

## Prosenjit Bose

School of Computer Science  
 Carleton University  
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 Last updated: July 12, 2017

### Work Experience: Academic:

Period	Position	Place
07/06 – Present	Full Professor	Carleton University
06/10 – Present	Collaborateur Scientifique	Univ. Libre Bruxelles
08/10 – 08/16	Associate Dean Research and Grad Studies (Science)	Carleton University
07/11 – 11/15	President of Scholarships & Fellowships, Member of COGS	NSERC
01/10 – 07/10	Acting Associate Dean Research (Science)	Carleton University
07/00 – 07/06	Associate Professor	Carleton University
09/03 – 12/03	Visiting Professor	SITE Ottawa U, Ottawa
01/03 – 08/03	Visiting Professor	U. Catalunya, Barcelona, Spain
07/00 – 02/02	Director of Ott.-Carleton Inst. of Comp. Sci.	Ottawa & Carleton University
07/99 – 07/00	Assoc. Dir. of Ott.-Carleton Inst. of Comp. Sci.	Ottawa & Carleton University
07/99 – 02/02	Director Graduate Studies, School of Comp. Sci.	Carleton University
07/97 – 07/00	Assistant Professor (tenured 07/99)	Carleton University
12/95 – 07/97	Assistant Professor	U. du Québec à Trois-Rivières.
09/94 – 12/94	Teaching Assistant	McGill University
09/92 – 12/94	Technical Report Librarian	McGill University
01/93 – 04/93	Lecturer	McGill University
01/92 – 04/92	Lecturer	U. du Québec à Trois-Rivières
05/90 – 12/91	Research and Teaching Assistant	University of Waterloo

### Education:

- 01/95 – 12/95     **Killam & NSERC Postdoctorate Fellowship**, Univ. of British Columbia.  
 Investigated the applications of Computational Geometry in such areas as Automated Manufacturing, Geographic Information Systems (GIS), Pattern Recognition, Graph Drawing and Scientific Visualization with Dr. David Kirkpatrick and Dr. Jack Snoeyink.
- 01/92 – 12/94     **Ph.D. Computer Science**, McGill University.  
 D.W. Ambridge Award – Outstanding PhD Graduate in Science & Engineering.  
 Thesis: *Geometric and Computational Aspects of Manufacturing Processes*.  
 Dean's Honour List.  
 Supervisor: Dr. Godfried Toussaint
- 05/90 – 12/91     **M.Math. Computer Science**, University of Waterloo.  
 Thesis: *Visibility in Polygons*. Dean's Honour List.  
 Supervisors: Dr. Anna Lubiw and Dr. Ian Munro
- 09/85 – 04/90     **B.Math. Honours Computer Science & Combinatorics**, Univ. of Waterloo.  
 Graduated with Distinction on Dean's Honour List.

Period	Position	Place
05/89 – 09/89	Member of Scientific Staff	Nortel, Montreal
01/88 – 12/88	Programmer/Analyst	Geovision Corp., Ottawa
05/87 – 09/87	Programmer/Analyst	Accugraph Corp., Ottawa

Main Research Interests:

Research Interests	Applied Geometric Computing (applications to Manufacturing, G.I.S., Pattern Recognition, Image Processing), Computational Geometry, Data Structures, Algorithm Design and Analysis, Randomized Algorithms, Graph Theory.
Geometric computing	The design, analysis, and empirical study of algorithms for geometric problems such as those that occur in geographic information systems, manufacturing, facility location
Online and distributed computing	The design, analysis and empirical study of routing protocols and distributed algorithms

Grants:

Source	Amount	Duration	Principal Investigator	Type
NSERC	\$230 000	2014-2018	P. Bose	Discovery
NSERC	\$200 000	2009-2013	P. Bose	Discovery
Belgium	\$15 000	2008	P. Bose	Visiting Researcher Award
Carleton	\$15 000	2008	P. Bose	Teaching Achievement Award
PREA - Early Researcher	\$150 000	2006-11	P. Bose	Research Excellence Award
Carleton	\$15 000	2006	P. Bose	Research Achievement Award
NSERC	\$150 000	2004-2008	P. Bose	Operating
Catalunya	\$15 000	2003	P. Bose	Visiting Researcher Award
Carleton	\$10 000	2001	P. Bose	Research Achievement Award
NSERC	\$27 000/yr	2000-2003	P. Bose	Operating
NSERC	\$26 565	1999	P. Bose	Operating
NSERC	\$25 300	1998	P. Bose	Operating
NCE GEOIDE	\$100 000/yr	1998-02	J. Sack	NCE
NCE GEOIDE	\$60 000/yr	1998-1999	C. Gold and J. Snoeyink	NCE
NCE MITACS	\$100 000/yr	1998-2002	B. Bhattacharya	NCE
Carleton	\$10 000	1998	P. Bose	Start-up
Carleton	\$10 000	1997	P. Bose	Start-up
NSERC	\$23 000/yr	1996-1997	P. Bose	Operating
FCAR	\$13 000	1996	P. Bose	Operating
FCAR	\$13 900	1996	P. Bose	Equipment
UQTR	\$10 000	1995	P. Bose	Start-up

Achievement Awards:

Year	Award
2014	Carleton University Graduate Mentorship Award
2009	Nominated for TVO Ontario Best Lecturer Award
2008	Carleton University Teaching Achievement Award
2006	Premier's Research Excellence Award - Early Researcher
2006	Carleton University Research Achievement Award
2001	Carleton University Research Achievement Award
2001	Best Paper Award - Sirocco 2001

Year	Award
1995	D.W. Ambridge Award for McGill's Outstanding PhD Graduate in Science & Eng.
01/95 - 12/95	Killam Postdoctorate Fellowship
01/95 - 12/95	NSERC Postdoctorate Fellowship
1995	FCAR Postdoctorate Fellowship (declined)
05/94 - 12/94	FCAR Postgraduate Scholarship
05/91 - 04/94	NSERC Postgraduate Scholarship (PGS2, PGS3)
09/90 - 12/91	ICR (Inst. for Comp. Research, Waterloo) Scholarship
1992 - 1994	Dean's List, McGill University
1989 - 1991	Dean's List, University of Waterloo

Teaching:

Course Number	Course Title	Institute	Semester
308-557B	Computer Graphics	McGill	W93
ROP-1010	Algorithms (in French)	UQTR	F96
SIF-1015	Operating Systems (in French)	UQTR	W97, F96, W92
SIF-1016	Data Structures (in French)	UQTR	S97, S96
SIF-1048	Computational Geometry (in French)	UQTR	W97
95.102	Intro. Systems Prog.	Carleton	W98
95.185	Discrete Math	Carleton	F02
95.202	Data Structures	Carleton	W99
95.300	Operating Systems	Carleton	F00, W99, F97
95.384	Algorithms	Carleton	F99, W99, W98, W00
95.508	Computational Geometry	Carleton	F00, W00, F01, F02
95.591	Optimization Problems	Carleton	F98
95.591	Partitioning Problems	Carleton	W99
95.591	Kinetic Data Structures	Carleton	F01
95.591	Computer Vision: Inpainting	Carleton	S02
95.691	Dynamic Data Structures	Carleton	F99
95.691	Facility Location	Carleton	W00
COMP1805	Discrete Math	Carleton	F04, F05, F06, F07, F08, F09, W13, W16
COMP1805	Discrete Math Tutorials	Carleton	F04, F05, F06, F07, F08
COMP2402	Data Structures	Carleton	W04
COMP3804	Algorithms	Carleton	F16
COMP4804	Advanced Algorithms	Carleton	W11, W12, W13, W16
COMP5008	Computational Geometry	Carleton	F04, F05, F06, F07, F08, F09
COMP5409	Applied Computational Geometry	Carleton	W11

Administrative Duties at Carleton:

Duty	Duration
Carleton Research and Computing Committee	01/13 - 07/16
Graduate Faculty Board	01/10 - 07/16
Carleton Research Advisory Committee	01/10 - 07/16
NSERC Evaluation Committee (Carleton)	08/06 - 07/16
Career Services Advisory Committee	07/12 - 07/15
Project Leader - COOP Benchmarking	05/13 - 03/15
Carleton Negotiation/Bargaining Team	10/13 - 03/14
Carleton Research Space and Facilities Task Force	01/13 - 12/13
Post-Doctoral Fellow Committee	02/10 - 07/13
SCS Executive Committee	09/11 - 09/12

Duty	Duration
Hiring Committee	11/11 - 07/12
TAA Evaluation Committee	11/11 - 12/11
OCICS Board Member	08/10 - 08/11
NSERC/OGS Comp. Sci. Evaluation Committee	08/05 - 08/10
Undergraduate Recruitment Committee	07/07 - 08/10
Graduate Studies Committee	07/07 - 07/10
Senate Tenure Appeal Committee	07/07 - 07/11
Curriculum Reinvention Committee	04/09 - 01/11
Hiring Committee	11/08 - 12/09
NSERC Evaluation Committee (SCS)	08/05 - 08/09
OGS Evaluation Committee (SCS)	08/05 - 08/09
Associate VP Selection Committee	11/09 - 12/09
School Web Site Design Committee	07/07 - 08/08
Graduate Affairs Committee	05/05 - 07/07
OCICS Committee Member	01/04 - 07/07
Graduate Admissions Committee	01/04 - 07/07
ISS Committee Member	01/04 - 07/07
Hiring Committee Member	01/98 - 12/02
Executive Committee Member	07/00 - 12/02
ISS Committee Member	07/00 - 12/02
Director of OCICS	07/00 - 02/02
Associate Director of OCICS	07/99 - 07/00
Graduate Director	07/99 - 02/02
Graduate Admissions Committee	07/99 - 12/02
OCICS Committee Member	07/99 - 12/02
Coop Committee Member	09/98 - 01/02
Honors Project Coordinator	09/97 - 08/99
Co-organizer of CATS	1997-99

Graduate and Post-Graduate Student Supervision:

Name	Years	Degree	Thesis Topic
Esra Saleh	17 summer	NSERC USRA	Computational Geometry
Nicolas Lalonde	17 summer	DSRI	Computational Geometry
Maria del Pilar Cano	16 -	PhD	Computational Geomtry
Luis Fernando	16 -	PhD	Computational Geometry
Anthony D'Angelo	16 -	PhD	Algorithms
Darryl Hill	15 -	PhD	Computational Geometry
Frédérik Paradis	15 -	Masters	Computational Geometry
Sander Verdonschot	15 -	PostDoc	Computational Geometry
Yeganeh Bahoo	14 -	PhD	Computational Geometry
Alina Shaikhet	12 -	PhD	Computational Geometry
Anthony D'Angelo	14 - 16	Masters	Algorithms
Qi Dong	16 summer	UG research	Computational Geometry
Xiyi liu	16 summer	DSRI UG research	Computational Geometry
Justin Kim	16 summer	DSRI UG research	Computational Geometry
Luis Felipe Barba	12 - 16	PhD	Computational Geometry
Mahdi Amani	15 - 15	PhD (exchange)	Algorithms
Tommy Reddad	13 - 15	Masters	Algorithms
Lucas Rioux Maldague	14 - 15	Masters	Computational Geometry
Sander Verdonschot	10 - 15	PhD	Flips and Spanners
Darryl Hill	13 - 15	Masters	Computational Geometry

Name	Years	Degree	Thesis Topic
Chris Hoedemakers	14 - 15	Masters (exchange)	Computational Geometry
Micha Krauter	14 - 15	Masters (exchange)	Computer Vision
Jean-Lou De Carufel	09 - 15	PostDoc	Computational Geometry
André van Renssen	10 - 14	PhD	Algorithms and Data Structures
Vafa Khoshaein	12 - 14	Masters	Computer Vision
Maxime Peabody	14 summer	NSERC USRA	Networks
Anthony D'Angelo	14 summer	NSERC USRA	Networks
Maxime Peabody	13 - 14	UG Research Asst.	Computational Geometry
Pokong Lai	11 - 13	Masters	Image Processing
Dan Chen	07 - 13	PhD	Computational Geometry
Nima Hoda	11 - 12	UG Research Asst.	Computational Geometry
John Howat	08 - 12	PhD	Distribution Sensitive Data Structures
Vida Dujmovic	08 - 11	PostDoc	Graph Drawing
Christian Wulff-Nilson	10 - 11	PostDoc	Computational Geometry
Dana Jansens	10 - 11	PhD	Algorithms and Data Structures
Dania El-Khechen	09 - 11	PostDoc	Computational Geometry
Ken Chan	09 - 10	Masters	Computational Geometry
Karim Douieb	08 - 10	PostDoc	Computational Geometry
Mohammad Farshi	07 - 09	PostDoc	Computational Geometry
Gail Banaszekiewicz	07 - 09	Masters	Computer Vision
Greg Aloupis	05 - 09	Part-time PostDoc	Computational Geometry
Drew Martin	09 summer	NSERC USRA	Computational Geometry
Greg Bint	09 summer	Dean's SRA	Computational Geometry
Vafa Khoshaein	09 summer	NSERC USRA	Image Processing
Stefanie Wuhler	06 - 09	PhD (Senate Medal)	Computer Vision
Paz Carmi	06 - 09	PostDoc	Computational Geometry
Meng He	07 - 08	PostDoc	Computational Geometry
John Howat	07 - 08	Masters	Computational Geometry
Pokong Lai	08 summer	NSERC USRA	Computational Geometry
Vafa Khoshaein	08 summer	NSERC USRA	Image Processing
Mathieu Couture	05 - 08	PhD (Senate Medal)	Wireless Networks
Yihui Tang	02 - 08	PhD	Data Structures for Data Streams
John Howat	07 summer	Summer Research	Computational Geometry
Irwin Zaid	07 summer	Summer Research	Computational Geometry
Christian Muise	07 summer	Summer Research	Computational Geometry
Vida Dujmovic	04 - 06	PostDoc	Graph Drawing
Stefanie Wuhler	05 - 06	Masters	Clamshell Casting
Evan Hahn	04 - 06	Masters	Persistent Building Interior Generation
David Hallam	00 - 06	Masters (Part-time)	Image Processing
Christian Leger	05 and 06	NSERC Summer	Data Structures
Derek Bradley	03 - 05	Masters - Senate Medal	Computer Vision
David Wood	01 - 04	PostDoc	Graph Drawing
Anthony Whitehead	01 - 04	PhD - OCRI Best Grad Student	Image Processing
Aaron Lee	01 - 04	Masters	Constrained Spanners
Veronique Audet	00 - 02	Masters	Image Processing for Cancer Detection
Chris McDonald	00 - 02	Masters	Augmented Reality
Shahzad Malik	00 - 01	Masters - University Medal	Real-time Augmented Reality
Qingda Wang	00 - 01	Masters - Senate Medal	Obnoxious Facility Location
Jillian Hockey	98 - 01	Masters	Experimental Results on the Weber Center
Dominic Lessard	98 - 00	Masters	Optimally Tiling a Room
Jean Denis Caron	98 - 00	Masters	Textline Orientation
Patrick Morin	97 - 01	PhD - Senate Medal	Online Routing in Graphs

Name	Years	Degree	Thesis Topic
Jason Morrison	97 - 02	PhD	Geometric Optimization Problems
Said Benameur	97 - 98	Masters	A study of graph spanners

Directed Studies Course:

Name	Topic	Duration
Kyle Thompson	Advanced Data Structures	F16
Dabeluchi Ndubisi	Advanced Data Structures	F16
Ben Seamone	Geometric Spanners	W09
Gail Banaszkiwicz	Computer Vision	W07
David Shultz	Computer Vision	W07
Rossen Atanasov	Computer Vision	S05
Christian Leger	Computer Vision	S05
Veronique Audet	Image Processing (Inpainting)	S02
Dominic Laberge	Kinetic Data Structure	F01
Norbert Zeh	Dynamic Data Structures	W00
Patrick Morin	Dynamic Data Structures	F99
Jason Morrison	Dynamic Data Structures	F99
Dominic Lessard	Optimization Problems	W99
Dominic Lessard	Partitioning Problems	F98

Collaborators:

I have collaborated with the following 195 researchers from around the world (note that my students' and former students' names appear in boldface): *O. Aichholzer, S. Allan, R. Atanassov, B. Aronov, M. Abellanas, P. Agarwal, H.-K. Ahn, G. Aloupis, T. Asano, B. Asberg, Z. Abel, Z. Azouz, V. Audet, D. Avis, S. Won Bae, A. Beingessner, N. Benbernou, L. Felipe Barba, M. Barbeau, G. Barequet, G. Di Battista, S. Beauchemin, P. Belleville, S. Bereg, M. de Berg, T. Biedl, G. Blanco, D. Bradley, D. Bremner, A. Brodnik, J. Buss, B. Ballinger, A. Brunton, G. Carmichael, J. Cardinal, L. Chaitman, E. Chen, M. Couture, P. Carmi, V. Campos, S. Collette, S. Collette, S. Cabello, S. Carlsson, J-D. Caron, A. Chan, O. Cheong, S. Cheng, A. Chalifour, N. Coll, J. Czyzowicz, A. Dean, F. Dehne, E. D. Demaine, S. Durocher, M. Demaine, K. Douïeb, L. Devroye, M. Dickerson, K. Dobrindt, M. Damian, A. Dumitrescu, V. Dujmović, W. Evans, H. Everett, S. Fekete, R. Fagerberg, R. Flatland, M. Farshi, T. Fevens, R. Fleischer, J. Gao, C. Gray, C. Grimm, A. García, J. García, K. Ghoudi, F. Gomez, M. Goodrich, M. de Groot, J. Gudmundsson, L. Guibas, H. Guo, M. He, N. Hoda, J. Howat, D. Halperin, N. Hanusse, M. Houle, F. Hurtado, E. Hahn, J. Hutchinson, J. Iacono, D. Jansens, M. Katz, C. Kaklamanis, M. Korman, S. Kominers, D. Kirkpatrick, M. Keil, L. Kirousis, E. Kranakis, M. van Kreveld, D. Krizanc, A. Lee, R. Laganière, S. Langerman, M. Latzel, P. Lai, J-L. De Carufel, M. Löffler, W. Lenhart, D. Lessard, Z. Li, G. Liotta, A. López-Ortiz, A. Lubiw, A. Mukhopadhyay, A. Maheshwari, M. Mora, J. Matousek, M. McAllister, H. Meijer, P. Morin, J. Morrison, J. I. Munro, C. Nicolás, G. Narasimhan, L. Narayanan, F. Nouboud, D. Nussbaum, E. Omana-Pulido, M. Overmars, V. Pathak, B. Palop, M. Paquette, A. Por, A. Pelc, D. Peleg, S. Ramaswami, P. Ramos, A. van Renssen, S. Roy, D. Rappaport, J. O'Rourke, E. Rivera-Campo, K. Romanik, T. Roos, G. Rote, G. Roth, C. Shu, J. Sack, V. Sacristan, B. Seamone, C. Sampson, C. Seara, M. Saumell, J.A. Sellares, S. Sethia, T. Shermer, M. Smid, M. Smid, J. Snoeyink, D. Souvaine, B. Speckmann, I. Stojmenović, J. Szanto, Y. Tang, J. Tejel, G. T. Toussaint, P. Taslakian, A. Turki, J. Urrutia, R. Uehara, J. Vahrenhold, S. Verdonschot, V. Verma, M. Vargas, P. Valtr, A. Vigneron, L. Vought, Q. Wang, A. Whitehead, S. Wuhrer, S. Whitesides, G. Wilfong, S. Wismath, D. Wood, D. Xu, S. Yu, M. Yagnatinsky, J. Zaks, N. Zeh, C. Zelle, B. Zhu,*

Invited lectures:

Date	Place and Lecture
June 2017	Invited Speaker, Association Mathématique du Québec, Online Routing
May 2017	College Notre-Dame, Coloring points

Date	Place and Lecture
Apr 2017	U of Rome, 4 talks on Spanners and Routing
Jun 2016	Invited Speaker, STOC/SoCG Workshop on spanners, On Geometric Spanners
Sept 2015	Invited Speaker JCDCG 2015, Ferran Hurtado: True Renaissance Man
Aug 2015	Invited Speaker CCCG 2015, Flips
Nov 2014	Laval Univ., Flips
Jan 2014	U of Bordeaux (Labri), Flips
Nov 2013	Dalhousie Univ., Competitive routing on half- $\theta_6$
Sept 2013	Laval Univ., On Geometric Spanners
Sept 2013	Univ. of Manitoba, Routing on a Variant of the Delaunay Triangulation
Feb 2013	Sharif University, Various properties of Plane Spanners
Feb 2013	Amirkabir University, Winter School on Computational Geometry
Jan 2013	Univ. du Québec en Outaouais, Routing on a variant of the Delaunay Triangulation
Nov 2012	U of Bordeaux (Labri), Routing on a variant of the Delaunay Triangulation
Sept 2012	Invited Speaker, Graph Drawing 2012 (Microsoft), Flips
Sept 2012	Carleton EDC, How an allergy lead to the development of an interesting teaching tool
June 2012	Invited Speaker, ISVD 2012 (Rutgers), On spanning properties of various Delaunay graphs
Apr 2012	Georgia Tech University, Competitive Routing on Plane Graphs.
Nov 2011	Tufts University, Competitive Routing on Plane Graphs.
Nov 2011	Tufts University, Flips in Planar Graphs
Oct 2011	Univ. Poly. de Catalunya, Competitive Routing on Plane Graphs.
Jun 2011	Invited Speaker, ECG 2011 (Madrid), On plane geometric spanners
Nov 2010	U of Bordeaux (Labri), On Bounded Degree Plane Spanners
Nov 2010	U of Bordeaux (Labri), Plane Spanners - A Survey
Sep 2010	Carleton EDC, How an allergy lead to the development of an interesting teaching tool
Sep 2010	Carleton, How to write a successful application
Feb 2010	Carleton, How to write a research proposal
Dec 2009	Carleton EDC, How an allergy lead to the development of an interesting teaching tool
Nov 2009	Dagstuhl, On plane geometric spanners
July 2009	Keynote speaker, Canadian Undergraduate Math Conf., Carleton, Geometric Spanners
May 2009	U. Libre Brussels, Flips
Mar 2009	U of Kaiserslautern, Flips in triangulations
Mar 2009	Invited Speaker, EUROCG 2009, On plane geometric spanners
Oct 2008	U. of Waterloo, Path planning without a map
July 2008	U. Southern Denmark, On Flips in Triangulations
May 2008	Invited Speaker, Ontario Combinatorics Workshop, A review of geometric spanners.
Mar 2008	Queens University, How to get where you want to go without a map?
Feb 2008	Dagstuhl, On Geometric Spanners of Bounded Degree
May 2007	Algorithms Seminar, Université Libre de Bruxelles, Geometric Spanners
Mar 2007	Algorithms Seminar, McGill University, On Geometric Spanners
Oct 2006	Math Society Seminar, Carleton University, Online Routing in Graphs
Feb 2006	INFONET Seminar, Carleton University, Routing in Geometric Graphs
June 2005	Plenary Address at Encuentros de Comp. Geom., Flips in Triangulations
June 2005	Univ. Poly. de Catalunya, Bottleneck Shortest Paths
May 2005	JAIST, Open Problems in Facility Location
Nov 2004	SITE Optical Network Research Centre, Online Routing in Geometric Graphs
July 2004	Dagstuhl, Bottleneck Shortest Path Queries
April 2004	M.I.T, Online Routing in Plane Graphs
Mar 2004	Dagstuhl, Succinct Data Structures for Approximating Convex Functions
Jan 2004	Simon Fraser University, Simultaneous Flips in Triangulations
Oct 2003	Dagstuhl, Flips in Triangulations
Oct 2003	Univ. of Eindhoven, Parallel Flips in Triangulations
Oct 2003	Université Libre de Bruxelles , Parallel Flips in Triangulations

Date	Place and Lecture
June 2003	AMS-RSME special session on CG, Parallel Flips in Triangulations
June 2003	Univ. Poly. de Catalunya, Online routing in geometric graphs
May 2003	Univ. Poly. de Catalunya, Planar Geometric Spanners of Bounded Degree and Low Weight
Mar. 2003	Univ. Poly. de Catalunya, Data Structures for Facility Location
Nov. 2002	Simon Fraser Univ., Online routing in planar graphs
Oct. 2002	NRC, IT Division, On Embedding Planar Graphs
June 2002	MITACS/PIMS (SFU), Facility Location with Constraints
Mar 2002	Dagstuhl, On Max-Clique Trees with Applications
Jan. 2002	Carleton/Ottawa Combinatorics, Guarding Polyhedral Terrains
Oct. 2001	Université du Québec à Hull, Online Routing in Geometric Graphs
Sept 2001	Queens University, Routing in Geometric Graphs
April 2001	Utrecht University, Online Routing in Graphs
Dec. 2000	University of Sydney, Path Planning in Triangulations

Invited Lectures (1993-2000):

Carleton University (2), McGill University (3), Université du Québec à Hull, Université du Québec à Montréal (2), Middlebury College, University of Arizona (2), Université du Québec à Trois-Rivières (4), Universidad Politecnica de Madrid (3), Universidad Politecnica de Catalunya (2), Simon Fraser University, Université de Montréal, Centro de Investigacion y de Estudios Avanzados del Instituto Politecnico Nacional, University of Ottawa.

Contributions to the Scientific Community:

Year	Position	Activity
2017	Program Committee	Encuentros de Geometria Computacional (EGC)
2017	Program Committee	EuroCG 2017
2017	Organizing Committee	Canadian Conference on Computational Geometry
2017	Co-organizer	Workshop on Computational Geometry, Fields Institute, Ottawa
2017	Co-organizer	Workshop on Computational Geometry, Bellairs McGill
2016	Committee Chair	Early Researcher Award (Ont Govt)
2016	Co-organizer	Workshop on Computational Geometry, Bellairs McGill
2016	Organizing Committee	Canadian Conference on Computational Geometry
2016-18	Steering Committee	Canadian Conference on Computational Geometry
2016	Program Committee	Canadian Conference on Computational Geometry
2016	Program Committee	Encuentros de Geometria Computacional (EGC)
2016	Guest Editor	TCS Special Issue for Algosensor 2015
2015	Committee Chair	Early Researcher Award (Ont Govt)
2015	Guest Editor	CGTA Special Issue in Memoriam Ferran Hurtado
2015	Program Track Chair	Wireless/Geometry Algosensor 2015
2015	Program Committee	Encuentros de Geometria Computacional (EGC)
2015	Co-organizer	Workshop on Computational Geometry, BIRS
2015	Co-organizer	Workshop on Computational Geometry, Bellairs McGill
2014	Program Committee	Graph Drawing
2014	Committee Member	Early Researcher Award, Ontario Govt
2014	Program Committee	EuroCG
2014 -	Associate Editor	Journal of Computer and System Science (JCSS)
2014	Program Committee	Encuentros de Geometria Computacional (EGC)
2014	Program Committee	Conf. on Wireless and Mobile (APWiMob), Bali
2014	Program Committee	Canadian Conf. on Comp. Geom (CCCG), Halifax
2014	Co-organizer	Workshop on Computational Geometry, Bellairs McGill
2013	Program Committee	Algosensor 2013
2013	Program Committee	Encuentros de Geometria Computacional (EGC)



Year	Position	Activity
2013	Co-organizer	Workshop on Computational Geometry, Bellairs McGill
2012	Editorial Board	Journal of Graph Algorithms and Applications (JGAA)
2012	Editorial Board	ISRN Discrete Mathematics Journal
2012	Program Committee	Encuentros de Geometria Computacional (EGC)
2012	Committee Member	FQRNT Evaluation Committee
2012	Committee member	Comp Geom: Applications, Practice and Theory (CG:APT)
2012-15	President	NSERC Committee on Scholarships and Fellowships
2012-15	Committee member	NSERC Committee on Grants and Scholarships (COGS)
2012	Program Committee	Analysis of Algorithms (A of A), Montreal
2011	Program Committee	Algorithms and Data Structures Symposium (WADS), NY
2011-13	Associate Editor	The Visual Computer, Springer Verlag
2011	Program Committee	ACM Symp. on Comp. Geom (SoCG), Paris
2011	Program Committee	Int. Conf. Dist. Comp. for Sensor Networks (DCOSS)
2011	Program Committee	Canadian Conf. on Comp. Geom (CCCG), PEI
2010	Board Member	Center for Graduate Education, JAIST
2010	Committee Member	NRAS Research Team Evaluation Committee in BC
2010	Committee Member	Mitacs Elevate
2010	Committee Member	FQRNT Evaluation Committee
2010	Program Committee	ALGOSENSORS
2010	Program Committee	Canadian Conf. on Comp. Geom (CCCG), Winnipeg
2009	Program Committee	Int. Conf. Dist. Comp. for Sensor Networks (DCOSS)
2009	Program Committee	Canadian Conf. on Comp. Geom (CCCG), Vancouver
2008	Program Committee	Canadian Conf. on Comp. Geom (CCCG), Montréal
2008	Committee Member	FQRNT Evaluation Committee
2007	Program and Conference Chair	Canadian Conf. on Comp. Geom (CCCG)
2007	Program Committee	AdHocNow, Mexico
2007	Committee Member	FQRNT Evaluation Committee
2007	Program Committee	Int. Symp on Algorithms and Computation
2007	Program Committee	IEEE Wireless Comm. and Networking
2006	Program Committee	AdHocNow, Canada
2006	Program Committee	CATS, Australia
2006	Committee Member	FQRNT Evaluation Committee
2006	Editor	Computational Geometry: Theory and Appl., Special Issue
2005	Co-organizer	Workshop on Computational Geometry, Gatineau
2005	Program Committee	AdHocNow, Mexico
2005	Editor	Algorithmica Special Issue with P. Morin
2005	Editor	Theory of Computing Systems, Special Issue
2005	Committee Member	FQRNT Evaluation Committee
2005	Editor	Computational Geometry: Theory and Appl., Special Issue
2005	Program Committee	Canadian Conference on Comp. Geom
2005	Organizing Committee	Canadian Conference on Comp. Geom
2004	Organizing Committee	Canadian Conference on Comp. Geom
2004	Program Committee	28th Australasian Computer Science Conference
2004	Committee Member	FQRNT Centre of Excellence Evaluation Committee
2003	Committee Member	FQRNT Centre of Excellence Evaluation Committee
2003	Organizing Committee	Canadian Conference on Comp. Geom, Halifax
2003	Program Committee	International Symp. on Algorithms and Computation
2003	Program Committee	ACM Symp. on Comp. Geom, Program Committee
2003	Program Committee	27th Australasian Computer Science Conference
2003	Co-organizer	Workshop on Geometric Data Structures, Eindhoven
2002	Program and Conf. Chair	Int. Symp. on Alg. and Computation
2002	Editor	Proceedings for ISAAC, with P. Morin

Year	Position	Activity
2002	Co-organizer	Workshop on Facility Location, Vancouver
2002	Co-organizer	Workshop on Geometric Networks, Utrecht
2001	Program Committee	Int. Symp. on Algorithms and Computation
2000	Co-organizer	Workshop on Applied Geometric Computing, McGill
2000	Program Committee	Canadian Conf on Comp Geom
1999	Program Committee	Canadian Conf on Comp Geom
1999	Co-organizer	Workshop on Applied Geometric Computing, McGill
1998	Organizing Committee	Graph Drawing 98, McGill
1997	Program Committee	Canadian Conf on Comp Geom
1997	Co-organizer	Workshop on Geometric Computing
1996	Organizer	ACFAS special session on Comp Geom, McGill
1995	Organizing Committee	ACM Symp. on Computational Geometry, UBC

Referee for following:

Algorithmica, Computer Aided Design, Computational Geometry: Theory and Applications, Discrete and Computational Geometry Information Processing Letters, International Journal of Computational Geometry, Pattern Recognition, Theoretical Computer Science, McGraw Hill Publishing.

Examiner for following students:

Year	Student	Type of Examiner
2016	Andres Montero	Examiner on PhD (University of Ottawa)
2013	Nicholas Bonichon	External Examiner on Habilitation (Bordeaux University)
2012	Quentin Godfroy	External Examiner on Phd (Bordeaux University)
2012	Ben Seamone	Internal/External Examiner on PhD (Carleton)
2012	Raheleh Niati	Internal/External Examiner on PhD (Carleton)
2011	Richard Monette	Internal/External Examiner on Masters (Carleton)
2010	Kamrul Islam	External Examiner on PhD (Queens)
2009	Ilya Volnyansky	External Examiner on Masters (U of O)
2008	Karim Douieb	External Examiner on PhD (ULB Belgium)
2008	Yago Diez	External Examiner on PhD (UPC Catalunya Spain)
2008	Hamid Zarrabi-Zadeh	External Examiner on PhD (Waterloo)
2008	Sylvain Beriault	External Examiner on Masters (U of O)
2008	Damian Merrick	External Examiner on PhD (U of Sydney)
2007	Ervin Ruci	Internal-External on Masters (Carleton)
2007	Pengcheng Xi	External Examiner on Masters (U of O)
2004	Etienne Vincent	PhD Committee member and Examiner (U of O)
2004	Harish Gopala	Internal-External on Masters (Carleton)
2004	Hassan Hajdiab	PhD Committee member and Examiner (U of O)
2004	Andrew Miles	Internal Examiner on Masters (Carleton)
2004	Shuye Pu	Examining committee chair on Masters (Carleton)
2003	Moaning Wang	Internal Examiner on Masters (Carleton)
2002	Felipe Contreras	External Examiner on PhD (U of O)
2002	Benny Pinontoan	Internal-External Examiner on PhD (Carleton)
2001	Heekap Ahn	External Examiner on PhD (Utrecht Netherlands)
2001	Danielle Vella	External Examiner on Masters (U of O)
2001	Mohamed Shentenawy	Internal Examiner on Masters (Carleton)
2000	Jay Adamsson	Internal-External Examiner on PhD (Carleton)
2000	Vivian Lee	Internal Examiner on Masters (Carleton)
2000	Xu Lin	External Examiner on Masters (U of O)
1999	Nicolas Fraiji	External Examiner on Masters (U of O)

Year	Student	Type of Examiner
1999	Jianwen Wang	Internal Examiner on Masters (U of O)
1998	Harvinder Singh	External Examiner on Masters (U of O)
1998	Richard Webber	External Examiner on PhD (U of Sydney)
1998	Toni Sellares	External Examiner on PhD (UPC)

Skills:

Languages	English and French (spoken and written), Some Bengali and Spanish
Programming languages	C, C++, Java, Perl
Operating systems	Linux, Windows 95/98/NT/2000
Software libraries	LEDA

Publications:**Submitted and Accepted Papers**

- [1] Bakhshesh, D., Barba, L., Bose, P., Carufel, J. D., Damian, M., Fagerberg, R., Farshi, M., van Renssen, A., Taslakian, P., and Verdonschot, S. Continuous yao graphs. *CGTA*, *accepted*, 2017.
- [2] Biniarz, A., Bose, P., Carufel, J.-L. D., Crosbie, K., Eppstein, D., Maheshwari, A., and Smid, M. Maximum plane trees in multipartite geometric graphs. *WADS*, *accepted*, 2017.
- [3] Bose, P., Carufel, J.-L. D., Dujmovic, V., and Paradis, F. Local routing in spanners based on wspds. *WADS*, *accepted*, 2017.
- [4] Bose, P., Carufel, J. D., Durocher, S., and Taslakian, P. Competitive online routing on delaunay triangulations. *IJCGA*, *accepted*, 2017.
- [5] Bose, P., and Carufel, J. D. A general framework for searching on a line. *TCS*, 2017.
- [6] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. Art gallery localization. *CGTA*, 2017.
- [7] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. Optimal art gallery localization is np-hard. *CGTA*, 2017.
- [8] Bose, P., Dujmovic, V., Morin, P., and Rioux-Maldague, L. New bounds for facial nonrepetitive colouring. *Graphs and Combinatorics*, *accepted*, 2017.
- [9] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Competitive local routing with constraints. *JoCG*, *accepted*, 2017.
- [10] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. On plane constrained bounded-degree spanners. *Algorithmica*, 2017.
- [11] Bose, P., Halperin, D., and Shamai, S. On the separation of a polyhedron from its single-part mold. *Conference*, 2017.
- [12] Bose, P., Korman, M., van Renssen, A., and Verdonschot, S. Constrained routing between non-visible vertices. *COCOON*, *accepted*, 2017.
- [13] Bose, P., Korman, M., van Renssen, A., and Verdonschot, S. Routing on the visibility graph. *ISAAC*, 2017.
- [14] Bose, P., Pennarun, C., and Verdonschot, S. Power domination on triangular grids. *CCCG*, 2017.

- [15] Amani, M., Biniáz, A., Bose, P., Carufel, J.-L. D., Maheshwari, A., and Smid, M. A plane 1.88-spanner for points in convex position. *JoCG*, *accepted*, 2016.
- [16] Barba, L., Bose, P., Langerman, S., Carufel, J.-L. D., and Por, A. A lower bound for deterministic asynchronous rendez-vous on the line. *Conference*, 2016.
- [17] Biniáz, A., Bose, P., Carufel, J.-L. D., Eppstein, D., Maheshwari, A., Morin, P., and Smid, M. Spanning trees in multipartite geometric graphs. *Algorithmica*, *accepted*, 2016.
- [18] Biniáz, A., Bose, P., Crosbie, K., Carufel, J.-L. D., Eppstein, D., Maheshwari, A., and Smid, M. Maximum plane trees in multipartite geometric graphs. *Algorithmica*, 2016.
- [19] Biniáz, A., Bose, P., van Duijn, I., Maheshwari, A., and Smid, M. A faster algorithm for the minimum red-blue-purple spanning graph problem for points on a circle. *JGAA*, 2016.
- [20] Bose, P., Carufel, J.-L. D., D'Angelo, A., and Durocher, S. Low-memory local geometric routing in monotone planar subdivisions. *Conference*, 2016.
- [21] Bose, P., Carufel, J.-L. D., and van Renssen, A. Constrained generalized delaunay graphs are plane spanners. *JoCG*, 2016.
- [22] Bose, P., Carufel, J.-L. D., and van Renssen, A. Constrained generalized delaunay graphs are plane spanners. *Computational Intelligence In Information Systems*, *accepted*, 2016.
- [23] Bose, P., Hill, D., and Smid, M. H. M. Improved spanning ratio for low degree plane spanners. *Algorithmica*, *accepted*, 2016.
- [24] Bose, P., Lubiw, A., Pathak, V., and Verdonschot, S. Flipping edge-labelled triangulations. *CGTA*, *accepted*, 2016.
- [25] Bose, P., and van Renssen, A. Spanning properties of yao and  $\theta$ -graphs in the presence of constraints. *IJCGA*, 2016.
- [26] Aronov, B., Bose, P., Demaine, E. D., Gudmundsson, J., Iacono, J., Langerman, S., and Smid, M. H. M. Data structures for halfplane proximity queries and incremental voronoi diagrams. *Algorithmica*, *accepted*, 2015.

## Journal Papers

- [1] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. H. M. Essential constraints of edge-constrained proximity graphs. *J. Graph Algorithms Appl.*, 21(4):389–415, 2017.
- [2] Bose, P., Dujmovic, V., Morin, P., and Rioux-Maldague, L. New bounds for facial nonrepetitive colouring. *Graphs and Combinatorics*, 33(4):817–832, 2017.
- [3] Bose, P., and Verdonschot, S. Flips in edge-labelled pseudo-triangulations. *Comput. Geom.*, 60:45–54, 2017.
- [4] Ahn, H., Barba, L., Bose, P., Carufel, J. D., Korman, M., and Oh, E. A linear-time algorithm for the geodesic center of a simple polygon. *Discrete & Computational Geometry*, 56(4):836–859, 2016.
- [5] Biniáz, A., Amani, M., Maheshwari, A., Smid, M. H. M., Bose, P., and Carufel, J. D. A plane 1.88-spanner for points in convex position. *JoCG*, 7(1):520–539, 2016.
- [6] Biniáz, A., Bose, P., Maheshwari, A., and Smid, M. H. M. Plane geodesic spanning trees, hamiltonian cycles, and perfect matchings in a simple polygon. *Comput. Geom.*, 57:27–39, 2016.
- [7] Bose, P., Carufel, J. D., Morin, P., van Renssen, A., and Verdonschot, S. Towards tight bounds on theta-graphs: More is not always better. *Theor. Comput. Sci.*, 616:70–93, 2016.

- [8] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. H. M. Probing convex polygons with a wedge. *Comput. Geom.*, 58:34–59, 2016.
- [9] Bose, P., Douïeb, K., Iacono, J., and Langerman, S. The power and limitations of static binary search trees with lazy finger. *Algorithmica*, 76(4):1264–1275, 2016.
- [10] Bose, P., Fagerberg, R., Howat, J., and Morin, P. Biased predecessor search. *Algorithmica*, 76(4):1097–1105, 2016.
- [11] Bose, P., Morin, P., and van Renssen, A. The price of order. *Int. J. Comput. Geometry Appl.*, 26(3-4):135–150, 2016.
- [12] Smid, M. H. M., Bose, P., Carmi, P., Damian, M., Carufel, J. D., Hill, D., Maheshwari, A., and Liu, Y. On the stretch factor of convex polyhedra whose vertices are (almost) on a sphere. *JoCG*, 7(1):444–472, 2016.
- [13] Aichholzer, O., Bae, S. W., Barba, L., Bose, P., Korman, M., van Renssen, A., Taslakian, P., and Verdonschot, S. Reprint of: Theta-3 is connected. *Comput. Geom.*, 48(5):407–414, 2015.
- [14] Barba, L., Bose, P., Damian, M., Fagerberg, R., Keng, W. L., O’Rourke, J., van Renssen, A., Taslakian, P., Verdonschot, S., and Xia, G. New and improved spanning ratios for yao graphs. *JoCG*, 6(2):19–53, 2015.
- [15] Biniarz, A., Bose, P., Maheshwari, A., and Smid, M. H. M. Packing plane perfect matchings into a point set. *Discrete Mathematics & Theoretical Computer Science*, 17(2):119–142, 2015.
- [16] Bose, P., Carufel, J. D., and Durocher, S. Searching on a line: A complete characterization of the optimal solution. *Theor. Comput. Sci.*, 569:24–42, 2015.
- [17] Bose, P., Carufel, J. D., Grimm, C., Maheshwari, A., and Smid, M. H. M. Optimal data structures for farthest-point queries in cactus networks. *J. Graph Algorithms Appl.*, 19(1):11–41, 2015.
- [18] Bose, P., Dujmovic, V., Hoda, N., and Morin, P. Visibility-monotonic polygon deflation. *Contributions to Discrete Mathematics*, 10(1), 2015.
- [19] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Optimal local routing on delaunay triangulations defined by empty equilateral triangles. *SIAM J. Comput.*, 44(6):1626–1649, 2015.
- [20] Bose, P., Morin, P., van Renssen, A., and Verdonschot, S. The  $\vartheta_5$ -graph is a spanner. *Comput. Geom.*, 48(2):108–119, 2015.
- [21] Aichholzer, O., Bae, S. W., Barba, L., Bose, P., Korman, M., van Renssen, A., Taslakian, P., and Verdonschot, S. Theta-3 is connected. *Comput. Geom.*, 47(9):910–917, 2014.
- [22] Aloupis, G., Bose, P., Dujmovic, V., Gray, C., Langerman, S., and Speckmann, B. Triangulating and guarding realistic polygons. *Comput. Geom.*, 47(2):296–306, 2014.
- [23] Bose, P., Carmi, P., Damian, M., Flatland, R. Y., Katz, M. J., and Maheshwari, A. Switching to directional antennas with constant increase in radius and hop distance. *Algorithmica*, 69(2):397–409, 2014.
- [24] Bose, P., and Carufel, J. D. Minimum-area enclosing triangle with a fixed angle. *Comput. Geom.*, 47(1):90–109, 2014.
- [25] Bose, P., Jansens, D., van Renssen, A., Saumell, M., and Verdonschot, S. Making triangulations 4-connected using flips. *Comput. Geom.*, 47(2):187–197, 2014.
- [26] Lai, P., Sampson, C., and Bose, P. Surface roughness of rock faces through the curvature of triangulated meshes. *Computers & Geosciences*, 70:229–237, 2014.
- [27] Lai, P., Sampson, C., and Bose, P. Visual enhancement of 3d images of rock faces for fracture mapping. *International Journal of Rock Mechanics and Mining Sciences*, 72:325–335, 2014.

- [28] Ballinger, B., Benbernou, N., Bose, P., Damian, M., Demaine, E. D., Dujmovic, V., Flatland, R. Y., Hurtado, F., Iacono, J., Lubiw, A., Morin, P., Adinolfi, V. S., Souvaine, D. L., and Uehara, R. Coverage with  $k$ -transmitters in the presence of obstacles. *J. Comb. Optim.*, 25(2):208–233, 2013.
- [29] Bose, P., Cardinal, J., Collette, S., Hurtado, F., Korman, M., Langerman, S., and Taslakian, P. Coloring and guarding arrangements. *Discrete Mathematics & Theoretical Computer Science*, 15(3):139–154, 2013.
- [30] Bose, P., Carmi, P., Chaitman-Yerushalmi, L., Collette, S., Katz, M. J., and Langerman, S. Stable roommates spanner. *Comput. Geom.*, 46(2):120–130, 2013.
- [31] Bose, P., Carmi, P., and Durocher, S. Bounding the locality of distributed routing algorithms. *Distributed Computing*, 26(1):39–58, 2013.
- [32] Bose, P., and Carufel, J.-L. D. Isoperimetric triangular enclosures with a fixed angle. *J. Geom.*, 104(2):229–255, 2013.
- [33] Bose, P., Collette, S., Hurtado, F., Korman, M., Langerman, S., Sacristán, V., and Saumell, M. Some properties of  $k$ -delaunay and  $k$ -gabriel graphs. *Comput. Geom.*, 46(2):131–139, 2013.
- [34] Bose, P., Dannies, K., Carufel, J. D., Doell, C., Grimm, C., Maheshwari, A., Schirra, S., and Smid, M. H. M. Network farthest-point diagrams. *JoCG*, 4(1):182–211, 2013.
- [35] Bose, P., Douïeb, K., Dujmovic, V., Howat, J., and Morin, P. Fast local searches and updates in bounded universes. *Comput. Geom.*, 46(2):181–189, 2013.
- [36] Bose, P., Dujmovic, V., Morin, P., and Smid, M. H. M. Robust geometric spanners. *SIAM J. Comput.*, 42(4):1720–1736, 2013.
- [37] Bose, P., and Smid, M. H. M. On plane geometric spanners: A survey and open problems. *Comput. Geom.*, 46(7):818–830, 2013.
- [38] Bose, P., Carmi, P., and Chaitman-Yerushalmi, L. On bounded degree plane strong geometric spanners. *J. Discrete Algorithms*, 15:16–31, 2012.
- [39] Bose, P., and Carmi, P. Editorial. *Comput. Geom.*, 45(9):475, 2012.
- [40] Bose, P., Chen, E. Y., He, M., Maheshwari, A., and Morin, P. Succinct geometric indexes supporting point location queries. *ACM Trans. Algorithms*, 8(2):10:1–10:26, 2012.
- [41] Bose, P., Damian, M., Douïeb, K., O’Rourke, J., Seamone, B., Smid, M. H. M., and Wuhrer, S.  $\pi/2$ -angle yao graphs are spanners. *Int. J. Comput. Geometry Appl.*, 22(1):61–82, 2012.
- [42] Bose, P., Douïeb, K., Dujmovic, V., and Howat, J. Layered working-set trees. *Algorithmica*, 63(1-2):476–489, 2012.
- [43] Bose, P., Douïeb, K., and Morin, P. Skip lift: A probabilistic alternative to red-black trees. *J. Discrete Algorithms*, 14:13–20, 2012.
- [44] Bose, P., Dujmovic, V., Hurtado, F., Iacono, J., Langerman, S., Meijer, H., Adinolfi, V. S., Saumell, M., and Wood, D. R. PROXIMITY GRAPHS:  $\epsilon$ ,  $\delta$ ,  $\Delta$ ,  $\chi$  AND  $\omega$ . *Int. J. Comput. Geometry Appl.*, 22(5):439–470, 2012.
- [45] Bose, P., Howat, J., and Morin, P. A distribution-sensitive dictionary with low space overhead. *J. Discrete Algorithms*, 10:140–145, 2012.
- [46] Abel, Z., Ballinger, B., Bose, P., Collette, S., Dujmovic, V., Hurtado, F., Kominers, S. D., Langerman, S., Pór, A., and Wood, D. R. Every large point set contains many collinear points or an empty pentagon. *Graphs and Combinatorics*, 27(1):47–60, 2011.

- [47] Aloupis, G., Bose, P., Demaine, E. D., Langerman, S., Meijer, H., Overmars, M. H., and Toussaint, G. T. Computing signed permutations of polygons. *Int. J. Comput. Geometry Appl.*, 21(1):87–100, 2011.
- [48] Barbeau, M., Bose, P., Carmi, P., Couture, M., and Kranakis, E. Location-oblivious distributed unit disk graph coloring. *Algorithmica*, 60(2):236–249, 2011.
- [49] Bose, P., Carmi, P., Couture, M., Smid, M. H. M., and Xu, D. On a family of strong geometric spanners that admit local routing strategies. *Comput. Geom.*, 44(6-7):319–328, 2011.
- [50] Bose, P., Carmi, P., and Couture, M. Spanners of additively weighted point sets. *J. Discrete Algorithms*, 9(3):287–298, 2011.
- [51] Bose, P., Carmi, P., Hurtado, F., and Morin, P. A generalized Winternitz theorem. *J. Geom.*, 100(1-2):29–35, 2011.
- [52] Bose, P., Cheong, O., and Dujmovic, V. A note on the perimeter of fat objects. *Comput. Geom.*, 44(1):1–8, 2011.
- [53] Bose, P., Devroye, L., Löffler, M., Snoeyink, J., and Verma, V. Almost all delaunay triangulations have stretch factor greater than  $\pi/2$ . *Comput. Geom.*, 44(2):121–127, 2011.
- [54] Bose, P., Maheshwari, A., Shu, C., and Wuhrer, S. A survey of geodesic paths on 3d surfaces. *Comput. Geom.*, 44(9):486–498, 2011.
- [55] Bose, P., Mora, M., Seara, C., and Sethia, S. On computing enclosing isosceles triangles and related problems. *Int. J. Comput. Geometry Appl.*, 21(1):25–45, 2011.
- [56] Bose, P., Carmi, P., Collette, S., and Smid, M. H. M. On the stretch factor of convex delaunay graphs. *JoCG*, 1(1):41–56, 2010.
- [57] Bose, P., Carmi, P., Farshi, M., Maheshwari, A., and Smid, M. H. M. Computing the greedy spanner in near-quadratic time. *Algorithmica*, 58(3):711–729, 2010.
- [58] Bose, P., Collette, S., Langerman, S., Maheshwari, A., Morin, P., and Smid, M. H. M. Sigma-local graphs. *J. Discrete Algorithms*, 8(1):15–23, 2010.
- [59] Brunton, A., Wuhrer, S., Shu, C., Bose, P., and Demaine, E. D. Filling holes in triangular meshes using digital images by curve unfolding. *International Journal of Shape Modeling*, 16(1-2):151–171, 2010.
- [60] Whitehead, A., Laganieri, R., and Bose, P. Formalization of the general video temporal synchronization problem. *Electronic Letters on Computer Vision and Image Analysis*, 9(1):1–17, 2010.
- [61] Wuhrer, S., Bose, P., Shu, C., O’Rourke, J., and Brunton, A. Morphing of triangular meshes in shape space. *International Journal of Shape Modeling*, 16(1-2):195–212, 2010.
- [62] Abellanas, M., Bose, P., García-López, J., Hurtado, F., Nicolás, C. M., and Ramos, P. On structural and graph theoretic properties of higher order delaunay graphs. *Int. J. Comput. Geometry Appl.*, 19(6):595–615, 2009.
- [63] Asano, T., Bose, P., Carmi, P., Maheshwari, A., Shu, C., Smid, M. H. M., and Wuhrer, S. A linear-space algorithm for distance preserving graph embedding. *Comput. Geom.*, 42(4):289–304, 2009.
- [64] Atanassov, R., Bose, P., Couture, M., Maheshwari, A., Morin, P., Paquette, M., Smid, M. H. M., and Wuhrer, S. Algorithms for optimal outlier removal. *J. Discrete Algorithms*, 7(2):239–248, 2009.
- [65] Bereg, S., Bose, P., Dumitrescu, A., Hurtado, F., and Valtr, P. Traversing a set of points with a minimum number of turns. *Discrete & Computational Geometry*, 41(4):513–532, 2009.
- [66] Bose, P., Carmi, P., Couture, M., Maheshwari, A., Morin, P., and Smid, M. H. M. Spanners of complete  $k$ -partite geometric graphs. *SIAM J. Comput.*, 38(5):1803–1820, 2009.

- [67] Bose, P., Carmi, P., Couture, M., Maheshwari, A., Smid, M. H. M., and Zeh, N. Geometric spanners with small chromatic number. *Comput. Geom.*, 42(2):134–146, 2009.
- [68] Bose, P., Dujmovic, V., Hurtado, F., Langerman, S., Morin, P., and Wood, D. R. A polynomial bound for untangling geometric planar graphs. *Discrete & Computational Geometry*, 42(4):570–585, 2009.
- [69] Bose, P., Dujmovic, V., Hurtado, F., and Morin, P. Connectivity-preserving transformations of binary images. *Computer Vision and Image Understanding*, 113(10):1027–1038, 2009.
- [70] Bose, P., and Hurtado, F. Flips in planar graphs. *Comput. Geom.*, 42(1):60–80, 2009.
- [71] Bose, P., Morin, P., Smid, M. H. M., and Wuhrer, S. Clamshell casting. *Algorithmica*, 55(4):666–702, 2009.
- [72] Bose, P., Morin, P., Smid, M. H. M., and Wuhrer, S. Rotationally monotone polygons. *Comput. Geom.*, 42(5):471–483, 2009.
- [73] Bose, P., and Mukhopadhyay, A. Editorial CCCG 2005. *Comput. Geom.*, 42(5):363, 2009.
- [74] Bose, P. A note on the lower bound of edge guards of polyhedral terrains. *Int. J. Comput. Math.*, 86(4):577–583, 2009.
- [75] Bose, P., Smid, M. H. M., and Xu, D. Delaunay and diamond triangulations contain spanners of bounded degree. *Int. J. Comput. Geometry Appl.*, 19(2):119–140, 2009.
- [76] Bradley, D., Roth, G., and Bose, P. Augmented reality on cloth with realistic illumination. *Mach. Vis. Appl.*, 20(2):85–92, 2009.
- [77] Abellanas, M., Bose, P., Olaverri, A. G., Hurtado, F., Ramos, P., Rivera-Campo, E., and Tejel, J. On local transformations in plane geometric graphs embedded on small grids. *Comput. Geom.*, 39(2):65–77, 2008.
- [78] Bose, P., Dujmovic, V., Hurtado, F., Morin, P., Langerman, S., and Wood, D. R. A polynomial bound for untangling geometric planar graphs. *Electronic Notes in Discrete Mathematics*, 31:213–218, 2008.
- [79] Bose, P., Dujmovic, V., Krizanc, D., Langerman, S., Morin, P., Wood, D. R., and Wuhrer, S. A characterization of the degree sequences of 2-trees. *Journal of Graph Theory*, 58(3):191–209, 2008.
- [80] Bose, P., and Fevens, T. Editorial. *Comput. Geom.*, 39(1):1, 2008.
- [81] Bose, P., Guo, H., Kranakis, E., Maheshwari, A., Morin, P., Morrison, J., Smid, M. H. M., and Tang, Y. On the false-positive rate of bloom filters. *Inf. Process. Lett.*, 108(4):210–213, 2008.
- [82] Chan, A., Dehne, F. K. H. A., Bose, P., and Latzel, M. Coarse grained parallel algorithms for graph matching. *Parallel Computing*, 34(1):47–62, 2008.
- [83] Couture, M., Barbeau, M., Bose, P., and Kranakis, E. Incremental construction of k-dominating sets in wireless sensor networks. *Ad Hoc & Sensor Wireless Networks*, 5(1-2):47–68, 2008.
- [84] Aloupis, G., Bose, P., and Morin, P. Reconfiguring triangulations with edge flips and point moves. *Algorithmica*, 47(4):367–378, 2007.
- [85] Bose, P., Coll, N., Hurtado, F., and Sellarès, J. A. A general approximation algorithm for planar maps with applications. *Int. J. Comput. Geometry Appl.*, 17(6):529–554, 2007.
- [86] Bose, P., Czyzowicz, J., Gao, Z., Morin, P., and Wood, D. R. Simultaneous diagonal flips in plane triangulations. *Journal of Graph Theory*, 54(4):307–330, 2007.
- [87] Bose, P., Demaine, E. D., Hurtado, F., Iacono, J., Langerman, S., and Morin, P. Geodesic ham-sandwich cuts. *Discrete & Computational Geometry*, 37(3):325–339, 2007.



- [88] Bose, P., and Devroye, L. On the stabbing number of a random delaunay triangulation. *Comput. Geom.*, 36(2):89–105, 2007.
- [89] Bose, P., Maheshwari, A., Morin, P., Morrison, J., Smid, M. H. M., and Vahrenhold, J. Space-efficient geometric divide-and-conquer algorithms. *Comput. Geom.*, 37(3):209–227, 2007.
- [90] Wuhrer, S., Shu, C., Bose, P., and Azouz, Z. B. Posture invariant correspondence of incomplete triangular manifolds. *International Journal of Shape Modeling*, 13(2):139–157, 2007.
- [91] Bereg, S., Bose, P., and Kirkpatrick, D. G. Equitable subdivisions within polygonal regions. *Comput. Geom.*, 34(1):20–27, 2006.
- [92] Bose, P., Cabello, S., Cheong, O., Gudmundsson, J., van Kreveld, M. J., and Speckmann, B. Area-preserving approximations of polygonal paths. *J. Discrete Algorithms*, 4(4):554–566, 2006.
- [93] Bose, P., Devroye, L., Evans, W. S., and Kirkpatrick, D. G. On the spanning ratio of gabriel graphs and beta-skeletons. *SIAM J. Discrete Math.*, 20(2):412–427, 2006.
- [94] Bose, P., Dujmovic, V., and Wood, D. R. Induced subgraphs of bounded degree and bounded treewidth. *Contributions to Discrete Mathematics*, 1(1), 2006.
- [95] Bose, P., Hurtado, F., Rivera-Campo, E., and Wood, D. R. Partitions of complete geometric graphs into plane trees. *Comput. Geom.*, 34(2):116–125, 2006.
- [96] Barequet, G., Bose, P., Dickerson, M. T., and Goodrich, M. T. Optimizing a constrained convex polygonal annulus. *J. Discrete Algorithms*, 3(1):1–26, 2005.
- [97] Bose, P., Gudmundsson, J., and Smid, M. H. M. Constructing plane spanners of bounded degree and low weight. *Algorithmica*, 42(3-4):249–264, 2005.
- [98] Bose, P., and Morin, P. Guest editors’ foreword. *Algorithmica*, 42(1):1–2, 2005.
- [99] Bose, P., and van Kreveld, M. J. Generalizing monotonicity: on recognizing special classes of polygons and polyhedra. *Int. J. Comput. Geometry Appl.*, 15(6):591–608, 2005.
- [100] Bose, P., Czyzowicz, J., Morin, P., and Wood, D. R. The maximum number of edges in a three-dimensional grid-drawing. *J. Graph Algorithms Appl.*, 8:21–26, 2004.
- [101] Bose, P., Gudmundsson, J., and Morin, P. Ordered theta graphs. *Comput. Geom.*, 28(1):11–18, 2004.
- [102] Bose, P., Maheshwari, A., Narasimhan, G., Smid, M. H. M., and Zeh, N. Approximating geometric bottleneck shortest paths. *Comput. Geom.*, 29(3):233–249, 2004.
- [103] Bose, P., and Morin, P. Competitive online routing in geometric graphs. *Theor. Comput. Sci.*, 324(2-3):273–288, 2004.
- [104] Bose, P., and Morin, P. Online routing in triangulations. *SIAM J. Comput.*, 33(4):937–951, 2004.
- [105] Bose, P., and Morin, P. Testing the quality of manufactured disks and balls. *Algorithmica*, 38(1):161–177, 2004.
- [106] Bose, P., Morin, P., and Vigneron, A. Packing two disks into a polygonal environment. *J. Discrete Algorithms*, 2(3):373–380, 2004.
- [107] Bose, P., Smid, M. H. M., and Wood, D. R. Light edges in degree-constrained graphs. *Discrete Mathematics*, 282(1-3):35–41, 2004.
- [108] de Berg, M., Bose, P., Cheong, O., and Morin, P. On simplifying dot maps. *Comput. Geom.*, 27(1):43–62, 2004.

- [109] Bose, P., Everett, H., and Wismath, S. K. Properties of arrangement graphs. *Int. J. Comput. Geometry Appl.*, 13(6):447–462, 2003.
- [110] Bose, P., Kirkpatrick, D. G., and Li, Z. Worst-case-optimal algorithms for guarding planar graphs and polyhedral surfaces. *Comput. Geom.*, 26(3):209–219, 2003.
- [111] Bose, P., Krizanc, D., Langerman, S., and Morin, P. Asymmetric communication protocols via hotlink assignments. *Theory Comput. Syst.*, 36(6):655–661, 2003.
- [112] Bose, P., Maheshwari, A., and Morin, P. Fast approximations for sums of distances, clustering and the fermat-weber problem. *Comput. Geom.*, 24(3):135–146, 2003.
- [113] Bose, P., van Kreveld, M. J., Maheshwari, A., Morin, P., and Morrison, J. Translating a regular grid over a point set. *Comput. Geom.*, 25(1-2):21–34, 2003.
- [114] Ahn, H., de Berg, M., Bose, P., Cheng, S., Halperin, D., Matoušek, J., and Schwarzkopf, O. Separating an object from its cast. *Computer-Aided Design*, 34(8):547–559, 2002.
- [115] Bose, P., Brodnik, A., Carlsson, S., Demaine, E. D., Fleischer, R., López-Ortiz, A., Morin, P., and Munro, J. I. Online routing in convex subdivisions. *Int. J. Comput. Geometry Appl.*, 12(4):283–296, 2002.
- [116] Bose, P., Devroye, L., and Evans, W. S. Diamonds are not a minimum weight triangulation’s best friend. *Int. J. Comput. Geometry Appl.*, 12(6):445–454, 2002.
- [117] Bose, P., Hurtado, F., Meijer, H., Ramaswami, S., Rappaport, D., Sacristán, V., Shermer, T. C., and Toussaint, G. T. Finding specified sections of arrangements: 2d results. *J. Math. Model. Algorithms*, 1(1):3–16, 2002.
- [118] Bose, P., Hurtado, F., Omaña-Pulido, E., Snoeyink, J., and Toussaint, G. T. Some aperture-angle optimization problems. *Algorithmica*, 33(4):411–435, 2002.
- [119] Bose, P., Kranakis, E., Kaklamani, C., Kirousis, L. M., Krizanc, D., and Peleg, D. Station layouts in the presence of location constraints. *Journal of Interconnection Networks*, 3(1-2):1–17, 2002.
- [120] Bose, P., Lubiw, A., and Munro, J. I. Efficient visibility queries in simple polygons. *Comput. Geom.*, 23(3):313–335, 2002.
- [121] Bose, P., and Morin, P. An improved algorithm for subdivision traversal without extra storage. *Int. J. Comput. Geometry Appl.*, 12(4):297–308, 2002.
- [122] Bose, P. On embedding an outer-planar graph in a point set. *Comput. Geom.*, 23(3):303–312, 2002.
- [123] Bose, P., Ramaswami, S., Toussaint, G. T., and Turki, A. Experimental results on quadrangulations of sets of fixed points. *Computer Aided Geometric Design*, 19(7):533–552, 2002.
- [124] Biedl, T. C., Bose, P., Demaine, E. D., and Lubiw, A. Efficient algorithms for Petersen’s matching theorem. *J. Algorithms*, 38(1):110–134, 2001.
- [125] Bose, P., Czyzowicz, J., Kranakis, E., Krizanc, D., and Maheshwari, A. Cutting circles into equal area pieces. *Geombinatorics*, 11(1):13–20, 2001.
- [126] Bose, P., Houle, M. E., and Toussaint, G. T. Every set of disjoint line segments admits a binary tree. *Discrete & Computational Geometry*, 26(3):387–410, 2001.
- [127] Bose, P., Morin, P., Stojmenovic, I., and Urrutia, J. Routing with guaranteed delivery in ad hoc wireless networks. *Wireless Networks*, 7(6):609–616, 2001.
- [128] Ahn, H.-K., Bose, P., Czyzowicz, J., Hanusse, N., Kranakis, E., and Morin, P. Flipping your lid. *Geombinatorics*, 10(2):57–63, 2000.

- [129] Bose, P., and Toussaint, G. Computing the constrained Euclidean, geodesic and link centre of a simple polygon with applications. *Stud. Locat. Anal.*, (15):37–66, 2000.
- [130] Bose, P., Gómez, F., Ramos, P., and Toussaint, G. Drawing nice projections of objects in space. *J. Visual Communication and Image Representation*, 10(2):155–172, 1999.
- [131] Bose, P., Buss, J. F., and Lubiw, A. Pattern matching for permutations. *Inf. Process. Lett.*, 65(5):277–283, 1998.
- [132] Bose, P., and Devroye, L. Intersections with random geometric objects. *Comput. Geom.*, 10(3):139–154, 1998.
- [133] Bose, P., Everett, H., Fekete, S. P., Houle, M. E., Lubiw, A., Meijer, H., Romanik, K., Rote, G., Shermer, T. C., Whitesides, S., and Zelle, C. A visibility representation for graphs in three dimensions. *J. Graph Algorithms Appl.*, 2(2), 1998.
- [134] Bose, P., van Kreveld, M. J., and Toussaint, G. T. Filling polyhedral molds. *Computer-Aided Design*, 30(4):245–254, 1998.
- [135] de Berg, M., Bose, P., Bremner, D., Ramaswami, S., and Wilfong, G. T. Computing constrained minimum-width annuli of point sets. *Computer-Aided Design*, 30(4):267–275, 1998.
- [136] Asberg, B., Blanco, G., Bose, P., Garcia-Lopez, J., Overmars, M. H., Toussaint, G. T., Wilfong, G. T., and Zhu, B. Feasibility of design in stereolithography. *Algorithmica*, 19(1/2):61–83, 1997.
- [137] Bose, P., Bremner, D., and van Kreveld, M. J. Determining the castability of simple polyhedra. *Algorithmica*, 19(1/2):84–113, 1997.
- [138] Bose, P., Guibas, L. J., Lubiw, A., Overmars, M. H., Souvaine, D. L., and Urrutia, J. The floodlight problem. *Int. J. Comput. Geometry Appl.*, 7(1/2):153–163, 1997.
- [139] Bose, P., McAllister, M., and Snoeyink, J. Optimal algorithms to embed trees in a point set. *J. Graph Algorithms Appl.*, 1, 1997.
- [140] Bose, P., Shermer, T. C., Toussaint, G. T., and Zhu, B. Guarding polyhedral terrains. *Comput. Geom.*, 7:173–185, 1997.
- [141] Bose, P., and Toussaint, G. T. Characterizing and efficiently computing quadrangulations of planar point sets. *Computer Aided Geometric Design*, 14(8):763–785, 1997.
- [142] Bose, P., Bremner, D., and Toussaint, G. T. All convex polyhedra can be clamped with parallel jaw grippers. *Comput. Geom.*, 6:291–302, 1996.
- [143] Bose, P., Lenhart, W., and Liotta, G. Characterizing proximity trees. *Algorithmica*, 16(1):83–110, 1996.
- [144] Bose, P., and Toussaint, G. T. Geometric and computational aspects of gravity casting. *Computer-Aided Design*, 27(6):455–464, 1995.
- [145] Bose, P., and Toussaint, G. T. Growing a tree from its branches. *J. Algorithms*, 19(1):86–103, 1995.
- [146] Bose, P., and Toussaint, G. T. Geometric and computational aspects of manufacturing processes. *Computers & Graphics*, 18(4):487–497, 1994.

## Conference Papers

- [1] Bahoo, Y., Banyassady, B., Bose, P., Durocher, S., and Mulzer, W. Time-space trade-off for finding the  $k$ -visibility region of a point in a polygon. In *WALCOM*, volume 10167 of *Lecture Notes in Computer Science*, pages 308–319. Springer, 2017.
- [2] Bose, P., Kostitsyna, I., and Langerman, S. Self-approaching paths in simple polygons. In *Symposium on Computational Geometry*, volume 77 of *LIPIcs*, pages 21:1–21:15. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2017.
- [3] Amani, M., Biniiaz, A., Bose, P., Carufel, J. D., Maheshwari, A., and Smid, M. H. M. A plane 1.88-spanner for points in convex position. In *SWAT*, volume 53 of *LIPIcs*, pages 25:1–25:14. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2016.
- [4] Biniiaz, A., Bose, P., Carufel, J. D., Gavaille, C., Maheshwari, A., and Smid, M. H. M. Towards plane spanners of degree 3. In *ISAAC*, volume 64 of *LIPIcs*, pages 19:1–19:14. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2016.
- [5] Biniiaz, A., Bose, P., Maheshwari, A., and Smid, M. H. M. Plane bichromatic trees of low degree. In *IWOCA*, volume 9843 of *Lecture Notes in Computer Science*, pages 68–80. Springer, 2016.
- [6] Biniiaz, A., Bose, P., van Duijn, I., Maheshwari, A., and Smid, M. H. M. A faster algorithm for the minimum red-blue-purple spanning graph problem for points on a circle. In *CCCG*, pages 140–146. Simon Fraser University, Vancouver, British Columbia, Canada, 2016.
- [7] Bonichon, N., Bose, P., Carmi, P., Kostitsyna, I., Lubiw, A., and Verdonechot, S. Gabriel triangulations and angle-monotone graphs: Local routing and recognition. In *Graph Drawing*, volume 9801 of *Lecture Notes in Computer Science*, pages 519–531. Springer, 2016.
- [8] Bose, P., and Carufel, J. D. A general framework for searching on a line. In *WALCOM*, volume 9627 of *Lecture Notes in Computer Science*, pages 143–153. Springer, 2016.
- [9] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. H. M. Essential constraints of edge-constrained proximity graphs. In *IWOCA*, volume 9843 of *Lecture Notes in Computer Science*, pages 55–67. Springer, 2016.
- [10] Bose, P., Dujmovic, V., Morin, P., and Rioux-Maldague, L. New bounds for facial nonrepetitive colouring. In *CCCG*, pages 295–302. Simon Fraser University, Vancouver, British Columbia, Canada, 2016.
- [11] Bose, P., Hill, D., and Smid, M. H. M. Improved spanning ratio for low degree plane spanners. In *LATIN*, volume 9644 of *Lecture Notes in Computer Science*, pages 249–262. Springer, 2016.
- [12] Bose, P., Gasieniec, L. A., Römer, K., and Wattenhofer, R., editors. *Algorithms for Sensor Systems - 11th International Symposium on Algorithms and Experiments for Wireless Sensor Networks, ALGOSENSORS 2015, Patras, Greece, September 17-18, 2015, Revised Selected Papers*, volume 9536 of *Lecture Notes in Computer Science*. Springer, 2015.
- [13] Ahn, H., Barba, L., Bose, P., Carufel, J. D., Korman, M., and Oh, E. A linear-time algorithm for the geodesic center of a simple polygon. In *Symposium on Computational Geometry*, volume 34 of *LIPIcs*, pages 209–223. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2015.
- [14] Biniiaz, A., Bose, P., Maheshwari, A., and Smid, M. H. M. Plane geodesic spanning trees, hamiltonian cycles, and perfect matchings in a simple polygon. In *TTCS*, volume 9541 of *Lecture Notes in Computer Science*, pages 56–71. Springer, 2015.
- [15] Bonichon, N., Bose, P., Carufel, J. D., Perkovic, L., and van Renssen, A. Upper and lower bounds for online routing on delaunay triangulations. In *ESA*, volume 9294 of *Lecture Notes in Computer Science*, pages 203–214. Springer, 2015.

- [16] Bose, P., Carufel, J. D., and van Renssen, A. Constrained empty-rectangle delaunay graphs. In *CCCG*. Queen's University, Ontario, Canada, 2015.
- [17] Bose, P., Durocher, S., Mondal, D., Peabody, M., Skala, M., and Wahid, M. A. Local routing in convex subdivisions. In *SOFSEM*, volume 8939 of *Lecture Notes in Computer Science*, pages 140–151. Springer, 2015.
- [18] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Competitive local routing with constraints. In *ISAAC*, volume 9472 of *Lecture Notes in Computer Science*, pages 23–34. Springer, 2015.
- [19] Bose, P. One of ferran hurtado's favorite topics - flips. In *CCCG*. Queen's University, Ontario, Canada, 2015.
- [20] Bose, P., and Verdonschot, S. Flips in edge-labelled pseudo-triangulations. In *CCCG*. Queen's University, Ontario, Canada, 2015.
- [21] Viglietta, G., Bose, P., Carufel, J. D., Dobbins, M. G., and Kim, H. The shadows of a cycle cannot all be paths. In *CCCG*. Queen's University, Ontario, Canada, 2015.
- [22] Barba, L., Bose, P., Carufel, J. D., Damian, M., Fagerberg, R., van Renssen, A., Taslakian, P., and Verdonschot, S. Continuous yao graphs. In *CCCG*. Carleton University, Ottawa, Canada, 2014.
- [23] Barba, L., Bose, P., Damian, M., Fagerberg, R., Keng, W. L., O'Rourke, J., van Renssen, A., Taslakian, P., Verdonschot, S., and Xia, G. New and improved spanning ratios for yao graphs. In *Symposium on Computational Geometry*, page 30. ACM, 2014.
- [24] Barba, L., Bose, P., and Langerman, S. Optimal algorithms for constrained 1-center problems. In *LATIN*, volume 8392 of *Lecture Notes in Computer Science*, pages 84–95. Springer, 2014.
- [25] Bolkart, T., Bose, P., Shu, C., and Wuhrer, S. A general framework to generate sizing systems from 3d motion data applied to face mask design. In *3DV*, pages 425–431. IEEE Computer Society, 2014.
- [26] Bose, P., Carufel, J. D., Durocher, S., and Taslakian, P. Competitive online routing on delaunay triangulations. In *SWAT*, volume 8503 of *Lecture Notes in Computer Science*, pages 98–109. Springer, 2014.
- [27] Bose, P., Douïeb, K., Iacono, J., and Langerman, S. The power and limitations of static binary search trees with lazy finger. In *ISAAC*, volume 8889 of *Lecture Notes in Computer Science*, pages 181–192. Springer, 2014.
- [28] Bose, P., Fagerberg, R., Howat, J., and Morin, P. Biased predecessor search. In *LATIN*, volume 8392 of *Lecture Notes in Computer Science*, pages 755–764. Springer, 2014.
- [29] Bose, P., Howat, J., and Morin, P. Searching by panning and zooming. In *CCCG*. Carleton University, Ottawa, Canada, 2014.
- [30] Bose, P., Morin, P., and van Renssen, A. The price of order. In *ISAAC*, volume 8889 of *Lecture Notes in Computer Science*, pages 313–325. Springer, 2014.
- [31] Bose, P., Pratt, S., and Smid, M. H. M. The convex hull of points on a sphere is a spanner. In *CCCG*. Carleton University, Ottawa, Canada, 2014.
- [32] Bose, P., and van Renssen, A. Upper bounds on the spanning ratio of constrained theta-graphs. In *LATIN*, volume 8392 of *Lecture Notes in Computer Science*, pages 108–119. Springer, 2014.
- [33] Aichholzer, O., Bae, S. W., Barba, L., Bose, P., Korman, M., van Renssen, A., Taslakian, P., and Verdonschot, S. Theta-3 is connected. In *CCCG*. Carleton University, Ottawa, Canada, 2013.
- [34] Barba, L., Beingessner, A., Bose, P., and Smid, M. H. M. Computing covers of plane forests. In *CCCG*. Carleton University, Ottawa, Canada, 2013.

- [35] Barba, L., Bose, P., Carufel, J. D., van Renssen, A., and Verdonschot, S. On the stretch factor of the theta-4 graph. In *WADS*, volume 8037 of *Lecture Notes in Computer Science*, pages 109–120. Springer, 2013.
- [36] Bose, P., Carufel, J. D., and Durocher, S. Revisiting the problem of searching on a line. In *ESA*, volume 8125 of *Lecture Notes in Computer Science*, pages 205–216. Springer, 2013.
- [37] Bose, P., Carufel, J. D., Grimm, C., Maheshwari, A., and Smid, M. H. M. Optimal data structures for farthest-point queries in cactus networks. In *CCCG*. Carleton University, Ottawa, Canada, 2013.
- [38] Bose, P., Dujmovic, V., Morin, P., and Smid, M. H. M. Robust geometric spanners. In *Symposium on Computational Geometry*, pages 449–458. ACM, 2013.
- [39] Bose, P., Howat, J., and Morin, P. A history of distribution-sensitive data structures. In *Space-Efficient Data Structures, Streams, and Algorithms*, volume 8066 of *Lecture Notes in Computer Science*, pages 133–149. Springer, 2013.
- [40] Bose, P., Morin, P., van Renssen, A., and Verdonschot, S. The  $\vartheta$  5-graph is a spanner. In *WG*, volume 8165 of *Lecture Notes in Computer Science*, pages 100–114. Springer, 2013.
- [41] Bose, P., van Renssen, A., and Verdonschot, S. On the spanning ratio of theta-graphs. In *WADS*, volume 8037 of *Lecture Notes in Computer Science*, pages 182–194. Springer, 2013.
- [42] Lai, P., Sampson, C., and Bose, P. Visual enhancement of 3d images of rock faces for rock mass characterization. In *47th US Rock Mechanics/Geomechanics Symposium*. American Rock Mechanics Association, 2013.
- [43] Bose, P., Carufel, J. D., Grimm, C., Maheshwari, A., and Smid, M. H. M. On farthest-point information in networks. In *CCCG*, pages 199–204, 2012.
- [44] Bose, P., Carufel, J. D., Morin, P., van Renssen, A., and Verdonschot, S. Optimal bounds on theta-graphs: More is not always better. In *CCCG*, pages 291–296, 2012.
- [45] Bose, P., Collette, S., Fagerberg, R., and Langerman, S. De-amortizing binary search trees. In *ICALP (1)*, volume 7391 of *Lecture Notes in Computer Science*, pages 121–132. Springer, 2012.
- [46] Bose, P., Dujmovic, V., Hoda, N., and Morin, P. Visibility monotonic polygon deflation. In *CCCG*, pages 11–16, 2012.
- [47] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Competitive routing in the half- $\vartheta_6$ -graph. In *SODA*, pages 1319–1328. SIAM, 2012.
- [48] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Competitive routing on a bounded-degree plane spanner. In *CCCG*, pages 285–290, 2012.
- [49] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. On plane constrained bounded-degree spanners. In *LATIN*, volume 7256 of *Lecture Notes in Computer Science*, pages 85–96. Springer, 2012.
- [50] Bose, P. Flips. In *Graph Drawing*, volume 7704 of *Lecture Notes in Computer Science*, page 1. Springer, 2012.
- [51] Bose, P. On spanning properties of various delaunay graphs. In *ISVD*, page 1. IEEE, 2012.
- [52] Bose, P., Carmi, P., Damian, M., Flatland, R. Y., Katz, M. J., and Maheshwari, A. Switching to directional antennas with constant increase in radius and hop distance. In *WADS*, volume 6844 of *Lecture Notes in Computer Science*, pages 134–146. Springer, 2011.
- [53] Bose, P., and Carufel, J. D. Isoperimetric triangular enclosure with a fixed angle. In *CCCG*, 2011.
- [54] Bose, P., Jansens, D., van Renssen, A., Saumell, M., and Verdonschot, S. Making triangulations 4-connected using flips. In *CCCG*, 2011.

- [55] Bose, P., and Verdonschot, S. A history of flips in combinatorial triangulations. In *EGC*, volume 7579 of *Lecture Notes in Computer Science*, pages 29–44. Springer, 2011.
- [56] Aloupis, G., Bose, P., Collette, S., Demaine, E. D., Demaine, M. L., Douïeb, K., Dujmovic, V., Iacono, J., Langerman, S., and Morin, P. Common unfoldings of polyominoes and polycubes. In *CGGA*, volume 7033 of *Lecture Notes in Computer Science*, pages 44–54. Springer, 2010.
- [57] Ballinger, B., Benbernou, N., Bose, P., Damian, M., Demaine, E. D., Dujmovic, V., Flatland, R. Y., Hurtado, F., Iacono, J., Lubiw, A., Morin, P., Adinolfi, V. S., Souvaine, D. L., and Uehara, R. Coverage with  $k$ -transmitters in the presence of obstacles. In *COCOA (2)*, volume 6509 of *Lecture Notes in Computer Science*, pages 1–15. Springer, 2010.
- [58] Bose, P., Carmi, P., Jansens, D., Maheshwari, A., Morin, P., and Smid, M. H. M. Improved methods for generating quasi-gray codes. In *SWAT*, volume 6139 of *Lecture Notes in Computer Science*, pages 224–235. Springer, 2010.
- [59] Bose, P., Carmi, P., Smid, M. H. M., and Xu, D. Communication-efficient construction of the plane localized delaunay graph. In *LATIN*, volume 6034 of *Lecture Notes in Computer Science*, pages 282–293. Springer, 2010.
- [60] Bose, P., and Carufel, J. D. Minimum enclosing area triangle with a fixed angle. In *CCCG*, pages 171–174, 2010.
- [61] Bose, P., Cheong, O., and Dujmovic, V. On the perimeter of fat objects. In *CCCG*, pages 163–166, 2010.
- [62] Bose, P., Collette, S., Hurtado, F., Korman, M., Langerman, S., Sacristán, V., and Saumell, M. Some properties of higher order delaunay and gabriel graphs. In *CCCG*, pages 13–16, 2010.
- [63] Bose, P., Damian, M., Douïeb, K., O’Rourke, J., Seamone, B., Smid, M. H. M., and Wuhrer, S.  $\pi/2$ -angle yao graphs are spanners. In *ISAAC (2)*, volume 6507 of *Lecture Notes in Computer Science*, pages 446–457. Springer, 2010.
- [64] Bose, P., Douïeb, K., Dujmovic, V., and Fagerberg, R. An  $O(\log \log n)$ -competitive binary search tree with optimal worst-case access times. In *SWAT*, volume 6139 of *Lecture Notes in Computer Science*, pages 38–49. Springer, 2010.
- [65] Bose, P., Douïeb, K., Dujmovic, V., and Howat, J. Layered working-set trees. In *LATIN*, volume 6034 of *Lecture Notes in Computer Science*, pages 686–696. Springer, 2010.
- [66] Bose, P., Douïeb, K., Dujmovic, V., Howat, J., and Morin, P. Fast local searches and updates in bounded universes. In *CCCG*, pages 261–264, 2010.
- [67] Bose, P., Douïeb, K., and Morin, P. Skip lift: A probabilistic alternative to red-black trees. In *IWOCA*, volume 6460 of *Lecture Notes in Computer Science*, pages 226–237. Springer, 2010.
- [68] Bose, P., and Douïeb, K. Should static search trees ever be unbalanced? In *ISAAC (1)*, volume 6506 of *Lecture Notes in Computer Science*, pages 109–120. Springer, 2010.
- [69] Carmichael, G., Laganière, R., and Bose, P. Global context descriptors for SURF and MSER feature descriptors. In *CRV*, pages 309–316. IEEE Computer Society, 2010.
- [70] Abel, Z., Ballinger, B., Bose, P., Collette, S., Dujmovic, V., Hurtado, F., Kominers, S. D., Langerman, S., Pór, A., and Wood, D. R. Every large point set contains many collinear points or an empty pentagon. In *CCCG*, pages 99–102, 2009.
- [71] Bose, P., Cardinal, J., Collette, S., Demaine, E. D., Palop, B., Taslakian, P., and Zeh, N. Relaxed gabriel graphs. In *CCCG*, pages 169–172, 2009.
- [72] Bose, P., Carmi, P., and Durocher, S. Bounding the locality of distributed routing algorithms. In *PODC*, pages 250–259. ACM, 2009.

- [73] Bose, P., Chen, E. Y., He, M., Maheshwari, A., and Morin, P. Succinct geometric indexes supporting point location queries. In *SODA*, pages 635–644. SIAM, 2009.
- [74] Bose, P., Devroye, L., Löffler, M., Snoeyink, J., and Verma, V. The spanning ratio of the delaunay triangulation is greater than  $\pi/2$ . In *CCCG*, pages 165–167, 2009.
- [75] Bose, P., and Douïeb, K. Efficient construction of near-optimal binary and multiway search trees. In *WADS*, volume 5664 of *Lecture Notes in Computer Science*, pages 230–241. Springer, 2009.
- [76] Bose, P., He, M., Maheshwari, A., and Morin, P. Succinct orthogonal range search structures on a grid with applications to text indexing. In *WADS*, volume 5664 of *Lecture Notes in Computer Science*, pages 98–109. Springer, 2009.
- [77] Bose, P., Howat, J., and Morin, P. A distribution-sensitive dictionary with low space overhead. In *WADS*, volume 5664 of *Lecture Notes in Computer Science*, pages 110–118. Springer, 2009.
- [78] Brunton, A., Wuhrer, S., Shu, C., Bose, P., and Demaine, E. D. Filling holes in triangular meshes by curve unfolding. In *Shape Modeling International*, pages 66–72. IEEE Computer Society, 2009.
- [79] Aloupis, G., Bose, P., Dujmovic, V., Gray, C., Langerman, S., and Speckmann, B. Triangulating and guarding realistic polygons. In *CCCG*, 2008.
- [80] Bose, P., Carmi, P., Collette, S., and Smid, M. H. M. On the stretch factor of convex delaunay graphs. In *ISAAC*, volume 5369 of *Lecture Notes in Computer Science*, pages 656–667. Springer, 2008.
- [81] Bose, P., Carmi, P., Couture, M., Maheshwari, A., Morin, P., and Smid, M. H. M. Spanners of complete  $k$ -partite geometric graphs. In *LATIN*, volume 4957 of *Lecture Notes in Computer Science*, pages 170–181. Springer, 2008.
- [82] Bose, P., Carmi, P., and Couture, M. Spanners of additively weighted point sets. In *SWAT*, volume 5124 of *Lecture Notes in Computer Science*, pages 367–377. Springer, 2008.
- [83] Bose, P., Carmi, P., Farshi, M., Maheshwari, A., and Smid, M. H. M. Computing the greedy spanner in near-quadratic time. In *SWAT*, volume 5124 of *Lecture Notes in Computer Science*, pages 390–401. Springer, 2008.
- [84] Bose, P., Douïeb, K., and Langerman, S. Dynamic optimality for skip lists and b-trees. In *SODA*, pages 1106–1114. SIAM, 2008.
- [85] Bose, P., Langerman, S., and Roy, S. Smallest enclosing circle centered on a query line segment. In *CCCG*, 2008.
- [86] Bose, P., O’Rourke, J., Shu, C., and Wuhrer, S. Isometric morphing of triangular meshes. In *CCCG*, 2008.
- [87] Bose, P., editor. *Proceedings of the 19th Annual Canadian Conference on Computational Geometry, CCCG 2007, August 20-22, 2007, Carleton University, Ottawa, Canada*. Carleton University, Ottawa, Canada, 2007.
- [88] Aloupis, G., Ballinger, B., Bose, P., Damian, M., Demaine, E. D., Demaine, M. L., Flatland, R. Y., Hurtado, F., Langerman, S., O’Rourke, J., Taslakian, P., and Toussaint, G. T. Vertex pops and popturns. In *CCCG*, pages 137–140. Carleton University, Ottawa, Canada, 2007.
- [89] Asano, T., Bose, P., Carmi, P., Maheshwari, A., Shu, C., Smid, M. H. M., and Wuhrer, S. Linear-space algorithms for distance preserving embedding. In *CCCG*, pages 185–188. Carleton University, Ottawa, Canada, 2007.
- [90] Azouz, Z. B., Bose, P., Shu, C., and Wuhrer, S. Approximations of geodesic distances for incomplete triangular manifolds. In *CCCG*, pages 177–180. Carleton University, Ottawa, Canada, 2007.



- [91] Bereg, S., Bose, P., Dumitrescu, A., Hurtado, F., and Valtr, P. Traversing a set of points with a minimum number of turns. In *Symposium on Computational Geometry*, pages 46–55. ACM, 2007.
- [92] Bose, P., Carmi, P., Couture, M., Maheshwari, A., Smid, M. H. M., and Zeh, N. Geometric spanners with small chromatic number. In *WAOA*, volume 4927 of *Lecture Notes in Computer Science*, pages 75–88. Springer, 2007.
- [93] Bose, P., Carmi, P., Couture, M., Smid, M. H. M., and Xu, D. On a family of strong geometric spanners that admit local routing strategies. In *WADS*, volume 4619 of *Lecture Notes in Computer Science*, pages 300–311. Springer, 2007.
- [94] Bose, P., Dujmovic, V., Krizanc, D., Langerman, S., Morin, P., Wood, D. R., and Wührer, S. A characterization of the degree sequences of 2-trees. In *ANALCO*, pages 232–241. SIAM, 2007.
- [95] Bose, P., Lee, A., and Smid, M. H. M. On generalized diamond spanners. In *WADS*, volume 4619 of *Lecture Notes in Computer Science*, pages 325–336. Springer, 2007.
- [96] Bose, P., and Morrison, J. Optimal point set partitioning using rigid motion star placement. In *CCCG*, pages 49–52. Carleton University, Ottawa, Canada, 2007.
- [97] Couture, M., Barbeau, M., Bose, P., Carmi, P., and Kranakis, E. Location oblivious distributed unit disk graph coloring. In *SIROCCO*, volume 4474 of *Lecture Notes in Computer Science*, pages 222–233. Springer, 2007.
- [98] Aronov, B., Bose, P., Demaine, E. D., Gudmundsson, J., Iacono, J., Langerman, S., and Smid, M. H. M. Data structures for halfplane proximity queries and incremental voronoi diagrams. In *LATIN*, volume 3887 of *Lecture Notes in Computer Science*, pages 80–92. Springer, 2006.
- [99] Bose, P., Bremner, D., and Souvaine, D. L. Computing the tool path of an externally monotone polygon in linear time. In *CCCG*, 2006.
- [100] Bose, P., Czyzowicz, J., Gao, Z., Morin, P., and Wood, D. R. Simultaneous diagonal flips in plane triangulations. In *SODA*, pages 212–221. ACM Press, 2006.
- [101] Bose, P., and Keil, J. M. On the stretch factor of the constrained delaunay triangulation. In *ISVD*, pages 25–31. IEEE Computer Society, 2006.
- [102] Bose, P., Morin, P., Smid, M. H. M., and Wührer, S. Rotationally monotone polygons. In *CCCG*, 2006.
- [103] Bose, P., and Morrison, J. Optimal polygon placement. In *CCCG*, 2006.
- [104] Bose, P., Smid, M. H. M., and Xu, D. Diamond triangulations contain spanners of bounded degree. In *ISAAC*, volume 4288 of *Lecture Notes in Computer Science*, pages 173–182. Springer, 2006.
- [105] Couture, M., Barbeau, M., Bose, P., and Kranakis, E. Incremental construction of  $k$ -dominating sets in wireless sensor networks. In *OPODIS*, volume 4305 of *Lecture Notes in Computer Science*, pages 202–214. Springer, 2006.
- [106] Hahn, E., Bose, P., and Whitehead, A. Lazy generation of building interiors in realtime. In *CCECE*, pages 2441–2444. IEEE, 2006.
- [107] Hahn, E., Bose, P., and Whitehead, A. Persistent realtime building interior generation. In *Sandbox@SIGGRAPH*, pages 179–186. ACM, 2006.
- [108] Abellanas, M., Bose, P., García-López, J., Hurtado, F., Nicolás, M., and Ramos, P. A. On properties of higher-order delaunay graphs with applications. In *EuroCG*, pages 119–122. Technische Universiteit Eindhoven, 2005.
- [109] Bose, P., Dujmovic, V., and Wood, D. R. Induced subgraphs of bounded degree and bounded treewidth. In *WG*, volume 3787 of *Lecture Notes in Computer Science*, pages 175–186. Springer, 2005.

- [110] Bose, P., Kranakis, E., Morin, P., and Tang, Y. Approximate range mode and range median queries. In *STACS*, volume 3404 of *Lecture Notes in Computer Science*, pages 377–388. Springer, 2005.
- [111] Bose, P., and Morrison, J. Translating a star over a point set. In *CCCG*, pages 179–182, 2005.
- [112] Whitehead, A., Bose, P., and Audet, V. High-speed texture-preserving digital image inpainting. In *SIP*, pages 526–531. IASTED/ACTA Press, 2005.
- [113] Whitehead, A., Laganière, R., and Bose, P. Temporal synchronization of video sequences in theory and in practice. In *WACV/MOTION*, pages 132–137. IEEE Computer Society, 2005.
- [114] Abellanas, M., Bose, P., Olaverri, A. G., Hurtado, F., Ramos, P. A., Rivera-Campo, E., and Tejel, J. On local transformations in plane geometric graphs embedded on small grids. In *ICCSA (3)*, volume 3045 of *Lecture Notes in Computer Science*, pages 22–31. Springer, 2004.
- [115] Aloupis, G., Bose, P., and Morin, P. Reconfiguring triangulations with edge flips and point moves. In *Graph Drawing*, volume 3383 of *Lecture Notes in Computer Science*, pages 1–11. Springer, 2004.
- [116] Bose, P., Demaine, E. D., Hurtado, F., Iacono, J., Langerman, S., and Morin, P. Geodesic ham-sandwich cuts. In *Symposium on Computational Geometry*, pages 1–9. ACM, 2004.
- [117] Bose, P., Hurtado, F., Rivera-Campo, E., and Wood, D. R. Partitions of complete geometric graphs into plane trees. In *Graph Drawing*, volume 3383 of *Lecture Notes in Computer Science*, pages 71–81. Springer, 2004.
- [118] Bose, P., and Langerman, S. Weighted ham-sandwich cuts. In *JCDCG*, volume 3742 of *Lecture Notes in Computer Science*, pages 48–53. Springer, 2004.
- [119] Bose, P., Seara, C., and Sethia, S. On computing enclosing isosceles triangles and related problems. In *CCCG*, pages 120–123, 2004.
- [120] Bose, P., and van Kreveld, M. J. Computing nice sweeps for polyhedra and polygons. In *CCCG*, pages 108–111, 2004.
- [121] Whitehead, A., Bose, P., and Laganière, R. Feature based cut detection with automatic threshold selection. In *CIVR*, volume 3115 of *Lecture Notes in Computer Science*, pages 410–418. Springer, 2004.
- [122] Bose, P., Kranakis, E., Morin, P., and Tang, Y. Bounds for frequency estimation of packet streams. In *SIROCCO*, volume 17 of *Proceedings in Informatics*, pages 33–42. Carleton Scientific, 2003.
- [123] Bose, P., Maheshwari, A., Narasimhan, G., Smid, M. H. M., and Zeh, N. Approximating geometric bottleneck shortest paths. In *STACS*, volume 2607 of *Lecture Notes in Computer Science*, pages 38–49. Springer, 2003.
- [124] Bose, P., and Morin, P., editors. *Algorithms and Computation, 13th International Symposium, ISAAC 2002 Vancouver, BC, Canada, November 21-23, 2002, Proceedings*, volume 2518 of *Lecture Notes in Computer Science*. Springer, 2002.
- [125] Aloupis, G., Bose, P., Demaine, E. D., Langerman, S., Meijer, H., Overmars, M. H., and Toussaint, G. T. Computing signed permutations of polygons. In *CCCG*, pages 68–71, 2002.
- [126] Bose, P., Devroye, L., Evans, W. S., and Kirkpatrick, D. G. On the spanning ratio of gabriel graphs and beta-skeletons. In *LATIN*, volume 2286 of *Lecture Notes in Computer Science*, pages 479–493. Springer, 2002.
- [127] Bose, P., Devroye, L., and Morin, P. Succinct data structures for approximating convex functions with applications. In *JCDCG*, volume 2866 of *Lecture Notes in Computer Science*, pages 97–107. Springer, 2002.
- [128] Bose, P., Gudmundsson, J., and Morin, P. Ordered theta graphs. In *CCCG*, pages 17–21, 2002.

- [129] Bose, P., Gudmundsson, J., and Smid, M. H. M. Constructing plane spanners of bounded degree and low weight. In *ESA*, volume 2461 of *Lecture Notes in Computer Science*, pages 234–246. Springer, 2002.
- [130] Bose, P., Krizanc, D., Langerman, S., and Morin, P. Asymmetric communication protocols via hotlink assignments. In *SIROCCO*, volume 13 of *Proceedings in Informatics*, pages 33–39. Carleton Scientific, 2002.
- [131] Bose, P., Smid, M. H. M., and Wood, D. R. Light edges in degree-constrained graphs. In *CCCG*, pages 142–145, 2002.
- [132] Bose, P., and Wang, Q. Facility location constrained to a polygonal domain. In *LATIN*, volume 2286 of *Lecture Notes in Computer Science*, pages 153–164. Springer, 2002.
- [133] Bose, P., Maheshwari, A., Morin, P., and Morrison, J. The grid placement problem. In *WADS*, volume 2125 of *Lecture Notes in Computer Science*, pages 180–191. Springer, 2001.
- [134] Bose, P., and Morin, P. Competitive online routing in geometric graphs. In *SIROCCO*, volume 8 of *Proceedings in Informatics*, pages 35–44. Carleton Scientific, 2001.
- [135] Bose, P., Morin, P., and Vigneron, A. Packing two disks into a polygonal environment. In *COCOON*, volume 2108 of *Lecture Notes in Computer Science*, pages 142–149. Springer, 2001.
- [136] Ahn, H., Bose, P., Czyzowicz, J., Hanusse, N., Kranakis, E., and Morin, P. Flipping your lid. In *CCCG*, 2000.
- [137] Bose, P., Kranakis, E., Krizanc, D., Martin, M. V., Czyzowicz, J., Pelc, A., and Gasieniec, L. Strategies for hotlink assignments. In *ISAAC*, volume 1969 of *Lecture Notes in Computer Science*, pages 23–34. Springer, 2000.
- [138] Bose, P., Morin, P., Brodnik, A., Carlsson, S., Demaine, E. D., Fleischer, R., Munro, J. I., and López-Ortiz, A. Online routing in convex subdivisions. In *ISAAC*, volume 1969 of *Lecture Notes in Computer Science*, pages 47–59. Springer, 2000.
- [139] Bose, P., and Morin, P. An improved algorithm for subdivision traversal without extra storage. In *ISAAC*, volume 1969 of *Lecture Notes in Computer Science*, pages 444–455. Springer, 2000.
- [140] Barequet, G., Bose, P., and Dickerson, M. Optimizing constrained offset and scaled polygonal annuli. In *WADS*, volume 1663 of *Lecture Notes in Computer Science*, pages 62–73. Springer, 1999.
- [141] Biedl, T. C., Bose, P., Demaine, E. D., and Lubiw, A. Efficient algorithms for Petersen’s matching theorem. In *SODA*, pages 130–139. ACM/SIAM, 1999.
- [142] Bose, P., Chan, A., Dehne, F. K. H. A., and Latzel, M. Coarse grained parallel maximum matching in convex bipartite graphs. In *IPPS/SPDP*, pages 125–129. IEEE Computer Society, 1999.
- [143] Bose, P., Czyzowicz, J., Kranakis, E., Krizanc, D., and Lessard, D. Near optimal-partitioning of rectangles and prisms. In *CCCG*, 1999.
- [144] Bose, P., Kaklamanis, C., Kirousis, L. M., Kranakis, E., Krizanc, D., and Peleg, D. Station layouts in the presence of location constraints. In *ISAAC*, volume 1741 of *Lecture Notes in Computer Science*, pages 269–278. Springer, 1999.
- [145] Bose, P., and Morin, P. Online routing in triangulations. In *ISAAC*, volume 1741 of *Lecture Notes in Computer Science*, pages 113–122. Springer, 1999.
- [146] Bose, P., Morin, P., Stojmenovic, I., and Urrutia, J. Routing with guaranteed delivery in ad hoc wireless networks. In *DIAL-M*, pages 48–55. ACM, 1999.
- [147] Bose, P., and Morin, P. Testing the quality of manufactured balls. In *WADS*, volume 1663 of *Lecture Notes in Computer Science*, pages 145–156. Springer, 1999.

- [148] Bose, P., Caron, J., and Ghoudi, K. Detection of text-line orientation. In *CCCG*, 1998.
- [149] Bose, P., Czyzowicz, J., Kranakis, E., Krizanc, D., and Maheshwari, A. Polygon cutting: Revisited. In *JCDCG*, volume 1763 of *Lecture Notes in Computer Science*, pages 81–92. Springer, 1998.
- [150] Bose, P., Czyzowicz, J., Kranakis, E., and Maheshwari, A. Algorithms for packing two circles in a convex polygon. In *JCDCG*, volume 1763 of *Lecture Notes in Computer Science*, pages 93–103. Springer, 1998.
- [151] Bose, P., Czyzowicz, J., and Lessard, D. Cutting rectangles in equal area pieces. In *CCCG*, 1998.
- [152] Bose, P., Hurtado, F., Meijer, H., Ramaswami, S., Rappaport, D., Sacristán, V., Shermer, T. C., and Toussaint, G. T. Finding specified sections of arrangements: 2d results. In *CCCG*, 1998.
- [153] Bose, P., and Morin, P. Testing the quality of manufactured disks and cylinders. In *ISAAC*, volume 1533 of *Lecture Notes in Computer Science*, pages 129–138. Springer, 1998.
- [154] de Berg, M., Bose, P., Bremner, D., Evans, W. S., and Narayanan, L. Recovering lines with fixed linear probes. In *CCCG*, 1998.
- [155] Ahn, H., de Berg, M., Bose, P., Cheng, S., Halperin, D., Matoušek, J., and Schwarzkopf, O. Separating an object from its cast. In *Symposium on Computational Geometry*, pages 221–230. ACM, 1997.
- [156] Bose, P. On embedding an outer-planar graph in a point set. In *Graph Drawing*, volume 1353 of *Lecture Notes in Computer Science*, pages 25–36. Springer, 1997.
- [157] de Berg, M., Bose, P., Bremner, D., Ramaswami, S., and Wilfong, G. T. Computing constrained minimum-width annuli of point sets. In *WADS*, volume 1272 of *Lecture Notes in Computer Science*, pages 392–401. Springer, 1997.
- [158] Avis, D., Bose, P., Toussaint, G. T., Shermer, T. C., Zhu, B., and Snoeyink, J. On the sectional area of convex polytopes. In *Symposium on Computational Geometry*, pages C–11–C–12. ACM, 1996.
- [159] Bose, P., Dean, A. M., Hutchinson, J. P., and Shermer, T. C. On rectangle visibility graphs. In *Graph Drawing*, volume 1190 of *Lecture Notes in Computer Science*, pages 25–44. Springer, 1996.
- [160] Bose, P., Devroye, L., and Evans, W. S. Diamonds are not a minimum weight triangulation’s best friend. In *CCCG*, pages 68–73. Carleton University Press, 1996.
- [161] Bose, P., Evans, W. S., Kirkpatrick, D. G., McAllister, M., and Snoeyink, J. Approximating shortest paths in arrangements of lines. In *CCCG*, pages 143–148. Carleton University Press, 1996.
- [162] Bose, P., Kirkpatrick, D. G., and Li, Z. Efficient algorithms for guarding or illuminating the surface of a polyhedral terrain. In *CCCG*, pages 217–222. Carleton University Press, 1996.
- [163] Bose, P., and Toussaint, G. T. Computing the constrained euclidean geodesic and link center of a simple polygon with application. In *Computer Graphics International*, pages 102–110. IEEE Computer Society, 1996.
- [164] de Berg, M., Bose, P., Dobrindt, K., van Kreveld, M. J., Overmars, M. H., de Groot, M., Roos, T., Snoeyink, J., and Yu, S. The complexity of rivers in triangulated terrains. In *CCCG*, pages 325–330. Carleton University Press, 1996.
- [165] Bose, P., Gómez, F., Ramos, P. A., and Toussaint, G. T. Drawing nice projections of objects in space. In *Graph Drawing*, volume 1027 of *Lecture Notes in Computer Science*, pages 52–63. Springer, 1995.
- [166] Bose, P., Hurtado, F., Omaña-Pulido, E., and Toussaint, G. T. Aperture angle optimization problems. In *CCCG*, pages 73–78. Carleton University, Ottawa, Canada, 1995.
- [167] Bose, P., McAllister, M., and Snoeyink, J. Optimal algorithms to embed trees in a point set. In *Graph Drawing*, volume 1027 of *Lecture Notes in Computer Science*, pages 64–75. Springer, 1995.

- [168] Bose, P., and Toussaint, G. T. No quadrangulation is extremely odd. In *ISAAC*, volume 1004 of *Lecture Notes in Computer Science*, pages 372–381. Springer, 1995.
- [169] Belleville, P., Bose, P., Czyzowicz, J., Urrutia, J., and Zaks, J. K-guarding polygons on the plane. In *CCCG*, pages 381–386. University of Saskatchewan, 1994.
- [170] Bose, P., Bremner, D., and Toussaint, G. T. All convex polyhedra can be clamped with parallel jaw grippers. In *CCCG*, pages 344–349. University of Saskatchewan, 1994.
- [171] Bose, P., Bremner, D., and van Kreveld, M. J. Determining the castability of simple polyhedra. In *Symposium on Computational Geometry*, pages 123–131. ACM, 1994.
- [172] Bose, P., Di Battista, G., Lenhart, W., and Liotta, G. Proximity constraints and representable trees. In *Graph Drawing*, volume 894 of *Lecture Notes in Computer Science*, pages 340–351. Springer, 1994.
- [173] Bose, P., Houle, M. E., and Toussaint, G. T. Every set of disjoint line segments admits a binary tree. In *ISAAC*, volume 834 of *Lecture Notes in Computer Science*, pages 20–28. Springer, 1994.
- [174] Asberg, B., Blanco, G., Bose, P., Garcia-Lopez, J., Overmars, M. H., Toussaint, G. T., Wilfong, G. T., and Zhu, B. Feasibility of design in stereolithography. In *FSTTCS*, volume 761 of *Lecture Notes in Computer Science*, pages 228–237. Springer, 1993.
- [175] Bose, P., Buss, J. F., and Lubiw, A. Pattern matching for permutations. In *WADS*, volume 709 of *Lecture Notes in Computer Science*, pages 200–209. Springer, 1993.
- [176] Bose, P., Everett, H., Fekete, S., Lubiw, A., Meijer, H., Romanik, K., Shermer, T., and Whitesides, S. On a visibility representation for graphs in three dimensions. In *Proc. Graph Drawing93*, pages 38–39, 1993.
- [177] Bose, P., Guibas, L. J., Lubiw, A., Overmars, M. H., Souvaine, D. L., and Urrutia, J. The floodlight problem. In *CCCG*, pages 399–404. University of Waterloo, 1993.
- [178] Bose, P., and Toussaint, G. Geometric and computational aspects of injection molding. In *Proc. Third International Conf. on CAD and Computer Graphics*, pages 237–242, 1993.
- [179] Bose, P., van Kreveld, M. J., and Toussaint, G. T. Filling polyhedral molds. In *WADS*, volume 709 of *Lecture Notes in Computer Science*, pages 210–221. Springer, 1993.

## Archive Papers

- [1] Bose, P., Carufel, J. D., Shaikh, A., and Smid, M. H. M. Art gallery localization. *CoRR*, abs/1706.06938, 2017.
- [2] Bose, P., Carufel, J. D., Shaikh, A., and Smid, M. H. M. Optimal art gallery localization is np-hard. *CoRR*, abs/1706.08016, 2017.
- [3] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. On plane constrained bounded-degree spanners. *CoRR*, abs/1704.03596, 2017.
- [4] Bose, P., Kostitsyna, I., and Langerman, S. Self-approaching paths in simple polygons. *CoRR*, abs/1703.06107, 2017.
- [5] Bahoo, Y., Banyassady, B., Bose, P., Durocher, S., and Mulzer, W. Time-space trade-off for finding the k-visibility region of a point in a polygon. *CoRR*, abs/1603.02853, 2016.
- [6] Biniaz, A., Bose, P., Carufel, J. D., Gavoille, C., Maheshwari, A., and Smid, M. H. M. Towards plane spanners of degree 3. *CoRR*, abs/1606.08824, 2016.
- [7] Biniaz, A., Bose, P., Eppstein, D., Maheshwari, A., Morin, P., and Smid, M. H. M. Spanning trees in multipartite geometric graphs. *CoRR*, abs/1611.01661, 2016.

- [8] Bonichon, N., Bose, P., Carmi, P., Kostitsyna, I., Lubiw, A., and Verdonschot, S. Gabriel triangulations and angle-monotone graphs: Local routing and recognition. *CoRR*, abs/1608.08892, 2016.
- [9] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. H. M. Essential constraints of edge-constrained proximity graphs. *CoRR*, abs/1607.01294, 2016.
- [10] Bose, P., Carufel, J. D., and van Renssen, A. Constrained generalized delaunay graphs are plane spanners. *CoRR*, abs/1602.07365, 2016.
- [11] Bose, P., Morin, P., and van Renssen, A. The price of order. *CoRR*, abs/1602.00399, 2016.
- [12] Ahn, H., Barba, L., Bose, P., Carufel, J. D., Korman, M., and Oh, E. A linear-time algorithm for the geodesic center of a simple polygon. *CoRR*, abs/1501.00561, 2015.
- [13] Biniarz, A., Bose, P., Maheshwari, A., and Smid, M. H. M. Packing plane perfect matchings into a point set. *CoRR*, abs/1501.03686, 2015.
- [14] Biniarz, A., Bose, P., Maheshwari, A., and Smid, M. H. M. Plane bichromatic trees of low degree. *CoRR*, abs/1512.02730, 2015.
- [15] Bonichon, N., Bose, P., Carufel, J. D., Perkovic, L., and van Renssen, A. Upper and lower bounds for competitive online routing on delaunay triangulations. *CoRR*, abs/1501.01783, 2015.
- [16] Bose, P., Carmi, P., Damian, M., Carufel, J. D., Hill, D., Maheshwari, A., Liu, Y., and Smid, M. H. M. On the stretch factor of convex polyhedra whose vertices are (almost) on a sphere. *CoRR*, abs/1507.06856, 2015.
- [17] Bose, P., Carufel, J. D., Dobbins, M. G., Kim, H., and Viglietta, G. The shadows of a cycle cannot all be paths. *CoRR*, abs/1507.02355, 2015.
- [18] Bose, P., Carufel, J. D., Shaikhet, A., and Smid, M. H. M. Probing convex polygons with a wedge. *CoRR*, abs/1506.02572, 2015.
- [19] Bose, P., Hill, D., and Smid, M. H. M. Improved spanning ratio for low degree plane spanners. *CoRR*, abs/1506.09061, 2015.
- [20] Bose, P., and Verdonschot, S. Flips in edge-labelled pseudo-triangulations. *CoRR*, abs/1512.01485, 2015.
- [21] Aichholzer, O., Bae, S. W., Barba, L., Bose, P., Korman, M., van Renssen, A., Taslakian, P., and Verdonschot, S. Theta-3 is connected. *CoRR*, abs/1404.7186, 2014.
- [22] Barba, L., Bose, P., Carufel, J. D., Damian, M., Fagerberg, R., van Renssen, A., Taslakian, P., and Verdonschot, S. Continuous yao graphs. *CoRR*, abs/1408.4099, 2014.
- [23] Bose, P., Carufel, J. D., Grimm, C., Maheshwari, A., and Smid, M. H. M. Optimal data structures for farthest-point queries in cactus networks. *CoRR*, abs/1411.1879, 2014.
- [24] Bose, P., Carufel, J. D., Morin, P., van Renssen, A., and Verdonschot, S. Towards tight bounds on theta-graphs. *CoRR*, abs/1404.6233, 2014.
- [25] Bose, P., and Carufel, J. D. Towards a general framework for searching on a line and searching on  $m$  rays. *CoRR*, abs/1408.6812, 2014.
- [26] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Competitive local routing with constraints. *CoRR*, abs/1412.0760, 2014.
- [27] Bose, P., Fagerberg, R., van Renssen, A., and Verdonschot, S. Optimal local routing on delaunay triangulations defined by empty equilateral triangles. *CoRR*, abs/1409.6397, 2014.

- [28] Bose, P., and van Renssen, A. Upper bounds on the spanning ratio of constrained theta-graphs. *CoRR*, abs/1401.2127, 2014.
- [29] Barba, L., Beingessner, A., Bose, P., and Smid, M. H. M. Computing covers of plane forests. *CoRR*, abs/1311.4860, 2013.
- [30] Barba, L., Bose, P., Carufel, J. D., van Renssen, A., and Verdonschot, S. On the stretch factor of the theta-4 graph. *CoRR*, abs/1303.5473, 2013.
- [31] Barba, L., Bose, P., Damian, M., Fagerberg, R., O'Rourke, J., van Renssen, A., Taslakian, P., and Verdonschot, S. New and improved spanning ratios for yao graphs. *CoRR*, abs/1307.5829, 2013.
- [32] Bose, P., Carufel, J. D., and Durocher, S. Revisiting the problem of searching on a line. *CoRR*, abs/1310.1048, 2013.
- [33] Bose, P., Dannies, K., Carufel, J. D., Doell, C., Grimm, C., Maheshwari, A., Schirra, S., and Smid, M. H. M. Network farthest-point diagrams. *CoRR*, abs/1304.1909, 2013.
- [34] Bose, P., Douïeb, K., Iacono, J., and Langerman, S. The power and limitations of static binary search trees with lazy finger. *CoRR*, abs/1304.6897, 2013.
- [35] Bose, P., Lubiw, A., Pathak, V., and Verdonschot, S. Flipping edge-labelled triangulations. *CoRR*, abs/1310.1166, 2013.
- [36] Bose, P., Cardinal, J., Collette, S., Hurtado, F., Korman, M., Langerman, S., and Taslakian, P. Coloring and guarding arrangements. *CoRR*, abs/1205.5162, 2012.
- [37] Bose, P., Dujmovic, V., Hoda, N., and Morin, P. Visibility-monotonic polygon deflation. *CoRR*, abs/1206.1982, 2012.
- [38] Bose, P., Dujmovic, V., Morin, P., and Smid, M. H. M. Robust geometric spanners. *CoRR*, abs/1204.4679, 2012.
- [39] Bose, P., Morin, P., van Renssen, A., and Verdonschot, S. The theta-5-graph is a spanner. *CoRR*, abs/1212.0570, 2012.
- [40] Bose, P., and Verdonschot, S. A history of flips in combinatorial triangulations. *CoRR*, abs/1206.0303, 2012.
- [41] Bose, P., Collette, S., Fagerberg, R., and Langerman, S. De-amortizing binary search trees. *CoRR*, abs/1111.1665, 2011.
- [42] Bose, P., Jansens, D., van Renssen, A., Saumell, M., and Verdonschot, S. Making triangulations 4-connected using flips. *CoRR*, abs/1110.6473, 2011.
- [43] Wuhrer, S., Shu, C., and Bose, P. Automatically creating design models from 3d anthropometry data. *CoRR*, abs/1108.4572, 2011.
- [44] Bose, P., and Carufel, J. D. Minimum enclosing area triangle with a fixed angle. *CoRR*, abs/1009.3006, 2010.
- [45] Bose, P., Damian, M., Douïeb, K., O'Rourke, J., Seamone, B., Smid, M. H. M., and Wuhrer, S. Pi/2-angle yao graphs are spanners. *CoRR*, abs/1001.2913, 2010.
- [46] Bose, P., Devroye, L., Douïeb, K., Dujmovic, V., King, J., and Morin, P. Odds-on trees. *CoRR*, abs/1002.1092, 2010.
- [47] Bose, P., Devroye, L., Douïeb, K., Dujmovic, V., King, J., and Morin, P. Point location in disconnected planar subdivisions. *CoRR*, abs/1001.2763, 2010.

- [48] Bose, P., Devroye, L., Löffler, M., Snoeyink, J., and Verma, V. The dilation of the delaunay triangulation is greater than  $\pi/2$ . *CoRR*, abs/1006.0291, 2010.
- [49] Bose, P., Douïeb, K., Dujmovic, V., and Fagerberg, R. An  $o(\log \log n)$ -competitive binary search tree with optimal worst-case access times. *CoRR*, abs/1003.0139, 2010.
- [50] Bose, P., and Douïeb, K. Should static search trees ever be unbalanced? *CoRR*, abs/1006.3715, 2010.
- [51] Jansens, D., Bose, P., Carmi, P., Maheshwari, A., Morin, P., and Smid, M. H. M. Improved methods for generating quasi-gray codes. *CoRR*, abs/1010.0905, 2010.
- [52] Abel, Z., Ballinger, B., Bose, P., Collette, S., Dujmovic, V., Hurtado, F., Kominers, S. D., Langerman, S., Pór, A., and Wood, D. R. Every large point set contains many collinear points or an empty pentagon. *CoRR*, abs/0904.0262, 2009.
- [53] Bose, P., Douïeb, K., Dujmovic, V., and Howat, J. Layered working-set trees. *CoRR*, abs/0907.2071, 2009.
- [54] Bose, P., Carmi, P., Collette, S., and Smid, M. H. M. On the stretch factor of convex delaunay graphs. *CoRR*, abs/0804.1041, 2008.
- [55] Bose, P., Carmi, P., and Couture, M. Spanners of additively weighted point sets. *CoRR*, abs/0801.4013, 2008.
- [56] Bose, P., Carmi, P., Smid, M. H. M., and Xu, D. Communication-efficient construction of the plane localized delaunay graph. *CoRR*, abs/0809.2956, 2008.
- [57] Bose, P., Chen, E. Y., He, M., Maheshwari, A., and Morin, P. Succinct geometric indexes supporting point location queries. *CoRR*, abs/0805.4147, 2008.
- [58] Wuhrer, S., Bose, P., Shu, C., O'Rourke, J., and Brunton, A. Morphing of triangular meshes in shape space. *CoRR*, abs/0805.0162, 2008.
- [59] Bose, P., Carmi, P., Couture, M., Maheshwari, A., Morin, P., and Smid, M. H. M. Spanners of complete  $k$ -partite geometric graphs. *CoRR*, abs/0712.0554, 2007.
- [60] Bose, P., Carmi, P., Couture, M., Maheshwari, A., Smid, M. H. M., and Zeh, N. Geometric spanners with small chromatic number. *CoRR*, abs/0711.0114, 2007.
- [61] Bose, P., Carmi, P., Couture, M., Smid, M. H. M., and Xu, D. On a family of strong geometric spanners that admit local routing strategies. *CoRR*, abs/cs/0702117, 2007.
- [62] Bose, P., Dujmovic, V., Hurtado, F., Langerman, S., Morin, P., and Wood, D. R. A polynomial bound for untagling geometric planar graphs. *CoRR*, abs/0710.1641, 2007.
- [63] Bose, P., Dujmovic, V., Krizanc, D., Langerman, S., Morin, P., Wood, D. R., and Wuhrer, S. A characterization of the degree sequences of 2-trees. *CoRR*, abs/cs/0605011, 2006.
- [64] Aronov, B., Bose, P., Demaine, E. D., Gudmundsson, J., Iacono, J., Langerman, S., and Smid, M. H. M. Data structures for halfplane proximity queries and incremental voronoi diagrams. *CoRR*, abs/cs/0512091, 2005.
- [65] Bose, P., Czyzowicz, J., Gao, Z., Morin, P., and Wood, D. R. Simultaneous diagonal flips in plane triangulations. *CoRR*, abs/math/0509478, 2005.