# IOANNIS "YANNI" G. TOLLIS

**November 2017**

**CONTACT INFORMATION**
*Office address*:
Department of Computer Science,
University of Crete, Voutes Campus,
Heraklion,
Crete, GR 70013, GREECE

*Phone*: +30-2810-393579
*Fax*: +30-2810-393501
*Mobile*: +30-6972-282426
*e-mail*: tollis@csd.uoc.gr

http://www.csd.uoc.gr/CSD/index.jsp?custom=ioannis_tollis&lang=en
https://scholar.google.gr/citations?user=KmWfVqoAAAAJ&hl=en

## BRIEF BIOGRAPHY

Dr. Ioannis (Yanni) G. Tollis is a Professor of Computer Science at the University of Crete (UOC). He was the Director of the UOC Center for Information and Comunication Technologies, and of the Data Processing Laboratory from 2013 to 2017. He was also affiliated with the Institute of Computer Science at FORTH (ICS-FORTH 2003-Sep. 2015), where he was the head of the Biomedical Informatics Laboratory (BMI lab.) 2005-2010. Dr. Tollis received his Ph.D. degree in Computer Science from the University of Illinois at Urbana-Champaign in Jan. 1988. He received his Diploma degree in Mathematics from the National University of Athens, Greece and his M.Sc. degree in Computer Science from Vanderbilt University, Nashville, Tennessee. He joined the faculty of The University of Texas at Dallas in December 1987, where he was a Professor of Computer Science until 2004.

Dr. Tollis has published eight books, over 180 journal and conference papers, and has given more than 70 invited lectures worldwide. His research interests are in the Graph Analytics and Network Visualization, Data Science, Modeling and Visualization of Biomedical Data and Networks, Graph Drawing, Information Visualization and Data Analytics, and Algorithms and Applications. His research has been funded by numerous funding agencies and companies. He holds a U.S. patent and several of his projects have been licensed by companies for commercial distribution. He was Vice President of Research at Tom Sawyer Software, Berkeley CA, where he worked on research, future products, and attracting VC funding.

He is a Founding Editor and Executive Committee member of the electronic *Journal of Graph Algorithms and Applications* (he was editor-in-chief 1997-2013); he is a member

of the Editorial Boards of: *Journal of Healthcare Engineering*, 2010-present, *Journal of Discrete Mathematics* 2012-present, and *ISRN Combinatorics*, 2012-present. He was a member of the Editorial Board of *the IEEE Transactions on Computers (2000-2004).* He was the organizer and Program Committee Chair of the 16th International Symposium on Graph Drawing 2008; he was co-organizer and Program Committee co-chair of the International Symposium on Graph Drawing, 1994; he was a member of several program committees of the International Symposium on Graph Drawing; and is a founding member of the steering committee for Graph Drawing. He has served as a member of program committees of many international conferences, most recently, the 1st Conference on the Virtual Physiological Human, 2010 (VPH 2010), HEALTHINF 2012, HEALTHINF 2013, HEALTHINF 2014, and HEALTHINF 2015. He received (a) the *Young Engineer of the Year award*, March 1993, IEEE-Dallas Section, for contributions to the area of VLSI layout, and (b) the *Outstanding Service award*, March 1993, IEEE Circuits & Systems-Dallas Section.

As of November 2017, according to google scholar Dr. Tollis' scientific work has received more than 8,500 citations, which result in *h-index* 40.

## EMPLOYMENT HISTORY

### Principal Positions

· 2003 – present, Professor of Computer Science, University of Crete, Greece.
· 2013 – present, Founder and Director, Network and Information Visualization Laboratory, Computer Science department, University of Crete, Greece.
· 2003 – 2015, collaborating researcher, ICS-FORTH, Crete, Greece.
· 1998 - 2004, Professor, Department of Computer Science, School of Engineering and Computer Science, The University of Texas at Dallas, Richardson, TX.
· 1992 – 1998, Associate Professor, Department of Computer Science, School of Engineering and Computer Science, The Univ. of Texas at Dallas, Richardson, TX.
· Dec. 1987 – 1992, Assistant Professor, Department of Computer Science, School of Engineering and Computer Science, The Univ. of Texas at Dallas, Richardson, TX.

### Administrative Positions and Industrial Experience

· 2017 – present, member of the Board, Kosmos Intelligent Systems and Services, Inc., Heraklion, Crete, Greece.
· 2014 – present, member of the Technical Advisory Board, Tom Sawyer Software, Inc., CA, USA.
· 2014 - 2017, Director of the University of Crete Center for Information and Communication Technologies.
· 2013 - 2017, Director of the Data Processing Laboratory, School of Science and Engineering, UOC.
· 2005 - 2010, Head of the Biomedical Informatics Laboratory (BMI lab.), Institute of Computer Science, FORTH, (ICS-FORTH), Greece.
· 2007-2011, Chair, Digital Patient Working Group, ERCIM.
· 1997 Jan.- Aug., Vice President of Research, Tom Sawyer Software, Berkeley, CA.

· 1994 – 2004, Director, Computer-Aided-Design and Visualization Laboratory, School of Engineering and Computer Science, The University of Texas at Dallas, Richardson, TX.
· Chairman, IEEE-Dallas Section, Circuits and Systems Society, 1991-92.
· 1985 May-Aug., Visiting Engineer/Scientist, Computational Algorithms Department, Computer Research Laboratory, Tektronix Laboratories, Beaverton, OR.

### Visiting Appointments and Consulting

· 2005-2015, Member of the Ethics committee, FORTH.
· Apr.-Aug. 2013, Visiting Professor, Computer Science, Brown University, RI, USA.
· Jan-Mar. 2013, Visiting Professor, Computer Science, University of Rome III, Italy.
· Sep.-Dec. 2012, Visiting Professor, Computer Science, University of Perugia, Italy.
· 2011, Member of the Evaluation Board, BioWin, Brussels, Belgium.
· 2005-2010, Member of the Extended Scientific Council, ICS-FORTH.
· Sep.-Dec. 1997, Visiting Associate Professor, Department of Computer Science, Brown University, Providence, RI.
· 1988-present, Consultant for several companies and universities.

## PROFESSIONAL RECOGNITION and SERVICE:

### Editorial Positions

· Founding Editor of the electronic *Journal of Graph Algorithms and Applications (JGAA),* accessible via the WWW at http://jgaa.info/, 1997-. Editor-in-chief of JGAA, 1997-2013.
· Member of the Editorial Board: *Journal of Discrete Mathematics* 2012-present.
· Member of the Editorial Board: *ISRN Combinatorics*, 2012-present.
· Member of the Editorial Board, *Journal of Healthcare Engineering*, 2010-present.
· Associate Editor, of the *IEEE* Transactions *on Computers*, 2000-2004.

### Selected Conference Committees

· Founding member, Steering Committee for the International Symposium on Graph Drawing, 1993-present.
· Technical Program Committee Member and Publication Chair, 4th Smart Cloud Networks & Systems Conference (SCNS 2018).
· Program Committee Member, 2017 International Symposium on Graph Drawing (GD 2017).
· Program Committee Member, 10th International Symposium on Visual Information Communication and Interaction (VINCI 2017).
· Program Committee Member, 2017 International Conference on Health Informatics, HEALTHINF 2017.
· Program Committee Member, 11th International Conference on Language and Automata Theory and Applications, LATA 2017.

· Program Committee Member, 2016 International Conference on Health Informatics, HEALTHINF 2016.
· Program Committee Member, 9th International Symposium on Visual Information Communication and Interaction (VINCI 2016).
· Program Committee Member, 3rd International Conference on Physiological Computing Systems (PhyCS 2016).
· Program Committee Member, 2015 International Conference on Health Informatics, HEALTHINF 2015.
· Program Committee Member, 2014 International Symposium on Graph Drawing (GD 2014).
· Program Committee Member, 2014 International Conference on Health Informatics, HEALTHINF 2014.
· Program Committee Member, 2013 International Conference on Health Informatics, HEALTHINF 2013.
· Program Committee Member, 2012 International Symposium on Graph Drawing (GD 2012).
· Program Committee Member, 2012 International Conference on Health Informatics, HEALTHINF 2012.
· Program Committee Member, 1st Conference on the Virtual Physiological Human, 2010 (VPH 2010).
· Program Committee Member, 8th French Combinatorial Conference, 2010.
· Program Committee Member, 2009 International Symposium on Graph Drawing (GD 2009).
· Program Committee Chair, 2008 International Symposium on Graph Drawing (GD 2008).
· Organizing Committee co-Chair, 2008 International Symposium on Graph Drawing (GD 2008).
· Program Committee Member, 2007 International Symposium on Graph Drawing (GD 2007).
· Program Committee Member, 2005 SOFSEM.
· Program Committee Member, 2003 International Symposium on Graph Drawing (GD 2003).
· Program Committee Member, 2003 European Symposium on Algorithms (ESA 2003).
· Program Committee Member, 2002 International Symposium on Graph Drawing (GD 2002).
· Program Committee Member, 2001 Workshop on Algorithms and Data Structures (WADS 2001).
· Member, Advisory Committee for IEEE International Parallel Processing Symposium and Symposium on Parallel and Distributed Processing, 1997-2000.
· Program Committee Member, 1999 International Symposium on Graph Drawing (GD 1999).
· Program Committee Member, 1998 International Symposium on Graph Drawing (GD 1998).
· Program Chairman, IEEE-Dallas Section, Circuits and Systems Society, 1992-1997.
· Member, Steering Committee for the IEEE Symposium on Parallel and Distributed Processing, 1991-1997.

· Program Committee Co-Chair, 1994 International Workshop on Graph Drawing (GD 1994).
· Program Committee Member, IEEE 1993 International Symposium on Circuits and Systems.
· Program Committee Member, 1990 IEEE Symposium on Parallel and Distributed Processing, Dallas, Texas.

## Academic Service

· Chair and supervisor of six Ph. D. committees. Member of numerous Ph. D. committees, both at UTD and UOC.
· Member of over forty hiring and/or promotion committees (Chair of over ten).
· Member of the Graduate Admissions & Financial Aid committee (also chair), Personnel Evaluation Committee, Colloquium committee (also chair), Curricullum committee (both at UTD and UOC).
· Member of the Program/Curricullum committee, Graduate Admissions and Financial Aid committee for theTelecommunication Engineering program. (UTD).
· Member of the University Research committee, and the Technical Council; member and Chair of several search committees, Undergraduate and Graduate Studies committees, Graduate Admissions committee, etc. (UOC).
· Supervisor of numerous M.Sc. theses and senior honors projects (UTD and UOC).

## Service to Other Universities

· External member of the evaluation and hiring committee, Department of Engineering, Univ. of Perugia, 2015.
· External examiner for all (seven) Ph.D. Theses in Computer Science and Engineering of 2014, Department of Engineering, Univ. of Rome III, Italy, 2014.
· Member of the external evaluation committee of the Department of Informatics and Automation, Univ. of Rome III, Italy, 2006.
· External examiner for "Large Scale Relational Information Visualization, Clustering, and Abstraction", by A. J. Quigley, Ph. D. thesis, University of Newcastle, Australia, 2001-02.
· External examiner for "Flow Techniques and Optimal Drawings of Graphs", by W. Didimo, Ph. D. thesis, University of Rome, Italy, 1999.
· External examiner and member of the committee for "Algorithms for the Design of VLSI Floorplans and Logic Modules", by Fung Yu Young, Ph. D. thesis, University of Texas at Austin, Texas, 1998-99.
· External examiner and member of the committee for "Orthogonal Graph Visualization: The Three-Phase Method with Applications", by T. C. Biedl, Ph. D. thesis, Rutgers University, New Jersey, 1996-97.
· External examiner and member of the committee for "Where to Draw the Line", by A. Garg, Ph. D. thesis, Brown University, Rhode Island, 1994-95.
· External examiner for "VLSI Routing Algorithms in Diagonal Models", by X. Song, Ph. D. thesis, University of Pisa, Italy 1991.
· Reviewer for many journals and conferences in Computer Science and Engineering, as well as several funding organizations.

## Other

· Young Engineer of the Year award, March 1993, IEEE-Dallas Section, for contributions to the area of VLSI layout.
· Outstanding Service award, March 1993, IEEE Circuits & Systems-Dallas Section.

## RESEARCH INTERESTS:

Dr. Tollis started his research by investigating algorithms for graph and network problems arising in computer aided design for VLSI layout. His results led him into research in Graph Drawing and Network Visualization. Currently he is working on problems in the area of Discovery, Design, Analysis, and Visualization of Large Networks, Graph Analytics, and Data Science. More specifically, his research deals with Biomedical Data and Networks, Information Visualization and Data Analytics, Social and Economic Networks, Telecommunication Networks, Computational Geometry, Computer Aided Design and Algorithm Engineering and Applications.

## RESEARCH GRANTS/PROJECTS:

1. Cloud Services for the Region of Crete, 2017 – 2018, 25,000 € (PI).
2. Papyros: Support and Technology Transfer for the Region of Crete – Information Networks, 4/3/2015 – 9/11/2016, 5,000 € (PI).
3. Stirizo: Support of Educational Networks in Crete, 15/12/2011 – 30/11/2015, 910,968 € (PI: 2014-2015).
4. Elearning: Development of a Platform and Electronic Courses for UoC, 1/9/2012 – 30/11/2015, 528,300.00€ (PI: 2014-2015).
5. Units of excellence for Free Software: Domain Tourism, 97,560.98 € 1/5/2014 – 30/11/2015 (PI).
6. Heron: Hardware Upgrade and Software Development for new Information Systems for UoC, 16/11/2015 – 30/11/2015, 276,750 € (PI: 2014-2015).
7. Stategra: User-driven Development of Statistical Methods for Experimental Planning, Data Gathering, and Integrative Analysis of Next Generation Sequencing, Proteomics and Metabolomics data, FORTH ICS budget: 702,520€ 01/10/2012 – 30-09-2015 (contribution: Analysis and visualization of biomedical data)
8. P-Medicine: From data sharing and integration via VPH models to personalized medicine, 01/02/2011-31/01/2015, FORTH-ICS budget: 1,005,247 €. (contribution: Analysis and visualization of biomedical data).
9. VPH Noe: Virtual Physiological Human Network of Excellence (VPH NoE), FORTH-ICS budget: 285,933, 01/06/2008-30/11/2012 (PI at FORTH).
10. REACTION: Remote Accessibility to Diabetes Management and Therapy in Operational Healthcare Networks, 01/03/2010-28/02/2014, FORTH-ICS budget: 1,030,450 € (contribution: Analysis and visualization of biomedical data).
11. Contra Cancrum: Clinically Oriented Translational Cancer Multilevel Modelling, FORTH ICS budget: 651,920 €, 01/08/2008-31/07/2011. (contribution: Analysis and visualization of biomedical data)
12. EHR-IMPLEMENT: National policies for Implementation of Electronic Health Record (EHR) in the European area: social and oranizational issues, FORTH

ICSbudget: 123,412 € 01/05/2007-30/04/2010. (Contribution: Analysis of EHR data.)

13. ACGT: Advancing Clinico-Genomic Clinical Trials on Cancer: Open Grid Services for Improving Medical Knowledge Discovery, FORTH-ICS budget: 1,276,200 €, 01/02/2006-31/01/2010. (contribution: Analysis and visualization of biomedical data)
14. Rural Wings, FORTH-ICS budget: 400,000 €, 01/01/2006-31/12/2009 (PI at FORTH).
15. HEARTFAID: A Knowledge based platform of services for supporting medical - clinical management of heart failure within elderly population, FORTH-ICS budget: 330,416 €, 01/02/2006-31/01/2009. (contribution: Analysis and visualization of medical data.)
16. D.Y.P.E. Western Greece: Integrated Health Information System for the Regional Health System of Western Greece, FORTH-ICS budget: 493,850€, 28/12/2005-30/06/2008. (exec. Manager, as head of BMI lab.)
17. D.Y.P.E. 3rd Regional Health System of Attica: Integrated Health Information System and ICT Services for the 3rd Regional Health System of Attica, FORTH-ICS budget: 724,376€, 12/10/2005-11/04/2008. (exec. Manager, as head of BMI lab.)
18. D.Y.P.E 2nd Regional Health System of South Aegean: Integrated Health Information System for the 2nd Regional Health System of South Aegean, FORTH-ICS budget: 273,700€, 02/05/2006-02/11/2008. (exec. Manager, as head of BMI lab.)
19. 1st Regional Health System of Attica: Integrated Health Information System and ICT Services for the 1st Regional Health System of Attica, FORTH-ICS budget: 460,451€, 03/11/2006-02/11/2008. (exec. Manager, as head of BMI lab.)
20. Student Entrepreneurship Program II, University of Crete, € 266,000, 01/09/2005-30/09/2008 (PI).
21. SYMBIOmatics: Synergies in Medical Informatics and Bioinformatics, FORTH-ICS budget: 93,000€, 01/05/2005-30/04/2007 (coordinator at FORTH).
22. INFOBIOMED: Structuring European Biomedical Informatics to Support Individualized Healthcare FP6-2002-IST-1/European Union, FORTH-ICS budget: 528,000€, 01/01/2004-31/12/2006. (contribution: Analysis & visualization of biomedical data)
23. PROGNOCHIP: Development and Establishment of DNA Microarray Technology in Greece: Identification and Validation of Classification and Prognosis Molecular Markers for Breast Cancer, GSRT/Greece, € 587,000, 01/10/2003-31/09/2006. (contribution: Analysis & visualization of biomedical data)
24. Student Entrepreneurship Program, University of Crete, € 202,526, 01/09/2003-30/08/2005 (PI)
25. "Graph Drawing and Visualization", Texas Advanced Research Program, Support period January 1998 - August 2000; $118,940. (PI)
26. "Industrial Research Agreement", Compaq Computer Corp., Support period June 1999 -May 2000; $191,136. (PI with R. Mili)
27. "Visualizing Software Requirements", Sandia National Labs./ DOE, Support period November 1998 -August 1999; $50,446. (PI with R. Mili)

28. "Graph Visualization Technology", National Institute of Standards and Technology, Advanced Technology Program, Support period October 1995-September 1998; $2,000,000. (CoPI with B. Madden and A. Sen)
29. "Telecommunication Software", Tandem Telecom Inc., Support period October 1996 -May 1997; $20,856. (PI)
30. "Telecommunications Software Support II", Electrospace Systems Inc., Support period January 1996 - September 1996; $26,925. (PI)
31. "Telecommunications Software Support", Electrospace Systems Inc., Support period February 1995 -1996; $126,771. (PI)
32. "Software Engineering Support", Electrospace Systems Inc., Support period October 1994 -1995; $64,684. (PI)
33. "1994 International Workshop on Graph Drawing", DIMACS center, October 1994; $15,000. (CoPI with R. Tamassia)
34. "Design of Optimal Survivable Networks", Alcatel Network Systems Inc., Support period February 1993 - February 1994; $99,997. (CoPI with I. H. Sudborough)
35. "Advanced Network Topologies for Network Survivability", Alcatel Network Systems Inc., Support period June 1992 -December 1992; $270,000. (CoPI with G. R. Dattatreya, E. Dekel, J. Fonseka, K. Kiasaleh, I. H. Sudborough and S. Venkatesan)
36. "Optimization of Message Traffic in Bitnet", Corporation for Research and Educational Networking, EDUCOM, Support period June 1991 – August 1992; $17,017. (PI)
37. "VLSI and Parallel Networks", Texas Advanced Research Program, Support Period: June 1988 -Dec. 1990; $184,721. (CoPI with I. H. Sudborough)
38. "UTD Research Initiation Grant", August 1-31 1988; $ 4,556. (PI)

## SOFTWARE LICENSES AND PATENTS:

1. "Labeling Graphical Features of Drawings", U. S. Patent Number 6,091,424, July 2000. (with B. Madden and K. Kakoulis)
2. "Software for the Automatic Labeling of Graph Drawings," licensed by Tom Sawyer Software, Berkeley, CA, for commercial distribution, 2000.
3. "An Object-Oriented Library of Components for the Visualization of Graphs", licensed by Vismagic Technologies, Plano Texas, for commercial distribution, 1999.
4. "Net Solver: A Tool for designing Self-Healing Ring Architectures", licensed by TELSOFT Technologies, Dallas, Texas, for commercial distribution, 1996.
5. "Tools for Solving the Edge Labeling Problem", licensed by Tom Sawyer Software, Berkeley, CA, for commercial distribution, 1996.

## TEACHING:

Dr. Tollis has taught courses in: Data Structures and Algorithms, Advanced Data Structures and Algorithms, Design and Analysis of Computer Algorithms, Computational Geometry, Graph Algorithms, Bioinformatics Algorithms, Advanced Topics in Biomedical Informatics, Complex Network Dynamics, Telecommunication Networks, Algorithms for the Design and Analysis of Telecommunication Networks, Introduction to the Design of Integrated Circuits, Advanced Design of Integrated Circuits, Recent Advances in VLSI, Graph Drawing and Software Visualization,

Special Topics: Tools for VLSI Layout and Graph Drawing, and Special Topics: Geometric Graph Representations and VLSI Layout.

He was instrumental in defining and designing the M. S. degree - Networks and Telecommunications Track, in the Department of Computer Science at UTD. As a member of the program committee for the Telecommunication Engineering program at UTD (1998-2000), he participated in the design of the B. S. and M. S. degrees in Telecommunication Engineering. The program received ABET accreditation.

In the newly founded M.Sc. direction of Biomedical Informatics (at UOC), he developed new courses in Biomedical Informatics and Bioinformatics Algorithms; additionally, he developed courses in Information Visualization and Graph Algorithms for the Department of Computer Science at UOC.

## PH. D. STUDENTS SUPERVISED:

· Cheng-Hsi Jesse Chen, Ph. D. 1993. Title of dissertation: "Area Optimization of Floorplan Designs." (UTD)
· Achilleas Papakostas, Ph. D. 1996. Title of dissertation: "Information Visualization: Orthogonal Drawings of Graphs." (UTD)
· Konstantinos Kakoulis, Ph. D. 1998. Title of dissertation: "Algorithms for Automatic Placement of Labels in Drawings and Maps." (UTD)
· Janet Six, Ph. D. 2000. Title of dissertation: "Vistool: A Tool for Visualizing Graphs." (UTD)
· Vasilis Tsiaras, Ph. D. 2009. Title of dissertation: "Algorithms for the Analysis and Visualization of Biomedical Networks." (UOC)
· Eleftheria Tzamali, Ph.D. 2011. Title of dissertation: "Computational Study of the metabolic Diversity of the Bacterium Escherichia Coli – From single cells to cell communities and efficient systems." (UOC)

## PUBLICATIONS:

Dr. Tollis has published 8 books, 4 book chapters, over 75 journal papers and 103 conference papers. His work has received more than 8500 citations and h-index 39.

### Books (8):

### Authored:

1. G. Di Battista, P. Eades, R. Tamassia, and I. G. Tollis. *Graph Drawing: Algorithms for the Visualization of Graphs,* Prentice Hall, 1999.

### Edited:

2. I. G. Tollis and M. Patrignani, editors. *Graph Drawing, 16th International Symposium, GD 2008, Heraklion, Crete, Greece, September 21-24, 2008.*

*Revised Papers*, Vol. 5417 of *Lecture Notes in Computer Science*. Springer 2009.

3. G. Liotta, R. Tamassia and I. G. Tollis, editors. *Graph Algorithms and Applications 5*, World Scientific Publishing, 2006.
4. G. Liotta, R. Tamassia and I. G. Tollis, editors. *Graph Algorithms and Applications 4*, World Scientific Publishing, 2006.
5. G. Liotta, R. Tamassia and I. G. Tollis, editors. *Graph Algorithms and Applications 3*, World Scientific Publishing, 2004.
6. G. Liotta, R. Tamassia and I. G. Tollis, editors. *Graph Algorithms and Applications 2*, World Scientific Publishing, 2004.
7. R. Tamassia and I. G. Tollis, editors. *Graph Algorithms and Applications 1*, World Scientific Publishing, 2002.
8. R. Tamassia and I. G. Tollis, editors. *Graph Drawing, DIMACS International Workshop, GD 1994, Princeton, New Jersey, USA, October 10-12, 1994, Proceedings*, volume 894 of *Lecture Notes in Computer Science.* Springer, 1995.

## Book Chapters:

9. K. Kakoulis and I.G. Tollis: "Automatic Placement of Labels in Maps and Drawings," *Handbook on Approximation Algorithms and Metaheuristics* Teofilo Gonzalez, Editor, (41 pages, to appear).
10. K. Kakoulis and I.G. Tollis: "Graph Drawing," in *Computing Handbook, Third Edition: Computer Science and Software Engineering (Volume I)*. Teofilo Gonzalez, Editor, pp. 14: 1-21, CRC Press 2014, ISBN 978-1-43-989852-9.
11. J.M. Six and I.G. Tollis: "Circular Drawing Algorithms," in *Handbook of Drawing and Visualization*, Roberto Tamassia, Editor, CRC Press, 2013, pp. 285-315.
12. K. Kakoulis and I.G. Tollis: "Labeling Algorithms," in *Handbook of Drawing and Visualization*, Roberto Tamassia, Editor, CRC Press, 2013, pp. 489-515.

## Journal Papers (75+, incl. seven singly authored papers, in bold):

13. Walter Didimo, Evgenios Kornaropoulos, Fabrizio Montecchiani, and Ioannis G. Tollis (2017): A Visualization Framework and User Studies for Overloaded Orthogonal Drawings. *Computer Graphics Forum Journal*, doi:10.1111/cgf. 13266, pp. 1-13.
14. Patrizio Angelini, Giordano Da Lozzo, Marco Di Bartolomeo, Valentino Di Donato, Maurizio Patrignani, Vincenzo Roselli, Ioannis G. Tollis: Algorithms and Bounds for L-Drawings of Directed Graphs. International Journal of Foundations of Computer Science (IJFCS). 2017. (Accepted).
15. Carla Binucci, Markus Chimani, Walter Didimo, Martin Gronemann, Karsten Klein, Fabrizio Montecchiani, Ioannis G. Tollis: Algorithms and Characterizations for 2-Layer Fan-planarity: From Caterpillar to Stegosaurus, *Journal of Graph Algorithms and Applications*, 21(1): 81-102 (2017) (special issue of invited best papers from "*Graph Drawing 2015*").

16. Konstantinos Kakoulis, Ioannis G. Tollis: Modifying Orthogonal Drawings for Label Placement, *Algorithms Journal*, Vol. 9, no. 22, pp. 1-19, 2016.
17. Evgenios M. Kornaropoulos and Ioannis G. Tollis: Algorithms and Bounds for Overloaded Orthogonal Drawings, *Journal of Graph Algorithms and Applications*, Vol. 20, no. 2, pp. 217-246, 2016.
18. P. Angelini, C. Binucci, G. Da Lozzo, W. Didimo, L. Grilli, F. Montecchiani, M. Patrignani, I. G. Tollis: Algorithms and Bounds for Drawing Non-planar Graphs with Crossing-free Subgraphs, *Computational Geometry: theory and applications (CGTA)* 50: pp. 34-48 (2015).
19. Carla Binucci, Emilio Di Giacomo, Walter Didimo, Fabrizio Montecchiani, Maurizio Patrignani, Antonios Symvonis, Ioannis G Tollis: Fan-Planarity: Properties and Complexity, *Theoretical Computer Science*, 589: pp. 76-86 (2015).
20. Emilio Di Giacomo, Walter Didimo, Giuseppe Liotta, Fabrizio Montecchiani, Ioannis G. Tollis: Techniques for Edge Stratification of Complex Graph Drawings. *Journal of Visual Languages and Computing* 25(4): pp. 533-543, 2014.
21. Vangelis Sakkalis, Theofanis Oikonomou, Vassilis Tsiaras, Ioannis G. Tollis: Graph-theoretic Indices of Evaluating Brain Network Synchronization: Application in an Alcoholism Paradigm, *Neuromethods*, DOI 10.1007/7657_ 2013_62, pp. 1-11, 2014.
22. P. Hunter, Chapman T, Coveney PV, de Bono B, Diaz V, Fenner J, Frangi AF, Harris P, Hose R, Kohl P, Lawford P, McCormack K, Mendes M, Omholt S, Quarteroni A, Shublaq N, Skår J, Stroetmann K, Tegner J, Thomas SR, Tollis I, Tsamardinos I, van Beek JHGM, Viceconti M. A vision and strategy for the VPH: 2012 update. *Interface Focus*, 3, 20130004, pp. 1-10, 2013. http://dx.doi.org/10.1098/rsfs.2013.0004.
23. V. Tsiaras and I. G. Tollis, "DAGmaps and ε-Visibility Representations of DAGs: Algorithms and Characterizations," *Journal of Graph Algorithms and Applications*, Vol. 16, no. 2, pp. 359-380, 2012.
24. Eleftheria Tzamali, Panayiota Poirazi, Ioannis G Tollis and Martin Reczko, "A computational exploration of bacterial metabolic diversity identifying metabolic interactions and growth-efficient strain communities," *BMC Systems Biology* 2011, 5:167, pp. 1-15.
25. Eleni G. Christodoulou, Vangelis Sakkalis, Vassilis Tsiaras, and Ioannis G. Tollis, "BrainNetVis: An Open-Access Tool to Effectively Quantify and Visualize Brain Networks," (Invited paper in the Special Issue on: Academic Software Applications for Electromagnetic Brain Mapping Using MEG and EEG), *Computational Intelligence and Neuroscience*, Volume 2011 (2011), Article ID 747290, 12 pages, doi:10.1155/2011/747290.
26. Peter Hunter, Peter V. Coveney, Bernard de Bono, Vanessa Diaz, John Fenner, Alejandro F. Frangi, Peter Harris, Rod Hose, Peter Kohl, Pat Lawford, Keith McCormack, Miriam Mendes, Stig Omholt, Alfio Quarteroni, John Skår, Jesper Tegner, S. Randall Thomas, Ioannis Tollis, Ioannis Tsamardinos, Johannes H. G. M. van Beek and Marco Viceconti, "A vision and strategy for the virtual physiological human in 2010 and beyond", *Phil. Trans. R. Soc. A* 2010 368, 2595-2614.
27. Charalampos Papamanthou and Ioannis G. Tollis, "Applications of Parameterized st-Orientations", *Journal of Graph Algorithms and Applications*, Vol. 14, no. 2, pp. 337-365, 2010.

28. Sofia Triantafillou, Ioannis Tsamardinos, Ioannis Tollis, “Learning Causal Structure from Overlapping Variable Sets”, *Journal of Machine Learning Research* - Proceedings Track 9: pp. 860-867 (2010).
29. V. Sakkalis, V. Tsiaras, and I. Tollis, “Graph Analysis and Visualization for Brain Function Characterization using EEG Data,” *Journal of Healthcare Engineering*, Vol. 1, No. 3, pp. 435–460, 2010.
30. Ioannis G. Tollis and Maurizio Patrignani, “Guest Editor's Foreword: Special Issue on Selected Papers from the Sixteenth International Symposium on Graph Drawing, GD 2008,” *Journal of Graph Algorithms and Applications*, vol. 14, no. 1, pp. 3-4 (2010).
31. E. Tzamali, P. Poirazi, I. G. Tollis and M. Reczko, “Computational Identification of Bacterial Communities,” *International Journal of Biological and Life Sciences*, vol.1 no. 4, pp. 185-191, 2009. (also in the Proc. of *World Academy of Science, Engineering and Technology*, pp. 269-275, 2009).
32. V. Tsiaras, S. Triantafilou, and I. G. Tollis, “DAGmaps: Space Filling Visualization of Directed Acyclic Graphs,” *Journal of Graph Algorithms and Applications*, vol. 13, no. 3, pp. 319-347, 2009.
33. C. Papamanthou and I. G. Tollis, “Algorithms for computing a parameterized st-orientation”. *Theoretical Computer Science* 408(2-3): 224-240, 2008.
34. D. Rebholz-Schuhman, G. Cameron, D. Clark, E. M. van Mulligen, J. L. Coatrieux, E. del Hoyo-Barbolla, F. Martín-Sánchez, L. Milanesi, I. Porro, F. Beltrame, I. G. Tollis and J. van der Lei, "SYMBIOmatics: Synergies in Medical Informatics and Bioinformatics - exploring current scientific literature for emerging topics", *BMC Bioinformatics*, 8(S-1), 2007.
35. J.Y. Bansard, D. Rebholz-Schuhmann, G. Cameron, D. Clark, E. M. van Mulligen, F. Beltrame, E. del Hoyo-Barbolla, F. Martín-Sánchez, L. Milanesi, I. G. Tollis, J. van der Lei and J. L. Coatrieux, “Medical Informatics and Bioinformatics: A Bibliometric Study", *IEEE Transactions on Information Technology in Biomedicine*, 11(3):237-243, 2007.
36. U. Dogrusöz, K. G. Kakoulis, B. Madden and I. G. Tollis, "On Labeling in graph visualization", *Special Issue on Graph Theory and Applications, Information Sciences*, 177(12):2459-2472, 2007.
37. K.G. Kakoulis and I.G. Tollis, "Algorithms for the Multiple Label Placement Problem", *Computational* Geometry*: Theory and Applications*, 35(3):143-161, 2006.
38. J.M. Six and I.G. Tollis, "A Framework and algorithms for Circular Drawings of Graphs". *Journal of Discrete Algorithms*, 4(1):25-50, 2006.
39. J. M. Six and I. G. Tollis. "Effective Graph Visualization Via Node Grouping". *Software Visualization: from Theory to Practice*, 734:413-437, 2003.
40. G. Liotta and I. G. Tollis. “Guest Editors' Foreword”. *Journal of Graph Algorithms and Appications*, 7(2):101-103, 2003.
41. R. Castelló, R. Mili and I. G. Tollis. "Visualizing Statecharts with ViSta". invited and refereed book chapter in *Mathematics and Visualization-Graph Drawing Software*, P. Mutzel and M. Juenger, editors, Springer-Verlag, pages 299-320, 2003.
42. K. G. Kakoulis and I. G. Tollis. "A Unified Approach to Automatic Label Placement", *International Journal of Computational Geometry and Applications*, 13(1):23-60, 2003.

43. R. Castelló, R. Mili and I. G. Tollis. "A Framework for the Static and Interactive Visualization of Statecharts". *Journal of Graph Algorithms and Applications*, 6(3):313-351, 2002.
44. R. Castelló, R. Mili and I. G. Tollis. "ViSta: A tool Suite for the Visualization of Behavioral Requirements". *The Journal of Systems and Software*, 62(3):141-159, 2002.
45. R. Castelló, R. Mili and I. G. Tollis. "Automatic Layout of Statecharts". *Software Practice and Experience*, 32(1):25-55, 2002.
46. K. G. Kakoulis and I. G. Tollis. "On the Complexity of the Edge Label Placement Problem". *Computational Geometry: Theory and Applications*, 18(1):1-17, 2001.
47. T. C. Biedl, B. Madden and I. G. Tollis. "The Three-Phase Method: A Unified Approach to Orthogonal Graph Drawing". *International Journal of Computational Geometry and Applications*, 10(6):553-580, 2000.
48. R. Tamassia, I. G. Tollis and J. S. Vitter. "A Parallel Algorithm for Planar Orthogonal Grid Drawings". *Parallel Processing Letters*, 10(1):141-150, 2000.
49. J. M. Six, K. G. Kakoulis and I. G. Tollis. "Techniques for the Refinement of Orthogonal Graph Drawings". *Journal of Graph Algorithms and Applications*, 4(3):75-103, 2000.
50. J. M. Six and I. G. Tollis. "Circular Drawings of Telecommunication Networks". In *Advances in Informatics*, Selected papers from HCI '99, D. I. Fotiadis and S. D. Nikolopoulos, Eds., *World Scientific*, pages 313-323, 2000.
51. A. Papakostas and I. G. Tollis. "Efficient Orthogonal Drawings of High Degree Graphs". *Algorithmica*, 26(1):100-125, 2000.
52. A. Papakostas and I. G. Tollis. "Algorithms for Incremental Orthogonal Graph Drawing in Three Dimensions". *Journal of Graph Algorithms and Applications*, 3(4):81-115, 1999.
53. A. Papakostas and I. G. Tollis. "Interactive Orthogonal Graph Drawing". *IEEE Transactions on Computers*, 47(11):1297-1309, 1998.
54. A. Papakostas and I. G. Tollis. "Algorithms for Area-Efficient Orthogonal Drawings", *Computational Geometry: Theory and Applications*, 9(1-2):83-110, 1998.
55. G. Kant, G. Liotta, R. Tamassia and I. G. Tollis. "Area requirement of visibility representations of trees". *Information Processing Letters*, 62(2):81-88, 1997.
56. **I. G. Tollis. "Graph Drawing and Information Visualization", *ACM Computing Surveys*, 28(4es):19, 1996.**
57. P. Agarwal, N. Amato, D. Z. Chen, D. Dobkin, R. L. S. Drysdale, S. Fortune, M. T. Goodrich, J. Hershberger, F. Preparata, J. R. Sack, S. Suri, I. G. Tollis, J. S. Vitter and S. Whitesides. "Strategic Directions in Computational Geometry, Working Group Report". *ACM Computing Surveys*, 28**(**4), 1996.
58. S. R. Danda, X. Liu, S. Madhwapathy, A. Panyam, N. A. Sherwani and I. G. Tollis. "Optimal Algorithms for Planar Over-The-Cell Routing Problems", *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 15(11):1365-1378, 1996.
59. C. H. Chen and I. G. Tollis. "An $\Omega(k^2)$ Lower Bound for Area Optimization of Spiral Floorplans". *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 15(3):358-360, 1996.
60. R. F. Cohen, G. Di Battista, R. Tamassia and I. G. Tollis. "Dynamic Graph Drawing: Trees, Series-Parallel Digraphs, and Planar st-Digraphs". *SIAM Journal on Computing*, 24(5):970-1001, 1995.

61. F. T. Leighton, F. Makedon and I. G. Tollis. "A 2*n*-2 Step Algorithm for Routing in an *n*x*n* Array with Constant-Size Queues". *Algorithmica,* 14(4):291-304, 1995.
62. P. Bertolazzi, R. F. Cohen, G. Di Battista, R. Tamassia and I. G. Tollis. "How to Draw a Series-Parallel Digraph". *International Journal of Computational Geometry & Applications,* 4(4):385-402, 1994.
63. G. Di Battista, P. Eades, R. Tamassia and I. G. Tollis. "Algorithms for Drawing Graphs: an Annotated Bibliography". *Computational Geometry: Theory and Applications,* 4:235-282, 1994.
64. C. H. Chen and I. G. Tollis. "Area Optimization of Slicing Floorplans in Parallel". *VLSI Design, An International Journal of Custom-Chip Design, Simulation and Testing,* 2(2):143-156, 1994.
65. M. H. Heydari, I. G. Tollis and C. Xia. "Algorithms and Bounds for Layer Assignment of MCM Routing". *IEEE Transactions on Very Large Scale Integration (VLSI) Systems,* 2(2):265-270, 1994.
66. C. H. Chen and I. G. Tollis. "Area Optimization of Spiral Floorplans". *Journal of Circuits, Systems and Computers,* 3(4):833-857, 1993.
67. S. Tragoudas and I. G. Tollis. "River Routing and Density Minimization for Channels with Interchangeable Terminals". *Integration, the VLSI journal,* 15:151-178, 1993.
68. R. Tamassia and I. G. Tollis. "Dynamic Reachability in Planar Digraphs with one Source and one Sink". *Theoretical Computer Science,* 119(2):331-343, 1993.
69. I. G. Tollis. and S.Q. Zheng "Ensuring Compact VLSI Layout by Adjusting Channel Placement", *Journal of Computer and Software Engineering,* 1(1):47-61, 1993.
70. D. A. Linebarger, I. H. Sudborough and I. G. Tollis. "Difference Bases and Sparse Sensor Arrays". *IEEE Transactions on Information Theory,* 39(2):716-721, 1993.
71. I. G. Tollis and A. V. Vaguine. "Improved Techniques for Wiring and Stretching Layouts". *Journal of Circuits, Systems and Computers,* 2(1):39-58, 1992.
72. G. Di Battista, R. Tamassia and I. G. Tollis. "Area Requirement and Symmetry Display of Planar Upward Drawings". *Discrete & Computational Geometry,* 7(4):381-401, 1992.
73. G. Di Battista, R. Tamassia and I. G. Tollis. "Constrained Visibility Representations of Graphs". *Information Processing Letters,* 41(1):1-7, 1992.
74. **I. G. Tollis. "Wiring in Uniform Grids and Two-Colorable Maps". *Integration, the VLSI journal,* 12(2):189-210, 1991.**
75. **I. G. Tollis. "A New Approach to Wiring Layouts". *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems,* 10(11):1392-1400, 1991.**
76. R. Tamassia, I. G. Tollis and J. S. Vitter. "Lower Bounds for Planar Orthogonal Drawings of Graphs". *Information Processing Letters,* 39(1):35-40, 1991.
77. R. Tamassia and I. G. Tollis. "Representations of Graphs on a Cylinder". *SIAM Journal on Discrete Mathematics,* 4(1):139-149, 1991.
78. **I. G. Tollis. "Wiring Layouts in the Tri-Hexagonal Grid". *International Journal of Computer Mathematics,* 37:161-171, 1990.**
79. S. W. Hornick, S. R. Maddila, R. P. Mücke, H. Rosenberger, S. Skena and I. G. Tollis. "Searching on a Tape". *IEEE Transactions on Computers* 39(10): 1265-1272, 1990.

80. L. Gewali, S. Ntafos and I. G. Tollis. "Path Planning in the Presence of Vertical Obstacles". *IEEE Transactions on Robotics and Automation* 6(3): 331-341, 1990.
81. **I. G. Tollis. "On Finding a Minimum Vertex Cover of a Series-Parallel Graph". *Applied Mathematics Letters* 2(3):305-309, 1989.**
82. R. Tammasia and I. G. Tollis. "Planar Grid Embedding in Linear Time". *IEEE Transactions on Circuits and Systems,* 36(9):1230-1234, 1989.
83. B. Krishnamurthy and I. G. Tollis. "Improved Techniques for Estimating Signal Probabilities". *IEEE Transactions on Computers,* 38(7):1041-1045, 1989.
84. **I. G. Tollis. "On Minimizing the Total-Density of a Channel". *Congressus Numeratium,* 69:103-112, Utilitas Mathematica Publishing, Winnipeg, 1989.**
85. **I. G. Tollis. "On Internal-External Layouts". *IEEE Transactions on Circuits and Systems,* 36(1):154-156, 1989.**
86. R. Tamassia and I. G. Tollis. "A Unified Approach to Visibility Representations of Planar Graphs". *Discrete & Computational Geometry,* 1: 321-341, 1986.
87. B. D. McKay and I. G. Tollis. "A Resource Location Problem on Graphs". *Congressus Numeratium,* 40:223-234, Utilitas Mathematica Publishing, Winnipeg, 1983.
88. A. D. Koussis, M. A. Saenz and I. G. Tollis. "Pollution Routing in Streams". *ASCE Journal of Hydraulic Engineering,* 109(12):1636-1651, 1983.

## Refereed Conference Papers (100+):

89. Steven Chaplick, Markus Chimani, Sabine Cornelsen, Giordano Da Lozzo, Martin Nöllenburg, Maurizio Patrignani, Ioannis G. Tollis, Alexander Wolff: Planar L-Drawings of Directed Graphs, In *2017 International Symposium on Graph Drawing, (GD 2017)*, vol., Lecture Notes in Computer Science, Springer-Verlag, (to appear).
90. Michael A. Bekos, Felice De Luca, Walter Didimo, Tamara Mchedlidze, Martin Nöllenburg, Antonios Symvonis, Ioannis G. Tollis: Planar Drawings of Fixed-Mobile Bigraphs, In *2017 International Symposium on Graph Drawing, (GD 2017)*, vol., Lecture Notes in Computer Science, Springer-Verlag, (to appear).
91. Ioannis G. Tollis, Konstantinos G. Kakoulis: Algorithms for Visualizing Phylogenetic Networks. In *2016 International Symposium on Graph Drawing, (GD 2016)*, Lecture Notes in Computer Science, vol. 9801, Springer-Verlag, pp. 183-195.
92. Patrizio Angelini, Giordano Da Lozzo, Marco Di Bartolomeo,Valentino Di Donato, Maurizio Patrignani, Vincenzo Roselli, Ioannis G. Tollis: L-Drawings of Directed Graphs. In *42nd International Conference on Current Trends in Theory and Practice of Computer Science, (SOFSEM 2016)*, vol. 9587 Lecture Notes in Computer Science, Springer 2016, ISBN 978-3-662-49191-1, **Best Paper Award**, pp. 134-147.
93. Carla Binucci, Markus Chimani, Walter Didimo, Martin Gronemann, Karsten Klein, Jan Kratochvil, Fabrizio Montecchiani, Ioannis G. Tollis: 2-Layer Fan-

planarity: From Caterpillar to Stegosaurus. In *2015 International Symposium on Graph Drawing, (GD 2015)*, vol. 9411, Lecture Notes in Computer Science, Springer-Verlag, pp. 281-294.

94. Carla Binucci, Emilio Di Giacomo, Walter Didimo, Fabrizio Montecchiani, Maurizio Patrignani, Ioannis G. Tollis: Fan-planar Graphs: Combinatorial Properties and Complexity Results. In *2014 International Symposium on Graph Drawing, (GD 2014)*, vol. 8871, Lecture Notes in Computer Science, Springer-Verlag, pp. 186-197.
95. Walter Didimo, Fabrizio Montecchiani, E. Pallas, Ioannis G. Tollis: A User Study on the Visualization of Directed Graphs. In *2014 International Symposium on Graph Drawing, (GD 2014)*, vol. 8871, Lecture Notes in Computer Science, Springer-Verlag, pp. 507-508.
96. Alessio Arleo, Felice De Luca, Giuseppe Liotta, Fabrizio Montecchiani, Ioannis G. Tollis: GraphBook: Making Graph Paging Real. In *2014 International Symposium on Graph Drawing, (GD 2014)*, vol. 8871, Lecture Notes in Computer Science, Springer-Verlag, pp. 509-5010.
97. Walter Didimo, Fabrizio Montecchiani, E. Pallas, Ioannis G. Tollis: How to Visualize Directed Graphs: a User Study. In *2014 International Conference on Information, Intelligence, Systems and Applications (IISA 2014),* pp. 152 – 157, July 2014, (doi: 10.1109/IISA.2014.6878777).
98. Evaggelia Maniadi, Ioannis G. Tollis: Analysis and Visualization of Metabolic Pathways and Networks: A Hypergraph Approach. In *2014 IEEE-EMBS International Conference on Biomedical and Heath Informatics,* (BHI 2014): pp. 109-112, June 2014 (doi: 10.1109/BHI.2014.6864316).
99. Patrizio Angelini, Carla Binucci, Giordano Da Lozzo, Walter Didimo, Luca Grilli, Fabrizio Montecchiani, Maurizio Patrignani, Ioannis G. Tollis: Drawing Non-Planar Graphs with Crossing-Free Subgraphs. In *2013 International Symposium on Graph Drawing, (GD 2013)*, vol. 8242, Lecture Notes in Computer Science, Springer-Verlag, pp. 292-303.
100. Emilio Di Giacomo, Walter Didimo, Giuseppe Liotta, Fabrizio Montecchiani, Ioannis G. Tollis: Exploring Complex Drawings via Edge Stratification. In *2013 International Symposium on Graph Drawing, (GD 2013)*, vol. 8242, Lecture Notes in Computer Science, Springer-Verlag, pp. 304-315.
101. Evaggelia Maniadi, Ioannis G. Tollis: VisBolic: A Tool for the Analysis and Visualization of Metabolic Pathways and Networks *7th Conference of the Hellenic Society for Computational Biology and Bioinformatics (HSCBB 2012*), October 2012.
102. Evgenios M. Kornaropoulos, Ioannis G. Tollis: DAGView: An Approach for Visualizing Large Graphs. In *2012 International Symposium on Graph Drawing, (GD 2012)*, vol. 7704, Lecture Notes in Computer Science, Springer-Verlag, pp. 499-510.
103. Evgenios M. Kornaropoulos, Ioannis G. Tollis: Weak Dominance Drawings for Directed Acyclic Graphs. In *2012 International Symposium on Graph Drawing, (GD 2012)*, vol. 7704, Lecture Notes in Computer Science, Springer-Verlag, pp. 559-560.
104. Evgenios M. Kornaropoulos, Ioannis G. Tollis: Overloaded Orthogonal Drawings. In *2011 International Symposium on Graph Drawing, (GD 2011)*, vol. 7034 , Lecture Notes in Computer Science, Springer-Verlag, 2011: 242-253.

105. K. G. Kakoulis and I. G. Tollis: Placing Edge Labels by Modifying an Orthogonal Graph Drawing, In *2010 International Symposium on Graph Drawing, (GD 2010)*, Volume 6502, Lecture Notes in Computer Science, pp. 395–396, Springer-Verlag, 2011.
106. *V.* Sakkalis, V. Tsiaras, M. Zervakis, and I. Tollis: "EEG Biomarker identification using Graph Theoretic concepts", *International Conference on Biomedical Data & Knowledge Mining: Towards Biomarker Discovery*, Chania, Greece, July 7-9, 2010.
107. Sofia Triantafillou, Ioannis Tsamardinos, Ioannis Tollis: "Learning Causal Structure from Overlapping Variable Sets", in Y.W. Teh and M. Titterington (Eds.), *Proceedings of The Thirteenth International Conference on Artificial Intelligence and Statistics (AISTATS) 2010*, JMLR: W&CP 9, pp 860-867, 2010, Chia Laguna, Sardinia, Italy, May 13-15, 2010 (same as pub. 13 above).
108. V. Tsiaras and I. G. Tollis: "DAGmaps and ε-Visibility Representations of DAGs". In *2009 International Symposium on Graph Drawing, (GD 2009)*, Lecture Notes in Computer Science, Volume 5849/2010, pages 357-368, 2010.
109. V. Tsiaras and I. G. Tollis: "DAGmaps and Dominance Relationships". In *2009 International Symposium on Graph Drawing, (GD 2009)*, Lecture Notes in Computer Science Volume 5849/2010, pages 424-425, 2010.
110. V. Tsiaras, D. Andreou, I. G. Tollis: "BrainNetVis: Analysis and Visualization of Brain Functional Networks". In *31th Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2009*), *Minnesota, USA*, 2009:2911-4.
111. V. Tsiaras, I. G. Tollis and V. Sakkalis: "Brain Network Analyzer". In *2008 International Symposium on Graph Drawing, (GD 2008)*, Lecture Notes in Computer Science 5417, pages 451-452, 2009.
112. V. Tsiaras and I. G. Tollis: "DAGmap View". In *2008 International Symposium on Graph Drawing, (GD 2008)*, Lecture Notes in Computer Science 5417, pages 449-450, 2009.
113. F. Chiarugi, D. Emmanouilidou, I. Tsamardinos and I.G. Tollis: "Morphological classification of heartbeats using similarity features and a two-phase decision tree". In *2008 35th Annual Computers in Cardiology Conference, Bologna Italy*, pages 849-852, 2008.
114. V. Tsiaras, S. Triantafilou and I.G. Tollis, "Treemaps for Directed Acyclic Graphs". In *International Symposium on Graph Drawing, (GD 2007)*, Lecture Notes in Computer Science 4875, pages 377-388, 2008.
115. F. Chiarugi, V. Sakkalis, D. Emmanoulidou, T. Krontiris, M. Varanini and I.G.Tollis, "Adaptive Threshold QRS Detector with Best Channel Selection Based on a Noise Rating System", In *2007 34th Annual Computers in Cardiology Conference, Durham, NC, USA*, pages 157-160, 2007.
116. K. Marias, D. D. Dionysiou, G. S. Stamatakos, F. Zacharopoulou, E. Ch. Georgiadi, T. Margaritis, T. G. Maris and I. G. Tollis, "Multi-level Analysis and Information Extraction Considerations for Validating 4D Models of Human Function". In *Human-Computer Interaction (HCI) (12)*, Lecture Notes in Computer Science 4561, pages 703-709, 2007.
117. V. Sakkalis, V. Tsiaras, M. Zervakis, and I. Tollis, "Optimal brain network synchrony visualization: Application in an alcoholism paradigm", In *29th Conf of IEEE Engineering in Medicine and Biology Society (EMBC 2007*), *Lyon, France*, pages 4285-4288, 2007.

118. C. Papamanthou and I. G. Tollis: "Parameterized st-Orientations of Graphs: Algorithms and Experiments". In *2006 International Symposium on Graph Drawing, (GD 2006),* Lecture Notes in Computer Science 4372, pages 220-233, 2007.
119. T. Oikonomou, V. Sakkalis, I. G. Tollis and S. Micheloyannis: "Searching and Visualizing Brain Networks in Schizophrenia". In *International Symposium on Medical Data Analysis* (*ISBMDA 2006),* Lecture Notes in Computer Science 4345, pages 172-182, 2006.
120. A. Symeonidis, I. G. Tollis and M. Reczko: "Visualization of Functional Aspects of microRNA Regulatory Networks Using the Gene Ontology". In *International Symposium on Medical Data Analysis (ISBMDA 2006),* Lecture Notes in Computer Science 4345, pages 13-24, 2006.
121. D. Rebholz-Schuhman, G. Cameron, D. Clark, E. M. van Mulligen, J. L. Coatrieux, E. del Hoyo-Barbolla, F. Martín-Sánchez, L. Milanesi, I. Porro, F. Beltrame, I. G. Tollis and J. van der Lei. "SYMBiomatics: Synergies in Medical Informatics and Bioinformatics - exploring current scientific literature for emerging topics". In *BITS 2006, Bologna*.
122. V. Sakkalis, T. Oikonomou, E. Pachou, I. G. Tollis, S. Micheloyannis and M. Zervakis. "Time-significant Wavelet Coherence for the Evaluation of Schizophrenic Brain Activity using a Graph theory approach". In *IEEE-EMBS 2006, NY, USA*, 2006.
123. K. Marias, T. Margaritis, F. Zacharopoulou, E. Georgiadi, T.G. Maris, I.G. Tollis, C.P. Behrenbruch. "Multi-level analysis and information extraction considerations for validating 4D models of human function". In *2nd International Advanced Research Workshop on In Silico Oncology, Kolympari, Chania, Greece*, September 2006.
124. F.Zacharopoulou, K. Marias, E.Georgiadi, I.G. Tollis and T.G.Maris. "Optimized MR Imaging methology for tumor characterization". In *2nd International Advanced Research Workshop on In Silico Oncology, Kolympari, Chania, Greece,* September 2006.
125. P. F. Cortese, G. Di Battista, F. Frati, L. Grilli, K. A. Lehmann, G. Liotta, M. Patrignani, I. G. Tollis and F. Trotta. "On the Topologies of Local Minimum Spanning Trees". In *Combinatorial and Algorithmic Aspects of Networking (CAAN),* Lecture Notes in Computer Science 4235, pages 31-44, 2006.
126. A. Arvelakis, M. Reczko, A. Stamatakis, A. Symeonidis and I. G. Tollis. "Using Treemaps to Visualize Phylogenetic Trees". In *International Symposium on Medical Data Analysis* (*ISBMDA 2005),* Lecture Notes in Computer Science 3745, pages 283-293, 2005.
127. C. Papamanthou and I.G. Tollis. "Applications of Parameterized st-Orientations in Graph Drawing Algorithms". In *2005 International Symposium on Graph Drawing, (GD 2005),* Lecture Notes in Computer Science 384, pages 355-367, 2006.
128. George Potamias, Anastasia Analyti, Dimitris Kafetzopoulos, Maria Kafousi, Thanassis Margaritis, Dimitris Plexousakis, Panagiota Poirazi, Martin Reczko, Ioannis G. Tollis, Elias Sanidas, Efstathios Stathopoulos, Manolis Tsiknakis, Stamatis Vassilaros. "Breast Cancer and Biomedical Informatics: The PrognoChip Project," *Proceedings of the 17th IMACS World Congress Scientific Computation, Applied Mathematics and Simulation*, ISBN 2-915913-02-1, Paris, France, 2005.

129. A. Symeonidis and I.G. Tollis. "Visualization of Biological Information with Circular Drawings". In *International Symposium on Biological and Medical Data Analysis (ISBMDA 2004)*, Lecture Notes in Computer Science 3383, pages 468-478, 2004.
130. George Potamias, Anastasia Analyti, Dimitris Kafetzopoulos, Manolis Tsiknakis, Dimitris Plexousakis, Panagiota Poirazi, Martin Reczko, Ioannis Tollis, Efstathios Stathopoulos, Stamatis Vassilaros. "Breast cancer, microarrays and biomedical informatics: The Prognochip Project," *First International Advanced Research Workshop on In Silico Oncology: Advances and Challenges (1ST IARWISO)*, Sparta, Greece, September 2004.
131. C. Papamanthou, I.G. Tollis and M. Doerr. "3D Visualization of Semantic Metadata Models and Ontologies". In *2004 International Symposium on Graph Drawing, (GD 2004)*, Lecture Notes in Computer Science 3383, pages 377-388, 2005.
132. J. M. Six and I. G. Tollis. "A Framework for User-Grouped Circular Drawings". In *2003 International Symposium on Graph Drawing, (GD 2003)*, Lecture Notes in Computer Science 2912, pages 135-146, 2004.
133. J. M. Six and I. G. Tollis. "Automated Visualization of Process Diagrams". In *2001 International Symposium on Graph Drawing, (GD 2002)*, Lecture Notes in Computer Science 2265, pages 45-59, 2002.
134. R. Castelló, R. Mili and I. G. Tollis. "Visualizing State Charts: The ViSta tool". In *2001 International Symposium on Graph Drawing, (GD 2001)*, Lecture Notes in Computer Science 2265, pages 481-482, 2002.
135. J. M. Six and I. G. Tollis. "Effective Graph Visualization Via Node Grouping". In *IEEE Symposium on Information Visualization (INFOVIS 2001), San Diego, California*, pages 51-58, 2001.
136. R. Castelló, R. Mili and I. G. Tollis. "An Algorithmic Framework for Visualizing Statecharts". In *2000 International Symposium on Graph Drawing, (GD 2000)*, Lecture Notes in Computer Science 1984, pages 139-149, 2001.
137. R. Castelló, R. Mili, I. G. Tollis and V. Benson. "On the Automatic Visualization of Statecharts: The ViSta Tool". In *4th International Workshop on Tools for System Design and Verification, (FM-Tools 2000), Ulm, Germany*, pages 179-186, 2000.
138. J. M. Six and I. G. Tollis. "A Framework for Circular Drawings of Networks". In *1999 International Symposium on Graph Drawing, (GD 1999)*, Lecture Notes in Computer Science 1731, pages 107-116, 2000.
139. J. Six and I. G. Tollis. "Circular Drawings of Telecommunication Networks". In *7th Hellenic Conference on Informatics (HCI '99), Ioannina, Greece*, pages II. 124-II. 131, 1999.
140. J. M. Six and I. G. Tollis. "Circular Drawings of Biconnected Graphs". In *Algorithm Engineering and Experimentation (ALENEX 1999), Baltimore, MD, USA.* Lecture Notes in Computer Science 1619, pages 57-73, 1999.
141. R. Mili and I. G. Tollis. "Is a Picture Worth a Thousand Words?". In *1999 International Workshop on Software Reuse, (WISR'99), Austin, TX*, 1999.
142. J. M. Six, K. G. Kakoulis and I. G. Tollis. "Refinement of Orthogonal Graph Drawings". In *1998 International Symposium on Graph Drawing, (GD 1998)*, Lecture Notes in Computer Science 1547, pages 302-315, 1999.
143. U. Dogrusöz, K. G. Kakoulis, B. Madden and I. G. Tollis. "Edge Labeling in the Graph Layout Toolkit". In *1998 International Symposium on Graph*

*Drawing, (GD 1998),* Lecture Notes in Computer Science 1547, pages 356-363, 1999.

144. K. G. Kakoulis and I. G. Tollis. "On the Multiple Label Placement Problem". In *Canadian Conference on Computational Geometry (CCCG 1998), Montréal, Québec, Canada*, 1998.
145. K. G. Kakoulis and I. G. Tollis. "A Unified Approach to Labeling Graphical Features". In *Symposium on Computational Geometry*, pages 347-356, 1998.
146. K. G. Kakoulis and I. G. Tollis. "An Algorithm for Labeling Edges of Hierarchical Drawings". In *1997 International Symposium on Graph Drawing, (GD 1997),* Lecture Notes in Computer Science 1353, pages 169-180, 1998.
147. T. C. Biedl, B. Madden and I. G. Tollis. "The Three-Phase Method: A Unified Approach to Orthogonal Graph Drawing". In *1997 International Symposium on Graph Drawing, (GD 1997),* Lecture Notes in Computer Science 1353, pages 391-402, 1998.
148. A. Papakostas and I. G. Tollis. "Incremental Orthogonal Graph Drawing in Three Dimensions". In *1997 International Symposium on Graph Drawing, (GD 1997),* Lecture Notes in Computer Science 1353, pages 52-63, 1998.
149. A. Papakostas and I. G. Tollis. "Orthogonal Drawing of High Degree Graphs with Small Area and Few Bends". In *Workshop on Algorithms and Data Structures (WADS 1997), Halifax, Nova Scotia, Canada*, Lecture Notes in Computer Science, 1272, pages 354-367, 1997.
150. G. Liotta, R. Tamassia, I. G. Tollis and P. Vocca. "Area Requirement of Gabriel Drawings". In *Italian Conference on Algorithms and Complexity (CIAC 1997), Rome, Italy*, Lecture Notes in Computer Science 1203, pages 135-146, 1997.
151. A. Papakostas and I. G. Tollis. "A Pairing Technique for Area-Efficient Orthogonal Drawings". In *1996 International Symposium on Graph Drawing, (GD 1996),* Lecture Notes in Computer Science 1190, pages 355-370, 1997.
152. A. Papakostas, J. M. Six and I. G. Tollis. "Experimental and Theoretical Results in Interactive Orthogonal Graph Drawing". In *1996 International Symposium on Graph Drawing, (GD 1996),* Lecture Notes in Computer Science 1190, pages 371-386, 1997.
153. K. G. Kakoulis and I. G. Tollis. "On the Edge Label Placement Problem". In *1996 International Symposium on Graph Drawing, (GD 1996),* Lecture Notes in Computer Science 1190, pages 241-256, 1997.
154. I. G. Tollis. "Optimal Partitioning of Cellular Networks". In *1996 IEEE International Conference on Communications (ICC'96), Dallas, Texas*, pages 1377-1381, 1996.
155. A. Papakostas and I. G. Tollis. "Issues in Interactive Orthogonal Graph Drawing". In *1995 International Symposium on Graph Drawing, (GD 1995),* Lecture Notes in Computer Science 1027, pages 419-430, 1996.
156. L. M. Gardner, I. H. Sudborough and I. G. Tollis. "Net Solver: A software Tool for the Design of Survivable Networks". In *1995 IEEE GlobeCom*, pages 926-930, 1995.
157. A. Papakostas and I. G. Tollis. "Improved Algorithms and Bounds for Orthogonal Drawings". In *1994 International Symposium on Graph Drawing, (GD 1994),* Lecture Notes in Computer Science 894, pages 40-51, 1995.

158. I. G. Tollis and C. Xia. "Drawing Telecommunication Networks". In *1994 International Workshop on Graph Drawing (GD 1994), Princeton, NJ, Lecture Notes in Computer Science,* 894, pages 206-217, 1994.
159. L. M. Gardner, M. Heydari, J. Shah, I. H. Sudborough, I. G. Tollis and C. Xia. "Techniques for Finding Ring Covers in Survivable Networks". In *1994 IEEE GlobeCom,* pages 1862-1866, 1994.
160. X. Liu and I. G. Tollis. "Improving Over-The-Cell Channel Routing in Standard Cell Design". In *International Conference on Computer Aided Design (ICCAD 1994), San Jose, California, USA*, pages 606-609, 1994.
161. M. H. Heydari, I. G. Tollis and C. Xia. "Improved Techniques for MCM Layer Assignment". In *International Conference on Computer Design (ICCD 1994), Cambridge, MA, USA*, pages 604-607, 1994.
162. C. H. Chen and I. G. Tollis. "A New Approach to Floorplan Area Optimization: To Slice or not to Slice?". In *IEEE International Symposium on Circuits and Systems (ISCAS 1994), London, UK – Volume 1*, pages 161-164, 1994.
163. G. Kant, G. Liotta, R. Tamassia and I. G. Tollis. "Area Requirement of Visibility Representations of Trees". In *Canadian Conference on Computational Geometry (CCCG 1993), Waterloo, Ontario, Canada*, pages 192-197, 1993.
164. C. H. Chen and I. G. Tollis. "A Fast Parallel Algorithm for Slicing Floorplans". In *IEEE International Symposium on Circuits and Systems (ISCAS 1993), Chicago, Illinois, USA volume* 3, pages 1774-1777, 1993.
165. C. H. Chen, M. Heydari, I. G. Tollis and C. Xia. "Improved Layer Assignment for Packaging Multichip Modules". In *1992 IEEE International Workshop on Defect and Fault Tolerance in VLSI Systems, Dallas*, pages 315-324, 1992.
166. P. Bertolazzi, R. F. Cohen, G. Di Battista, R. Tamassia and I. G. Tollis. "How to Draw a Series-Parallel Digraph (extended abstract)". In *Scandinavian Workshop on Algorithm Theory (SWAT 1992), Helsinki, Finland,* Lecture Notes in Computer Science 621, pages 272-283, 1992.
167. R. F. Cohen, G. Di Battista, R. Tamassia, I. G. Tollis and P. Bertolazzi. "A Framework for Dynamic Graph Drawing". In *Symposium on Computational Geometry 1992, Berlin, Germany*, pages 261-270, 1992.
168. C. H. Chen and I. G. Tollis. "Efficient Area Optimization for Multi-level Spiral Floorplans". In *1992 IEEE International Symposium on Circuits and Systems (ISCAS '92), San Diego, CA*, pages 25-28, 1992.
169. R. Tamassia, I. G. Tollis and J. S. Vitter. "Lower Bounds and Parallel Algorithms for Planar Orthogonal Grid Drawings". In *IEEE Symposium on Parallel and Distributed Processing (SPDP 1991), Dallas, Texas, USA*, pages 386-393, 1991.
170. C. H. Chen and I. G. Tollis. "An Optimal Algorithm for Spiral Floorplan Designs". In *International Conference on Computer Design (ICCD 1991), Cambridge, MA, USA*, pages 516-519, 1991.
171. M. Girou, T. Girou, I. H. Sudborough and I. G. Tollis. "A Distributed Model and Algorithm for Binary Search". In *1991 Symposium on Applied Computing,* 1991.
172. C. H. Chen and I. G. Tollis. "Parallel Algorithms for Slicing Floorplan Designs". In *IEEE Symposium on Parallel and Distributed Processing (SPDP 1990), Dallas, Texas, USA*, pages 279-282, 1990.

173. D. Linebarger, I. H. Sudborough and I. G. Tollis. "A Unified Approach to Design of Minimum Redundancy Arrays". In *Twenty-Fourth Annual Asilomar Conference on Signals, Systems and Computers*, pages 143-147, 1990.
174. I. G. Tollis and S. G. Tragoudas. "Interchanging Terminals for Improved Channel Routing". In *1990 IEEE International Symposium on Circuits and Systems, New Orleans, LA*, pages 344-347, 1990.
175. R. Condamoor and I. G. Tollis. "A New Heuristic for Rectilinear Steiner Trees". In *1990 IEEE International Symposium on Circuits and Systems, New Orleans, LA*, pages 1676-1679, 1990.
176. R. Tamassia and I. G. Tollis. "Tessellation Representations of Planar Graphs". In *Twenty-Seventh Annual Allerton Conference on Communication, Control, and Computing, Allerton, IL*, pages 48-57, 1989.
177. M. Kaufmann and I. G. Tollis. "Switchbox Routing for Multiterminal Nets in Manhattan Mode". In *Twenty-Seventh Annual Allerton Conference on Communication, Control, and Computing, Allerton, IL*, pages 301-309, 1989.
178. G. Di Battista, E. Pietrosanti, R. Tamassia and I. G. Tollis. "Automatic Layout of PERT Diagrams with XPERT". In *1989 IEEE Workshop on Visual Languages, Rome, Italy*, pages 171-176, 1989.
179. G. Di Battista, E. Pietrosanti, R. Tamassia and I. G. Tollis. "XPERT: A Graphic Tool for Project Management". In *Third International Workshop on Computer-Aided Software Engineering, London, United Kingdom*, pages 151-168, 1989.
180. G. Di Battista, R. Tamassia and I. G. Tollis. "Area Requirement and Symmetry Display in Drawing Graphs". In *Symposium on Computational Geometry 1989, Saarbrücken, Germany*, pages 51-60, 1989.
181. F. T. Leighton, F. Makedon and I. G. Tollis. "A 2n-2 Step Algorithm for Routing in an *n*n* Array with Constant Size Queues". In *ACM Symposium on Parallel Algorithms and Architectures (SPAA 1989), Santa Fe, New Mexico, USA*, pages 328-335, 1989.
182. I. G. Tollis. "An Algorithm for Wiring Layouts in the Tri-Hexagonal Grid". In *First IEEE Symposium on Parallel and Distributed Processing, Dallas, Texas*, pages 57-64, 1989.
183. I. G. Tollis and A. V. Vaguine. "Improved Techniques for Wiring Layouts in the Square Grid". In *1989 IEEE International Symposium on Circuits and Systems, Portland, OR*, pages 1875-1878, 1989.
184. I. G. Tollis. "Techniques for Wiring in Non-Square Grids". In *1989 IEEE International Symposium on Circuits and Systems, Portland, OR*, pages 66-69, 1989.
185. I. G. Tollis. "A New Algorithm for Wiring Layouts". In *Aegean Workshop on Computing (AWOC 1988), Corfu Greece*, Lecture Notes in Computer Science 319, pages 257-267, 1988.
186. M. Kaufmann and I. G. Tollis. "Channel Routing with Short Wires". In *Aegean Workshop on Computing (AWOC 1988), Corfu, Greece*, Lecture Notes in Computer Science 319, pages 226-236, 1988.
187. L. Gewali, S. Ntafos and I. G. Tollis. "Finding Shortest Paths Amidst Vertical Obstacles". In *22nd Conference on Information Sciences and Systems, Princeton University*, pages 720-725, 1988.
188. R. Tamassia and I. G. Tollis. "Efficient Embedding of Planar Graphs in Linear Time". In *1987 IEEE International Symposium on Circuits and Systems, Philadelphia, PA*, pages 495-498, 1987.

189. R. Tamassia and I. G. Tollis. "Centipede Graphs and Visibility on a Cylinder". In *Workshop on Graph-Theoretic Concepts in Computer Science (WG 1986), Bernried, Germany,* Lecture Notes in Computer Science 246, pages 252-263, 1986.
190. B. Krishnamurthy and I. G. Tollis. "Improved Techniques for Estimating Signal Probabilities". In *International Test Conference (ITC 1986), Washington, D.C., USA,* pages 244-251, 1986.
191. R. Tamassia and I. G. Tollis. "Algorithms for Visibility Representations of Planar Graphs". In *Symposium on Theoretical Aspects of Computer Science (STACS 1986), Orsay, France,* Lecture Notes in Computer Science 210, pages 130-141, 1986.

## Selected Other Publications:

192. I. G. Tollis and N. Ayache, "The Digital Patient – Introduction to the special theme", *ERCIM News*, 2007(69), 2007.
193. K. Marias, T. Margaritis and I. G. Tollis, "Validating 4D Models of Human Pathophysiology". *ERCIM News* 2007(69), 2007.
194. M. Reczko, P. Poirazi, A. Oulas, E. Tzamali, M. Manioudaki, V. Tsiaras and I. G. Tollis, "The Impact of Systems Biology on the Digital Patient", *ERCIM News*, 2007(69), 2007.
195. V. Sakkalis and I. G. Tollis, "Modelling the Pathophysiological Human Brain Function", *ERCIM News*, 2007(69), 2007.
196. R. Tamassia and I. G. Tollis. "On Improving Channel Routability by Lateral Shifting of the Shores". *SIGDA Newsletter* 18(1):18-30, 1988.
197. I. G. Tollis. "Algorithms For VLSI Layout", *UMI Press 1988*, 8815431, Ann Arbor, Michigan 48106.

## Languages:

Greek (native), English (excellent), Italian (very good – excellent), Spanish (basic).