

第七届泛太平洋因果推断大会 (PCIC 2025)

2025年7月5日-7月6日 | 中国 北京

会议手册

主办单位： 北京大学公共卫生学院生物统计系
北京国际数学研究中心
中国数学会医学数学专业委员会
中国现场统计研究会医药与生物统计分会
北京大学统计科学中心
国际生物统计学会-中国分会





第七届泛太平洋因果推断大会 (PCIC 2025)

2025年7月5日-7月6日 | 中国 北京

高清直播二维码



The 7th Pacific Causal Inference Conference (PCIC 2025)

July 05-06, 2025 | Beijing, China

CONFERENCE GUIDANCE

Sponsors:

Department of Biostatistics, School of Public Health, Peking University
Beijing International Center for Mathematical Research, Peking University
CMS-Mathematics in Medicine
Chinese Association for Applied Statistics-Biostatistics
The Center for Statistical Science, Peking University
International Biometric Society - China Region





The 7th Pacific Causal Inference Conference (PCIC 2025)

July 05-06, 2025 | Beijing, China

HD Live QR Code



大会简介

INTRODUCTION

因果推断作为数据科学中的重要分支，已经广泛应用于从医学、经济学到社会科学、金融学等多个领域。随着大数据、人工智能和机器学习技术的快速发展，特别是大语言模型在因果推断领域的应用备受关注，其在科学、技术和工业领域的应用也日益广泛，因果推断的研究和应用也面临着前所未有的机遇与挑战。

泛太平洋因果推断大会（Pacific Causal Inference Conference, PCIC）是自 2019 年起由北京大学讲席教授、北京大学公共卫生学院生物统计系系主任、北京大学北京国际数学研究中心生物统计和信息研究室主任周晓华博士等发起的因果科学领域一年一度的学术盛会。PCIC 致力于探讨因果推断在不同领域的最新进展，自 2019 年至 2024 年，PCIC 已在北京、上海成功举办 6 届，2024 年，PCIC 在世界人工智能大会（WAIC）上同步举办世界人工智能大会因果推断论坛，进一步扩大了学术影响力，成为因果推断领域的重要学术会议。

PCIC 2025 会期两天，共计 40 余位演讲嘉宾齐聚北京大学围绕因果图模型、偏倚修正方法、机器学习与因果推断结合、自然实验与工具变量法、医疗健康中的治疗效应估计、社会政策评估、因果推断的可解释性和伦理问题、强化学习与因果推断的结合等发表演讲。

As a crucial branch of data science, causal inference has found extensive applications across diverse fields, including medicine, economics, social sciences, and finance. With the rapid advancements in big data, artificial intelligence, and machine learning technologies—particularly the integration of large language models into causal inference—the field has gained increasing attention. Its applications in science, technology, and industry are expanding rapidly, presenting unprecedented opportunities and challenges for research and practice.

The Pacific Causal Inference Conference (PCIC), established in 2019 by Dr. Xiao-Hua Zhou, Distinguished Chair Professor at Peking University, Chair of the Department of Biostatistics at the School of Public Health, and Director of the Biostatistics and Informatics Research Center at the Beijing International Center for Mathematical Research, has become an annual academic event in the causal science community. Dedicated to exploring the latest developments in causal inference across various domains, PCIC has successfully hosted six editions in Beijing and Shanghai from 2019 to 2024. In 2024, the conference expanded its reach by organizing the Causal Inference Forum at the World Artificial Intelligence Conference (WAIC), further cementing its reputation as a leading academic conference in the field.

The PCIC 2025 conference will span two days and feature a total of 40+ speakers. These speakers will gather at Peking University to deliver talks on topics such as causal graph models, bias correction methods, the integration of machine learning and causal inference, natural experiments and instrumental variables, treatment effect estimation in healthcare, social policy evaluation, the interpretability and ethical issues of causal inference, as well as the intersection of reinforcement learning and causal inference.

大会组委会

ORGANIZING COMMITTEE

组委会主席 / Committee Chair:

周晓华 教授, 北京大学 / Prof. Xiao-Hua Zhou, Peking University, China

组委会成员 / Committee Members:

Robin Evans, 牛津大学 / University of Oxford, UK

Mingming Gong, 墨尔本大学 & 穆罕默德-本-扎耶德人工智能大学 / The University of Melbourne & MBZUAI, Australia & UAE

Fang Han, 华盛顿大学 / University of Washington, USA

Satoshi Hattoris, 大阪大学 / Osaka University, Japan

Jinzhua Jia, 北京大学 / Peking University, China

Jae-Kwang Kim, 爱荷华州立大学 / Iowa State University, USA

Theis Lange, 哥本哈根大学 / University of Copenhagen, Denmark

Fan Li, 杜克大学 / Duke University, USA

Fabrizia Mealli, 欧洲大学学院 / European University Institute

Wang Miao, 北京大学 / Peking University, China

Diaz Ordaz, Karla, 伦敦大学学院 / University College London, UK

Yumou Qiu, 北京大学 / Peking University, China

Thomas S. Richardson, 华盛顿大学 / University of Washington, USA

Don B. Rubin, 哈佛大学 / Harvard University, USA

Lan Wang, 迈阿密大学 / University of Miami, USA

Linbo Wang, 多伦多大学 / University of Toronto, Canada

Lu Wang, 密歇根大学 / University of Michigan, USA

Shu Yang, 北卡罗来纳州立大学 / North Carolina State University, USA

Ting Ye, 华盛顿大学 / University of Washington, USA

Kun Zhang, 卡内基梅隆大学 & 穆罕默德-本-扎耶德人工智能大学 / CMU & MBZUAI

参会指南

Conference Guide

欢迎您参加“第七届泛太平洋因果推断大会” 为了让您拥有一个愉快的参会经历，请您阅读以下参会指南：

1. 会议时间及地点

时间	2025年7月5日-2025年7月6日
地点	北京大学中关村新园1号楼2层科学报告厅

2. 会议签到

签到时间：2025年7月5日上午7:30-8:50

签到地点：北京大学中关村新园1号楼2层科学报告厅

地址：北京海淀区中关村北大街126号

请完成签到后随身佩戴好参会证，它将作为您参会的唯一有效证件，请妥善保管，遗失不补。

3. 安全须知

请自觉遵守大会秩序，遵守会议时间，妥善保管好个人贵重物品，证件护照等，不得携带危险品，违禁品等进入会场。

Welcome to the 7th Pacific Causal Inference Conference (PCIC 2025). In order to ensure you have an enjoyable conference experience, please read the following conference guide:

1. Conference Date and Venue

Date	July 05-July 06, 2025
Venue	Second floor Science Lecture Hall, Building 1, Zhongguanyuan Global Village PKU

2. Conference Registration

Sign-in Time: From 7:30 AM to 8:50 AM on July 5th, 2025

Sign-in Location: Second floor Science Lecture Hall, Building 1, Zhongguanyuan Global Village PKU

Address: Peking University, No.126 Zhongguancun North Street

Please wear your conference badge at all times after sign-in, as it will serve as your only valid identification for attending the conference. Please keep it safe, as lost badges will not be replaced

3. Safety Instructions

Please consciously abide by the conference order, adhere to the conference schedule, and take good care of personal belongings such as documents and passports.

Do not bring dangerous or prohibited items into the venue.

日程一览

Schedule Overview

第七届泛太平洋因果推断大会 The 7 th Pacific Causal Inference Conference (PCIC 2025)	
2025年7月5日 / July 05, 2025	
Session Chair 1: Lu Wang	
08:55-09:00	开幕词 / Opening Speech: Xiao-Hua Zhou
09:00-10:30	特邀演讲 / Invited Speech Session
10:30-10:50	合影茶歇 / Group Photo & Tea Break
10:50-11:50	特邀演讲 / Invited Speech Session
11:50-13:30 午餐休息 / Lunch & Break 地点: 北京大学中关村新园1号楼2层时光西餐厅 Venue: Time Western Restaurant (Second floor), Building 1, Zhongguanyuan Global Village PKU	
Session Chair 2: Lan Wang	
13:30-15:30	特邀演讲 / Invited Speech Session
15:30-15:45	茶歇 / Tea Break
Session Chair 3: Satoshi Hattoris	
15:45-18:15	特邀演讲 / Invited Speech Session
18:15 晚餐 / Dinner 地点: 北京大学中关村新园1号楼2层时光西餐厅 Venue: Time Western Restaurant (Second floor), Building 1, Zhongguanyuan Global Village PKU	
2025年7月5日 线上 / July 05, 2025 Online	
Session Chair 4: Erin Evelyn Gabriel	
19:30-23:00	特邀演讲 / Invited Speech Session
2025年7月6日 / July 06, 2025	
Session Chair 5: Mingming Gong	
09:00-10:30	特邀演讲 / Invited Speech Session
10:30-10:50	茶歇 / Tea Break
10:50-11:50	特邀演讲 / Invited Speech Session
11:50-13:30 午餐休息 / Lunch & Break 地点: 北京大学中关村新园1号楼2层时光西餐厅 Venue: Time Western Restaurant (Second floor), Building 1, Zhongguanyuan Global Village PKU	
Session Chair 6: Yuhao Wang	
13:30-15:30	特邀演讲 / Invited Speech Session
15:30-15:45	茶歇 / Tea Break
Session Chair 7: Molei Liu	
15:45-17:15	特邀演讲 / Invited Speech Session
2025年7月6日 线上 / July 06, 2025 Online	
Session Chair 8: Chanmin Kim	
19:30-23:00	特邀演讲 / Invited Speech Session

演讲嘉宾

Invited Speakers



Xiaowu Dai
University of California, Los Angeles, USA
加利福尼亚大学洛杉矶分校



Kwun Chuen Gary Chan
University of Washington, USA
华盛顿大学



Rui Duan
Harvard University, USA
哈佛大学



Erin Evelyn Gabriel
University of Copenhagen, Denmark
哥本哈根大学



Zijun Gao
University of Southern California, USA
南加利福尼亚大学



Wei Huang
The University of Melbourne, Australia
墨尔本大学



Ying Huang
Fred Hutchinson Cancer Center and University of Washington, USA
福瑞德·哈金森癌症研究中心 & 华盛顿大学



Remi Khellaf
Inria, France
法国国家信息与自动化研究所



Chanmin Kim
SungKyunKwan University, Korea
成均馆大学



Haoxuan Li
Peking University, China
北京大学



Ziming Lin
University of Washington, USA
华盛顿大学



Kuan Liu
University of Toronto, Canada
多伦多大学



Lin Liu
Shanghai Jiao Tong University, China
上海交通大学



Junwei Lu
Harvard University, USA
哈佛大学



Yu Luo
Kings College London, UK
伦敦国王学院



Kosuke Morikawa
Iowa State University, USA
爱荷华州立大学



Ryo Okui
University of Tokyo, Japan
东京大学



Shunichiro Orihara
Tokyo Medical University, Japan
东京医科大学



James M. Robins
Harvard Chan, Harvard University, USA
哈佛大学



Xinwei Shen
ETH Zurich, Switzerland
苏黎世联邦理工学院

演讲嘉宾

Invited Speakers



Xu Shi
University of Michigan, USA
密歇根大学



Tomohiro Shinozaki
Tokyo University of Science,
Japan
东京理科大学



Yilin Song
University of Washington, USA
华盛顿大学



Xinwei Sun
Fudan University, China
复旦大学



Chengyao Tang
Osaka University, Japan
大阪大学



Jingshu Wang
The University of Chicago, USA
芝加哥大学



Lan Wang
University of Miami, USA
迈阿密大学



Linbo Wang
University of Toronto, Canada
多伦多大学



Tian-Zuo Wang
Nanjing University, China
南京大学



Yuhao Wang
Tsinghua University, China
清华大学



Ruoxuan Xiong
Emory University, USA
埃默里大学



Jay Xu
University of Toronto, Canada
多伦多大学



Mengxin Yu
University of Pennsylvania, USA
宾夕法尼亚大学



Donglin Zeng
University of Michigan, USA
密歇根大学



Ruohan Zhan
Hong Kong University of
Science and Technology, Hong
Kong, China
香港科技大学



Jiwei Zhao
University of
Wisconsin-Madison, USA
威斯康星大学麦迪逊分校



Bo Zhang
Fred Hutch Cancer Center, USA
福瑞德·哈金森癌症研究中心



Zheng Zhang
Renmin University of China,
China
中国人民大学



Doudou Zhou
National University of
Singapore, Singapore
新加坡国立大学



Xiao-Hua Zhou
Peking University, China
北京大学

大会议程

Conference Agenda

7月5日 中关村新园1号楼科学报告厅
July 05, 2025

Science Lecture Hall, ZhongGuanXinYuan Global Village PKU

高清直播链接 / HD Live Link: <https://fdjtyo.vet.d-zan.net/live/page/228596496?v=1750744482638>

线上参会链接 / Online Participation: <https://us06web.zoom.us/j/81637540792?pwd=vwikbyVeo0cW70Dmoj8lwfnN4YKUaOB.1>

Webinar ID: 816 3754 0792 Passcode: 825097

7:30-8:50

会议签到 / Conference Registration

8:55-11:50

Session Chair 1: Prof. Lu Wang, University of Michigan, USA

8:55-9:00

Prof. Xiao-Hua Zhou, Peking University, China

Opening Speech

9:00-9:30

Prof. James M. Robins, Harvard University, USA

Higher Order Influence Functions and the Minimality and Admissibility of Double Machine Learning (DML) Estimators Under Minimal Assumptions

9:30-10:00

Prof. Donglin Zeng, University of Michigan, USA

Double Machine Learning for Estimating Time-Varying Delayed and Instantaneous Treatment Effects Using Digital Phenotypes

10:00-10:30

Prof. Lan Wang, University of Miami, USA

Distributional Off-Policy Evaluation in Reinforcement Learning

10:30-10:50

Group Photo & Tea Break

10:50-11:20

Prof. Xiao-Hua Zhou, Peking University, China

Causal Inference under Regression Discontinuity Design with Multiple Treatments

11:20-11:50

Prof. Ryo Okui, University of Tokyo, Japan

Uniform Confidence Band for Marginal Treatment Effect Function

11:50-13:30

Lunch & Break

大会议程

Conference Agenda

7月5日 中关村新园1号楼科学报告厅
July 05, 2025

Science Lecture Hall, ZhongGuanXinYuan Global Village PKU

高清直播链接 / HD Live Link: <https://fdjtyo.vet.d-zan.net/live/page/228596496?v=1750744482638>

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Webinar ID: 816 3754 0792 Passcode: 825097

13:30-15:30

Session Chair 2: Prof. Lan Wang, University of Miami, USA

13:30-14:00

Asst. Prof. Xiaowu Dai, University of California, Los Angeles, USA

Statistical Learning via Partial Derivatives

14:00-14:30

Assoc. Prof. Jiwei Zhao, University of Wisconsin-Madison, USA

Towards the Efficient Inference by Incorporating Automated Computational Phenotypes under Covariate Shift

14:30-15:00

Assoc. Prof. Zheng Zhang, Renmin University of China, China

Causal Inference for Dose-response Functions on Treatment Intervals via Semiparametric Minimum Variance Weighting

15:00-15:30

Assoc. Prof. Linbo Wang, University of Toronto, Canada

Causal Inference for all: Marginal Causal Effects for Outcomes Truncated by Death

15:30-15:45

Tea Break

大会议程

Conference Agenda

7月5日 中关村新园1号楼科学报告厅
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Webinar ID: 816 3754 0792 Passcode: 825097

15:45-18:15

Session Chair 3: Prof. Satoshi Hattoris, Osaka University, Japan

15:45-16:15

Asst. Prof. Xinwei Sun, Fudan University, China

Bivariate Causal Discovery with Proxy Variables: Integral Solving and Beyond

16:15-16:45

Dr. Xinwei Shen, ETH Zurich, Switzerland

Distributional Instrumental Variable Method

16:45-17:15

Dr. Wei Huang, The University of Melbourne, Australia

Efficient Estimation of General Treatment Model by Balanced Neural Networks Weighting

17:15-17:45

Mr. Haoxuan Li, Peking University, China

Principal Stratification Benefits Trustworthy Policy Learning

17:45-18:15

Mr. Ziming Lin, University of Washington, USA

On the Consistency of Bootstrap for Matching Estimators

大会议程

Conference Agenda

7月5日 线上 ZOOM
July 05 Online ZOOM

线上参会链接 / Online Participation: <https://us06web.zoom.us/j/86169381921?pwd=AbdLVMIzUQjOVScjNXtpU4ANLNN6UM.1>

Webinar ID: 861 6938 1921 Passcode: 506557

19:30-23:00

Session Chair 4: Prof. Erin Evelyn Gabriel, University of Copenhagen, Denmark

19:30-20:00 / Speaker Local Time: 19:30-20:00

Asst. Prof. Doudou Zhou, National University of Singapore, Singapore

Federated Offline Reinforcement Learning

20:00-20:30 / Speaker Local Time: 14:00-14:30

Prof. Erin Evelyn Gabriel, University of Copenhagen, Denmark

Improved Inference for Symbolic Causal Bounds in Small Samples

20:30-21:00 / Speaker Local Time: 8:30-9:00

Asst. Prof. Junwei Lu, Harvard University, USA

Ranking Inference for Human Feedback Tuning in Large Language Models

21:00-21:30 / Speaker Local Time: 9:00-9:30

Assoc. Prof. Xu Shi, University of Michigan, USA

Addressing Unmeasured Confounding in Observational Studies: Insights from Negative Control Methods and Proximal Causal Inference

21:30-22:00 / Speaker Local Time: 9:30-10:00

Asst. Prof. Rui Duan, Harvard University, USA

Efficient Collaborative Learning of the Average Treatment Effect under Data Sharing Constraints

22:00-22:30 / Speaker Local Time: 10:00-10:30

Dr. Mengxin Yu, University of Pennsylvania, USA

Predictive Inference for Data with Group Symmetries

22:30-23:00 / Speaker Local Time: 10:30-11:00

Asst. Prof. Ruoxuan Xiong, Emory University, USA

Federated Causal Inference in Heterogeneous Observational Data

大会议程

Conference Agenda

7月6日 中关村新园1号楼科学报告厅
July 06, 2025

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Webinar ID: 867 9362 1838 Passcode: 862630

9:00-11:50

Session Chair 5: Assoc. Prof. Mingming Gong, The University of Melbourne & MBZUAI, Australia & UAE

9:00-9:30

Assoc. Prof. Tomohiro Shinozaki, Tokyo University of Science, Japan

One-Step Regression-Based Approximation of Covariate Balancing Propensity Scores: A Practical Approach to a Bounded IPW DR Estimator

9:30-10:00

Assoc. Prof. Lin Liu, Shanghai Jiao Tong University, China

On Computing and The complexity of Computing a Class of Higher-order U/V-statistics, Exactly

10:00-10:30

Asst. Prof. Yuhao Wang, Tsinghua University, China

The Risk of Joint Exogeneity in Quantum Experiment

10:30-10:50

Tea Break

10:50-11:20

Asst. Prof. Zijun Gao, University of Southern California, USA

Powerful Randomization Tests for Subgroup Analysis

11:20-11:50

Asst. Prof. Kosuke Morikawa, Iowa State University, USA

Data Integration with Biased Summary Data via Generalized Entropy Balancing

11:50-13:30

Lunch & Break

大会议程

Conference Agenda

7月6日 中关村新园1号楼科学报告厅
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Webinar ID: 867 9362 1838 Passcode: 862630

13:30-15:30

Session Chair 6: Asst. Prof. Yuhao Wang, Tsinghua University, China

13:30-14:00

Asst. Prof. Shunichiro Orihara, Tokyo Medical University, Japan

Robust Estimation and Model Selection for the Controlled Directed Effect with Unmeasured Mediator-outcome Confounders

14:00-14:30

Asst. Prof. Kuan Liu, University of Toronto, Canada

On Sensitivity Analysis for Time-Varying Unmeasured Confounding

14:30-15:00

Dr. Tian-Zuo Wang, Nanjing University, China

Estimating Causal Effects within Markov Equivalence Class in the Presence of Latent Confounders

15:00-15:30

Dr. Yu Luo, Kings College London, UK

Bayesian Causal Estimation via Loss Functions

15:30-15:45

Tea Break

大会议程

Conference Agenda

7月6日 中关村新园1号楼科学报告厅
July 06, 2025

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Webinar ID: 867 9362 1838 Passcode: 862630

15:45-17:15

Session Chair 7: Asst. Prof. Molei Liu, Peking University, China

15:45-16:15

Dr. Jay Xu, University of Toronto, Canada

A Bayesian Procedure to Extend Inferences of the Complier Average Causal Effect of a Binary Point Treatment from a Randomized Controlled Trial to a Target Population

16:15-16:45

Ms. Yilin Song, University of Washington, USA

The Instrumental Variable Model with Categorical Instrument, Exposure, and Outcome: Characterization, Partial Identification, and Statistical Inference

16:45-17:15

Dr. Chengyao Tang, Xinqiao Hospital, Army Medical University, China; Osaka University, Japan

A Sensitivity Analysis Method for Unmeasured Confounders for Survival Outcomes Using Mathematical Programming with Estimating Equation Constraints

大会议程

Conference Agenda

7月6日 线上 ZOOM
July 06 Online ZOOM

线上参会链接 / Online Participation: <https://us06web.zoom.us/j/87364828806?pwd=WUH1gefuhbNkOoZJvaKYaF8b595LHo.1>
Webinar ID: 873 6482 8806 Passcode: 013384

19:30-23:00

Session Chair 8: Assoc. Prof. Chanmin Kim, SungKyunKwan University, Korea

19:30-20:00 / Speaker Local Time: 13:30-14:00

Mr. Remi Khellaf, Inria, France

Federated Causal Inference: Multi-Studies ATE Estimation beyond Meta-Analysis

20:00-20:30 / Speaker Local Time: 20:00-20:30

Assoc. Prof. Chanmin Kim, SungKyunKwan University, Korea

Bayesian Confounder Selection in Mediation Analysis

20:30-21:00 / Speaker Local Time: 5:30-6:00

Asst. Prof. Ruohan Zhan, Hong Kong University of Science and Technology, Hong Kong, China

Post Reinforcement Learning Inference

21:00-21:30 / Speaker Local Time: 8:00-8:30

Asst. Prof. Jingshu Wang, The University of Chicago, USA

Causal inference and Calibration for Within-Family Mendelian Randomization

21:30-22:00 / Speaker Local Time: 8:30-9:00

Prof. Ying Huang, Fred Hutchinson Cancer Center and University of Washington, USA

Advances in the Identification and Utilization of Principal Surrogate Markers for Vaccine Efficacy

22:00-22:30 / Speaker Local Time: 7:00-7:30

Prof. Gary Chan, University of Washington, USA

GMM with Many Weak Moment Conditions and Nuisance Parameters: General Theory and Applications to Causal Inference

22:30-23:00 / Speaker Local Time: 7:30-8:00

Asst. Prof. Bo Zhang, Fred Hutch Cancer Center, USA

Manipulating an Instrumental Variable in an Observational Study of Premature Babies: Design, Bounds, and Inference



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