

CV of SEOK-HEE (Seokhee) HONG

Contact

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Current Positions

- 2009- : **Associate Professor/Principal Research Fellow**, School of IT, University of Sydney
- 2008-2012: **ARC ARF (Australian Research Fellow)**, School of IT, University of Sydney

Previous Positions

- 2006-2008: Senior Lecturer (*continuing position*), School of IT, University of Sydney
- 2004-2007: Project Leader of VALACON (Visualisation and Analysis of Large and Complex Networks), NICTA (National ICT Australia).
- 2001-2005: Lecturer (*continuing position*), School of IT, University of Sydney
- 2000-2001: Postdoctoral Research Fellow, Basser Department of Computer Science, University of Sydney
- 2005/2007/2008: Visiting researcher at Kyoto University, Japan.
- 2004/2006: Visiting researcher at IPK (Institute of Plant Genetics and Crop Plant Research), Germany.
- 2003/2007: Visiting researcher at JAIST, Japan.
- 1999-2000: KOSEF (Korea Science and Engineering Foundation) Postdoctoral Fellow, Department of Computer Science and Software Engineering, University of Newcastle
- 1997-1998: Visiting scholar, Department of Computer Science and Software Engineering, University of Newcastle.
- 1996-1998: Part-time Lecturer, Department of Computer Science and Engineering, Ewha University, Korea

Academic Qualification

- Ph.D. Department of Computer Science and Engineering, Ewha University, Korea, 1999.
- M.Sc. Department of Computer Science, Ewha University, Korea.
- B.Sc. Department of Computer Science, Ewha University, Korea.

National Awards

- **2006 CORE Chris Wallace Award for Outstanding Research Contribution in the field of Computer Science** (for my research contribution in "**Theory and Practice of Graph Drawing**"): The prize was awarded to an academic for post-PhD research undertaken within a university or research institution in Australia or New Zealand in the calendar years 2002-2004. The research should include a **notable breakthrough or a contribution of particular significance**. The Computing Research and Education Association of Australasia, CORE, is an association of university departments of computer science in Australia and New Zealand.

- 2000 KOFST Best Science & Technology Paper Award: Awarded by KOFST (The Korean Federation of Science & Technology Societies). This award was for the best paper in the journal of KISS (Korea Information Science Society; this is the professional organization in Korea for those in Information Technology.)

International Awards/Prizes

- 1st place, 2006 Graph Drawing Competition (Theory Graph Category)
- 1st place, 2006 Graph Drawing Competition (History of World Cup Category)
- 1st place, 2005 Graph Drawing Competition (Evolution Network Category)

Fellowships

- **2008-2012 ARC ARF (Australian Research Fellow) Fellowship**
- 1999-2000 KOSEF (Korea Science and Engineering Foundation) Postdoctoral Fellowship
- 1997-1998 Ewha Graduate School Research Fellowship, Ewha University.

Research Interests

- **Graph Drawing**
- Information Visualisation
- Visual Analytics
- Algorithms and Data Structures
- Computational Geometry
- Social Network Analysis
- Bioinformatics
- Theory of Computation
- Combinatorial Optimisation
- Geometric Graph Theory

Research Grant

Recent Research Grants

- 2009-2011: **ARC Discovery Grant**, “DP0988838 Scalable Visual Analytics for Uncertain Dynamic Networks”, **\$263,000, second CI.**
- 2008-2012: **ARC Discovery Grant**, “DP0881706: Algorithmics for Interactive 2.5D Graph Drawing”, **\$304,322, A+ (top 30% of successful grants), Sole CI.**
- 2004-2007: **NICTA VALACON** (Visualisation and Analysis of Large and Complex Networks) project, **Project Leader, \$1,500,000.**
- 2005-2007: **ARC Discovery Grant**, “DP0560045: Topological Approaches for Three Dimensional Graph Drawing”, **\$160,000, first CI.**
- 2004-2007: **ARC Linkage Grant**, “LP-455334: New Methods for Interactive Visualisation of Large Microarray Data Sets”, **\$70,668, second CI.**
- EII (Enterprise Information Infrastructure) ARC Research Network, Task Force on Network Analysis and Visualisation, 2005-2007, **\$34,000, Main Coordinator.**

Previous Successful Funding

- 2004: Research grant, “Visualisation of WebGraphs”, School of IT, University of Sydney, sole CI, **\$10,000.**

- 2003: SESQUI grant, “Visualisation in Bioinformatics”, University of Sydney, sole CI, **\$18,000**.

Other Research Projects Involved

- 2001-2003 ARC Large Grant “Symmetric Graph Drawing” (CI: Peter Eades): I was the main researcher of this project.
- 1999–2000 KOSEF Fellowship “Algorithms for Symmetric Drawings of Graphs”: I was the sole investigator on this project.
- 1997–1998 “Geometric Symmetry of Graphs and Their Drawing Algorithms” supported by KOSEF (Korea Science and Engineering Foundation): I was a senior team member in this project.
- 1994–1997 “Graph Embedding, Drawing and their Applications to Algorithm Animation”, supported by KOSEF (Korea Science and Engineering Foundation): I was a senior team member in this project.

Research

Research Leadership

I have proven my **outstanding research leadership** in the research area of Information Visualisation and Graph Drawing. As the project leader and principle researcher of the NICTA VALACON (Visualisation and Analysis of Large and Complex Networks) project 2004-2007, I led a **research team of 15 people** (3 postdoctoral researchers, 2 research engineers and 10 PhD students).

The VALACON project achieved research excellence, publishing 100+ research publications in high quality journals and conferences, 30 conference poster papers and Technical reports, 10 PhD Theses, and a visual analytic tool **GEOMI**.

The research excellence of VALACON project was acknowledged internationally; we won 5 awards and prizes at the international competitions.

For details, see <http://www.cs.usyd.edu.au/~visual/valacon/>

Research Supervision

I have supervised the following **7 postdoctoral researchers (level B)** at the University of Sydney and NICTA:

- Dr. Tony Huang 2007-2008, 2009-, USYD.
- Dr. Wu Quan: 2007-2008, USYD.
- Dr. Kai Xu: 2004-2007, NICTA.
- Dr. Richard Webber, 2005-2006, NICTA.
- Dr. Michale Forster 2005, NICTA.
- Dr. Nikola Nikolov, 2004-2005, NICTA.
- Dr. Tim Dwyer, 2004, NICTA.

I have supervised the following **8 research engineers and research associates** at the University of Sydney and NICTA:

- Xiaoyan Fu: 2004-2007, NICTA.
- Nicolas Senechal, 2005-2006, NICTA.
- Martin Mader, 2006-2007, NICTA.
- Adel Ahmed, 2006, USYD.
- Hoang Quan Nguyen, 2006, USYD.
- Dougal Kan, 2004-2005, USYD.

- Tom Murtagh, 2003-2004, USYD.
- David Abelson, 2001-2002, USYD.

Research Student Supervision

I have been a **main supervisor/co-supervisor/associate supervisor** of the following **PhD students** at the School of IT, University of Sydney:

- David Fung, APAI Scholarship, thesis expected to submit 2009.
- Colin Murray, NICTA PhD scholarship, thesis submitted 2008.
- Adel Ahmed, PhD 2008.
- Tony Huang, PhD 2008.
- Lanbo Zheng, PhD 2008.
- Robert Shen, PhD 2006.
- Tim Dwyer, PhD 2005.

I have co-supervised the following **PhD students** at the School of IT, University of Sydney under NICTA VALACON Project:

- Christine Wu, PhD 2008.
- Le Song, PhD 2008.
- Damian Merrick, PhD 2008.

Past Research Supervision

I have been an **associate supervisor** of the following PhD students at the School of IT, University of Sydney:

- Jenny Liu, PhD, 2004.
- Keith Nesbitt, PhD, 2003
- Hugo do Nascimento, PhD, 2003
- Carsten Friedrich, PhD, 2002 (**Winner of Most Distinguished PhD Thesis**)

I have supervised the following visiting **Master** and **PhD** students from overseas as internship students at University of Sydney and NICTA:

- Mahdie Hasheminejad, PhD student, Iran, 2007-2008.
- Martin Mader, Master student, University of Konstanz, Germany, 2006-2007.
- Sander Ketlaar, Master student, University of Amsterdam, Netherlands, 2005-2006.
- Hedi Buchhner, Master student, University of Passau, Germany, 2005-2006.
- Luca Grilli, PhD student, University of Perugia, Italy, 2006.
- Victor Pascal, PhD student, University of Barcelona, Spain, 2006.

I have been a main supervisor of **Honour** students at the School of IT, University of Sydney:

- Savrina Carrizo, 2003, first class honours (highest thesis mark 92), the winner of **Allan Bromley prize for best honours thesis** 2004, funded by SESQUI New Staff grant honours scholarship.
- Dougal Kan, 2003, first class honours
- Lie Ming Tang, 2002, first class honours
- David Abelson, 2001, first class honours (thesis mark 91)

I have been a main supervisor of **Vacation scholarship** students at the University of Sydney:

- Joshua Ho, NICTA vacation scholarship, 2004-2005, 2006-2007.
- Thomas Chung, USYD vacation scholarship, 2006-2007.

- Tristan Manwaring, NICTA vacation scholarship, 2005-2006.
- Hoang Quan Nguyen, NICTA vacation scholarship, 2005-2006.
- Viet H. Le, NICTA vacation scholarship, 2003-2004 , 2004-2005.
- Tom Murtagh, USYD, NICTA vacation scholarship, 2003-2004, 2002-2003, 2001-2002.

I have co-supervised the following **Masters** students at the Department of Computer Science, Ewha University, Korea:

- Young-Ran Lee, MSc, 1999
- Yun-Hee Lee, MSc, 1998
- Hye-Ryon Park, MSc, 1997
- Eun-Sook Oh, MSc, 1996
- Yun-Hee Cho, MSc, 1995

Research Collaborators

- Professor Peter Eades, School of IT, University of Sydney
- Professor Brendan McKay, Department of Computer Science, Australian National University
- Associate Professor, Don Taylor, School of Math and Statistics, University of Sydney
- Associate Professor, Jonathan Hillman, School of Math and Statistics, University of Sydney
- Professor Takao Nishizeki, Sendai University, Japan.
- Professor Kozo Sugiyama, JAIST, Japan
- Professor Hiroshi Nagamochi, Kyoto University, Japan.
- Professor Dr. Petra Mutzel, University of Dortmund, Germany.
- Professor Dr. Michael Kauffman, University of Tübingen, Germany.
- Professor Dr. Ulrik Brandes, University of Konstanz, Germany.
- Professor Dr. Falk Schreiber, University of Halle and Bioinformatics Center, Institute of Plant Genetics and Crop Plant Research (IPK), Germany.
- Dr. Christoph Buchheim, University of Cologne, Germany.
- Professor Giuseppe Liotta, University of Perugia, Italy.
- Associate Professor Antonis Symvonis, National Technical University of Athens, Greece.
- Associate Professor Stephen Kobourov, University of Arizona, US.
- Professor Vladimir Batagelj, Slovenia (Network Analysis)
- Professor Pip Pattison, University of Melbourne (Social Network Analysis)
- Associate Professor Garry Robins, University of Melbourne (Social Network Analysis)
- Professor Peter Little, UNSW (Biological Networks)
- Professor Marc Wilkins, UNSW (Biological Networks)
- Dr. Rohan Williams, ANU (Biological Networks)

Industrial Collaborators

- Dr David Hart, Axogenics, Sydney (Biotech Company)
- Dean van Gerrevink, Daintree Networks, Melbourne. (Sensor network company)

Teaching

- 2002-2008: School of IT, University of Sydney (as main lecturer and coordinator)
 1. 2008 2nd semester: **COMP4048 Information Visualisation**
 2. 2007 2nd semester: COMP4048 Information Visualisation
 3. 2006, 2nd semester: COMP4048 Information Visualisation
 4. 2005, 2nd semester: COMP4048 Information Visualisation
 5. 2004, 2nd semester: COMP4048 Information Visualisation
 6. 2003, 2nd semester: COMP5311 Computational Geometry
 7. 2003, 2nd semester: COMP4301 Advanced Algorithms
 8. 2003, 2nd semester: COMP3200 Software Development Projects
 9. 2003, 1st semester: COMP3111/3811 Algorithms 2
 10. 2003, 1st semester: COMP5311 Computational Geometry
 11. 2003, 1st semester: COMP4301 Advanced Algorithms
 12. 2002, 2nd semester: COMP3001/3901 Algorithms
 13. 2002, 2nd semester: COMP3201 Algorithm Systems Projects
 14. 2002 1st semester: COMP4404 Information Visualisation
- 1996–1998: Part-time Lecturer: Department of Computer Science and Engineering, Ewha University, Korea. My duties included full responsibility for the following courses:
 14. 1998, 2nd semester: Symbolic Programming Language: LISP.
 15. 1997, 1st semester: Object Oriented Programming Language: C++.
 16. 1997, 1st semester: Introduction to Computers and the Internet.
 17. 1996, 2nd semester: Introduction to Programming.
 18. 1996, 1st semester: Programming Language: Fortran.

Software

Research Prototype Software

I have designed and developed an open-source, proof-of-concept research prototype software **GEOMI** (Geometry for Maximum Insight) as a part of NICTA VALACON project. GEOMI is a visual analytic tool for providing effective and efficient analysis and visualisations for biological networks and social networks. GEOMI is currently used by a number of biologists (UNSW and ANU) and sociologists (UMenlbourne) for network analysis and visualisation of large and complex network data. GEOMI is freely available from either **sourceforge** or <http://www.cs.usyd.edu.au/~visual/valacon/geomi/>

Video/Movies

I have produced the following movies as collaboration with researchers and students (available from <http://www.cs.usyd.edu.au/~shhong>):

- 3DTreeDraw Video
- NICTA VALACON Project Demo Video
- IEEE InfoVis 2004 Competition Winning Entry Video
- GD2005 Competition Winning Entry Video
- GD 2006 Competition Winning Entry Video

Gallery/Pictures

I have produced the following picture galleries as collaboration with researchers and students (available from <http://www.cs.usyd.edu.au/~shhong>):

- 3D Symmetric Graph Drawing: Trees, SP Digraphs, Planar Graphs and General Graphs
- PolyPlane: 2.5D Tree Drawing
- 2.5D Graph Drawings: Planar Graphs, Directed/Hierarchical Graphs, Clustered Graphs
- Visualisation of Social Networks
- Visualisation of Biological Networks
- Visualisation of Scale-free Networks
- Visualisation of Evolution/Dynamic Networks
- Visualisation of Metro Maps

Publication

Edited books/proceedings:

1. S. Hong, H. Nagamochi and T. Fukunaga, Proceedings of **ISAAC 2008** (International Symposium on Algorithms and Computation), Lecture Notes in Computer Science, Springer, 2008.
2. S. Hong, T. Nishizeki and W. Quan, Proceedings of **GD 2007** (International Symposium on Graph Drawing), Lecture Notes in Computer Science, Springer 4875, 2008.
3. S. Hong and K. Ma, Proceedings of **APVIS 2007** (Asia Pacific Symposium on Visualisation), IEEE, 2007.
4. S. Hong, Proceedings of **APVIS 2005** (Asia Pacific Symposium on Information Visualisation), Vol. 45, CRPIT, 2005.
5. S. Hong, Proceedings of **AWOCA 2004** (Australasian Workshop on Combinatorial Algorithms), 2004.

Guest Editorial (journal):

1. S. Hong, Guest editor, **JGAA** (Journal of Graph Algorithms and Applications), 12(3), 2008.
2. S. Hong and H-C. Yen, Guest editor, **IJFCS** (International Journal of Foundations of Computer Science), Special issue on Graph Drawing, 17(5), 2006.

Book Chapters

1. P. Eades, C. Gutwenger, S. Hong and P. Mutzel, "Graph Drawing Algorithms", Chapter 9 of the *Handbook on Algorithms and Theory of Computation* (Ed. M. Attallah), CRC Press, to appear.
2. P. Eades and S. Hong, "Chapter 5: Detection and Display of Symmetries", *Handbook of Graph Drawing and Visualisation*, R. Tamassia (editor), CRC Press, to appear.
3. P. Eades, S. Hong, K. Nesbitt and M. Takatsuka, "Visualization", Chapter 20 of *Handbook of Innovative Computing*, A. Zomaya et al. (editor), Springer Verlag, pp. 633-655, 2005.
4. P. Eades and S. Hong, "Chapter 46: Drawing Graphs", *Handbook of Data Structures and Applications*, D. Mehta and S. Sahni (editors), 46:1-22, CRC Press, 2004.

Journal Article

1. S. Hong and H. Nagamochi, "Approximation Algorithms for Crossing Minimisation in Radial Layouts", to appear ***Algorithmica***.
2. S. Hong and H. Nagamochi, "Linear time algorithm for Symmetric Convex Drawings of Planar Graphs", to appear ***Algorithmica***.

3. S. Hong and H. Nagamochi, "New Approximation to the Radial Crossing Minimisation", to appear ***Journal of Graph Algorithms and Applications***.
4. W. Huang, S. Hong and P. Eades, "Measuring Effectiveness of Graph Visualizations: A Cognitive Load Perspective", to appear, ***Information Visualisation***.
5. X. Shen, A. Vande Moere, P. Eades and S. Hong, "Issues for the Evaluation of Ambient Displays", ***IJACI*** (International Journal of Ambient Computing and Intelligence), Vol 1, Issue 2, 2009.
6. D. Fung, S. Hong, D. Koschützki, F. Schreiber and K. Xu, "2.5D Visualisation of Overlapping Biological Networks", ***Journal of Integrative Bioinformatics***, 5(1), 2008.
7. S. Hong and H. Nagamochi, "Convex Drawings of Graphs with Non-convex Boundary Constraints", ***Discrete Applied Mathematics***, 156(12), 2368-2380, Elsevier, 2008.
8. C. Buchheim and S. Hong, "Testing Planarity of Symmetries in Linear Time", ***Algorithmica***, 52(4), 448-465, Springer, 2008.
9. S. Hong, N. Nikolov, and A. Tarassov, "A 2.5D Hierarchical Drawing of Directed Graphs", ***Journal of Graph Algorithms and Applications***, Vol. 11, no. 2, pp. 371-396, 2007.
10. W. Huang S. Hong and P. Eades, "Effects of Sociogram Drawing Conventions and Edge Crossings in Social Network Visualization", ***Journal of Graph Algorithms and Applications***, Vol. 11, no. 2, pp. 397-429, 2007.
11. D. Abelson, S. Hong and D. E. Taylor, "Geometric Automorphism Groups of Graphs", ***Discrete Applied Mathematics***, 155(17), pp. 2211-2226, 2007, Elsevier.
12. S. Hong, B. McKay and P. Eades, "A Linear Time Algorithm for Constructing Maximally Symmetric Straight-line Drawings of Triconnected Planar Graphs", ***Discrete and Computational Geometry***, 36 (2), pp. 283-311, 2006, Springer.
13. S. Hong, D. Merrick and H. Nascimento, "*The Metro Map Layout Problem*", ***Journal of Visual Language and Computing***, 17(3), pp. 203-224, 2006, Elsevier.
14. S. Hong and P. Eades, "Drawing Planar Graphs Symmetrically III: Oneconnected Graphs", ***Algorithmica***, 44 (1), pp. 67-100, 2006, Springer.
15. S. Hong and P. Eades, "Drawing Planar Graphs Symmetrically II: Biconnected Graphs", ***Algorithmica***, 42(2), pp. 159-197, 2005, Springer.
16. C. Buchheim and S. Hong, "Crossing Minimization for Symmetries", ***Theory of Computing Systems***, 38 (3), pp. 293-311, 2005 (*Invited paper from ISAAC 2002*), Springer.
17. S. Hong, P. Eades and J. Hillman, "Linkless Symmetric Drawings of Series Parallel Digraphs", ***Computational Geometry: Theory and Applications***, 29(3), pp. 191-222, 2004, Elsevier.
18. S. Hong and P. Eades, "Drawing Trees Symmetrically in Three Dimensions", ***Algorithmica***, 36(2), pp. 153-178, 2003, Springer.
19. S. Hong, P. Eades and S. Lee, "Drawing Series Parallel Digraphs Symmetrically", ***Computational Geometry: Theory and Applications***, Vol. 17, pp. 165-188, 2000, Elsevier.
20. Y. Lee, S. Hong and S. Lee, "Symmetry Analysis on Interconnection Networks and its Drawing System", ***Journal of Korea Information Science Society (A)***, Vol 26, No. 11, 1999.
21. S. Hong and S. Lee, "An Algorithm for Detecting Geometric Symmetry in a Planar Graph", ***Journal of Korea Information Science Society (A)***, Vol 26, No. 1, 1999.
22. H. Park, S. Hong and S. Lee, "Algorithms for Detecting the Geometric Symmetry of a Series-Parallel Digraph and its Drawing", ***Journal of Korea Information Science and Society (A)***, Vol 25, No 5, pp. 481-491, 1998.
23. M. Cho, S. Hong, J. Lee and S. Lee, "Algorithms for Drawing 6-Planar Graphs in Triangular Grids", ***Journal of Korea Information Science Society (A)***, Vol 24, No 2, 1997.

24. E. Oh, S. Hong and S. Lee, "Algorithms for Embedding Mesh of Trees into Star Graphs," *Journal of Korea Information Science Society (A)*, Vol 23, No 8, 1996.

Submitted Journal Papers

1. C. Bachmaier, H. Buchner, M. Forster and S. Hong, "Crossing minimization in Extended Level Drawings of Graphs", revision submitted.
2. S. Hong and H. Nagamochi, "An Algorithm for Constructing Star-shaped Drawing of Planar Graphs", revision submitted.
3. L. Grilli, S. Hong, G. Liotta, H. Meijer and S. Wismath, "Matched Drawability of Graph Pairs and of Graph Triples", submitted.
4. S. Hong and H. Nagamochi, "Convex Drawings of Hierarchical Planar Graphs and Clustered Planar Graphs", submitted.
5. S. Hong and H. Nagamochi, "A Linear Time Algorithm for Constructing a Star-shaped Drawing of Planar Graphs with the Minimum Number of Concave Corners", submitted.
6. S. Hong and H. Nagamochi, "Star-shaped Drawings of Plane Graphs with a Cost Function on Concave Corners", submitted.

Refereed International Conference papers

1. S. Hong, "MultiPlane Framework for Visualisation and Analysis of Large and Complex Networks", Proceedings of RIMS Workshop on Acceleration and Visualisation of Computation for Enumeration Problems, to appear.
2. S. Hong and H. Nagamochi, "Toward Characterisation of Vertex-Edge Graphs of Three-Dimensional Nonconvex Polyhedra", Proceedings of **JH** 2009 (Japanese-Hungarian Workshop on Discrete Mathematics and Its Applications), to appear.
3. D. Fung, S. Hong, D. Koschützki, F. Schreiber and K. Xu, "Visual Analysis of Overlapping Biological Networks", Proceedings of **IV** (Information Visualisation), IEEE, to appear.
4. W. Huang, P. Eades and S. Hong, "A Graph Reading Behaviour: Geodesic Path Tendency", Proceedings of IEEE Pacific Visualization Symposium (**PacificVis** 2009), IEEE, to appear.
5. L. Grilli, S. Hong, G. Liotta, H. Meijer and S. Wismath, "Matched Drawability of Graph Pairs and of Graph Triples", Proceedings of **WALCOM** 2009, 322-333, LNCS, Springer 2009.
6. T. Imamichi, J. Gim, Y. Arahori, S. Hong and H. Nagamochi, "Removing Overlaps in Label Layouts using a Multi-sphere Scheme", Proceedings of **Graph Drawing** 2008, 296-301, LNCS, Springer 2008.
7. S. Hong and M. Mader, "Generalizing the Shift Method for Rectangular Shaped Vertices with Visibility Constraints", Proceedings of **Graph Drawing** 2008, 278-283, LNCS, Springer 2008.
8. S. Hong and H. Nagamochi, "Star-shaped Drawing of Planar Graphs with Fixed Embedding and Concave Corner Constraints", Proceedings of **COCOON** 2008, LNCS, Springer, 405-414, 2008.
9. L. Grilli, S. Hong, A. Symvonis and C. Wormser, "Locally Delaunay Realizability of Regular Series-Parallel Graphs", Proceedings of **CGA** (International Workshop on Computational Geometry and Applications) 2008, IEEE, 461-467, 2008.
10. D. Fung, S. Hong, D. Hart, K. Xu, Visualizing the Gene Ontology-Annotated Clusters of Co-expressed Genes: A Two-Design Study, Proceedings of **IV** 2008, IEEE, 9-14, 2008.
11. S. Hong and H. Nagamochi, "Approximating Crossing Minimization in Radial Layouts", Proceedings of **LATIN** 2008 (Latin American Theoretical Informatics Symposium), LNCS 4957, pp. 461-472, 2008.

12. W. Huang, S. Hong and P. Eades, "Effects of Crossing Angles", Proceedings of IEEE Pacific Visualization Symposium (**PacificVis** 2008), IEEE, 41-46, 2008.
13. W. Huang, S. Hong and P. Eades, "A Cognitive Approach to the Evaluation of Graph Visualizations", Proceedings of **BELIV**'08 workshop, ACM, 3, 2008.
14. X. Shen, A. Vande Moere, P. Eades and S. Hong, "An Evaluation of *Fisherman* in a Partial-Attention Environment, Proceedings of **BELIV**'08 workshop, ACM, 10, 2008.
15. S. Hong and H. Nagamochi, "Star-shaped Drawings of Planar Graphs", Proceedings of **IWOCA** 2007 (International Workshop on Combinatorial Algorithm), 78-92, 2008.
16. S. Hong and H. Nagamochi, "Convex Drawings of Clustered Planar Graphs", Proceedings of **WAAC** 2007 (Workshop on Algorithms and Computations), 2007.
17. S. Hong and H. Nagamochi, "A Linear Time Algorithm for Symmetric Convex Drawings of Triconnected Planar Graphs", Proceedings of Kyoto **CGGT** 2007 (Kyoto International Conference on Computational Geometry and Graph Theory), 2007.
18. U. Brandes, C. Erten, J. Fowler, F. Frati, M. Geyer, C. Gutwenger, S. Hong, M. Kaufmann, S. G. Kobourov, G. Liotta, P. Mutzel, A. Symvonis, "Colored Simultaneous Geometric Embeddings", Proceedings of **COCOON** 2007 (Computing and Combinatorics), Lecture Notes in Computer Science 4598, pp. 254-263, 2007.
19. K. Xu, A. Cunningham, S. Hong and B. Thomas, "GraphScape: Integrated Multivariate Network Visualization", Proceedings of **APVIS** (Asia-Pacific Symposium on Visualisation) 2007, IEEE, pp. 33-40, 2007.
20. A. Ahmed, V. Batagelj, X. Fu, S. Hong, D. Merrick and A. Mrvar, "Visualisation and Analysis of the Internet Movie Database", Proceedings of **APVIS** (Asia-Pacific Symposium on Visualisation) 2007, IEEE, pp. 17-24, 2007.
21. X. Fu, S. Hong, N. S. Nikolov, X. Shen, Y. Wu and K. Xu, "Visualization and Analysis of Email Networks", Proceedings of **APVIS** (Asia-Pacific Symposium on Visualisation) 2007, IEEE, pp.1-8, 2007.
22. A. Ahmed and S. Hong, "Navigation Techniques for 2.5D Graph Layout", Proceedings of **APVIS** (Asia-Pacific Symposium on Visualisation) 2007, IEEE, pp. 81-84, 2007.
23. X. Shen, P. Eades, S. Hong and A. Vande Moere, "Intrusive and Non-intrusive Evaluation of Ambient Displays", Issues in the Design and Evaluation of Ambient Information Systems Workshop, Toronto, Canada, pp. 30-35, 2007
24. S. Hong, and H. Nagamochi, "Convex Drawings of Graphs with Non-convex Boundary", Proceedings of **WG** (Workshop on Graph Algorithm) 2006, pp. 113-124, Lecture Notes in Computer Science 4271, 2006.
25. S. Hong, and H. Nagamochi, "Convex Drawings of Hierarchical Plane Graphs", Proceedings of **AWOCA** (Australasian Workshop on Combinatorial Algorithm) 2006, 2006.
26. J. Ho, T. Manwaring, S. Hong, U. Roehm, D. Fung, K. Xu, T. Kraska and D. Hart, "PathBank: Web-Based Querying and Visualization of an Integrated Biological Pathway Database", Proceedings of **CGIV** (Computer Graphics, Imaging and Visualization) 2006, pp. 84-89, IEEE, 2006.
27. T. Dwyer, S. Hong, D. Koschuetzki, F. Schreiber and K. Xu, "Visual Analysis of Network Centralities", Proceedings of Asia Pacific Symposium on Information Visualisation (**APVIS** 2006), pp. 189-197, 2006.
28. W. Huang, S. Hong and P. Eades, "How People Read Sociograms: A Questionnaire Study", Proceedings of Asia Pacific Symposium on Information Visualisation (**APVIS** 2006), pp. 199-206, 2006.
29. W. Huang, S. Hong and P. Eades, "Predicting Graph Reading Performance: A Cognitive Approach", Proceedings of Asia Pacific Symposium on Information Visualisation (**APVIS** 2006), pp. 207-216, 2006.

30. S. Hong and N. Nikolov, "Hierarchical Layout of Directed Graphs in Three Dimensions", Proceedings of **Graph Drawing** 2005, pp. 251-261, Lecture Notes in Computer Science 3843, 2005.
31. J. Ho and S. Hong, "Drawing Clustered Graphs in Three Dimensions", Proceedings of **Graph Drawing** 2005, pp. 492-502, Lecture Notes in Computer Science 3843, 2005.
32. W. Huang, S. Hong and P. Eades, "Layout Effects on Sociogram Perception", Proceedings of **Graph Drawing** 2005, pp. 262-273, Lecture Notes in Computer Science 3843, 2005.
33. Ahmed, T. Dwyer, M. Forster, X. Fu, J. Ho, S.-H. Hong, D. Koschützki, C. Murray, N. S. Nikolov, R. Taib, A. Tarassov, K. Xu, "GEOMI: GEOMetry for Maximum Insight", Proceedings of **Graph Drawing** 2005, pp. 468-479, Lecture Notes in Computer Science 3843, 2005.
34. S. Hong, "MultiPlane: a New Framework for Drawing Graphs in Three Dimensions", Proceedings of **Graph Drawing** 2005, pp. 514-515, Lecture Notes in Computer Science 3843, 2005.
35. S. Hong, "Network Analysis and Visualisation", Proceedings of **Graph Drawing** 2005, pp. 524-527, Lecture Notes in Computer Science 3843, 2005.
36. W. Li, W. S. Hong and P. Eades, "Navigating Software Architecture", Proceedings of IEEE Symposium on Visual Languages and Human-Centric Computing (**VL/HCC'05**), pp. 225-232, IEEE, 2005.
37. W. Li, S. Hong and P. Eades, "A Framework for Visualising Large Graphs", Proceedings of International Conference Information Visualisation (**IV05**), pp. 528-535, IEEE, 2005.
38. Ahmed, T. Dwyer, S. Hong, C. Murray, L. Song and Wu, "Visualisation and Analysis of Large and Complex Scale-free Networks", Proc. of **EuroVis** 2005 (EUROGRAPHICS-IEEE VGTC Symposium on Visualization), pp. 1-8, IEEE, 2005.
39. K. Sugiyama, R. Osawa and S. Hong, "The Puzzle Generators and Symmetric Puzzle Layout", Proceedings of **APVIS** (Asia Pacific Symposium on Information Visualisation) 2005, pp. 93-102, Vol. 45, CRPIT, 2005.
40. S. Hong and N. Nikolov, "Layered Drawings of Directed Graphs in Three Dimensions", Proceedings of **APVIS** (Asia Pacific Symposium on Information Visualisation) 2005, pp. 65-70, Vol. 45, CRPIT, 2005.
41. S. Hong and T. Murtagh, "*Visualization of Large and Complex Networks Using PolyPlane*", Proceedings of **Graph Drawing** 2004, Lecture Notes in Computer Science 3383, pp. 471-482, Springer, 2004.
42. S. Hong and P. Eades, "*A Linear Time Algorithm for Constructing Maximally Symmetric Straight line Drawings of Planar Graphs*", Proceedings of **Graph Drawing** 2004, Lecture Notes in Computer Science 3383, pp. 307-317, Springer, 2004.
43. S. Hong, D. Merrick and H. Nascimento, "*The Metro Map Layout Problem*", Proceedings of **Graph Drawing** 2004, Lecture Notes in Computer Science 3383, Springer, pp. 482-491, 2004.
44. S. Hong, D. Merrick and H. Nascimento, "The Metro Map Layout Problem", Proceedings of **Invis.au** (Australasian Symposium on Information Visualisation) 2004, CRPIT 35. Churcher, N. and Churcher, C., Eds., ACS. pp. 91-100, 2004.
45. S. Hong and P. Eades, "Symmetric Layout of Disconnected Graphs", Algorithms and Computations, Proceedings of **ISAAC** 2003 (Algorithms and Computations), Lecture Notes in Computer Science, Springer, 2003, pp. 405-414, 2003.
46. K. Sugiyama, S. Hong, and A. Maeda, "The Puzzle Layout Problem", **Graph Drawing**, Proceedings of Graph Drawing 2003, Lecture Notes in Computer Science 2912, pp. 500-501, Springer, 2003.

47. S. Hong and P. Eades, "Drawing Disconnected Graphs Symmetrically", Proceedings of **WAAC** (Japan-Korea Workshop on Algorithms and Computation) 2003, pp. 276-288, 2003.
48. S. Hong, "The Rectilinear Crossing Minimization Problem", Proceedings of **AWOCA** (Australasian Workshop on Combinatorial Algorithms) 2003, pp. 46-56, 2003.
49. T. Murtagh and S. Hong, "3DTreeDraw: A Three Dimensional Tree Drawing System", Proceedings of **SoCG** (ACM Symposium on Computational Geometry) 2003, pp. 380-381, 2003.
50. D. Abelson, S. Hong and D. E. Taylor, "A Group-Theoretic Method for Drawing Graphs Symmetrically", Proceedings of **Graph Drawing** 2002, Lecture Notes in Computer Science 2528, Springer, pp 86-97, 2002.
51. C. Buchheim and S. Hong, "Crossing Minimization for Symmetries", Proceedings of **ISAAC02**, (Algorithms and Computations), Lecture Notes in Computer Science 2518, pp 563-574, 2002.
52. S. Hong, B. McKay and P. Eades, "Symmetric Drawings of Triconnected Planar Graphs", Proceeding of **SODA** (ACM-SIAM conference on Discrete Algorithms) 2002, pp. 356-365, 2002.
53. S. Hong, "Drawing Graphs Symmetrically in Three Dimensions", Proceeding of **Graph Drawing** 2001, Lecture Notes in Computer Science 2265, Springer, pp. 189-204, 2002.
54. S. Hong and P. Eades, "An Algorithm for Finding Three Dimensional Symmetry in Trees", Proceedings of **Graph Drawing** 2000, Lecture Notes in Computer Science 1984, Springer, pp. 360-371, 2001.
55. S. Hong, "Visualisation of Symmetry in Graphs", Proceedings of Pan-Sydney workshop on Visualisation, **VIP**, CRPIT, vol. 2, pp. 71-72, 2000
56. S. Hong and P. Eades, "An Algorithm for Finding Three Dimensional Symmetry in Series Parallel Digraphs", Proceeding of **ISAAC** (International Symposium on Algorithms and Computations) 2000, Lecture Notes in Computer Science 1969, Springer, pp. 266-277, 2000.
57. S. Hong, P. Eades and S. Lee, "Finding Planar Geometric Automorphisms in Planar Graphs", Proceeding of **ISAAC** (International Symposium on Algorithms and Computations) 98, Lecture Notes in Computer Science 1533, Springer, pp. 277-286, 1998.
58. S. Hong, P. Eades, A. Quigley and S. Lee, "Drawing Algorithms for Series Parallel Digraphs in Two and Three Dimensions," Proceedings of **Graph Drawing** 98, Lecture Notes in Computer Science 1547, Springer, pp. 196-209, 1998.
59. S. Hong and P. Eades, "An Algorithm for Finding Three Dimensional Symmetry in Trees", Proceedings of Korea Information Science Society Spring Conference, **KISS**, 2000.
60. S. Hong and P. Eades, "How to Find Three Dimensional Symmetry in Series Parallel Digraphs", Proceedings of Korea Information Science Society Spring Conference, **KISS**, 2000.
61. Y. Lee, S. Hong and S. Lee, "Design and Implementation of Interconnection Network System", Proceedings of Korea Information Science Society Fall Conference, pp. 667-669, **KISS**, 1998.
62. H. Park, S. Hong, S. Lee and P. Eades, "Algorithms for Drawing Series-Parallel Digraphs Symmetrically", Proc. of **SoftVis** 97 Software Visualisation Workshop, Australia, 1997.
63. S. Hong and S. Lee, "The Flip Distance Problem of Triangulations," Proc. of the Japan-Korea Joint Workshop on Algorithms and Computation, **WAAC**, pp.9-15, 1997.
64. H. Park, S. Hong and S. Lee, "Algorithms for Detecting the Geometric Symmetry of a Series-Parallel Digraph and Its Drawing Algorithm", Proc. of the Japan-Korea Joint Workshop on Algorithms and Computation, **WAAC**, pp.32 - 39, 1997.

65. S. Hong and S. Lee, "The Flip Distance Problem of Triangulations", Proceedings of Korea Information Science Society Fall Conference, **KISS**, 1997.

Refereed Conference Poster papers/ Conference Abstracts

1. K. Haraguti, S. Hong and H. Nagamochi, "Visual Analysis of Hierarchical Data using 2.5D Drawing with Minimum Occlusion", IEEE Pacific Visualization Symposium 2008 (**PacificVis** 2008), March 5-7 Kyoto, Japan, 2008.
2. J. Gim, Y. Arahori, T. Imamichi, S. Hong and H. Nagamochi, "Overlap Removal in Label Layouts by a Multi-sphere Scheme", IEEE Pacific Visualization Symposium 2008 (**PacificVis** 2008), March 5-7 Kyoto, Japan, 2008.
3. Batagelj et al., Sunbelt 2008 Vizards Session, "Visualization and Analysis of WoS (Web of Science)", Proceedings of **Sunbelt** 2008, US.
4. A. Ahmed, X. Fu, S. Hong, Q. Nguyen, and K. Xu, "Visual Analysis of Dynamic Networks with Geological Clustering", poster, IEEE Symposium on Visual Analytics Science and Technology (**VAST**) 2007, October 2007, California USA.
5. X. Fu, S. Hong, P. Pattison and G. Robins, "Visualisation and Interaction of Temporal Multi-relational Networks, Proceedings of **Sunbelt** 2007, pp. 6, 2007.
6. Batagelj et al, Sunbelt 2007 Vizards Session, "Visualization and Analysis of Wiki", Proceedings of **Sunbelt** 2007, Greece.
7. K. Xu, R. Williams, X. Huang, C. Cotsapas, S. Hong, G. McCaughan, M. Gorrell, and P. Little, "Multi-scale Visualisation and Function Analysis of Gene Ontology Network for High Throughput Experiments", **Bioinformatics Australia** 2006, 2006.
8. D. Fung, S. Hong, K. Xu, and D. Hart, "Contextual Visualization of Microarray Data in Bioprocess Gene Ontology", **Bioinformatics Australia** 2006, 2006.
9. R. Williams, K. Xu, X. Huang, C. Cotsapas, S. Hong, G. McCaughan, M. Gorrell, and P. Little, "Visualisation and Analysis of Large and Complex Networks", 14th Annual International Conference On Intelligent Systems For Molecular Biology (**ISMB** 2006), 2006.
10. Batagelj et al, Sunbelt 2006 Vizards Session, "Visualization and Analysis of IMDB (Internet Movie DataBase)", Proceedings of **Sunbelt** 2006, Canada.
11. X. Fu, S. Hong, N. Nikolov, X. Shen, Y. Wu, and K. Xu, "Visualization and Analysis of Small-World Email Networks", 12th IEEE Symposium on Information Visualization (**InfoVis** 2006), 2006.
12. S. Hong and T. Murtagh, "PolyPlane: An Implementation of a New Layout Algorithm for Trees in Three Dimensions", IEEE **InfoVis** poster, 2003.
13. N. Nikolov and S. Hong, "Uniqueness Centralities", Proceedings of **Sunbelt** 2005, pp. 102, 2005.
14. T. Dwyer, X. Fu, S. Hong N. Nikolov and K. Xu, "Visualisation and Analysis of Large and Complex Networks Using GEOMI", Proceedings of **Sunbelt** 2005, pp. 92, 2005.

Theses

1. S. Hong, "Algorithms for Maximum Symmetry Detection and Symmetric Drawings for Planar Graphs", Ph. D. Thesis, Ewha University, 1999.
2. S. Hong, "Rectilinear Shortest Path Problems in Rectilinear Polygons", M.S. Thesis, Ewha University.

Technical Reports: (Available from <http://www.cs.usyd.edu.au/~shhong/publication.htm> and <http://www.cs.usyd.edu.au/~visual/valacon/>)

1. S. Hong and H. Nagamochi, "Two-page Book Embedding and Clustered Graph Planarity", TR [2009-004], Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2009.
2. S. Hong and H. Nagamochi, "Testing Planarity of Level Graphs with Intra-level Edges", TR[2009-005], Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2009.
3. K. Haraguchi, S. Hong and H. Nagamochi, "Visual Analysis of Hierarchical Data Using 2.5D Drawing with Minimum Occlusion", TR[2009-010], Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2009.
4. K. Haraguchi, S. Hong and H. Nagamochi, "Classification via Visualization of Sample-feature Bipartite Graphs", TR[2009-011], Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2009.
5. T. Imamichi, Y. Arahori, J. Gim, S. Hong and H. Nagamochi, "Removing overlaps in label layouts using multi-sphere scheme", TR 2008-06, Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2008.
6. S. Hong and H. Nagamochi, "Extending Steinitz' Theorem to Non-convex Polyhedra", TR 2008-12, Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2008.
7. S. Hong and H. Nagamochi, "Star-shaped Drawings of Graphs with Fixed Embedding and Concave Corner Constraints", TR 2008-02, Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2008.
8. S. Hong and H. Nagamochi, "Convex Drawings with Non-convex Boundary Constraints", TR 2007-003, Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2007.
9. S. Hong and H. Nagamochi, "Convex Drawings of Hierarchical Planar Graphs and Clustered Planar Graphs", Department of Applied Mathematics and Physics, Graduate School of Informatics, University of Kyoto, Japan, 2007.
10. R. Webber and S. Hong, "Force-directed Animations for a Class of Dynamic Bipartite and Clustered Graphs", NICTA TR, 2007.
11. N. Senechal, S. Hong, and P. Eades, "Display of Sensor Networks", NICTA TR 2006.
12. Q. Nguyen and S. Hong, "Comparison of Centrality-Based Planarisation for 2.5D Graph Drawing", NICTA TR 2006.
13. A. Ahmed and S. Hong, "Navigation Techniques for 2.5D Graph Layout", TR, School of IT, University of Sydney, 2006.
14. C. Buchheim and S. Hong, "Testing Planarity of Geometric Automorphisms in Linear Time", ZAIK 2006-517, University of Cologne, Germany, 2006.
15. W. Huang, S. Hong, and P. Eades, "Layouts effects: Comparison of Sociogram Drawing Conventions", Technical report, USYD-IT-TR-575, Oct 2005.
16. S. Hong, "MultiPlane: a New Framework for Drawing Graphs in Three Dimensions", NICTA TR 2005.
17. C. Buchheim and S. Hong, "Crossing Minimisation for Symmetries", ZAIK 2005-484, University of Cologne, Germany, 2005.
18. S. Hong, B. McKay and P. Eades, "A Linear Time Algorithm for Constructing Maximally Symmetric Drawings of Triconnected Planar Graphs", TR IT-IVG-2004-01, School of IT, University of Sydney, 2004.
19. S. Hong and T. Murtagh, "PolyPlane: A New Layout Algorithm For Trees In Three Dimensions", Technical Report IT-IVG-2003-01, School of Information Technologies, The University of Sydney, 2003.
20. K. Sugiyama, S. Hong and A. Maeda, "The Puzzle Layout Problem", TR IT-IVG-2003-02, School of Information Technologies, The University of Sydney, 2003.

21. S. Hong, D. Merrick and H. Nascimento, "The Metromap Layout Problem", TR IT-IVG-2003-03, School of Information Technologies, The University of Sydney, 2003.
22. D. Abelson, S. Hong and D. Taylor, "A Group-Theoretic Method for Drawing Graphs Symmetrically", Technical Report IT-IVG-2002-01, School of Information Technologies, The University of Sydney, 2002.
23. S. Hong and P. Eades, "Drawing Trees Symmetrically in Three Dimension", Technical Report IT-IVG-2002-02, School of Information Technologies, The University of Sydney, 2002.
24. T. Murtagh and S. Hong, "3DTreeDraw: A Three Dimensional Tree Drawing System", Technical Report IT-IVG-2002-03, School of Information Technologies, The University of Sydney, 2002.
25. S. Hong, B. McKay and P. Eades, "Drawing Planar Graphs Symmetrically I: Triconnected Planar Graphs", Technical Report, CS-IVG-2001-00, Basser Department of Computer Science, The University of Sydney, 2001.
26. S. Hong and P. Eades, "Drawing Planar Graphs Symmetrically II: Biconnected Planar Graphs", Technical Report CS-IVG-2001-01, Basser Department of Computer Science, The University of Sydney, 2001.
27. S. Hong and P. Eades, "Drawing Planar Graphs Symmetrically III: One-connected Planar Graphs", Technical Report CS-IVG-2001-02, Basser Department of Computer Science, The University of Sydney, 2001.
28. S. Hong and P. Eades, "Drawing Planar Graphs Symmetrically IV: Disconnected Planar Graphs (Extended Abstract)", Technical Report CS-IVG-2001-03, Basser Department of Computer Science, The University of Sydney, 2001.

Service To Community

Journal Editorships:

- Guest editor, **Algorithmica**, Special issue from ISAAC (International Symposium on Algorithms and Computation) 2008-2009.
- Guest editor, **IJCGA** (International Journal of Computational Geometry and Applications), Special issue from ISAAC (International Symposium on Algorithms and Computation) 2008-2009.
- Guest editor, **JGAA** (Journal of Graph Algorithms and Applications), Special issue from GD (Graph Drawing) 2007-2008.
- Guest editor, **JGAA** (Journal of Graph Algorithms and Applications), Special issue from APVIS (Asia Pacific Symposium on Information Visualisation) 2006-2008.
- S. Hong and H-C. Yen, Guest editor, **IJFCS** (International Journal of Foundations of Computer Science), Special issue on Graph Drawing, 17(5), 2006.

Steering Committees

- **IEEE Pacific Vis** (Pacific Visualization Symposium), 2006-
- **GD** (International Symposium on Graph Drawing), 2006-2008

Program Chair

1. **ISAAC 2008** (International Symposium on Algorithms and Computation), Australia.
2. **GD 2007** (International Symposium on Graph Drawing), Sydney, Australia.
3. **IEEE/ACM APVIS 2007** (Asia Pacific Symposium on Visualisation), Sydney, Australia.

4. **APVIS 2005** (Asia Pacific Symposium on Information Visualisation), Sydney, Australia.
5. **AWOCA 2004** (Australasian Workshop on Combinatorial Algorithms), Byron Bay, Australia.

Program Committees

1. **JCCGG 2009** (Japan Conference on Computational Geometry and Graphs), Japan.
2. **FAW 2009** (International Frontiers of Algorithmics Workshop), China.
3. **AAIM 2009** (Algorithmic Aspects of Information and Management), US.
4. **IEEE Pacificvis 2009** (Pacific Visualization Symposium), China.
5. **WAAC 2009** (Korea-Japan Joint Workshop on Algorithms and Computations), Korea.
6. **ACSC 2009** (Australasian Computer Science Conference), New Zealand.
7. **ISAAC 2008** (International Symposium on Algorithms and Computation), Australia.
8. **GD 2008** (International Symposium on Graph Drawing), Greece.
9. **IEEE PacificVis 2008** (Pacific Visualization Symposium), Japan.
10. **WALCOM 2008** (Workshop on Algorithms and Computations), Bangladesh.
11. **CATS 2008** (Computing: The Australasian Theory Symposium), Australia.
12. **GD 2007** (International Symposium on Graph Drawing), Australia.
13. **ISAAC 2007** (International Symposium on Algorithms and Computation), Japan.
14. **APVIS 2007** (Asia Pacific Symposium on Information Visualisation), Australia.
15. **WAAC 2007** (Korea-Japan Joint Workshop on Algorithms and Computations), Korea.
16. **APVIS 2006** (Asia Pacific Symposium on Information Visualisation), Tokyo, Japan.
17. **WAAC 2006** (Japan-Korea Joint Workshop on Algorithms and Computations), Japan.
18. **GD 2005** (International Symposium on Graph Drawing), Limerick, Ireland.
19. **APVIS 2005** (Asia Pacific Symposium on Information Visualisation), Sydney, Australia.
20. **ISAAC 2004** (International Symposium on Algorithms and Computation), Hong Kong, China.
21. **AWOCA 2004** (Australasian Workshop on Combinatorial Algorithms), Byron Bay, Australia.
22. **INVIS.AU 2004** (Australian Symposium on Information Visualisation), Christchurch, New Zealand.
23. **WAAC 2003** (Korea-Japan Joint Workshop on Algorithms and Computations), Sendai, Japan.
24. **GD 2002** (International Symposium on Graph Drawing), Irvine, USA.

Workshop Chair

1. EII Taskforce Workshop on Network Analysis, 15-16 Nov, 2005, Sydney, Australia.
2. NICTA-EII Workshop on Plant Genomics, 13-14 Nov, 2005, Sydney, Australia.
3. Workshop on Social Network Analysis and Visualisation, part of GD 2005 (International Symposium on Graph Drawing), Limerick, Ireland, 2005.
4. NICTA VALACON Workshop on Social Networks, June, 2005, Sydney, Australia.
5. NICTA VALACON Workshop on Biological Networks, November, 2004, Sydney, Australia.
6. Spring Day: Workshop on Graph Drawing and Information Visualisation (on the occasion of the 50th birthday of Peter Eades), 2002.
7. Symmetry Workshop, AWOCA 2000 (Australasian Workshop on Combinatorial Algorithms), Hunter Valley, Australia, 2000.

Organising Committee Chair

1. ISAAC 2008 (International Symposium on Algorithms and Computation), Australia.
2. GD 2007 (International Symposium on Graph Drawing), Sydney, Australia.
3. IEEE/ACM APVIS 2007 (Asia Pacific Symposium on Visualisation), Sydney, Australia.
4. APVIS 2005 (Asia Pacific Symposium on Information Visualisation), Sydney, Australia.

Reviewer

I have served as a regular reviewer for international journals:

- SIAM Journal on Computing
- Journal of Algorithms
- Algorithmica
- Theoretical Computer Science
- Computational Geometry: Theory and Applications
- International Journal of Computational Geometry and Applications
- Discrete Applied Mathematics
- Journal of Graph Algorithms and Applications
- IEEE Transaction on Visualisation and Computer Graphics
- Journal of Visual Languages and Computing
- Mathematical Programming B
- Information Visualisation
- Information Processing Letters
- AMS (American Mathematics Society) Review

I have served as an external reviewer for international conferences:

- ISAAC 2006 (International Symposium on Algorithms and Computation), India.
- SODA 2005 (ACM-SIAM Symposium on Discrete Algorithms), USA.
- COCOON 2004 (International Computing and Combinatorics Conference), Korea.
- Graph Drawing 2003 (International Symposium on Graph Drawing), Italy.
- Graph Drawing 2001 (International Symposium on Graph Drawing), Austria.
- ISAAC 2001 (International Symposium on Algorithms and Computation), New Zealand.
- Graph Drawing 2000 (International Symposium on Graph Drawing), USA.
- COCOON 2000 (International Computing and Combinatorics Conference), Australia.
- Graph Drawing 1998 (International Symposium on Graph Drawing), Canada.

Linkage

Invited Talks at the Conference/Workshop

1. **Invited Speaker** 2009 Winter School on Mathematical and Computational Biology, 2009, July.
2. **Invited Speaker RIMS Workshop** on Acceleration and Visualisation of Computation for Enumeration Problems, “Visualisation and Analysis of Large and Complex Networks”, Japan, 2008, Sep.
3. **Invited Speaker, IWAAG 2007**, The International Workshop on Algorithms and Graphs, “Star-shaped Drawings of Graphs with Minimum Concave Corners”, Japan, 2007, Dec.

4. *Invited Speaker, AWOCA 2006*, “Theory and Practice of Graph Drawing”, 2006 July.
5. *Invited Speaker, ACAL 2005*, “Visualisation and Analysis of Large and Complex Networks”, 2005 December.

Invited Seminars at Universities/Research Institutes/Industry

1. **National Taiwan University**, Taiwan, “Visualisation and Analysis of Large and Complex Networks”, 2009, April.
2. **ACADEMIA SINICA**, Taiwan, “Extending Convex Drawings of Graphs”, 2009, April.
3. **National Tshing Hua University**, Taiwan, “Visualisation and Analysis of Large and Complex Networks”, 2009, April.
4. **KAIST**, Korea, “Extending Convex Drawings of Graphs”, 2009, Jan.
5. **Seoul National University**, Korea, “Extending Convex Drawings of Graphs”, 2009, Jan.
6. **Ewha University**, Korea, “Visualisation and Analysis of Large and Complex Networks”, 2009, Jan.
7. **Kyoto University**, Japan, “Extending Convex Drawings of Graphs”, 2008, Oct.
8. **JAIST**, Japan, “Visualisation and Analysis of Large and Complex Networks”, 2007, Nov.
9. **JAIST**, Japan, “Theory and Practice of 2.5D Graph Drawing”, 2007, Nov.
10. **Kyoto University**, Japan, “Theory and Practice of 2.5D Graph Drawing”, 2007, March.
11. **Kyoto University**, Japan, “Visualisation and Analysis of Large and Complex Networks”, 2007, March.
12. **Tohoku University**, Japan, “Theory and Practice of Graph Drawing: Visualisation and Analysis of Large and Complex Networks”, 2007, Jan.
13. **KAIST**, Korea, “Theory and Practice of Graph Drawing: Visualisation and Analysis of Large and Complex Networks”, 2007, Jan.
14. **Seoul National University**, Korea, “Theory and Practice of Graph Drawing: Visualisation and Analysis of Large and Complex Networks”, 2007, Jan.
15. **CYRAM**, Korea, “Visualisation and Analysis of Large and Complex Networks”, 2007, Jan.
16. **IPK**, Germany, “Visualisation and Analysis of Large and Complex Networks”, 2006 September.
17. **University of Queensland, IMB**, “Visualisation and Analysis of Large and Complex Networks”, 2006 June.
18. **Charles Darwin University**, “Theory and Practice of Graph Drawing”, 2006 June.
19. **CORE Chrice Wallace Seminar**, University of Sydney, “Theory and Practice of Graph Drawing”, 2006 April.
20. **DSTO**, “Visualisation and Analysis of Large and Complex Networks”, 2006 February.
21. **Dagstuhl Seminar on Algorithmic Aspects of Large and Complex Networks**, “Visualisation and Analysis of Large and Complex Scale-free Networks”, September, 2005.
22. **University of Sydney**, Basser Seminar Series, June, 2005, “Visualisation and Analysis of Large and Complex Networks”
23. **Dagstuhl Seminar on Graph Drawing**, “Visualisation and Analysis of Large and Complex Networks”, May, 2005.
24. **Kyoto University**, Japan, “Symmetric Graph Drawing: an overview”, March 2005.
25. **Telstra Research Lab**, Melbourne, “Visualisation and Analysis of Large and Complex Networks”, December 2004.
26. **University of NSW**, “Visualisation and Analysis of Large and Complex Networks”, November 2004.
27. **Netmap Analytics**, Sydney, “Visualisation and Analysis of Large and Complex Networks”, October 2004.
28. **University of Karlsruhe**, Germany, “The Metro Map Layout Problem”, May 2004.

29. **University of Konstanz**, Germany, "Symmetric Graph Drawing in Three Dimensions", May 2004.
30. **University of Lethbridge**, Canada, "Symmetric Graph Drawing: a survey", February 2004.
31. **University of Victoria**, Canada, "Symmetric Graph Drawing: a survey", January, 2004.
32. **JAIST**, Japan, "Symmetric Graph Drawing in Two Dimensions", February, 2003.
33. **JAIST**, Japan, "Symmetric Graph Drawing: a survey", January, 2003.
34. **KAIST**, Korea, "Symmetric Graph Drawing", January, 2003.
35. **Seoul National University**, Korea, "Graph Drawing and Information Visualisation", January, 2003.
36. **Brown University**, USA, Department of Computer Science Seminar, "Drawing Planar Graphs Symmetrically", March 19, 2001.
37. **National Taiwan University**, Taiwan, Department of Electrical Engineering Seminar, "Drawing Planar Graphs Symmetrically", December 21, 2000.
38. **University of Queensland**, School of Computer Science and Electrical Engineering Seminar, "Algorithms for Finding Planar Geometric Automorphisms in Planar Graphs", April 7, 2000.
39. **Australian National University**, Department of Computer Science Seminar, "Algorithms for Finding Planar Geometric Automorphisms in Planar Graphs", March 29, 2000.
40. **University of Western Australia**, Department of Mathematics, Pure Mathematics Seminar, "Algorithms for Finding Planar Geometric Automorphisms in Planar Graphs", March 22, 2000.
41. **University of Cologne**, Germany, "Drawing Series Parallel Digraphs Symmetrically", February 1999.
42. **Max-Planck-Institut fur Informatik**, Saarbrucken, Germany, 1999. "Drawing Series Parallel Digraphs Symmetrically", February 1999.

Invitations: International Workshop

1. 2009 May Dagstuhl workshop on Visualisation and Monitoring of Network Traffic
2. 2009 March Bertinoro workshop on Graph Drawing
3. 2008 May Dagstuhl workshop on Graph Drawing with Applications to Bioinformatics and Social Sciences
4. 2008 March Bertinoro workshop on Graph Drawing: Visualisation of Large Graphs
5. 2007 May Dagstuhl workshop on Information Visualization - Human-Centered Issues in Visual Representation, Interaction, and Evaluation
6. 2007 March Bertinoro workshop on Graph Drawing and Computational Geometry
7. 2006 March Bertinoro workshop on Graph Drawing
8. 2005 September Dagstuhl workshop on Algorithmic Aspects of Large and Complex Networks
9. 2005 May Dagstuhl workshop on Graph Drawing
10. 1998 July Dagstuhl workshop on Graph Algorithms and Applications

Conference Presentations

I have presented research talks at the following conferences:

1. Pacificvis 2009 (Pacific Visualization Symposium), Beijing, China.
2. PacificVis 2008 (Pacific Visualization Symposium), Kyoto, Japan.
3. IWOCA 2007 (International Workshop on Combinatorial Algorithms), Australia.
4. WAAC 2007 (Japan-Korea Joint Workshop on Algorithms and Computations), Korea.
5. Sunbelt 2007, Greece.
6. GD 2005 (International Symposium on Graph Drawing), Limerick, Ireland.
7. Sunbelt 2006 Vancouver, Canada.

8. Sunbelt 2005, LA, USA
9. GD 2004 (International Symposium on Graph Drawing), New York, USA.
10. ISAAC 2003 (International Symposium on Algorithms and Computation), Kyoto, Japan.
11. IEEE InfoVis 2003 (IEEE Symposium on Information Visualisation), Seattle, USA.
12. SoCG 2003 (ACM Symposium on Computational Geometry), San Diego, USA.
13. AWOCA 2003 (Australasian Workshop on Combinatorial Algorithms), Seoul, Korea.
14. WAAC 2003 (Japan-Korea Joint Workshop on Algorithms and Computations), Sendai, Japan.
15. GD 2002 (International Symposium on Graph Drawing), Irvine, USA.
16. SODA 2002 (ACM-SIAM Symposium on Discrete Algorithms), San-Francisco, USA.
17. GD 2001 (International Symposium on Graph Drawing), Vienna, Austria.
18. AMS (American Mathematics Society) Meeting 2001, Columbia, South Carolina, USA.
19. ISAAC 2000 (International Symposium on Algorithms and Computation), Taipei, Taiwan.
20. GD 2000 (International Symposium on Graph Drawing), Williamsburg, USA.
21. AWOCA 2000 (Australasian Workshop on Combinatorial Algorithms), Hunter Valley, Australia.
22. KISS 2000 (Korea Information Science Society Conference), Korea.
23. ISAAC 98 (International Symposium on Algorithms and Computation), Korea.
24. GD 98 (International Symposium on Graph Drawing), Montreal, Canada
25. SoftVis 97 (Software Visualisation Workshop), Adelaide, Australia.
26. WAAC 97 (Japan-Korea Joint Workshop on Algorithms and Computation), Fukuoka, Japan
27. KISS 97 (Korea Information Science Society Conference), Korea.

Invitations: Academic Visit (International)

1. 2009 National Taiwan University (Host: Professor Hsu-Chun Yen)
2. 2009 Kyoto University, Japan (Host: Prof. Hiroshi Nagamochi)
3. 2008 University of Perugia, Italy (Host: Professor Giuseppe Liotta)
4. 2008 RIMS, Kyoto, Japan (Host: Professor Satoru Iwata)
5. 2008 Kyoto University, Japan (Host: Prof. Hiroshi Nagamochi)
6. 2007 JAIST, Japan (Host: Prof. Kozo Sugiyama)
7. 2007 Kyoto University, Japan (Host: Prof. Hiroshi Nagamochi)
8. 2007 Tohoku University, Japan (Host; Prof. Takao Nishizeki)
9. 2006 IPK, Germany (Host: Dr. Falk Schreiber)
10. 2005 University of Limerick (Host: Dr. Patrick Healy and Dr. Nikola Nikolov)
11. 2005 Technical University of Eindhoven (Host: Dr. Hein van der Holst)
12. 2005 Kyoto University, Japan (Host: Professor Hiroshi Nagamochi)
13. 2004 MERL, Boston, US (Host: Joe Marks and Kathy Ryall)
14. 2004 University of Irvine, US (Host: Prof. Michael Goodrich, Prof. Freeman)
15. 2004 University of Electro-Communications, Japan (Host: Associate Professor Koike Hideki)
16. 2004 University of Karlsruhe, Germany (Host: Prof. Dr. Dorothea Wagner and Dr. Alexander Wolff)
17. 2004 University of Konstanz, Germany (Host: Prof. Dr. Ulrik Brandes)
18. 2004 University of Kent, England (Host: Dr. Peter Rodgers)
19. 2004 Bioinformatics Group (Network Analysis), The Institute of Plant Genetics and Crop Plant Research (IPK), Germany (Host: Dr. Falk Schreiber)
20. 2004 University of Ottawa, Canada (Host: Associate Professor Prosenjit Bose)
21. 2004 University of Lethbridge, Canada (Host: Associate Professor Stephen Wismath)
22. 2004 University of Victoria, Canada (Host; Professor Frank Ruskey)
23. 2003 JAIST, Japan (Host: Professor Kozo Sugiyama)

24. 2003 KAIST, Korea (Host: Professor KyungYong Chwa)
25. 2003 Seoul National University, Korea (Host: Professor KunSoo Park)
26. 2001 University of Perugia, Italy (Host: Professor Giuseppe Liotta)
27. 2001 University of Rome Tre, Italy (Host: Professor Giuseppe Di Battista)
28. 2001 Brown University, USA (Host: Professor Roberto Tamassia)
29. 1999 University of Limerick, Ireland (Host: Dr. Patrick Healy)
30. 1999 Max-Planck-Institut fur Informatik, Saarbrucken, Germany (Host: Dr. Petra Mutzel)
31. 1999 University of Colone, Colone, Germany (Host: Professor Michael Junger)
32. 1998 University of Limerick, Ireland (Host: Dr. Patrick Healy)

Invitations: Academic Visit (Australia)

1. 2006 University of Queensland (Host: Prof. Mark Ragan and Kay Basford)
2. 2006 Charles Darwin University (Host: Dr. Ian Roberts)
3. 2006 University of Melbourne (Host: Prof. Pip Pattison and Dr. Garry Robins)
4. 2006 UNSW (Host: Dr. Rohan Williams)
5. 2004 UNSW (Host: Dr. Rohan Williams)
6. 2003 Australian National University (Host: Professor Brendan McKay)
7. 2002 Australian National University (Host: Professor Brendan McKay)
8. 2002 University of Queensland (Host: Associate Professor George Havas)
9. 2001 Australian National University (Host: Professor Brendan McKay)
10. 2001 University of Queensland (Host: Associate Professor George Havas)
11. 2000 Australian National University (Host: Professor Brendan McKay)
12. 2000 University of Queensland (Host: Associate Professor George Havas)
13. 2000 University of Western Australia (Host: Professor Cheryl Prager)
14. 1997-8 University of Newcatsle (Host: Professor Peter Eades)