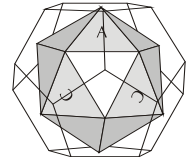


Canadian Cartographic Association
Association canadienne de cartographie



To: Thomas Schulz
Secretary-General and Treasurer
International Cartographic Association

2 May 2023

Re: ICA Commission chair nomination

I am pleased to nominate Dr. Ruisheng Wang of the Department of Geomatics Engineering, University of Calgary, Alberta, Canada, for the position of Chair of a new ICA Commission on Geospatial Data Analytics.

Dr. Wang is currently serving as Vice Chair of the Commission on Sensor-driven Mapping and I believe he is ideally placed to continue his work as Chair of the commission with a new focus on sensor-driven data analytics. The terms of reference of the newly proposed commission highlight this shift toward data analytics and will enable future progress of the commission.

If you have any questions, please feel free to contact me at julia.siemer@uregina.ca

Sincerely,

Dr. Julia Siemer
Canadian delegate to the ICA
Technical Councillor for Cartography, Canadian Institute of Geomatics (CIG)
Designate of the Canadian Cartographic Association (CCA)

Department of Geography and Environmental Studies
University of Regina
3737 Wascana Parkway
Treaty 4 | Regina, Saskatchewan
S4S 0A2 Canada
julia.siemer@uregina.ca

I. BIOGRAPHICAL DATA

Name: Ruisheng Wang
Full Address: Department of Geomatics Engineering, Schulich School of Engineering, University of Calgary, 2500 University Dr. N.W. Calgary, Alberta, Canada T2N 1N4
E-mail: ruiswang@ucalgary.ca

II. PROFESSIONAL RECORD

A. Academic Record

i) Undergraduate

B.Eng., July/1993
Photogrammetry and Remote Sensing
Wuhan University/Wuhan/People's Republic of China

ii) Graduate

M.Sc. Eng., September/2004
Remote Sensing & Geographic Information System
University of New Brunswick/Fredericton/Canada

Ph.D., October/2011
Computer Engineering
McGill University/Montreal/Canada

iii) Post-doctoral or other special training

T - PULSE Graduate Teaching Workshops, January/2007, McGill University/Canada
University Teaching Practicum, 2005-2006, York University/Toronto/Canada
Team-Based Project Management Course, September/2004, Queen's University/Canada
Course training, 1999-2000, Wuhan University/China

B. Academic and Other Appointments (current first)

Professor, Department of Geomatics Engineering/University of Calgary/Canada July 2021 – present

Associate Professor, Department of Geomatics Engineering/University of Calgary/Canada July 2017 – June 2021

- Teaching undergraduate and graduate courses, supervising undergraduate and graduate students as well as postdoctoral fellows and visiting scholars, writing proposals and securing external funding, services to the university, national and international professional societies etc.

Scientific/Technical Advisor, US Research lab/Ping An Technology/Palo Alto, California
2018/03- 2018/12

- Initiate and lead projects in the area of smart cities

- Technical advisor to a team of engineers and researchers

Assistant Professor, Department of Geomatics Engineering/University of Calgary/Canada
August 2012 – June 2017

- Teaching undergraduate and graduate courses, supervising undergraduate and graduate students as well as postdoctoral fellows and visiting scholars, writing proposals and securing external funding, services to the university, national and international professional societies etc.

Researcher, Nokia Location & Commerce/Chicago/USA, October 2008 – July 2012

- Conducting research on next generation map making and navigation with a focus on large-scale mobile LiDAR data processing for road infrastructure mapping and urban modeling
- Writing research proposals and IDS (idea disclosure submissions), initiating research projects, evaluating university proposals and companies, coordinating and participating joint research projects with universities and national laboratory, researching strategy for next generation mapping technology

Research Assistant, Department of Electrical and Computer Engineering, McGill University, Canada, September 2006 – October 2008

- Conducting research on accurate 3D object reconstruction from single images

Research and Teaching Assistant, Department of Earth and Space Engineering, York University, Canada September 2004 – September 2006

- Conducting research on Rational Function Model based 3D reconstruction methods for high-resolution satellite imagery and single view modeling, and Tutoring photogrammetric practices for undergraduate course.

Research Assistant, Department of Geodesy and Geomatics Engineering, University of New Brunswick, Canada, September 2002 – September 2004

- Conducting research on automated road extraction from high-resolution satellite imagery

Research Assistant, Institute for Controlling Engineering of Machine Tools and Manufacturing Units, the University of Stuttgart, Germany, January 2002 – August 2002

- Programming in Visual C++ and translating MatLab code into C code for mechanics applications

Part-time Programmer, Alstom GmbH, Stuttgart, Germany, March 2001 – September 2001

- Converting Fortran.dll into C++. dll so that it can be used in Java programming

Photogrammetrist, The Fourth Institute of Surveying and Design, the Ministry of Railways of China, July 1993 – September 1999

- Operating digital photogrammetric workstation and analytical plotter for topographic mapping, using total station and GPS for topographical mapping, control survey, leveling, traversing, and deformation measurement, and training new employees

C. Administrative Responsibilities

Not applicable

D. Professional Certification and Memberships in Learned Societies

- P.Eng.: The Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA)
- Member: American Society of Photogrammetry and Remote Sensing (ASPRS)
- Senior Member: Institute of Electrical and Electronics Engineers (IEEE)
- Member: Association for Computing Machinery (ACM)

E. Awards, Distinctions and Fellowships

- ISPRS Samuel Gamble Award, ISPRS 2022
- Talbert Abrams Award Second Honorable Mention, ASPRS 2018
- ZHIZHOU Best Poster Paper Award 2017, with my master's student Lei Xie
- Research Excellence Award, Schulich School of Engineering 2017
- Outstanding Teaching Performance, Schulich School of Engineering 2016
- Google Research Award, 2016
- Early Research Excellence Award, Schulich School of Engineering 2014
- Google Research Award, USA, 2014
- Certificate of Excellence in Reviewing, Elsevier & ISPRS Journal of Photogrammetry and Remote Sensing, 2014
- Eight Significant Development Awards, NOKIA, USA, 2009-2010
- Benedek Graduate Fellowship in Engineering, McGill University, Canada, 2008-2009
- Vadasz Fellowship, McGill University, Canada, 2006-2009
- McGill Engineering Doctoral Award (MEDA), McGill University, Canada, 2006-2008
- National Sciences and Engineering Council of Canada (NSERC) Postgraduate Scholarships at PhD level, 2006-2008
- Skills Development Fund, York University, Canada, 2006
- Graduate Development Fund, York University, Canada, 2006
- Professional Development Fund, York University, 2005
- GeoTango Award of Research Excellence, GEOIDE, Canada, 2005
- Best Poster Award in XXth ISPRS Congress, Istanbul, Turkey, 2004
- Research and Teaching Assistantship, York University, Canada, 2004-2006
- Graduate Research Assistantship and Research Assistantship, University of New Brunswick, Canada 2002-2004
- Conference travel award, University of New Brunswick, Canada, 2003
- Excellent Undergraduate Student scholarship, Wuhan University, China, 1989-1990
- Outstanding member award of summer surveying camp for high school students, Hubei province, China, 1988

III. EDUCATIONAL ACTIVITIES

A. Instruction

- Undergraduate Level

ENGO 573 Digital Terrain Modeling

- Responsible for lecturing and modifying course content
- 2013 USRI average 5.99/7
- 2014 USRI average 6.51/7
- 2015 USRI average 6.45/7
- 2016 USRI average 6.27/7

ENGO 559 Digital Imaging and Applications

- Responsible for lecturing, modifying course content, and redeveloping all the labs
- 2015 USRI average 6.27/7
- 2017 USRI average 5.42/7

ENGG 407 Numerical Methods in Engineering

- Responsible for lecturing and redeveloping some of the labs, course coordinator in 2015
- 2014 USRI average 5.64/7
- 2015 USRI average 5.82/7

ENGO 431 Principles of Photogrammetry

- Responsible for lecturing and modifying course content

ENGG 233 Computing for Engineers

- Course and Lab coordinator in 2012

- Graduate Level

ENGO 699 Geospatial Vision

- Responsible for lecturing
- 2014 USRI average 5.84/7

ENGO 699.19 Object Detection and Recognition in 3D Point Clouds

- Responsible for defining and collecting papers in 2015
- Directed study course

- Continuing Education

Not applicable

- Teaching at foreign institutions

Not applicable

- International schools/workshops

Not applicable

- Invited seminars/lectures

1. International Conference on Geomatics Education 2023/Hongkong, Building3D: A urban-scale benchmark for learning roof structures from point clouds, May10-12, 2023.
2. Advanced Urban Remote Sensing Workshop/Hongkong, Building3D: A urban-scale benchmark for learning roof structures from point clouds, Dec. 3, 2022.
3. Lanzhou Jiaotong University/China, Point Cloud Processing for Urban Mapping, Dec 21, 2020.
4. Huazhong Normal University/China, Urban Mapping from LiDAR Point Clouds, December 4, 2020 (Named lecture Huada Forum).
5. Huawei Wuhan Institute/China, Urban Mapping from LiDAR Point Clouds, November 23, 2020.
6. Tutorial on Vision Meets Mapping (VMM2) at the 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2020), Mapping from LiDAR Point Clouds, June 19, 2020.
7. Google Inc., Mountain View/California, Building Contouring and Modeling from Aerial and Mobile LiDAR Point Clouds, September 20, 2019.
8. The Hong Kong Polytechnic University, LSGI Public Lecture Series “Point Cloud Processing at GI Lab”, Jan. 9 2019.
9. Southwest Forestry University/China, Point Cloud Processing and Applications, December 2018.
10. China Railway Siyuan Survey And Design Group Co., LTD /China, Point Cloud Processing and Applications, July 2018.
11. China TOPRS Technology Co., Ltd, Beijing/China, Towards Fully Automated Map Generation, May 23, 2018.
12. Tencent Inc., Beijing/China, Towards Fully Automated Map Generation, May 23, 2018.
13. Wuhan University, Wuhan/China, Towards Fully Automated Map Generation, May 21, 2018.
14. Sun Yat-sen University, Guangzhou/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, June 19, 2017.
15. Tongji University, Shanghai/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, June 6, 2017.
16. Huadong Normal University, Shanghai/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, June 6, 2017.
17. Nanjing Normal University, Jiangsu/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, June 5, 2017.
18. Nanjing University, Jiangsu/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, June 4, 2017.
19. China University of Mining and Technology, Xuzhou/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, June 3, 2017.
20. Xinjiang Academy of Surveying and mapping, Urumqi/China, Point Cloud Processing at GI Lab, May 24, 2017.
21. The 2nd Institute of Surveying and Mapping, Xinjiang/China, Point Cloud Processing at GI Lab, May 22, 2017.
22. School of Remote Sensing and Information Engineering, Wuhan University/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 24, 2017.
23. Beijing Advanced Innovation Center for Imaging Technology/China, LiDAR Mapping, May 20, 2017.
24. Beijing Advanced Innovation Center for Imaging Technology/China, Road Infrastructure Mapping and Building Modeling Using Mobile LiDAR, Dec. 12, 2016.

25. Tencent Inc. (Beijing)/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, Oct. 27, 2016.
26. The Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, Oct. 26, 2016
27. Google Inc. (Mountain View)/USA, Enhancing Building Facade Using LiDAR Based Sculpting, August 15, 2016.
28. Peking University (Beijing)/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 26, 2016.
29. Chinese University of Geoscience (Beijing)/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 25, 2016.
30. UISEE Inc. /China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 25, 2016.
31. Bioinformatics Institute – A Star/Singapore, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 16, 2016.
32. LIESMARS Wuhan University/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 13, 2016.
33. Advanced Forum, Chinese Society for Surveying, Mapping and Geofomation/China, Scene Parsing using Graph Matching on Street-view Data, May 10, 2016.
34. Capital Normal University/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, May 9, 2016.
35. Beijing University of Civil Engineering and Architecture/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, April 29, 2016.
36. Institute of Geographic Science and Natural Resources research, Chinese Academy of Sciences/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, April 28, 2016.
37. The Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences/China, Semantic Segmentation of Street View Images Using Graph Matching and Point Clouds, April 28, 2016.
38. The CRV Symposia, 12th Conference on Computer and Robot Vision/Canada, Scene Parsing using Graph Matching on Street-view Data, June 3, 2015.
39. School of Remote Sensing and Information Engineering, Wuhan University/China, Scene Parsing using Graph Matching on Street-view Data, May 22, 2015.
40. Xi'dian University/China, Scene Parsing using Graph Matching on Street-view Data, May 13, 2015.
41. Nanjing University of Aeronautics and Astronautics/China, Scene Parsing using Graph Matching on Street-view Data, December 10, 2014.
42. Peking University (Shenzhen)/China, Scene Parsing using Graph Matching on Street-view Data, December 8, 2014.
43. Jinan Survey and Design Institute/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, November 20, 2014.
44. Google Inc. (Mountain View)/USA, Scene Parsing using Graph Matching on Street-view Data, October 7, 2014.
45. Zhang Jia Gang Free Trade Zone Technology & Talent Bureau/China, Mobile LiDAR for Road Infrastructure Mapping and Monitoring, July 2014.
46. Tongji University/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, July 2014.

47. Southwest Jiaotong University/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, July 2014.
48. Shandong University of Science and Technology/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, June 2014.
49. Nanjing Forestry University/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, May 2014.
50. Zhejiang University/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, May 2014.
51. Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, May 2014.
52. Baidu Inc., (Beijing)/China, Mobile LiDAR Mapping for Maps, July 2013.
53. China Railway Siyuan Survey And Design Group Co., LTD /China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, July 2013.
54. School of Remote Sensing and Information Engineering, Wuhan University/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, July 2013.
55. Chinese Academy of Surveying and Mapping/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, November 2012.
56. School of Remote Sensing and Information Engineering, Wuhan University/China, lectures on robust model fitting and mobile LiDAR mapping, November 2012.
57. LIESMARS Wuhan University/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, May 2012.
58. VITSPACE Technology Inc, (Beijing)/China, Towards Urban 3D Modeling Using Mobile LiDAR and Images, May 2012.
59. Geographic Information Science and Technology (GIST) Group, Oak Ridge National Laboratory (ORNL)/USA, Towards Urban 3D Modeling Using Mobile LiDAR and Images, July 2011.
60. Ryerson University/Canada, a lecture on Hyper-spectral Image Analysis, 2006

B. Graduate and Undergraduate Supervision

- Current graduate students
 1. Akshay Bharadwaj (2022-2023 Alberta Graduate Excellence Scholarship (AGES), Geomatics Engineering, Sep. 2020 – Sep. 2024, PhD, Supervisor
 2. Perpetual Hope Akwensi (2020-21 Entrance Award Open Doctoral Awards, Alberta Innovates Graduate Student Scholarships 2021-2024), Geomatics Engineering, Sep. 2020 – Sep. 2024, PhD, Supervisor
 3. Hongxin Yang (2020-2023 Eyes High Doctoral Scholarship), Geomatics Engineering, Sep. 2020 – Sep. 2024, PhD, Supervisor
 4. Shangfeng Huang, Geomatics Engineering, January 2023 – Dec 2026, PhD, Supervisor
 5. Huaigang Huang, Geomatics Engineering, Sep. 2023 – Sep 2027, PhD, Supervisor
 6. Fatma Mutlu Kipirt, Geomatics Engineering, May 2021 – May 2023, MSc, Supervisor
- List of past-supervised graduate students
 1. Shangfeng Huang, Geomatics Engineering, January 2022 – Dec 2022, MSc (transferred to PhD after one year), Supervisor
 2. Hailun Yan, Geomatics Engineering, Sep. 2020 – Oct. 2022, MSc, Supervisor

3. Shaobo Xia (CSC Doctoral Scholarship 2016-2020, FGS scholarship 2017), Geomatics Engineering, Sep. 2016 – May 2020, PhD, Supervisor
 4. Sheng Xu (AITF doctoral scholarship 2015-2019), Geomatics Engineering, Jan. 2015 – Jan. 2019, PhD, Supervisor
 5. Han Zheng (Huangqi Sun Memorial Graduate Scholarship 2016), Geomatics Engineering, Sep. 2014 – Dec. 2016, MSc, Supervisor
 6. Lei Xie (Best Poster Paper Award, ISPRS Geospatial week 2017, Talbert Abrams Award Second Honorable Mention, ASPRS 2018), Geomatics Engineering, May 2016 – May 2018, MSc, Supervisor
 7. Weiwei Sun (Mitacs Master's scholarship 2016-2017), Geomatics Engineering, Sep. 2016 – May 2018, MSc, Supervisor
 8. Tianshu Yu, Geomatics Engineering, July 2016 – May 2017, PhD (withdraw), Supervisor
 9. Jia Qiu (AITF Master's scholarship 2014-2015, One Time Recruitment Award 2013), Geomatics Engineering, Sep. 2013 – Sep. 2015, MSc, Supervisor
 10. Tianshu Yu (AITF Master's scholarship 2014-2016), Geomatics Engineering, May 2014 – July 2016, MSc, Supervisor
 11. Yizhi Huang (Jan 2019 – Jan 2020), MSc, Supervisor
 12. Wei Liu, Geomatics Engineering, Sep. 2013 – May 2015, MEng (withdraw due to academic misconduct), Supervisor
 13. Hongcheng Song (Sep -Dec 2019), MSc. (Withdraw due to family issues), Supervisor
- List of visiting professors/scholars
 1. Dr. Jian Gao, Nanjing University of Posts and Telecommunications, 2022/11-10/2023
 2. Dr. Youmei Han, Jiangsu Ocean University, 2022/06 -2023/05
 3. Dr. Bo Guo, Guangdong University of Technologies, 2021/12-2022/12
 4. Dr. Peng Li, Chuzhou University
 5. Dr. Weifeng Zhao, Chang'an University
 6. Dr. Jing Zhang, Wuhan University
 7. Kefeng Wang, The First Institute of Surveying and Mapping of Xinjiang Uygur Autonomous Region
 8. Dr. Huan Liu, Jinggangshan University
 9. Dr. Yang Liu, Shenyang Aerospace University, SAU
 10. Dr. Chunsheng Hu, National University of Defense Technology (NUDT)
 11. Dr. Guiping Qian, Zhejiang University of Media & Communications (ZUMC)
 12. Dr. Shengyou Lin, Zhejiang University of Media & Communications (ZUMC)
 - Supervision of visiting/exchange students
 1. Yiwei Shi, Geomatics Engineering, Jan. 2023– Jan. 2024, PhD, Supervisor
 2. Donglin Fan, Geomatics Engineering, June. 2022 – May 2023, PhD, Supervisor
 3. Lihong Chang, Geomatics Engineering, Oct. 2021 – Sep. 2022, PhD, Supervisor
 4. Wuyong Tao, Geomatics Engineering, Sep. 2019 – Dec. 2020, PhD, Supervisor
 5. Xiahai Bu, Geomatics Engineering, Sep. 2019 – Dec. 2019, PhD, Supervisor
 6. Wenxiao Sun, Geomatics Engineering, Sep. 2019 – Dec. 2019, PhD, Supervisor
 7. Chen Chen, Geomatics Engineering, Sep. 2019 – Dec. 2019, PhD, Supervisor
 8. Xiankun Wang, Geomatics Engineering, Sep. 2019 – Dec. 2019, PhD, Supervisor
 9. Liming Du, Geomatics Engineering, Jan 2019 – June 2019, PhD, Supervisor
 10. Tianshuo Li, Geomatics Engineering, July 2018 – Jan. 2019, PhD, Supervisor

11. Wei Han, Geomatics Engineering, Sep. 2017 – Sep. 2018, PhD, Supervisor
12. Pengfei Li, Geomatics Engineering, July 2017 – Dec. 2017, PhD, Supervisor
13. Nan Luo, Geomatics Engineering, Jan. 2016 - June 2016, PhD, Supervisor
14. Siyang Zhang, Geomatics Engineering, Sep. 2015 – Sep. 2017, PhD, Supervisor
15. Bing Zhao, Geomatics Engineering, Oct. 2015 – Oct. 2016, PhD, Supervisor

- Supervision of senior undergraduate students (e.g., group projects, summer students, etc.)
 1. Keon Jang, Geomatics Engineering, Sep. 2012 - Sep. 2013, Internship mentor
 2. Nicole Beier, Geomatics Engineering, Sep. 2014 - Apr. 2015, group project (sign)
 3. Andreea Bordieanu, Geomatics Engineering, Sep. 2014 - Apr. 2015, group project (sign)
 4. Sarah Beth DeMong, Geomatics Engineering, Sep. 2014 - Apr. 2015, group project (sign)
 5. Raymond Khuu, Geomatics Engineering, Sep. 2014 - Apr. 2015, group project (sign)
 6. Jalen Ellis, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (curb)
 7. Brenden Birdsell, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (curb)
 8. Ethan Hill, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (curb)
 9. Julius Strachan III, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (curb)
 10. Arthur Lu, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (sign)
 11. Deanne vanHaren, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (sign)
 12. Erika Swanlund, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (sign)
 13. Mitchell Gonzalez, Geomatics Engineering, Sep. 2015 - Apr. 2016, group project (sign)
 14. Jessica Cashin, Geomatics Engineering, Sep. 2016 - Apr. 2017, group project (curb)
 15. Rida Khan, Geomatics Engineering, Sep. 2016 - Apr. 2017, group project (curb)
 16. Jose Nicolas Mora, Geomatics Engineering, Sep. 2016 - Apr. 2017, group project (curb)
 17. Ronald Branchaud, Geomatics Engineering, Sep. 2016 - Apr. 2017, group project (curb)
 18. Claudia Wong, Geomatics Engineering, Sep. 2017 - Apr. 2018, group project (curb)
 19. Doreen Mondin, Geomatics Engineering, Sep. 2017 - Apr. 2018, group project (curb)
 20. Ethan Smith, Geomatics Engineering, Sep. 2017 - Apr. 2018, group project (curb)
 21. Sandra Simeonova, Sep. 2017 - Apr. 2018, group project (curb)
 22. Carter Janssen, Sep. 2020 – Apr. 2021, group project (curb)
 23. Gregory Brewster, Sep. 2020 – Apr. 2021, group project (curb)
 24. Max Liu, Sep. 2020 – Apr. 2021, group project (curb)
 25. Peter Shen, Sep. 2020 – Apr. 2021, group project (curb)
 26. Feitong Tan, Mitacs Globalink program, May 2015 - Aug 2015, summer intern
 27. Chao Wang, Mitacs Globalink program, May 2016 - Aug 2016, summer intern
- Examiner/supervision committee/Neural Chair
 1. Sibel Canaz, Geomatics Eng., MSc defense, Nov. 2012, Examiner
 2. Naif Muidh Alsubaie, Geomatics Eng., MSc defense, Dec. 2012, Examiner
 3. Bei Huang, Geomatics Eng., MSc defense, June 2013, Examiner
 4. Michael Eugene, Fleming, Civil Engineering, MSc defense, Oct. 2015, Examiner
 5. Amirloo Abolfathi, Elmira, Geomatics Eng., MSc defense, Feb. 2015, Examiner
 6. Al-Durgham, Kaleel Mansour, Geomatics Eng., MSc defense, July 2014, Examiner
 7. Han-Fang Tsai, Geomatics Eng., MSc defense, Aug. 2014, Examiner
 8. Kazemipur, Bashir, Geomatics Eng., MSc defense, Jan. 2015, Examiner
 9. Xiaohong Shang, Geomatics Eng., MSc defense, Oct. 2015, Examiner
 10. Xiaodong Sun, Geomatics Eng., MSc defense, Aug. 2015, Examiner
 11. Wenxin Yang, Geomatics Eng., MSc defense, Dec. 2015, Examiner

12. Luyao Xu, Mechanical & Manufacturing Eng., PhD defense, Aug. 2013, Examiner
13. Peng Xie, Geomatics Eng., PhD defense, Sep. 2013, Examiner
14. Tahir Akbar, Geomatics Eng., PhD defense, Aug. 2013, Examiner
15. Essam Hamza, Geomatics Eng., PhD defense, Dec. 2013, Examiner
16. Ali Lasemi, Mechanical & Manufacturing Eng., PhD defense, Dec. 2013, Examiner
17. Hussein Attya, Geomatics Eng., PhD defense, May 2016, Examiner
18. Emily Lynn, Bishop, Biomedical Eng., PhD defense, Jan. 2015, Examiner
19. Tahir Ali, Akbar, Civil Eng., PhD defense, Aug. 2013, Examiner
20. Siriwardana, Chandana, Civil Eng., PhD defense, Dec. 2015, Examiner
21. Yashar Balazadegan Sarvrood, Geomatics Eng., PhD defense, Aug. 2016, Examiner
22. Mostafa Arastounia, Geomatics Eng., PhD defense, June 2017, Examiner
23. Eida Erfanian, Electrical and Computer Engineering, PhD defense, Sep. 2017, Examiner
24. Fengman Jia, Geomatics Eng., PhD defense, Aug. 2019, Examiner
25. Hani Mahmoud Mohammed, Geomatics Eng., PhD defense, April 2020, Examiner
26. Mohamed Fawzy Hassanein, Geomatics Eng., PhD defense, April 2020, Examiner
27. Shu Zhang, Geomatics Eng., PhD defense, March 2022, Examiner
28. Salar Ghaffarian, Geography, PhD defense, April 2022, Examiner
29. Essam hassan Hamza, Geomatics Eng., Dec. 2012 – May 2013, Supervision committee
30. Ehsan Hafiz, Chowdhury, Geomatics Eng., Oct 2013 – Mar. 2015, Supervision committee
31. Hussein T. A., Al-Gurrani, Geomatics Eng., Oct 2013 – May 2016, Supervision committee
32. Yashar Balazadegan Sarvrood, Geomatics Eng., Oct 2013 – Aug. 2016, Supervision committee
33. Fangning He, Geomatics Eng., Oct 2013 – Aug. 2014, Supervision committee
34. Fei Liu, Geomatics Eng., Oct 2014 – present, Supervision committee
35. Mostafa Arastounia, Geomatics Eng., Oct 2013 – present, Supervision committee
36. Ge Cui, Geomatics Eng., Oct 2013 – present, Supervision committee
37. Paul Verlaine, Gakne, Geomatics Eng., Oct 2014 – present, Supervision committee
38. Khan Rubayet, Rahaman, Geomatics Eng., Oct 2014 – present, Supervision committee
39. Al-Durgham, Kaleel Mansour, Geomatics Eng., Sep. 2015 - present, Supervision committee
40. Fengman Jia, Geomatics Eng., Feb. 2016 - present, Supervision committee
41. Hani Mahmoud Mohammed, Geomatics Eng., Aug. 2016 - present, Supervision committee
42. Mohammed Hassanein, Geomatics Eng., Aug. 2016 - present, Supervision committee
43. Shan Qian, Mechanical & Manufacturing Eng., 2017-present, Supervision committee
44. Kent Douglas Jones, Geomatics Eng., Feb. 2018 - present, Supervision committee
45. Shu Cheng, Geomatics Eng., Sep. 2019 – present, Supervision committee
46. Zhitao Lyu, Geomatics Eng., Feb. 2020 – present, Supervision committee
47. Essam H. Hamza, Geomatics Eng., PhD Candidacy, Jan. 2013, Examiner
48. Michael Denbina, Geomatics Eng., PhD Candidacy, May 2013, Examiner
49. Ivan Detchev, Geomatics Eng., PhD Candidacy, Dec. 2013, Examiner
50. Mostafa Arastounia, Geomatics Eng., PhD Candidacy, Dec. 2013, Examiner
51. Hussein Turki Attya, Al-Gurrani, Geomatics Eng., PhD Candidacy, July 2014, Examiner
52. Yashar Balazadegan Sarvrood, Geomatics Eng., PhD Candidacy, Dec. 2014, Examiner
53. Fangning He, Geomatics Eng., PhD Candidacy, July 2014, Examiner
54. Hojjat Kabirzadeh, Geomatics Eng., PhD Candidacy, Mar. 2014, Examiner
55. Bernhard Aumayer, Geomatics Eng., PhD Candidacy, Mar. 2014, Examiner
56. Bernhard Martin, Aumayer, Geomatics Eng., PhD Candidacy, Apr. 2014, Examiner
57. Navid Mostofi, Geomatics Eng., PhD Candidacy, Aug. 2014, Examiner
58. Ge Cui, Geomatics Eng., PhD Candidacy, Jan. 2015, Examiner

59. Fei Liu, Geomatics Eng., PhD Candidacy, Sep. 2015, Examiner
60. Paul Verlaine, Gakne, Geomatics Eng., PhD Candidacy, 2016, Examiner
61. Khan R. Rahaman, Geomatics Eng., PhD Candidacy, 2016, Examiner
62. Kaleel Al-Durgham, Geomatics Eng., PhD Candidacy, Aug. 2017, Examiner
63. Shan Qian, Mechanical & Manufacturing Eng., PhD Candidacy, 2017, Examiner
64. Shu Zhang, Geomatics Eng., PhD Candidacy, 2018, Examiner
65. Dhananjay Deshmukh, Geomatics Eng., PhD Candidacy, 2022, Examiner
66. Hongzhou Yang, Geomatics Eng., PhD defense, Feb. 2018, Neural Chair
67. Hsiu-Wen Chang, Geomatics Eng., PhD defense, Sep. 2014, Neural Chair
68. Dequan Zhou, Geomatics Eng., MSc defense, Sep. 2014, Neural Chair
69. Bingjie Wei, Geomatics Eng., MSc defense, June 2016, Neural Chair

- External Supervision

1. M.Sc. Bingxin Pu, 2017/09-2020/07, Capital Normal University, Beijing, China
2. M.Sc. Huimin Gao, 2019/09-2021/07, Capital Normal University, Beijing, China
3. M.Sc. Huaigang Huang, 2018/09-2021/07, Guangzhou University, Guangzhou, China
4. M.Sc. Qing Guo, 2019/09-2022/07, Guangzhou University, Guangzhou, China

- External examiner

5. Yujiao Shi, Computer Science, Australian National University (ANU), Australia, PhD defense, 2023
6. Jingyuan Diao, Geomatics Eng., University of New South Wales, Australia, MSc defense, Sep. 2019
7. Kwanthar Lim, Geomatics Eng., Curtin University, Australia, MSc defense, Dec. 2012
8. Heungsik Kim, Geomatics Eng., York University, Canada, PhD defense, Apr. 2015
9. Zeyu Li, Geomatics Eng., University of New South Wales, Australia, PhD defense, May 2017
10. Lingfei Ma, Geomatics Eng., University of Waterloo, Canada, MSc defense, July, 2017
11. Pengcheng Zhao, Geomatics Eng., Wuhan University, China, PhD defense, May, 2020
12. Mingyao Ai, Geomatics Eng., Wuhan University, China, PhD defense, May, 2020
13. Weiquan Liu, Computer Science, Xiamen University, China, PhD defense, May, 2020
14. Wei Li, Computer Science, Xiamen University, China, PhD defense, May, 2020
15. Ahmed, Wael Mohamed Sayed, Geomatics Eng., The Hong Kong Polytechnic University, China, PhD defense, June, 2020

C. Postdoctoral Fellow Trainees (*Give name, topic, period, sources of funding*)

- Dr. Jiju Peethambaran, “Urban Modeling from Mobile LiDAR”, July 2015 – July 2017, Eyes high postdoctoral fellowship.
- Dr. Dong Chen, “Building modeling from Aerial LiDAR”, Aug. 2016 – Apr. 2018, Chinese Scholarship Council (Talbert Abrams Award Second Honorable Mention, ASPRS 2018)
- Dr. Jing Zhang, “LiDAR Mapping System Integration”, Mar. 2017 – July 2017, NSERC Discovery and Google Grant.

IV. SCHOLARLY ACTIVITIES

A. Research Support

- Grants

NSERC Alliance – Alberta Innovates Advance Program (2022/05-2024/04), \$300,000.00, A cost-effective mapping platform for digitizing the world: from autonomous vehicles to digital twins and the metaverse. PI

NSERC Discovery Grant (2019-2024), \$130,000.00, Automatic Creation and Real-time Update of Detailed 3D Maps Using LiDAR and Images, PI

NSERC CRD (2018-2023), \$155,818, Enhancing building Facade using mobile LiDAR, PI

SSE Core Research Equipment Initiative grant (2016-2017), \$77,589.09, A Deep Learning Computing Facility for State-of-the-Art Geomatics Research, PI

NSERC Discovery Grant (2013-2019), \$144,000.00, Integration of Mobile and Aerial LiDAR for Large-Scale Photorealistic Urban Modeling, PI

NSERC RTI (2016-2017), \$120,697.00, A UAV LiDAR Mapping System for Innovative Mapping applications, PI

Google Research Award (2016-2017), \$77,909.30, Enhancing Building Façade Using Mobile LiDAR, PI

Google Research Award (2014-2015), \$38,129.00, Building Entrance Recognition from Street-Level LiDAR and Video Images, PI

NSERC CRD (2015-2017), \$78,084.00, Building Entrance Recognition from Street-Level LiDAR and Video Images, PI

Eyes High Post-doctoral Fellow Nomination (2015-2017), \$100,000.00, Detail Transfer: Refining Coarse Building Models by Laser Scans, PI

URGC Grants, U of Calgary (2014-2015), \$15,000.00, Element-Aware Facade Modeling from Street-Level LiDAR and Images, PI

Urban Alliance Seed Grant, U of Calgary (2014-2015), \$15,000.00, Detection and Condition Assessment of Road Signs Using Mobile LiDAR, PI

VPR starter, U of Calgary (2013-2014), \$5,000.00, Inferring Roads from Noisy GPS Traces, PI

Geomatics Starter Grant, U of Calgary (2012-2015), \$45,000.00, Mobile LiDAR for Road Infrastructure Mapping and Monitoring and Urban Modeling, PI

SSE Starter Grant, U of Calgary (2012-2015), \$30,000.00, Inferring and Updating Road Networks from GPS Traces, PI

- Contracts

Not Applicable

B. Invited Keynote Addresses

- Tutorial on Vision Meets Mapping (VMM3), 2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2021), June 19-25.
- Tutorial on Vision Meets Mapping (VMM2), 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2020), Mapping from LiDAR Point Clouds, June 19, 2020.
- Panel discussion, International LiDAR Mapping Forum, Denver, CO, Feb 7, 2018
- Panel discussion, The 2nd Silicon Valley Beijing International IoT Summit & Investment and Financing Competition, Santa Clara, CA, Jan 13, 2018
- Panel discussion, China International Software & Information Service Fair, Dalian, June 16, 2017
- The 4th National LiDAR Conference, Wuhan/China, Point Cloud Processing at GI Lab, May 27, 2017
- Advanced Forum, Chinese Society for Surveying, Mapping and Geoformation/China, Scene Parsing using Graph Matching on Street-view Data, May 10, 2016.
- The CRV Symposia, 12th Conference on Computer and Robot Vision/Canada, Scene Parsing using Graph Matching on Street-view Data, June 3, 2015.

C. Publications

- Peer-reviewed journal papers (author list, published, in press, submitted)
1. Perpetual Hope, Zhizhong Kang, Ruisheng Wang, 2023. Hyperspectral image-aided LiDAR point cloud labeling via spatio-spectral feature representation learning, International Journal of Applied Earth Observation and Geoinformation.
 2. Changwei Wang, Lele Xu, Rongtao Xu, Shibiao Xu, Weiliang Meng, Ruisheng Wang, Xiaopeng Zhang 2023. Triple Robustness Augmentation Local Features for multi-source image registration, ISPRS Journal of Photogrammetry and Remote Sensing, Volume 199, 2023, Pages 1-14.
 3. Jian Gao, Houjun Jiang *, Zhongchang Sun, Ruisheng Wang, Youmei Han 2023. A Parallel InSAR Phase Unwrapping Method Based on Separated Reliability Regions. Remote Sensing.
 4. Zhenyu Zhang, Jian Wang *, Zhiyuan Li, Youlong Zhao, Ruisheng Wang 2022. Optimization Method of Airborne LiDAR Individual Tree Segmentation Based on Gaussian Mixture Model. Remote Sensing.
 5. Jing Li, Chenhui Shi, Jun Chen, Ruisheng Wang, Zhiyuan Yang, Fan Zhang & Jianhua Gong (2022) A monocular visual SLAM system augmented by lightweight deep local feature extractor using in-house and low-cost LIDAR-camera integrated device, International Journal of Digital Earth, 15:1, 1929-1946, DOI: 10.1080/17538947.2022.2138591
 6. Ma, Xinjiang; Yue, Dongjie; Liu, Rufeif; Wang, Ruisheng; Zhu, Shaolin; Wang, Minye; Yu, Jiayong, 2022. Road curbs extraction from MLS point clouds with multi-dimensional LBPROT features. The Photogrammetric Record.

7. **Li Li**, Nan Song, Fei Suna, Xinyi Liu, Ruisheng Wang, Jian Yao, Shaosheng Cao, 2022. Point2Roof: End-to-End 3D Building Roof Modeling from Airborne LiDAR Point Clouds. *ISPRS Journal of Photogrammetry and Remote Sensing*.
8. **Donglin Fan**, Hongchang He, Ruisheng Wang, You Zeng, Bolin Fu, Yuankang Xiong, Lilong Liu, Yong Xu, Ertao Gao, 2022. CHLNET: A Novel Hybrid 1D CNN-SVR Algorithm for Estimating Ocean Surface Chlorophyll-a. *Frontiers in Marine Science*, section Marine Conservation and Sustainability <https://doi.org/10.3389/fmars.2022.934536>
9. Shangfeng Huang, Guorong Cai; Zongyue Wang, Qiming Xia, Ruisheng Wang, 2021. SSA3D: Semantic Segmentation Assisted One-Stage Three-Dimensional Vehicle Object Detection. *IEEE Transactions on Intelligent Transportation Systems*.
10. Huaigang Huang, Yiping Chen, Ruisheng Wang, 2021. A Lightweight Network for Building Extraction from Remote Sensing Images. *IEEE Transactions on Geoscience and Remote Sensing*.
11. Shaobo Xia, Sheng Xu, Ruisheng Wang, Jonathan Li, Guanghui Wang, 2021. Building Instance Mapping from ALS Point Clouds Aided by Polygonal Maps. *IEEE Transactions on Geoscience and Remote Sensing*, DOI: 10.1109/TGRS.2021.3087159.
12. Sheng Xu, Ruisheng Wang, Hao Wang and Ruigang Yang, 2021. Plane Segmentation Based on the Optimal-vector-field in LiDAR Point Clouds. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Volume: 43, Issue 11, Page(s): 3991-4009, December 2021.
13. Ye C, Zhao H, Ma L, Jiang H, Li H, Wang R, Chapman M, Marcato Jr J, Li J, 2020. Robust lane extraction from MLS point clouds towards HD maps especially in curve roads, *IEEE Transactions on Intelligent Transportation Systems*, DOI:10.1109/TITS.2020.3028033.
14. Xu Sheng, Wang Ruisheng, Wang Hao, Zheng Han, 2020. An optimal hierarchical clustering approach to mobile LiDAR point clouds, *IEEE Transactions on Intelligent Transportation Systems*, Volume: 21, Issue: 7, Page(s): 2765-2776.
15. Wuyong Tao, Xianghong Hua, Kegen Yu, Ruisheng Wang, Xiaoxing He, 2020. A Comparative Study of Weighting Methods for Local Reference Frame. *Appl. Sci.* 2020, 10(9), 3223;
16. Peng Li, Ruisheng Wang, Yanxia Wang, Wuyong Tao, 2020. Evaluation of the ICP algorithm in 3D point cloud registration, *IEEE Access*, Volume: 8, Issue:1, pp: 68030-68048.
17. Wei Han, Ruisheng Wang, Daqing Huang, Cheng Xu, 2020. Large-scale ALS Data Sematic Classification Integrating Location-Context-Semantics Cues by Higher-Order CRF, *Sensors* 2020, 20(6), 1700.
18. Shaobo Xia, Dong Chen, Ruisheng Wang, Jonathan Li, Xinchang Zhang, 2020. Geometric Primitives in LiDAR Point Clouds: A Review. *IEEE Selected Topics in Applied Earth Observations and Remote Sensing*, Volume: 13, Issue:1, pages:685-707.
19. Wuyong Tao, Xianghong Hua, Ruisheng Wang, Dong Xu, 2020. Quintuple Local Coordinate Images for Local Shape Description. *Photogrammetric Engineering & Remote Sensing*, Volume 86, Number 2, February 2020, pp. 121-132(12).
20. Peng Li, Ruisheng Wang, Yanxia Wang, Ge Gao, 2020. Fast Method of Registration for 3D RGB Point Cloud with Improved Four Initial Point Pairs Algorithm. *Sensors* 2020, 20(1), 138.
21. Peng Li, Ruisheng Wang, Yanxia Wang, Ge Gao, 2019. Automated Method of Extracting Urban Road Based on Region Growing from Mobile Laser Scanning Data. *Sensors*, 19(23), 5262.
22. Shaobo Xia, Dong Chen and Ruisheng Wang, 2019. A Breakline-preserving Ground Interpolation Method for MLS Data. *Remote Sensing Letters*, Volume 10 Issue 12, Pages 1201-1210.

23. Jiju Peethambaran, Amal Dev Parakkat, Andrea Tagliasacchi, Ruisheng Wang and Ramanathan Muthuganapathy, 2019. "Incremental Labeling of Voronoi Vertices for Shape Reconstruction", Computer Graphics Forum, The Eurographics Association and John Wiley & Sons Ltd., Volume 38, Number 1, pp. 521-536.
24. Lei Xie, Ruisheng Wang, Zutao Ming and Dong Chen, 2019. A Layer-Wise Strategy for Indoor As-Built Modeling Using Point Clouds. Applied Sciences (2076-3417), 7/15/2019, Vol. 9 Issue 14, p2904-2904. 1p.
25. Yang Liu, Ruisheng Wang, Xiaofei Ji, Yangyang Wang, 2019. Collaborative Sparse Coding with Smoothness Regularization for Hyperspectral Image Classification. Photogrammetric Engineering & Remote Sensing 85 (9), 659-672.
26. Jianli Du, Dong Chen, Ruisheng Wang, Jiju Peethambaran, P. Takis Mathiopoulos, Lei Xie, and Ting Yun, 2019. A Novel Framework for 2.5D Building Contouring from Large-Scale Residential Scenes. IEEE Transactions on Geoscience and Remote Sensing, Volume: 57, Issue 6, Page(s): 4121 - 4145.
27. S. Xia and R. Wang 2019. Facade Separation in Ground-based LiDAR Point clouds based on Edges and Windows. IEEE Selected Topics in Applied Earth Observations and Remote Sensing, Volume: 12, Issue:3, March 2019, pp.1041-1052, doi: 10.1109/JSTARS.2019.2897987.
28. S. Xu and R. Wang, 2019. Power Line Extraction from Mobile LiDAR Point Clouds, IEEE Selected Topics in Applied Earth Observations and Remote Sensing, Volume: 12, Issue:2, pp. 734-743, doi: 10.1109/JSTARS.2019.2893967.
29. S. Xia and R. Wang, 2019. Semi-automatic Construction of 2D Façade Footprints from Mobile LiDAR Data, IEEE Transactions on Geoscience and Remote Sensing , Volume: 57 , Issue: 6, pp.1 - 16.
30. S. Xia and R. Wang, 2018. Extraction of Residential Building Instances in Suburban Areas from Mobile LiDAR Data, ISPRS Journal of Photogrammetry and Remote Sensing, Volume 144, October 2018, Pages 453-468.
31. Lingfei Ma, Ying Li, Jonathan Li, Cheng Wang, Ruisheng Wang, Michael A. Chapman, 2018. Mobile Laser Scanned Point-clouds for Road Object Detection and Extraction: A Review. Remote Sens. 2018, 10(10), 1531; doi:10.3390/rs10101531.
32. W. Sun and R. Wang, 2018. Fully Convolutional Networks for Semantic Segmentation of Very High Resolution Remotely Sensed Images Combined with DSM, IEEE Geoscience and Remote Sensing Letters, Volume: 15, Issue: 3, pp 474-478.
33. R. Wang, J. Peethambaran, D. Chen, 2018. LiDAR Point Clouds to 3D Urban Models: A Review, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Volume 11, Issue 2, pp 606-627 (**Listed as one of the "Popular Articles" on J-STARS website on April 2018**).
34. R. Wang, L. Xie, D. Chen, 2017. Modeling Indoor Spaces via Decomposition and Reconstruction of Structural Elements, Photogrammetric Engineering and Remote Sensing , Vol. 83, No. 12, pp 23-37 (**Talbert Abrams Award Second Honorable Mention, 2018**).
35. D. Chen, R. Wang, J. Peethambaran, 2017. Topologically-aware Building Rooftop Reconstruction from Airborne Laser Scanning Point Clouds, IEEE Transactions on Geoscience and Remote Sensing, Volume: 55, Issue:12, Page(s): 7032-7052.
36. S. Xia and R. Wang, 2017. A Fast Edge Extraction Method for Mobile LiDAR Point Clouds, IEEE Geoscience and Remote Sensing Letters, Volume: 14, Issue: 8, pp 1288-1292.
37. J. Peethambaran and R. Wang, 2017. Enhancing Urban Façades via LiDAR based Sculpting, Computer Graphics Forum, DOI:10.1111/cgf.13097.

38. S. Xu, R. Wang, H. Zheng, 2017. Road Curb Extraction from Mobile LiDAR Point Clouds, *IEEE Transaction on Geoscience and Remote Sensing*, DOI: 10.1109/TGRS.2016.2617819.
39. H. Zheng, R. Wang, S. Xu, 2017. Recognizing Street Lighting Poles from Mobile LiDAR Data, *IEEE Transaction on Geoscience and Remote Sensing*, VOL. 55, NO. 1, January 2017.
40. T. Yu and R. Wang, 2016. Scene Parsing using Graph Matching on Street-view Data, *Computer Vision and Image Understanding*, Volume 145, page 70-80, doi: 10.1016/j.cviu.2016.01.004.
41. R. Wang, Y. Hu, H. Wu, J. Wang, 2016. Automatic extraction of building boundaries using aerial LiDAR data, *Journal of Applied Remote Sensing* **10**(1), 016022. doi: 10.1117/1.JRS.10.016022.
42. J. Qiu and R. Wang, 2016. Automatic Extraction of Road Networks from GPS Traces, *Photogrammetric Engineering & Remote Sensing*, Vol.82, No.8, pp.593-604.
43. J. Qiu and R. Wang, 2016. Road Map Inference: A Segmentation and Grouping Framework, *ISPRS International Journal of Geo-Information*, 5(8), 130; doi: 10.3390/ijgi5080130.
44. J. Qiu and R. Wang, 2016. Inferring Road Maps from Sparsely-Sampled GPS Traces, *Journal of Location Based Services*, DOI:10.1080/17489725.2016.1183053.
45. R. Wang and FP Ferrie, 2015. Upsampling Method for Sparse Light Detection and Ranging Using Coregistered Panoramic Images, *Journal of Applied Remote Sensing*, 9(1), 095075 (2015). doi:10.1117/1.JRS.9.095075.
46. R. Wang and F. Ferrie, 2015. Automatic Registration Method for Mobile LiDAR Data, *Optical Engineering*, 54(1), 013108 (Jan 27, 2015). doi:10.1117/1.OE.54.1.013108.
47. J. Xu, R. Wang, S. Yue, 2014. A Bio-inspired Classifier for Road Extraction from Remote Sensing Imagery, *Journal of Applied Remote Sensing* 8(1), 083577. doi:10.1117/1.JRS.8.083577.
48. J. Qiu, R. Wang, W. Li, 2014. Use of Rough Sets Theory in Point Cluster and River Network Selection. *Journal of Geographic Information System* 6 (03), 209-219.
49. Wang, R., 2013. 3D Building Modeling Using Images and LiDAR: A Review. *International Journal of Image and Data Fusion*, Vol. 4, No. 4, pp. 273-292 (Invited Paper).
50. Wang, R., F. Ferrie, and J. Macfarlane, 2012. A Method for Detecting Windows from Mobile LiDAR Data. *Photogrammetric Engineering and Remote Sensing*, Vol. 78, No. 11, pp.1129-1140.
51. Wang, R., Y. Hu and X. Zhang, 2005. Extraction of Urban Road Network Using QuickBird Pan-Sharpned Multispectral and Panchromatic Imagery. *Geomatica*, Vol. 59, No.3, pp.263-273.

- Peer-reviewed full conference papers

1. Perpetual Hope Akwensi, Ruisheng Wang, 2023. A reversible transformer for LiDAR point cloud semantic segmentation. The 20th Conference on Robots and Vision, Montreal, Quebec, June 6 - June 8, 2023.
2. Hongxin Yang, Hailun Yan, Ruisheng Wang, 2022. BERT-Enhanced with Context-aware Embedding for Instance Segmentation in 3D Point Clouds. IEEE IGARSS, Kuala Lumpur, Malaysia, 17 - 22 July.
3. Perpetual Akwensi, Ruisheng Wang, 2022. Attention-based Multi-scale Graph Convolution for Point Cloud Segmentation. IEEE IGARSS, Kuala Lumpur, Malaysia, 17 - 22 July.

4. Xu, W., Long, C., Wang, R., & Wang, G. 2021. DRB-GAN: A Dynamic ResBlock Generative Adversarial Network for Artistic Style Transfer. *IEEE/CVF International Conference on Computer Vision (ICCV)*, oral (acceptance rate: 3%).
 5. T. Yu and R. Wang, 2016. "Enhancing Scene Parsing by Transferring Structures via Efficient Low-rank Graph Matching", *The 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, Oct 31 - Nov 3, San Francisco Bay Area, California, USA (full paper acceptance rate 18%, 40 out of 217).
 6. Peethambaran, Jiju; Parakkat, Amal Dev; Muthuganapathy, Ramanathan; Tagliasacchi, Andrea; Wang, Ruisheng, 2018. Incremental Labeling of Voronoi Vertices for Shape Reconstruction, *Computer Graphics Forum*.
 7. T. Yu and R. Wang, 2016. "Graph Matching with Low-rank Regularization", *WACV 2016: IEEE Winter Conference on Applications of Computer Vision*, March 7-9, Lake Placid, NY, USA (acceptance rate 42.3%).
 8. J. Qiu, R. Wang, and X. Wang 2014. Inferring Road Maps from Sparsely-Sampled GPS Traces, *Proceedings of the 27th Canadian Conference on Artificial Intelligence*, May 6-9, Montréal, Québec, Canada, pp. 339-344.
 9. R. Wang, F. Ferrie, and J. Macfarlane 2012. Automatic Registration of Mobile LiDAR and Spherical Panoramas, *The IEEE Computer Vision and Pattern Recognition (CVPR) Workshop on Point Cloud Processing in Computer Vision*, 16 June, Providence, Rhode Island (oral).
 10. R. Wang, J. Bach, J. Macfarlane, and F. Ferrie, 2012. A New Upsampling Method for Mobile LiDAR Data, *IEEE Workshop on Applications of Computer Vision (WACV)*, Breckenridge, Colorado, Jan 9-11. (Accepted as full oral, acceptance rate 8.5%, 12 out of 142 submissions).
 11. R. Wang, J. Bach, and F. Ferrie, 2011. Window Detection from Mobile LiDAR Data, *IEEE Workshop on Applications of Computer Vision (WACV)*, Kona, Hawaii, Jan 5-7 (acceptance rate 46%).
 12. T. Pylvanainen, K. Roimela, R. Vedantham, J. Itaranta, R. Wang, R. Grzeszczuk, 2010. Automatic Alignment and Multi-View Segmentation of Street View Data using 3D Shape Priors, *Symposium on 3D Data Processing, Visualization and Transmission (3DPVT)*, Paris, France, May (Oral).
 13. X. Chen, M. Stroila, R. Wang, B. Kohlmeyer, N. Alwar, J. Bach, 2009. Next Generation Map Making: Geo-Referenced Ground-Level LIDAR Point Clouds for Automatic Retro-Reflective Road Feature Extraction. *The 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information System*, Seattle, USA, Nov. (acceptance rate 22%).
 14. Wang, R. and Ferrie, F.P., 2008. Camera Localization and Building Reconstruction from Single Monocular Images. *The IEEE Computer Vision and Pattern Recognition (CVPR) Workshop on Visual Localization for Mobile Platforms*, 28 June, Anchorage, Alaska (Oral).
- Other peer-reviewed full conference papers (e.g., reviewed abstracts)
 1. Haowen Yan, Xiaomin Lu, Ruisheng Wang, Hailun Yan, 2022, Similarity-based principles in map generalization, in the Proceedings of FIG Congress 2022, September 11-15, 2022, Warsaw, Poland.
 2. Hailun Yan and Ruisheng Wang, 2022. Automated Building Extraction from Aerial Images with An Improved End-To-End Deep-Learning-Based Approach. The FIG Congress 2022, 11-15 September, Warsaw, Poland

3. L. Xie, and R. Wang, 2017. "Automatic indoor building reconstruction from mobile laser scanning data", Indoor3D 2017, Sept 19-20, 2017, East Lake International Conference Center, Wuhan, Hubei, China (**ZHIZHOU Best Poster Paper Award**).
 4. S. Xia and R. Wang, 2017. "A Ground Removal Method for Mobile LiDAR Data". The 25th International Conference on Geoinformatics, Aug 2-4, Buffalo, NY (extended abstract).
 5. S. Xu and R. Wang, 2016. "Boundary Depth Information Using Hopfield Neural Network", *Proceedings of XXIII ISPRS Congress*, Prague, 12th July - 19th July.
 6. H. Zheng, R. Wang, F. Tan, 2016 "Pole-like Object Extraction from Mobile LiDAR Data", *Proceedings of XXIII ISPRS Congress*, Prague, 12th July - 19th July.
 7. R. Wang, 2016. "Road Infrastructure Mapping from Mobile LiDAR Data", *International LiDAR Mapping Forum*, FEBRUARY 22-24, Denver, Colorado, USA (Oral presentation with abstract).
 8. C. Hu, W. Wei, S. Qin, X. Wang, A. Habib, R. Wang, 2015. "Indoor Integrated Navigation and Synchronous Data Acquisition Method for Android Smartphone", *The International Conference on Optical Instrument and Technology (OIT'2015)*, 17-19 May, Beijing, China.
 9. Wang, R., and Ferrie, F.P., 2008. Self-Calibration and Metric Reconstruction from Single Images. *The Proceedings of XXIth ISPRS Congress*, 3-11 July, Beijing, China (Oral).
 10. Wang, R., Tao, V., and Ferrie, F.P., 2007. Non-rigid Space Resection by Parameterized Models, *the 7th International Workshop of Geographical Information System (IWGIS'07)*, September 14-15, Beijing, China (Oral).
 11. Wang, R., G. Sohn, Tao, V., and Li, J. 2006. 3D Object Reconstruction from Non-georeferenced Monocular Imagery, *ASPRS Annual Conference*, May 1-5, Reno, Nevada, 12p. (Oral).
 12. Hu, Y., Wu, H., Wang, R., St-Onge, B., 2006. Locating targets under perspective projection with genetic algorithms and tabu search, *ASPRS Annual Conference*, 1-5 May, Reno, 12 p.
 13. Hu, Y., Gao, Y., St-Onge, B., Wang, R., 2006. Detection of multiple outliers by random robust testing, *ASPRS Annual Conference*, 1-5 May, Reno, 12 p.
 14. Wang, R., Hu, Y., and Tao, V., 2005. Comparison of Rational Function Model Based 3D Reconstruction Algorithms, *13th International Conference on Geoinformatics*, 17- 19 August, Toronto, Canada (Oral).
 15. Hu, Y., Xia, W., Hu, X., and Wang, R., 2005. Object Recognition Through Template Matching Using an Adaptive and Robust Hausdorff Distance. *ASPRS Annual Conference*, 7-11 March, 2005, Baltimore, 12 p.
 16. Zhang, Y. and Wang, R., 2004. Multi-Resolution and Multi-Spectral Image Fusion for Urban Object Extraction. *Proceedings of XXth ISPRS Congress*, Commission III, 12- 24 July 2004, Istanbul, Turkey, pp. 960-966. (**Best Poster Award**)
 17. Wang, R. and Y. Zhang, 2003. Semi-Automated Road Extraction from QuickBird Imagery. *ISPRS Joint Workshop on Spatial Temporal and Multi-Dimensional Data Modeling and Analysis*, October, 2-3, 2003, Quebec, Canada (Oral).
 18. Wang, R. and Y. Zhang, 2003. Extraction of Urban Road Network Using QuickBird Pan-Sharpener Multispectral and Panchromatic Imagery by Performing Edge-aided Post-Classification. *ISPRS Joint Workshop on Spatial Temporal and Multi- Dimensional Data Modeling and Analysis*, October, 2-3, 2003, Quebec, Canada (Oral).
- Peer-reviewed book chapter/entry
1. Wang, R. 2016. Ground Based LiDAR. In *The International Encyclopedia of Geography*, edited by Douglas Richardson. Malden, Oxford: John Wiley and Sons, Ltd (in press).

- Technical reports and other publications

Idea Disclosure Submissions (IDS) in Nokia: IDSs that received significant development awards are indicated by *.

1. Wang, R. 2009. Image-Guided Range Segmentation*
2. Wang, R. 2009. An Integrated Method to Range Segmentation from LIDAR*
3. Wang, R. 2009. Automatic Alignment of LIDAR data with Images*
4. Yang, X., X. Chen, and R. Wang 2010. Apparatus and Method for Accurate Road Slope*
5. Yang, X., R. Wang, and X. Chen 2010. LIDAR Assisted Road Centerline Mapping.
6. Wang, R., and J. Bach 2010. Robust Window Detection from Mobile LiDAR Data*
7. Yang, X., X. Chen, and R. Wang 2010. Automatic Road Information Update from Satellite Imagery.
8. Wang, R., J. Lynch, R. Ostrovskiy, and J. Bach 2010. Accuracy Improvement of NAVTEQ TRUE*
9. Wang, R. and X. Yang 2010. A Cost-Effective Solution to Generate Height Profile for NAVTEQ Road Center Line*
10. Wang, R. and R. Ostrovskiy 2010. A Method to Compute Point Visibility for Mobile LiDAR data*
11. Wang, R. 2010. A New Upsampling Method for Mobile LiDAR Data*
12. Wang, R. and R. Ostrovskiy 2011. Improvement of Automatic LiDAR-to-Image Registration.
13. Wang, R. 2011. Integration of airborne and mobile LiDAR for 2D building footprint generation.

D. Technology Transfer

- Consulting

Scientific/Technical Advisor, US Research lab/Ping An Technology/Palo Alto, California

- Licensing

Not applicable

- Patent (approved, filed)

D. Chen and R. Wang, 2018. "Building Contour Generation From Point Clouds", U.S. Provisional Patent (application no. 62/699,277).

V. SERVICE ACTIVITIES

A. University Service

- Service (committees, panels, boards)
 - CRC Tier1 Search Committee 2022, Global Geospatial Intelligence for Earth Systems Modeling, Faculty of Science (Computer science and Geoscience)
- School Service
 - Graduate Award Competition (GAC) Scholarship Committee 2013 – 2016

- Schulich School Faculty Appeal Committee (FAC) 2013-2015
- SSE Gender and Diversity committee 2014 – 2016
- Participate, SSE 4th year technical electives night 2015
- PURE Awards Committee 2016-2017
- Undergraduate Scholarship Committee 2017-2018, 2019-2022
- FGS Scholarship Committee 2021-2023
- Departmental Service
 - Student Recruitment Committee 2022- 2023
 - Leading an international collaboration with Shandong University of Science and Technology 2017-2018
 - Departmental Social Committee 2017-2018
 - Departmental Graduate Committee 2014 – 2016
 - Departmental Social Committee 2013 -2014
 - Academic Selection Committee for a tenure-track Assistant Professor 2016

B. Professional Service

- National/international committees/societies
 - Best paper award (ISPRS Fritz Ackermann Award) jury for the ISPRS Open Journal of Photogrammetry and Remote Sensing (2023- 2026)
 - Vice Chair, International Cartographic Association (ICA) commission on sensor-driven mapping (2019-2023)
 - Chair, Working Group I (membership & certification), Canadian Remote Sensing Society (2020-2022)
 - Treasure, Canadian Institute of Geomatics (2020/10-2023/09)
 - Secretary, WG III/2, Point Cloud Processing, ISPRS, 2012 -2016
 - Financial Counselor, GEOIDE Students Network Board of Directors of 2006
- Grant Reviews
 - NSERC Alliance Grant, 2022
 - German Research Foundation (DFG), 2021
 - NSERC Discovery Grants, 2019
 - NSERC Collaborative Research and Development Grants, 2016
 - Mitacs Accelerate internship program, 2017, 2022
 - NSERC CGS Master's Scholarship, 2016
 - International Science and Technology Partnerships Canada, Alberta Global Technology Fund, 2015
- Board memberships and editorships
 - Associate Editor, IEEE Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS), 2020/12-
 - Associate Editor, Canadian Journal of Remote Sensing, 2021/01-
 - Guest Editor, Canadian Journal of Remote Sensing special issue on "Large-scale Machine Learning for Sensor-driven Mapping", 2020-2021(Ruisheng Wang, Roger Wheate, Jonathan Li)

- Guest Editor, Geomatica special issue on "AI-empowered Cartographic Mapping", 2020-2021, (Jonathan Li, Shabnam Jabari, Ruisheng Wang)
- Managing Guest Editor, ISPRS Journal of Photogrammetry and Remote Sensing Theme Issue "Point Cloud Processing", 2017-2018
- Associate Editor, Photogrammetric Engineering and Remote Sensing (PE&RS), 04/2017 -
- Associate Editor, Journal of Applied Remote Sensing (JARS), 2016-2020
- Editorial Advisory Board: ISPRS Journal of Photogrammetry and Remote Sensing (2013-2016)

- Journal Reviews
 - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
 - IEEE Transactions on Geoscience and Remote Sensing
 - IEEE Selected Topics in Applied Earth Observations and Remote Sensing
 - IEEE Geoscience and Remote Sensing Letters
 - IEEE Transactions on Human-Machine Systems
 - Photogrammetric Engineering and Remote Sensing
 - ISPRS Journal of Photogrammetry and Remote Sensing (2010-present, 20+ papers)
 - International Journal of Geographical Information Science
 - International Journal of Remote Sensing
 - Journal of Applied Remote Sensing
 - International Journal of Applied Earth Observation and Geoinformation
 - Marine Geodesy
 - International Journal of Vehicular Technology
 - GEOMATICA
 - Remote Sensing
 - Journal of Spatial Science
 - Journal of Computer-Aided Civil and Infrastructure Engineering

- Conference/workshop organization and session chairs
 - Organizer: ISPRS Geospatial Week 2023, Cairo, Egypt, September 2-7
 - Publication chair, WACV 2013, IEEE Workshop on Applications of Computer Vision, 2013
 - Organizer: Workshop on Succeeding in your graduate studies, York university, 2006
 - Session chair: III/2 - Point Cloud Processing 3, XXIII ISPRS Congress, Prague, 2016
 - Moderator, Photogrammetry VII - Algorithms & Modeling Session, ASPRS Annual Conference, Reno, 2006

- Conference Program Committee or Reviewer
 - IEEE/CVF International Conference on Computer Vision (ICCV), Paris, Oct 2-6, 2023.
 - CRV 2023: The 20th Conference on Robots and Vision (CRV), Montreal, June 6 - June 8, 2023.
 - IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023

- ICC 2023 (31st International Cartographic Conference) , 13 - 18 August 2023 Cape Town, South Africa
- European Conference on Computer Vision (ECCV) 2022
- IEEE Winter Conference on Applications of Computer Vision (WACV) 2022
- International Conference on 3D Vision (3DV) 2022
- CRV 2022: The 19th Conference on Robots and Vision Burnaby, Toronto, May 31- June 2, 2022.
- CRV 2021: The 18th Conference on Robots and Vision Burnaby, British Columbia May 26-28, 2021.
- XXIV ISPRS Congress 2021 Nice, France 14 - 20 June 2022.
- CRV 2020: The 17th Conference on Computer and Robot Vision, Ottawa, Ontario May 13-15
- The 16th Conference on Computer and Robot Vision (CRV), Kingston, ON, Canada, May 28-31, 2019.
- The 15th Conference on Computer and Robot Vision (CRV), Toronto, Canada, May 9-11, 2018
- IEEE Winter Conference on Applications of Computer Vision 2018, Mar 12-14, 2018, Lake Tahoe, USA
- ISPRS workshop on Indoor3D 2017: Sept 19-20, 2017, East Lake International Conference Center, Wuhan, Hubei, China
- CRV 2017: The 13th Conference on Computer and Robot Vision (CRV), May 17-19, Edmonton, AB, Canada
- WACV 2017: IEEE Winter Conference on Applications of Computer Vision, March 24-31, in Santa Rosa, CA, USA
- SIBGRAPI 2016: 29th SIBGRAPI Conference on Graphics, Patterns and Images, São José dos Campos, São Paulo, Brazil
- WACV 2016: IEEE Winter Conference on Applications of Computer Vision, March 7-9, 2016 in Lake Placid, NY, USA
- CRV 2016: The 13th Conference on Computer and Robot Vision (CRV), June 1-3, 2016, Victoria, BC, Canada
- International Society of Photogrammetry and Remote Sensing, XXIII Congress, July 12 - 19, 2016, Prague
- ICCV'15 workshop on Vision from Satellite to Street, Santiago, Chile, Dec. 2015
- ISPRS workshop on Laserscanning 2015, La Grande Motte, Montpellier, France, 28-30 September
- CRV 2015: The 12th Conference on Computer and Robot Vision (CRV), Halifax, Nova Scotia June 3-5, 2015
- WACV15: IEEE Winter conference on Applications and Computer Vision, January 6-8, Waikoloa Beach, Hawaii
- SIBGRAPI 2014 - Conference on Graphics, Patterns and Images, Rio de Janeiro, Brazil - August 27-30
- The Third International Workshop on Spatial Information Modeling, Management and Mining (SIM3), in conjunction with DASFAA2014, April 21-24, 2014, Bali, Indonesia

- WACV14: IEEE Winter conference on Applications and Computer Vision, Steamboat Springs CO. March 24-26, 2014
- ICCV'13 workshop on Computer Vision for Converging Perspectives, Sydney, Australia, Dec 8, 2013
- ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS) 2012
- INDOOR 3D – CAPE TOWN, 11 - 13 DECEMBER 2013
- ISPRS Laser Scanning Workshop, Nov. 2013, Antalya, Turkey
- The First International Workshop on 3D Virtual City Modeling, in conjunction with the CRV 2013, May 2013
- ISPRS Workshop on Object Extraction for 3D City Models, Road Databases, and Traffic Monitoring - Concepts, Algorithms and Evaluation (CMRT13), 12 - 13, November 2013, Antalya, TURKEY

C. Public Service

External referee for evaluation of tenure with promotion to associate professor for the Department of Civil, Environmental and Geodetic Engineering at The Ohio State University, July 2020

VI. OTHER ACTIVITIES

- Playing electrical Guitar and music, jogging and swimming



May 1, 2023

To whom it may concern,

With this letter, I would like to declare that I am willing to serve as Head of the Commission

“Geospatial Data Analytics” for four years from 2023 to 2027.

A handwritten signature in black ink, appearing to be 'Ruisheng Wang', written over a light blue grid background.

Dr. Ruisheng Wang, PhD, PEng.
Professor
Department of Geomatics Engineering
Schulich School of Engineering

International Cartographic Association (ICA) Commission on Geospatial Data Analytics (2023-2027)

Terms of References

- To promote original and practical research on geospatial data from all kinds of technology such as satellite imagery, range sensors, mobile devices, and social media for mapping with a focus on geospatial big data handling, cartographic information extraction, 3D reconstruction of built environments, integration of indoor mapping with building information models (BIM).
- To network cartographers with researchers and practitioners in photogrammetry, remote sensing, and computer science communities that share common interest in geospatial data processing.
- To develop closer links with ISPRS, IAG, FIG, IEEE-societies, and other ICA commissions to organize ICA workshops or joint symposia during 2023-2027.
- To organize and publish special issues in the International Journal of Cartography and other related journals.
- To promote knowledge transfer on geospatial data analytics to natural and built environments, early warning and natural disaster mitigation.
- Prepare promotional materials reflecting the commission's terms of reference and activities to support ICA's presence at international forums (e.g., World Map, Map Middle East, meetings of the Joint Board of Geospatial Information Societies, UN meetings, and other regional conferences).