

EDUCATION

- 12/2011 **Ph.D. degree** in Mathematics, School of Mathematics and Systems Science, Beihang University
Topics: Mathematical knowledge management, automated geometric reasoning, geometric knowledge formalization and visualization
Thesis: On the Design and Implementation of an Electronic Geometry Textbook System
Supervisor: **Prof. Dongming Wang** (Member of Academia Europaea)
- 07/2004 **B.S. degree** in Information and Computing Sciences, School of Science, Beihang University
Topics: Pattern recognition, support vector machine

WORK EXPERIENCES

- 03/2015 – **Assistant Professor** at School of Mathematics and Systems Science, Beihang University, Beijing, China
- 01/2012 – 02/2015 **Postdoc** at the State Key Laboratory of Software Development and Environment, Beihang University, Beijing, China
Topics: Knowledge representation and management, automated reasoning and knowledge discovery
Mentor: **Prof. Wei Li** (Member of Chinese Academy of Sciences)
- 09/2008 – 09/2009 **Guest Researcher**, Discrete Algebra and Geometry (DAM) group, TU/e, the Netherlands, hosted by **Prof. Arjeh M. Cohen** and **Dr. Hans Cuypers**

PUBLICATIONS

■ Journal Papers

1. D. Song, D. Wang, and **X. Chen**: Retrieving geometric information from images: the case of hand-drawn diagrams. **Data Mining and Knowledge Discovery** 31(4):934–971, 2017.
2. **X. Chen**, D. Song, and D. Wang: Automated generation of geometric theorems from images of diagrams. Geometric Reasoning — Special issue of **Annals of Mathematics and Artificial Intelligence** 74(3-4):333–358, 2015.
3. **X. Chen**: Representation and automated transformation of geometric statements. **Journal of Systems Science & Complexity** 27(2):382–412, 2014.
4. **X. Chen**, X. Zhang, and D. Wang: Foreword to the special focus on mathematics, data and knowledge. **Mathematics in Computer Science** 7(4):379–386, 2013.
5. **X. Chen** and D. Wang: Formalization and specification of geometric knowledge objects. **Mathematics in Computer Science** 7(4):439–454, 2013.
6. **X. Chen** and D. Wang: Management of geometric knowledge in textbooks. **Data & Knowledge Engineering** 73:43–57, 2012.

■ Papers in Proceedings

1. W. An, X. Chen, and D. Wang: Searching for geometric theorems using features retrieved from diagrams. In: *Mathematical Aspects of Computer and Information Sciences* (I.S. Kotsireas et al., eds.), **Lecture Notes in Computer Science 9582**, pp. 383–397. Springer, Berlin Heidelberg, 2016.
2. D. Song, D. Wang, and X. Chen: Discovering geometric theorems from scanned and photographed images of diagrams. In: *Automated Deduction in Geometry* (F. Botana and P. Quaresma, eds.), **Lecture Notes in Computer Science 9201**, pp. 149–165. Springer, Berlin Heidelberg, 2015.
3. D. Wang, X. Chen, W. An, L. Jiang, and D. Song: OpenGeo: an open geometric knowledge base. In: *ICMS 2014* (H. Hong and C. Yap, eds.), **Lecture Notes in Computer Science 8592**, pp. 240–245. Springer, Berlin Heidelberg, 2014.
4. X. Chen and J. Luo: RCK: a software toolkit for R-calculus (Extended abstract). In: *Proceedings of the 3rd International Seminar on Program Verification, Automated Debugging and Symbolic Computation* (July 17–18, 2014, Vienna, Austria). Vienna University of Technology, 2014.
5. X. Chen, T. Zhao, and D. Wang: GeoText: an intelligent dynamic geometry textbook. **ACM Communications in Computer Algebra 46(4)**:171–175, 2012.
6. X. Chen: Interfacing Euclidean geometry discourse with diverse geometry software (Extended abstract). In: *Proceedings of the 9th International Workshop on Automated Deduction in Geometry* (September 17–19, 2012, Edinburgh, UK) (T. Ida and J. Fleuriot, eds.), pp. 99–105. **Informatics Research Report**, University of Edinburgh, 2012.
7. X. Chen, W. Li, J. Luo, and D. Wang: Open geometry textbook: a case study of knowledge acquisition via collective intelligence. In: *Intelligent Computer Mathematics* (J. Jeuring, J. A. Campbell, J. Carette, G. Dos Reis, P. Sojka, M. Wenzel, and V. Sorge, eds.), **Lecture Notes in Artificial Intelligence 7362**, pp. 432–437. Springer, Berlin Heidelberg, 2012.
8. X. Chen, Y. Huang, and D. Wang: On the design and implementation of a geometric knowledge base. In: *Automated Deduction in Geometry* (T. Sturm and C. Zengler, eds.), **Lecture Notes in Artificial Intelligence 6301**, pp. 22–41. Springer, Berlin Heidelberg, 2011.
9. X. Chen: Formal representation and automated transformation of geometric statements. In: *Proceedings of the 8th International Workshop on Automated Deduction in Geometry* (July 22–24, 2010, Munich, Germany) (J. Richter-Gebert and P. Schreck, eds.), pp. 1–19. Technical University of Munich, 2010.
10. X. Chen: Electronic geometry textbook: a geometric textbook knowledge management system. In: *Intelligent Computer Mathematics* (S. Autexier, J. Calmet, D. Delahaye, P. Ion, L. Rideau, R. Rioboo, and A. Sexton, eds.), **Lecture Notes in Artificial Intelligence 6167**, pp. 278–292. Springer, Berlin Heidelberg, 2010.
11. X. Chen and D. Wang: Towards an electronic geometry textbook. In: *Automated Deduction in Geometry* (F. Botana and T. Recio, eds.), **Lecture Notes in Artificial Intelligence 4869**, pp. 1–23. Springer, Berlin Heidelberg, 2007.
12. X. Chen, T. Liang, D. Wang, and T. Zhao: Towards a dynamic environment for geometry research & education (Extended abstract). In: *Proceedings of the 5th Asian Workshop on Foundations of Software* (June 1–3, 2007, Xiamen, China) (T. Ida, Q. Jiang, and D. Wang, eds.), pp. 153–156. Xiamen University, 2007.

■ Preprint

1. X. Chen and D. Wang: The spaces of data, information, and knowledge. arXiv:1411.1497, pp. 1–14, 2014.

TALKS

1. The 4th International Congress on Mathematical Software (**ICMS 2014**), Seoul, Korea
Title: **OpenGeo: An Open Geometric Knowledge Base**
2. The 3rd International Seminar on Program Verification, Automated Debugging and Symbolic Computation (**PAS 2014**), Vienna, Austria

Title: **RCK: A Software Toolkit for R-calculus**

3. The 5th Chinese Conference on Computer Mathematics (**CM 2013**), Changchun, China
Title: **An Open Platform for Sharing Mathematical Knowledge Resources**
4. The 9th International Workshop on Automated Deduction in Geometry (**ADG 2012**), Edinburgh, UK
Title: **Interfacing Euclidean Geometry Discourse with Diverse Geometry Software**
5. The 37th International Symposium on Symbolic and Algebraic Computation (**ISSAC 2012**), Software Presentation Track, Grenoble, France
Title: **GeoText: An Intelligent Dynamic Geometry Textbook**
6. Conferences on Intelligent Computer Mathematics (**CICM 2012**), System & Project Track, Bremen, Germany
Title: **Open Geometry Textbook: A Case Study of Knowledge Acquisition via Collective Intelligence**
7. The 8th International Workshop on Automated Deduction in Geometry (**ADG 2010**), Munich, Germany
Title: **Formal Representation and Automated Transformation of Geometric Statements**
8. The 9th International Conference on Mathematical Knowledge Management (**MKM 2010**), Paris, France
Title: **Electronic Geometry Textbook: A Geometric Textbook Knowledge Management System**
9. **RISC Colloquium 2010**, Linz, Austria
Title: **Formalization and Management of Geometric Knowledge** (with Dongming Wang)
10. The 5th Asian Workshop on Foundations of Software (**AWFS 2007**), Xiamen, China
Title: **Towards a Dynamic Environment for Geometry Research & Education**
11. The 6th International Workshop on Automated Deduction in Geometry (**ADG 2006**), Vigo, Spain
Title: **Towards an Electronic Geometry Textbook**
12. International Seminar on Symbolic Computation in Education 2006 (**SCE 2006**), Beijing, China
Title: **The Electronic Geometry Textbook Project**

ACADEMIC SERVICES

Session Co-chair	<ul style="list-style-type: none">• MACIS 2017 Track: Data Modeling and Analysis• MACIS 2015 Session: Data and Knowledge Exploration• ICMS 2014 Session: Software for Geometry
Guest Co-editor	Mathematics, Data and Knowledge — Special focus of Mathematics in Computer Science. Birkhäuser/Springer, Basel, 2013
PC Member	KMIS 2011–2015, ADG 2012–2018, AISC 2018

VISITS

<i>07/2014</i>	Hasso Plattner Institute, Potsdam, Germany, hosted by Prof. Christoph Meinel Saarland University, Saarbrücken, Germany, hosted by Prof. Reinhard Wilhelm
<i>05/2013</i>	Web-based Mathematics Education (WME) group, Department of Computer Science, Lanzhou University, hosted by Dr. Wei Su
<i>07/2012</i>	Computer Graphics and Geometry (IGG) group, University of Strasbourg, France, hosted by Prof. Pascal Schreck and Dr. Julien Narboux
<i>07/2012</i>	Knowledge Adaptation and Reasoning for Content (KWARC) group, Jacobs University, Bremen, Germany, hosted by Prof. Michael Kohlhase
<i>07/2010</i>	Research Institute for Symbolic Computation (RISC), Linz, Austria, hosted by Prof. Franz Winkler
<i>06/2007</i>	Discrete Algebra and Geometry (DAM) group, Eindhoven University of Technology, the Netherlands, hosted by Prof. Arjeh M. Cohen

02/2006 – 04/2006

Special Semester on Gröbner Bases and Related Methods, Research Institute for Symbolic Computation (RISC), Linz, Austria, hosted by **Prof. Bruno Buchberger**

ACTIVITIES

Local Co-organizer

PAS 2012 2013 2015, **MACIS** 2011, **AISC** 2006

Participation

SSSC 2006, MACIS 2006, SCC 2008, RCA 2009, ADG 2014, GC 2015, ADG 2016
the 2nd Asian-Pacific Coq Summer School
