out the cutting-edge companies showcased on the exhibit floor?

Concession Hours Sunday

1:00 p.m. – 3:30 p.m.

Monday – Wednesday 11:00 a.m. – 2:00 p.m.

JSM Career Service



Would you like to explore career opportunities with top statistical employers? The JSM Career Service, located in Hall D of the Denver Convention Center, will give you the opportunity to research job postings and contact employers. Access is for registered applicants and employers only, and interviews are by appointment.

Executive Suite Employers (as of May 2019) _



See all registered companies at www.amstat.org/careerservice.

\$75
\$100
\$150
\$225

Not already registered? Visit the main JSM registration area and ask to add the Career Service to your registration.

Career Service Hours See Page 7



Professional Development

Continuing education is a fundamental component of the professional life of statisticians. The Professional Development (PD) program at JSM offers more than 40 short courses and workshops on topics such as big data, clinical trials, statistical computing, and soft skills. Titles, instructors, descriptions, and schedules are available on the JSM app and JSM online program.

All PD offerings are at the Colorado Convention Center. Most require an additional fee. To add a course or workshop, go to the main registration desk found in Lobby D of the convention center.

in it to help others learn

Shivani Rao Senior Applied Researcher

Inkd.in/data-science
#InltTogether





Roundtables

Looking for something to do for breakfast or lunch? Want a less formal presentation and a way to meet new people? A JSM roundtable might be right for you.

Look through the options in the JSM online program or app and check with JSM registration for availability.

There are also four Speaker with Lunch sessions to choose from:

SUNDAY, JULY 28 12:30 – 1:50 p.m. SPAIG Committee Speaker with Lunch (Added Fee)

Considerations in Bayesian Framework Implementation and Impact on Small-Population Clinical Development

Freda Cooner, Amgen

MONDAY, JULY 29 12:30 - 1:50 p.m.

Section on Statistics in Sports Speaker with Lunch (Added Fee) Imagining the Future of Sports Analytics Ben Baumer, Smith College

TUESDAY, JULY 30 12:30 – 1:50 p.m.

Economic Outlook Luncheon (Added Fee)

Productivity and Intangible Capital in a World of Disruptive Technologies

Carol Corrado, The Conference Board

WEDNESDAY, JULY 31 12:30 - 1:50 p.m.

Health Policy Statistics Section Speaker with Lunch (Added Fee)

The Rise and Rise of Patient-Oriented Research: What Implications for Health Services and Policy Research?

Stirling Bryan

SESSION SPONSOR KEY

ABBREVIATIONS SPONSORS

ABBREVIATIONS SPONSORS

ACCCP	ASA Advisory Committee on Climate Change Policy	MDD	Section on Medical Devices and Diagnostics
AHSR	Association of Health Services Research	MEM	Memorial
ASA	American Statistical Association	MHSS	Mental Health Statistics Section
ASIG	Astrostatistics Special Interest Group	MIN	Committee on Minorities in Statistics
B&E	Business and Economic Statistics Section	MKTG	Section on Statistics in Marketing
BIOM	Biometrics Section	NIH	National Institute on Drug Abuse-NIH
BIOP	Biopharmaceutical Section	NISS	National Institute of Statistical Sciences
CGLCS	ASA LGBT Concerns Committee	NOETHER	Noether Award Committee
CAS	Committee on Applied Statisticians	NPAR	Section on Nonparametric Statistics
CASoc	Casualty Actuarial Society	PRIV	Committee on Privacy and Confidentiality
CAUWOM	Caucus for Women in Statistics	Q&P	Quality and Productivity Section
CCD	Committee on Career Development	RISK	Section on Risk Analysis
CGLCS	ASA LGBT Concerns Committee	RSS	Royal Statistical Society
	Committee on Law and Justice Statistics	SA	Sirken Award
CLJS		SAIG	Statistical Auditing Interest Group
CNSL	Section on Statistical Consulting	SBSS	Section on Bayesian Statistical Science
COC COPSS	Council of Chapters Committee of Presidents of Statistical Societies	SDNS	Section on Statistics in Defense and National Security
Computing	Section on Statistical Computing		Committee on Scientific Freedom and
DEM	Deming Lectureship Committee	SFHM	Human Rights
EDUC	Section on Statistics and Data Science Education	SGG	Section on Statistics in Genomics and Genetics
	Eastern North American Region, International	SLDS	Section on Statistical Learning and Data Science
enar	Biometric Society	SOC	Social Statistics Section
ENVR	Section on Statistics and the Environment	SPAAC	Scientific and Public Affairs Advisory Committee
EPI	Section on Statistics in Epidemiology	SPAIG	Stats. Partnerships Among Academe Indust. &
FND	Florence N. David Award		Govt. Committee
GOVT	Government Statistics Section	SPES	Section on Physical and Engineering Sciences
GRPH	Section on Statistical Graphics	SPORTS	Section on Statistics in Sports
HPSS	Health Policy Statistics Section	SPP	Statistics and Public Policy
HSIG	History of Statistics Interest Group	SRMS	Survey Research Methods Section
IASE	International Association for Statistical Education	SSC	Statistical Society of Canada
ICSA	International Chinese Statistical Association	SSPA	Section for Statistical Programmers and Analysts
IISA	International Indian Statistical Association	SWB	Statistics Without Borders
IMAG	Section on Statistics in Imaging	Stat Bus	Business Analytics/Statistics Education Interest Group
IMS	Institute of Mathematical Statistics	SXP	Statistics and Pharmacometrics Interest Group
ISBA	International Society for Bayesian Analysis		ASA Task Force on Sexual Harassment
ISI	International Statistical Institute	TFSHA	and Assault
JASA	JASA, Theory and Methods	TSHS	Section on Teaching of Statistics in the
JASAAPP	JASA, Applications and Case Studies	10110	Health Sciences
JCGS	Journal of Computational and Graphical Statistics	TSIG	Transportation Statistics Interest Group
JNPS	Journal of Nonparametric Statistics	UQCSIG	Uncertainty Quantification for Complex Systems
JSSM	Journal of Survey Statistics and Methodology		Interest Group
JSMPS	JSM Partner Societies	WNAR	Western North American Region, International Biometric Society
KISS	Korean International Statistical Society		Diometric Society
LIDS	Lifetime Data Science Section	WOMEN	Committee on Women in Statistics

 $\label{eq:CC} \textbf{CC} = \text{Colorado Convention Center} \\ \textbf{H} = \text{Hyatt Regency Denver at Colorado Convention Center} \\$

KEY 30 CC-210 30=Session Number CC=Building 210=Room Number

SUNDAY, JULY 28

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KEY 30 CC-210 30=Session Number

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MONDAY, JULY 29

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SGG	126 CC-105 / 137 CC-113	180 CC- 210/212 / 182 CC-Hall C		225 CC-710 / 237 CC-501			
SLDS	113 CC-702 / 127 CC-501 / 136 CC-701	141 CC-607 / 178 CC-712 / 181 CC-Hall C		228 CC-607 / 248 CC-502 / 256 CC-Hall C			
SOC	124 CC-503			236 CC-503			
SPAIG		143 CC-507					
SPES	134 CC-707	188 CC-Hall C		214 CC-203			
SPORTS				235 CC-110 / 258 CC-Hall C			
SRMS	98 CC-607 / 138 CC-504	157 CC-102 / 158 CC-104 / 169 CC-103		215 CC-603 / 252 CC-Hall C			
SSC	101 CC-706	192 CC-Hall C					
SSPA		166 CC-703		257 CC-Hall C			
Stat Bus	110 CC-605						
SWB		193 CC-Hall C					
TFSHA				224 CC-Four Seasons 1			
TSHS	104 CC-710	194 CC-Hall C					
WNAR		140 CC-203		229 CC-708			

 $\label{eq:cc} \textbf{CC} = \text{Colorado Convention Center} \\ \textbf{H} = \text{Hyatt Regency Denver at Colorado Convention Center} \\$

KEY 30 CC-210 30=Session Number

CC=Building

210=Room Number

TUESDAY, JULY 30

SPONSOR	8:30 AM	9:25 AM	10:30 AM	11:35 AM	2:00 PM	3:05 PM	4:00 PM	8:00 PM
ACCCP			317 CC-607					
ASIG	291 CC-702							
B&E	274 CC-201		332 CC-712 / 358 CC-Hall C		406 CC-507			
BIOM	284 CC-101 / 296 CC-105 / 298 CC-107		322 CC-106 / 341 CC-104	361 CC-Hall C	393 CC-111 / 404 CC-113			
BIOP	273 CC-109 / 299 CC-111		326 CC-108 / 327 CC-110 / 339 CC-105 / 342 CC-109 / 343 CC-111 / 356 CC-Hall C		398 CC-102 / 405 CC-101	426 CC- Hall D		
CAUWOM	279 CC-207							
CNSL			324 CC-205		399 CC-503			
COC			325 CC-102					
Computing	305 CC-301		316 CC-702		412 CC-708			
DEM							428 CC-Four Seasons 2-4	
EDUC	283 CC-603 / 306 CC-104		336 CC-503		388 CC-603			
ENAR	276 CC-108		328 CC-112 / 338 CC-103		391 CC-106			
ENVR	308 CC-203		331 CC-709		386 CC-201 / 414 CC-203			
EPI	285 CC-112 / 309 CC-110		321 CC-107 / 359 CC-Hall C		375 CC-107			
FND					387 CC-207			
GOVT	289 CC-708 / 300 CC-710	311 CC-Hall C	344 CC-506		389 CC-703 / 419 CC-Hall C			
GRPH			314 CC-605		401 CC-704			
HPSS	281 CC-205		334 CC-710		407 CC- 210/212 / 420 CC-Hall C			
HSIG			330 CC-603					
IASE	282 CC-102							
ICSA					374 CC-605			
IISA					376 CC-103			
IMAG	271 CC-707		352 CC-507					

TUESDAY, JULY 30

SPONSOR	8:30 AM	9:25 AM	10:30 AM	11:35 AM	2:00 PM	3:05 PM	4:00 PM	8:00 PM
IMS	269 CC-712 / 272 CC-607 / 288 CC-705		312 CC-203 / 318 CC-207 / 345 CC- 210/212		378 CC-Four Seasons 1 / 381 CC-706 / 392 CC-705			
ISBA					396 CC-105			
JNPS	270 CC-704							
JSMPS	268 CC-Four Seasons 1		312 CC-Four Seasons 1					429 CC-Four Seasons 2-4
JSSM					379 CC-501			
KISS					394 CC-502			
LIDS	277 CC-506 / 293 CC-507				408 CC-709			
MDD			359 CC-Hall C		410 CC-104 / 418 CC-Hall C			
MHSS	301 CC- 210/212		346 CC-701		380 CC-301			
MKTG					384 CC-504			
NPAR	303 CC-706		313 CC-201		411 CC-302			
Q&P			349 CC-705		390 CC-506 / 421 CC-Hall C			
RISK	304 CC-302		360 CC-Hall C		382 CC-707			
RSS	290 CC-703							
SBSS	286 CC-605 / 297 CC-501 / 302 CC-701		315 CC-301 / 340 CC-501 / 347 CC-302	362 CC-Hall C	397 CC-109 / 409 CC-110	427 CC- Hall C		
SDNS			320 CC-703					
SGG	287 CC-113	310 CC-Hall C	351 CC-101		415 CC-112			
SLDS	278 CC-504 / 294 CC-502 / 307 CC-505		329 CC-704 / 350 CC-706 / 353 CC-Hall C		385 CC-607 / 413 CC-712			
SOC	275 CC-106		335 CC-504 / 337 CC-502		417 CC-Hall C / 422 CC-Hall C			
SPAAC					403 CC-Hall C			
SPES			348 CC-707		383 CC-505			
SPORTS			323 CC-708					
SRMS	292 CC-709 / 295 CC-103		333 CC-505 / 354 CC-Hall C		395 CC-702 / 416 CC-701 / 423 CC-Hall C			
SSC			319 CC-113					
SSPA	280 CC-503							
Stat Bus			357 CC-Hall C					
TSHS					402 CC-710			
TSIG					424 CC-Hall C			
UQCSIG					425 CC-Hall C			
WNAR					377 CC-108			
WOMEN					400 CC-205			

 $\label{eq:cc} \textbf{CC} = \text{Colorado Convention Center} \\ \textbf{H} = \text{Hyatt Regency Denver at Colorado Convention Center} \\$

Technical Sessions

KEY 30 CC-210 30=Session Number CC=Building

210=Room Number

WEDNESDAY, JULY 31

SPONSOR	8:30 AM	10:30 AM	11:35 AM	2:00 PM	4:00 PM
B&E	460 CC-104 / 463 CC-103	500 CC-103 / 508 CC-101 / 520 CC-Hall C		546 CC-501	
BIOM	446 CC-101 / 466 CC-109	494 CC-113 / 506 CC-112 / 522 CC-Hall C		564 CC-112 / 570 CC- 110	
BIOP	456 CC-207 / 459 CC-111 / 467 CC-113 / 468 CC-112	479 CC-207 / 507 CC- 210/212		557 CC-108 / 558 CC- 207 / 571 CC-210/212	
CASoc				566 CC-101	
CNSL		504 CC-705 / 526 CC-Hall C			
Computing	444 CC-505 / 465 CC-501	513 CC-706	531 CC-Hall C	574 CC-302	
COPSS					583 CC-Four Seasons 2-4
EDUC	445 CC-707	514 CC-302			
ENAR	449 CC-205	487 CC-111 / 523 CC-Hall C		551 CC-109 / 560 CC-111	
ENVR	450 CC-203	497 CC-507		577 CC-104	
EPI	438 CC-106 / 464 CC-105 / 472 CC-107	517 CC-109 / 518 CC-110 / 521 CC-Hall C		562 CC-106	
GOVT	458 CC-708 / 469 CC-709	492 CC-205		565 CC-705 / 581 CC- 701	
GRPH		515 CC-105		550 CC-605	
HPSS	447 CC-201	493 CC-506			
ICSA		510 CC-501		542 CC-507	
IISA				544 CC-506	
IMAG	452 CC-710	516 CC-107 / 528 CC-Hall C		576 CC-706	
IMS	440 CC-607 / 441 CC-504 / 455 CC-502	477 CC-710 / 481 CC-708 / 484 CC-Four Seasons 1 / 509 CC-712		545 CC-607 / 547 CC- Four Seasons 1 / 556 CC-503	
JASAAPP				554 CC-201	
JSMPS	435 CC-Four Seasons 1				
KISS	443 CC-301				

WEDNESDAY, JULY 31

SPONSOR	8:30 AM	10:30 AM	11:35 AM	2:00 PM	4:00 PM
LIDS		496 CC-603 / 524 CC-Hall C			
MDD	470 CC-108				
MEM	439 CC-703 / 451 CC-705			541 CC-504 / 554 CC- 203	
MHSS		498 CC-505 / 519 CC-Hall C		567 CC-103	
MIN		490 CC-201			
MKTG		530 CC-Hall C		568 CC-703	
NOETHER		488 CC-607			
NPAR	457 CC-503	489 CC-709		582 CC-712	
PRIV		505 CC-503			
Q&P		485 CC-102			
RISK	461 CC-704	512 CC-704			
RSS		495 CC-502			
SA		489 CC-605			
SAIG				555 CC-704	
SBSS	437 CC-603	478 CC-707		563 CC-709 / 572 CC- 708 / 573 CC-710	
SDNS		525 CC-Hall C		561 CC-105	
SFHM				556 CC-205	
SGG	453 CC-102	480 CC-203 / 527 CC-Hall C		575 CC-113	
SLDS	454 CC-506 / 471 CC-507	482 CC-702 / 517 CC-701		559 CC-301	
SOC	475 CC-706	486 CC-301		580 CC-707	
SPES	448 CC-702	513 CC-104			
SPORTS	473 CC-302			578 CC-502	
SRMS	442 CC-605 / 474 CC-701	502 CC-108 / 503 CC-106		548 CC-603 / 579 CC-702	
SSC				543 CC-505	
SSPA		491 CC-703			
TSHS		483 CC-504		569 CC-102	
TSIG	476 CC-210/212				
UQCSIG	462 CC-712				
WNAR	436 CC-110	529 CC-Hall C		549 CC-107	

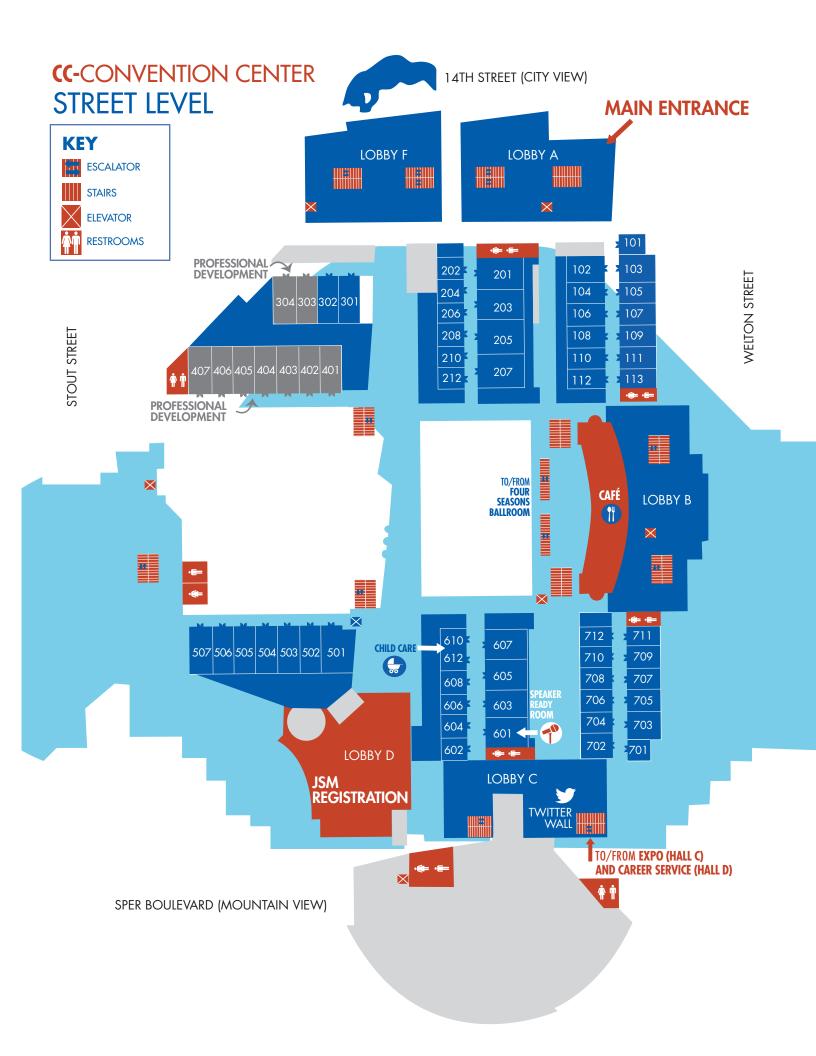
 $\label{eq:CC} \textbf{CC} = \text{Colorado Convention Center} \\ \textbf{H} = \text{Hyatt Regency Denver at Colorado Convention Center}$

KEY 30 CC-210 30=Session Number CC=Building

210=Room Number

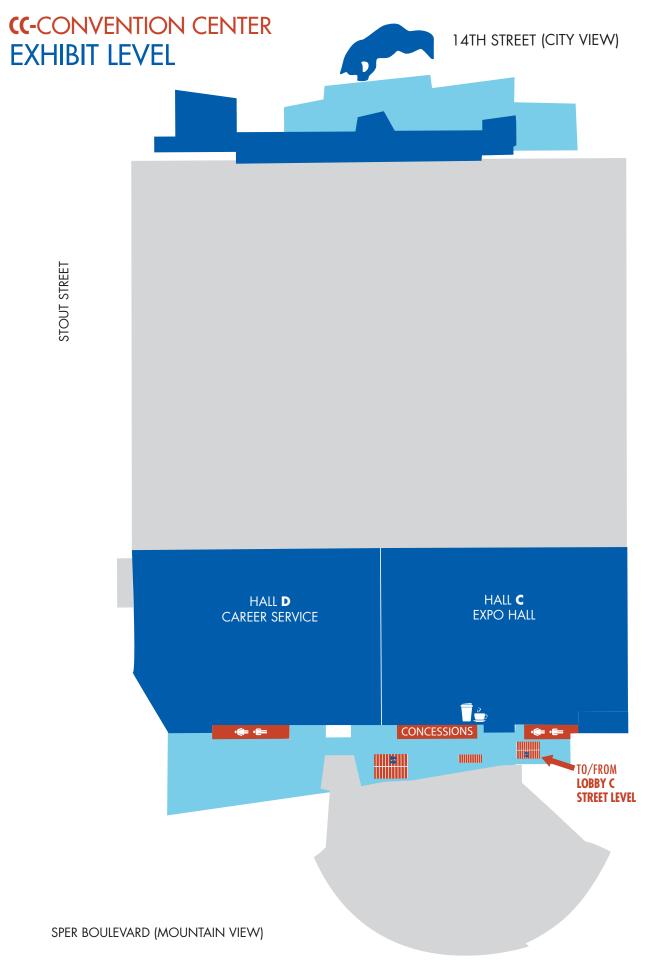
THURSDAY, AUGUST 1

SPONSOR	8:30 AM	10:30 AM		
B&E	604 CC-112	633 CC-102		
BIOM	592 CC-702 / 601 CC-705 / 609 CC-703 / 617 CC-701	648 CC-702 / 652 CC-706		
BIOP	605 CC-603 / 608 CC-704 / 610 CC-706	628 CC-710 / 646 CC-708 / 653 CC-712		
CIJS		630 CC-111		
Computing	585 CC-102 / 616 CC-104	650 CC-501		
COPSS	597 CC-503	638 CC-504		
EDUC		651 CC-704		
ENAR	596 CC-605 / 612 CC-710	635 CC-707		
ENVR	586 CC-106 / 620 CC-108	661 CC-701		
EPI	621 CC-707	629 CC-207 / 662 CC-210/212		
GOVT	589 CC-207	647 CC-507 / 654 CC-505 / 655 CC-506		
GRPH	590 CC-205			
HPSS	595 CC-107	656 CC-705		
ICSA	598 CC-113			
IISA		658 CC-112		
IMAG	603 CC-210/212	627 CC-605		
IMS	584 CC-505 / 587 CC-506 / 599 CC-507	625 CC-103 / 628 CC-104 / 638 CC-105 / 657 CC-101		
ISI		640 CC-205		
MDD		644 CC-607		
NPAR	588 CC-203 / 614 CC-501	641 CC-109 / 665 CC-110		
Q&P	615 CC-109	643 CC-201		
SAIG		664 CC-113		
SBSS	591 CC-502 / 613 CC-504	645 CC-107 / 649 CC-108		
SDNS	619 CC-105			
SGG	593 CC-712 / 622 CC-709	663 CC-709		
SLDS	602 CC-201 / 611 CC-103 / 618 CC-101	634 CC-502 / 659 CC-301 / 660 CC-302		
SOC		642 CC-106		
SPES	600 CC-111			
SRMS	606 CC-301 / 623 CC-302	631 CC-603		
SSC		632 CC-203		
SSPA		639 CC-503		
SXP	607 CC-607			
TSHS	624 CC-110			
WNAR	594 CC-708			





DENVER, COLORADO | JSM 2019 31

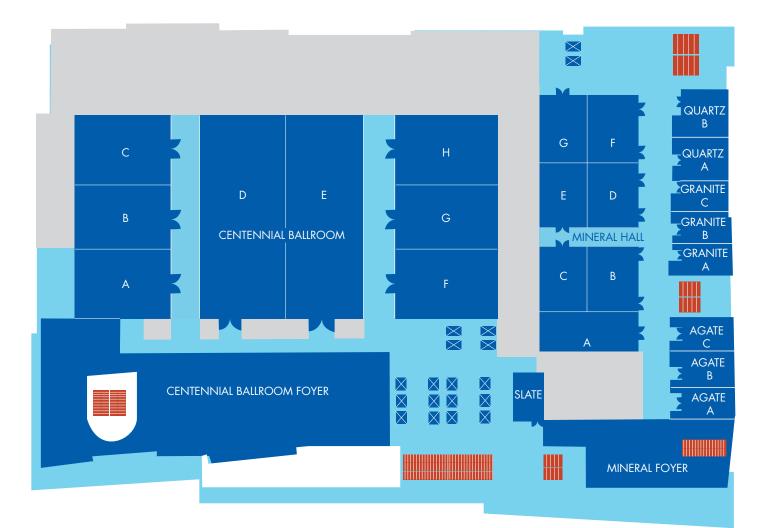


WELTON STREET

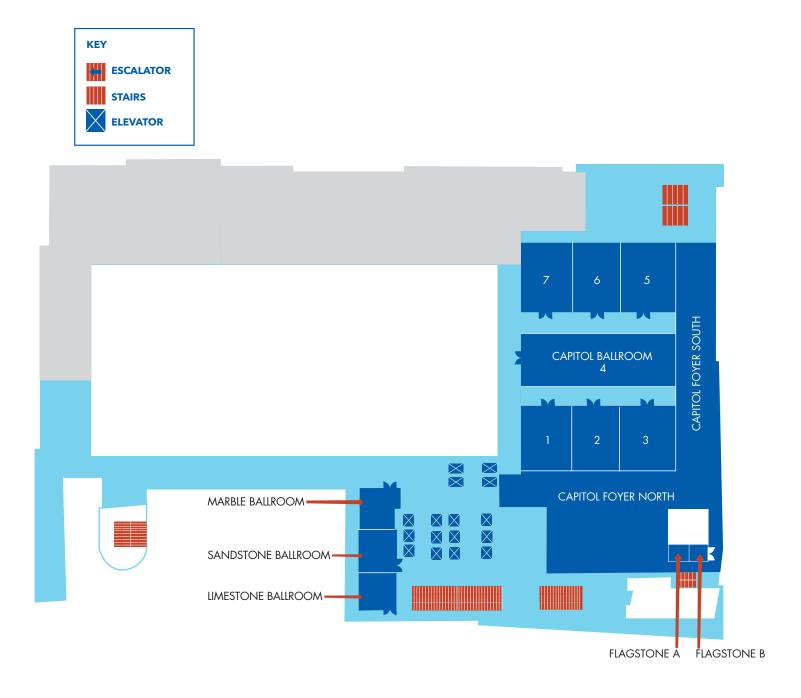
H-HYATT REGENCY DENVER THIRD FLOOR



BUSINESS AND COMMITTEE MEETINGS



H-HYATT REGENCY DENVER FOURTH FLOOR



SOCIAL MEDIA



Join the Joint Statistical Meetings conversation by using #JSM2019 on social media. Also follow the official ASA social media accounts for news, pictures, and last-minute updates.

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CIMS Global Introduces Dynamic Data Monitoring (DDM) and Dynamic Trial Design (DTD)

A breakthrough approach for clinical trial design and management

DDM-- An Al-engineered Statistical Package for Monitoring On-Going Clinical Trial

The CIMS Dynamic Data Monitoring engine utilizes machine learning and artificial intelligence (AI) technology in an integrated, closed system with EDC and IWRS. As new data is cumulated, the system will automatically compute the Score and Wald statistics for chosen endpoints, conditional power. A build-in dynamic adaptive procedure will perform intelligent trial optimization strategies such as sample size re-estimation, dose selection, population selection and prediction of the trend of trials.

DTD – A Statistical Package for Innovative Trial Design

The CIMS Dynamic Trial Design platform is a cloud-based statistical software for innovative trial design. On the platform, you can conduct the classical Group Sequential Designs. You can also perform different innovative designs and use simulations to compare their performance according to your objectives. Due to heavy numerical computation in simulation, the platform is hosted in cloud-based GPU servers.

- Adaptive sequential designs (ASD)
- Dynamic adaptive designs (DAD)
- Phase 2/3 seamless designs
- ASD for multiple comparisons
- Simulation for comparing different designs

Our Innovative Trial Design Group (ITDG) is composed of experts in trial design and strategy.

Contact us: (844) 491-7480, ext. 111 | support@cims-global.com | www.cims-global.com

What are your big goals for JSM 2019? Write them down here and think about how the sessions and events you attend can help you achieve them.

Connect with these people: Say hello to speakers and fellow attendees, then write down who you plan to follow up with and why so you can take action later!

Tools and insights I don't want to forget:

Take good notes about the best ideas you hear at JSM. You'll be glad you did when you get home and are reflecting about how to put your JSM experience to work.

DIN US for an ASA meeting!





For health policy statisticians and researchers. ww2.amstat.org/ichps



CONFERENCE ON STATISTICAL PRACTICE

For applied statisticians, data analysts, researchers, and scientists seeking best practices. ww2.amstat.org/csp



SYMPOSIUM ON DATA SCIENCE & STATISTICS

For data scientists, computer scientists, and statisticians analyzing and visualizing complex data. ww2.amstat.org/sdss



ASA BIOPHARMACEUTICAL SECTION REGULATORY-INDUSTRY STATISTICS WORKSHOP

For all statisticians interested in statistical practices for all areas regulated by the FDA. ww2.amstat.org/biopharmworkshop



WOMEN IN STATISTICS AND DATA SCIENCE CONFERENCE

For women in statistics and data science at all career levels. ww2.amstat.org/wsds

www.amstat.org/meetings



AS A GLOBAL, SCIENCE-DRIVEN PHARMACEUTICAL COMPANY, TAKEDA IS COMMITTED TO INNOVATION

Takeda has diverse and rich statistical and quantitative expertise. Our Statistical & Quantitative Sciences Organization is best in class and strives to bring **BETTER HEALTH AND A BRIGHTER FUTURE**

to patients through



INNOVATIVE TRIAL AND PROGRAM DESIGN



ADVANCED STATISTICAL AND QUANTITATIVE SCIENCES METHODOLOGY



NOVEL ANALYTICS FOR REAL WORLD DATA AND EVIDENCE