

Antonio Mucherino's Curriculum Vitæ

Personal

ANTONIO MUCHERINO (born in 1978)

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Job history and experiences

Current position (since Sep 2011):

- **Associate Professor**¹ at IRISA, University of Rennes 1, Rennes, France.

Previous positions:

- **Postdoc Researcher**, from Sep 2006 to Aug 2011, in inverse chronological order

<i>time</i>	<i>where</i>	<i>advisor(s)</i>
9 months	CERFACS, Toulouse	Serge Gratton, Iain Duff
1 year	INRIA Lille	El-Ghazali Talbi
1.5 years	LIX, École Polytechnique, Palaiseau	Carlile Lavor, Leo Liberti
9 months	IFAS, University of Florida	Petraq Papajorgji
6 months	CAO, University of Florida	Panos Pardalos

- **Junior Researcher** (during PhD), from Nov 2001 to Dec 2005

<i>time</i>	<i>where</i>	<i>advisor</i>
10 months	ISA-CNR, Avellino	Angelo Facchiano
10 months	Giovanni Pascale Foundation, Naples	Giovanni Colonna

- **Trainee** (before PhD)

<i>time</i>	<i>where</i>	<i>advisor</i>
3 months	ICAR-CNR, Naples	Marco D'Apuzzo

¹Equivalent in France to *Maître de Conférences* with *Habilitation à Diriger des Recherches* (HDR).

Education

- *July 2018*
Habilitation à Diriger des Recherches (HDR),
University of Rennes 1, France.
HDR Monograph title: *On the Discretization of Distance Geometry: Theory, Algorithms and Applications*.
Awarded on: July 17th, 2018. President of the committee: Kadi Bouatouch.
- *Since 2009*
On the **Qualification Lists** for “Maître de Conférences”,
French National University Council (CNU), Section: 27 (computer science).
- *Nov 2001 - Dec 2005*
PhD in Computational Biology,
Department of Mathematics, Second University of Naples, Italy.
Thesis title: *Geometric Aspects in the Simulation of Protein Folding Processes*.
Awarded on: December 13th, 2005. Supervisor: Marco D’Apuzzo.
- *Sep 1997 - Oct 2001*
Master in Mathematical Sciences,
Department of Mathematics, Second University of Naples, Italy.
Thesis title: *Quadratic Optimization: Algorithms and Software for Dense Problems*.
Awarded on: October 30th, 2001. Supervisor: Marco D’Apuzzo.

Research interests

- Distance Geometry
- Data Mining
- Meta-Heuristics
- Bioinformatics
- Parallel Computing

Details about my research activities can be found on my webpage: <https://www.antoniomucherino.it/en/research.php>

Teaching

Only information about the classes I am currently teaching are reported below.

More details about all courses I have given, as well as some didactic material, can be found at the address:
<http://www.antoniomucherino.it/en/teaching.html>

1. **Multithreading Operating Systems** (in English).
eit Digital Master School, Master in Informatics, University of Rennes 1.
Academic year 2020/21, first semester, level M1 (M.Sc).
2. **Operating Systems and Networks** (in French, “Systèmes d’exploitation et réseaux”).
MEEF Master, University of Rennes 1.
Academic year 2020/21, second semester, level M1 (M.Sc).

3. **Parallel Computing** (in English).
eit Digital Master School, University of Rennes 1.
Academic year 2020/21, second semester, level M1 (M.Sc.).
4. **An Introduction to Object Oriented Programming** (in French, “Programmation à objets”).
Bachelor of Science in Informatics, University of Rennes 1.
Academic year 2020/21, first semester, level L2 (B.Sc.).
5. **Software Engineering** (in French, “Génie Logiciel”).
Bachelor of Science in Informatics, University of Rennes 1.
Academic year 2020/21, second semester, level L2 (B.Sc.).
6. **Web Programming** (in French, “Programmation Web”).
Bachelor of Science in Informatics, University of Rennes 1.
Academic year 2020/21, second semester, level L2 (B.Sc.).

In March 2018, I gave a lecture on *distance geometry and applications* to a group of Master students of the Department of Mathematics of UFSC (Florianópolis, Santa Catarina, Brazil).

Previous courses were given at University of Rennes 1 (since academic year 2011-12), at the École Polytechnique in Palaiseau (France) and at the Second University of Naples (Italy).

Projects

Awarded Grants

1. *Multi-Scale and Multi-Resolution Bio-Molecular Structure Determination by Geometric Approaches*, ANR’s PRCI in collaboration with Taiwan, with 3 partners in France and 2 partners in Taiwan. Source: ANR and MoST, 546.8 kEUR, 2020–2023 (4 years).
2. *Rapid NMR Protein Structure Determination and Conformational Transition Sampling by a Novel Geometrical Approach*. International cooperation between IRISA and Academia Sinica (Taipei, Taiwan). Source: CNRS-MoST, 5kEUR per year, 2018–19.
3. *The Special Role of Topology in the Analysis and the Simulation of Human Behaviors*. Temporary part-time job as an INRIA researcher (délégation INRIA). Source: INRIA Rennes, 8kEUR per year, 2016–2017.
4. *On the Generalization of the Distance Geometry and its Applications*. Interdisciplinary research. Source: INS2I/CNRS, 7kEUR, 2016.
5. *Distance Geometry and Applications*. International cooperation between University of Rennes 1 and Brazilian partners. Source: University of Rennes 1, 2kEUR per year. Awarded every year from 2012 to 2016.
6. *Distance Geometry and Answer Set Programming*. 1-year postdoc at University of Rennes 1. Source: Brittany Region, 33kEUR (75% of total cost), 2013.
7. *Discretizable Molecular Distance Geometry Problem and Protein Docking Problem*. 2-month visit (*chaire*) to UNICAMP (São Paulo, Brazil) for myself. Source: UNICAMP and French Embassy in São Paulo, travel and stay, 2012.
8. *Wine Fermentation Analysis by Biclustering*. International cooperation between IRISA and the Universidad Técnica Federico Santa María, Valparaíso, Chile. Source: CNRS-CONICYT, 4kEUR, 2012.
9. *A Discrete Approach to the Molecular Docking Problem*. 1-month visit to University of Rennes 1 for C. Lavor. Source: ISTIC, University of Rennes 1, 3kEUR, 2012.

Participation

10. *Modelling Human Motion for Synthesis and Recognition with Deep Learning on Surface Features*. Royal Society International Exchanges. Source: UK's Royal Society, 12kGBP, 2019-20.
11. *An Interval Branch-and-Prune Approach for Obtaining Intrinsically Disordered Protein Conformations*, “Infinity” interdisciplinary projects, CNRS, 2018-19.
12. *Geometria de distâncias aplicada ao Cálculo de Estruturas 3D de Proteínas*, UNIVERSAL CNPq project, 2014.
13. *Bayesian inference paradigm: Biology in processors (Bip:Bip)*, ANR project, 2012–2017.
14. *Combinatorial Methods to Calculate Protein Structures by Using NMR Data*, State of São Paulo Research Foundation - FAPESP, 2009–2011.
15. *Innovative Problems and Methods in Nonlinear Optimization*, PRIN Project, Italian Ministry of University and Research (MIUR), 2005–2007.
16. *Computational Procedures for Simulating Protein Folding Processes*, Italian Region *Campania* (L.R. n.5 28/3/2002), 2005–2006.

Organization activities

Organization of Scientific Events

- chair of
 - Distance Geometry Day (DGD16), at IRISA/INRIA Rennes, on December 7, 2016.
<http://www.antoniomucherino.it/events/DGD16/>
 - Invitation-based scientific program.
- co-chair of
 - Mini-symposium on Sensor Network Localization and Dynamical Distance Geometry, at Fields Institute, Toronto (Canada), on May 17-19, 2021:
<http://www.fields.utoronto.ca/activities/20-21/constraint-sensor>
 - Co-chairing with H. Wolkowicz.
 - DIMACS Workshop on Optimization in Distance Geometry, at DIMACS Center, Rutgers University (USA), on June 26–28, 2019:
<http://dimacs.rutgers.edu/events/details?eID=322>
 - Co-chairing with N. Krislock and C. Lavor.
 - Workshop on Computational Optimization (WCO*), in the framework of the Federated Conference on Computer Science and Information Systems (FedCSIS):
<https://fedcsis.org/wco>
 - Co-chairing with D. Zaharie and S. Fidanova since 2012 edition. Workshop held every year.

- international advisory committee member for
 - Geometric Science of Information (GSI19), Toulouse, France. August 2019.
 - International Conference on Algebra, Number Theory and Discrete Geometry (dedicated to the 80th anniversary of M. Deza birth), TSPU of Leo Tolstoy, Tula, Russia, May 2019.
 - International Conference on BioInformatics and BioEngineering (BIBE18), Taichung, Taiwan, October 2018.
 - Geometric Science of Information (GSI17), Paris, France, November 2017.
 - Many Faces of Distances (MFD14), Campinas, São Paulo, Brazil, October 2014.
 - Distance Geometry and Applications (DGA13), Manaus, Amazonas, Brazil, June 2013.
 - Data Mining in Agriculture (DMA*), editions 2011, 2012 and 2013, in the framework of the “Industrial Conference on Data Mining” (ICDM*).
- session organizer in
 - GSI17, Paris, France, November 7–9, 2017 (with D. Gonçalves).
 - IFORS14, Barcelona, Spain, July 13–18, 2014 (with N. Maculan).
 - ICCOPT13, Lisbon, Portugal, July 27 – August 1, 2013 (with C. Lavor).
 - ISMP12, Berlin, Germany, August 19–24, 2012 (with N. Maculan).
- local organizing committee member for
 - TOGO10, Toulouse, France, August 31 – September 3, 2010.
 - CTW09, Paris, France, June 2–4, 2009.
- local events
 - MimeTIC’s Classification Days (CDs), four editions between 2016 and 2017.

<http://www.antoniomucherino.it/events/CDs/>

Reviewing tasks

- refereed papers for:
 - SIMAX (SIAM);
 - JOGO, OPTL, JOTA, JOCO, COAP, MATR A and B, ORIJ, ANOR, NCAA, PLSO, IJEPES, AACA, SpringerPlus (Springer);
 - DAM, INS, CAM, CAMWA, PRLetters, COMPAG, JBIOTEC, CBAC, SOCO, CACE (Elsevier);
 - GOMS (Taylor & Francis);
 - ITOR, MMA (Wiley);
 - TPDS (IEEE);
 - IJNS (World Scientific);
 - IJMHEUR (Inderscience);
 - OJDM (Scientific Research, an Academic Publisher);
 - Biology, Symmetry, Sensors (MDPI);

– Fundamenta Informaticae, Integrated Computer-Aided Engineering (IOS Press).

- reviewer for Springer books;
- reviewer of projects for the European Research Council (ERC);
- reviewer of projects for INRIA team international partnerships.

International Relationships

- Responsible person for the International Relationships at ISTIC, University of Rennes 1.
Since January 2014, I'm member of the *Commission Affaires Internationales* (CAI) at University of Rennes 1.
The following agreements were recently signed:
 - University of Firenze, Italy (Erasmus+, new partner)
 - University of Laval, Québec, Canada (renewal for other 5 years of our student exchange protocol).

Conferences and Workshops with contribution

Only conference and workshop acronyms and a few more details are provided in the following list.
More information can be found at: <http://www.antoniomucherino.it/en/conferences.html>

- WCO20, *online* workshop. September 6–9, 2020.
- MIG19, Newcastle, UK. October 28–30, 2019.
- WCO19, FedCSIS19, Leipzig, Germany. September 1–4, 2019.
- 80th birthday of Michel Deza, Tula, Russia, May 13–18, 2019.
- IWBBIO19, Granada, Spain. May 8–10, 2019.
- MIG18, Cyprus, Greece. November 8–10, 2018.
- WCO18, FedCSIS18, Poznan, Poland. September 9–12, 2018.
- NMR_Theory_and_Methods, Campinas, São Paulo, Brazil. May 21–22, 2018. **[invited speaker]**
- GOR-DG17, Bad Honnef, Germany. November 23–24, 2018. **[invited speaker]**
- MIG17, Barcelona, Spain. November 8–10, 2017.
- GSI17, Paris, France. November 7–9, 2017.
- IGRV17, Rennes, France. October 23–27, 2017.
- WCO17, FedCSIS17, Prague, Czech Republic, September 3–6, 2017.
- ROADEF17, Metz, France. February 22–24, 2017.
- WCO16, FedCSIS16, Gdansk, Poland. September 11–14, 2016.
- AIMS16, Varna, Bulgaria. September 7–9, 2016.
- WCO15, FedCSIS15, Lodz, Poland. September 13–16, 2015.
- LSSC15, Sozopol, Bulgaria. June 8–12, 2015.
- IWBBIO15, Granada, Spain. April 15–17, 2015.
- ROADEF15, Marseille, France. February 25–27, 2015.
- MFD14, Campinas, São Paulo, Brazil. October 22–24, 2014 (*two contributions*).

- WCO14, FedCSIS14, Warsaw, Poland. September 7–10, 2014.
- IFORS14, Barcelona, Spain. July 13–18, 2014.
- Uncertainties14, Rouen, France. June 23–27, 2014.
- INFORMS13, Minneapolis, USA. October 6–9, 2013 (*two contributions*).
- WCO13, FedCSIS13, Krakov, Poland. September 8–11, 2013.
- GSI13, Paris, France. August 28–30, 2013.
- ICCOPT13, Lisbon, Portugal. June 27 – August 1, 2013.
- DGA13, Manaus, Amazonas, Brazil. June 24–27, 2013. [**invited speaker**]
- IWBBIO13, Granada, Spain. March 18–20, 2013.
- Computational Biomedicine, Gainesville, Florida, USA. January 24–26, 2013.
- Ottawa Symposium on Biochemistry & Biophysics, Ottawa, USA. October 24–25, 2012.
- INFORMS12, Phoenix, USA. October 14–17, 2012.
- CLAIO12, Rio de Janeiro, Brazil, September 24–28, 2012.
- WCO12, FedCSIS12, Wroclaw, Poland, September 9–12, 2012.
- ISMP12, Berlin, Germany, August 19–24, 2012 (*two contributions*).
- ICMRBS12, Lyon, France, August 19–24, 2012.
- 2012 SIAM Annual Meeting, Minneapolis, Minnesota, USA, July 9–13, 2012.
- MDA12, Varna, Bulgaria, July 2–5, 2012.
- GOW12, Natal, Brazil, June 26–29, 2012.
- PCO12, IPDPS12, Shanghai, China, May 21–25, 2012.
- ROADEF12, Angers, France, April 11–13, 2012.
- br.BIO.fr 2012, Paris, France, March 21, 2012.
- CSBW11, BIBM11, Atlanta, GA, USA, November 12–15, 2011.
- WCO11, FedCSIS11, Szczecin, Poland, September 18–21, 2011.
- MAS11, Rome, Italy, September 12–14, 2011.
- DMA11, ICDM11, New York City, USA, September 2, 2011.
- COCOA11, Zhangjiajie, China, August 4–6, 2011.
- IFORS11, Melbourne, Australia, July 10–15, 2011.
- WCGO11, Crete, Greece, July 3–7, 2011 (*two contributions*).
- CTW11, Frascati, Rome, June 14–16, 2011 (*two contributions*).
- LSSC11, Sozopol, Bulgaria, June 6–10, 2011.
- ISBRA11, Changsha, China, May 27–29, 2011.
- SEA11, Crete, Greece, May 5–7, 2011.
- ROADEF11, Saint Etienne, France, March 2–4, 2011.
- IWCP10, BIBM11, Hong Kong, December 18–21, 2010.
- META10, Djerba, Tunisia, October 27–31, 2010.
- ICMS10, Kobe, Japan, September 13–17, 2010.
- TOGO10, Toulouse, France, August 31 – September 3, 2010.

- DMA10, ICDM10, Berlin, Germany, July 14, 2010.
- EURO10, Lisbon, Portugal, July 11–14, 2010.
- DMBIO10, Crete, Greece, July 7–9, 2010.
- EU/MEeting 2010, Lorient, France, June 2–4, 2010.
- AICCSA10, Hammamet, Tunisia, May 16–19, 2010.
- Grid5000 Spring School 2010, Lille, France, April 6–9, 2010.
- ROADEF10, Toulouse, France, February 24–26, 2010.
- CSBW09, BIBM09, Washington D.C., USA, November 1–4, 2009.
- ICBB09, Venice, Italy, October 28–30, 2009.
- WCO09, IMCSIT09, Mragowo, Poland, October 12–14, 2009.
- IFIP09, Buenos Aires, Argentina, July 27–31, 2009.
- GECCO09, Montréal, Canada, July 8–12, 2009.
- Engineering Systems Symposium at MIT, Cambridge, Massachusetts, USA, June 15–17, 2009.
- CTW09, Paris, France, June 2–4, 2009.
- FAME09, Orlando, Florida, USA, May 14–17, 2009.
- SAC09, Honolulu, Hawaii, USA, March 8–12, 2009.
- ROADEF09, Nancy, France, February 10–12, 2009.
- BBCC08, Avellino, Italy, December 12, 2008.
- Workshop “Journée Optimeo”, Université Paris-Sud XI, Orsay, France, November 21, 2008.
- ARS Workshop, École Polytechnique, Palaiseau, France, October 31, 2008.
- CCO08, Gainesville, Florida, USA, January 30 – February 1, 2008.
- Protein Folding Workshop, Minneapolis, USA, January 14–18, 2008.
- Biomedicine07, Gainesville, Florida, USA, March 28–30, 2007.
- BBCC06, Avellino, Italy, December 18, 2006.
- Biomedicine05, Gainesville, Florida, USA, February 2–4, 2005.
- CMS04, Neuchatel, Switzerland, April 2–5, 2004.
- Unravelling Nature’s Networks, Sheffield, England, July 20–22, 2003.

Visiting Terms and Seminars

My active collaboration with Brazilian colleagues, working at different Universities in Brazil, is great opportunity for me travel to Brazil. This is a summary per year of my visits and given seminars:

- 2019* 2 weeks at UNICAMP;
- 2018* 12 days at UFSC; 7 days at UNICAMP (NMR workshop);
- 2017* 7 days at UNICAMP;
- 2016* 10 days at UFSC; 14 days at UNICAMP (2 visits);
- 2015* 7 days at UFSC (1 seminar);
- 2014* 5 days at UNICAMP (MFD workshop);
- 2013* 7 days at UFRJ; 7 days at UNICAMP;
- 2012* 2 month *chaire* at UNICAMP (1 seminar);
- 2011* 10 days at UNICAMP; 2 weeks at UFRJ (1 seminar);
- 2010* 2 weeks at UNICAMP (1 seminar);
- 2009* 7 days at UFRJ.

Colleagues and visited Universities:

- COPPE, UFRJ, Rio de Janeiro, Nelson Macular (Professor Emerito);
- IMECC, UNICAMP, Campinas (São Paulo), Carlile Lavor (Full Professor);
- DM, UFSC, Florianópolis (Santa Catarina), Douglas Gonçalves (Assistant Professor).

This is my list of other visiting terms and seminars:

- School of Informations and Telecommunications, University of Granada. 4 days, 1 seminar. Invited by D. Pelta. May 2019.
- Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan. 2 weeks (in the framework of our joint CNRS-MoST project). Invited by J-H. Lin. April 2019.
- Institut Pasteur, Paris, France. 1 seminar (in the framework of our CNRS Infinity project). Invited by T. Malliavin. June 2018.
- Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan. 3 weeks (in the framework of our joint CNRS-MoST project). Invited by J-H. Lin. June and December 2018.
- Department of Control Systems and Mechatronics, Wroclaw University of Science and Technology, 3 days, 1 seminar. Invited by P. Drag. March 2018.
- IFSTTAR, Paris, France. 1 seminar. Invited by E. Dumont. November 2017.
- Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan. 10 days, 1 seminar. Invited by J-H. Lin. June 2017.
- Institute of Computer Technology, TU Vienna, Austria. 3 days, 1 seminar. Invited by N. TaheriNejad. April 2017.
- Laboratoire d'Informatique, Université d'Avignon, Avignon, France. 3 days, 1 seminar. Invited by R. Figueiredo. November 2016.
- INSA, Rennes, France. 1 seminar. Invited by M. Haddou. June 2016.
- Institut für Informatik, Universität Potsdam, Germany. 4 days, 1 seminar. Invited by T. Schaub. April 2016.
- Universidade de Aveiro, Portugal. 4 days, 1 seminar. Invited by A. Agra. May 2015.
- BAS, Sofia, Bulgaria. 3 days, 1 seminar. Invited by S. Fidanova. June 2014.
- ENSTA Bretagne, Brest, France. 1 seminar during the workshop "Set Computational for Control". Invited by J. Ninin. December 2013.
- Department of Informatics, UNIFI, Florence, Italy. 1 seminar. Invited by F. Schoen. December 2012.
- Universidad Técnica Federico Santa Maria, Valparaíso, Chile. 2 weeks. Invited by A. Urtubia. CNRS-CONICYT project. November 2012.
- BIA, INRA, Toulouse, France. 1 seminar. Invited by M. Vignes. March 2012.
- Universidad Técnica Federico Santa Maria, Valparaíso, Chile. 7 days, 2 seminars. Invited by A. Urtubia. July 2011.
- LIPN, Université Paris 13, Paris, France. 1 seminar. Invited by R.W. Calvo. April 2011.
- LIRMM, Université Montpellier 2, Montpellier, France. 1 seminar. Invited by O. Gascuel. April 2011.
- IRIT, Toulouse, France. 1 seminar. Invited by F. Messine. April 2011.
- LAMIH, Université de Valenciennes, Valenciennes, France. 1 seminar. Invited by S. Hanafi. March 2011.
- CERFACS, Toulouse, France. 1 seminar. Invited by I. Duff. June 2010.
- LRI, Université Paris 11, Orsay, France. 1 seminar. Invited by Ch. Froidevaux. April 2010.

- Département de Mathématiques et d'Informatique, Université de Reims Champagne-Ardenne, Reims, France. 1 seminar. Invited by M. Krajecki. April 2010.
- LIPADE, Université Paris Descartes, Paris, France. 1 seminar. Invited by M. Nadif. April 2010.
- ENSEEIHT, Toulouse, France. 1 seminar. Invited by P.R. Amestoy. March 2010.
- IRISA, Rennes, France. 1 seminar. Invited by R. Andonov. December 2009.
- Université Paris 11, Orsay, France. 1 seminar. Invited by A. Lisser. April 2009.
- LAMSADE, Université Paris Dauphine, Paris, France. 1 seminar. Invited by A.R. Mahjoub. March 2009.
- CIRM, Marseille, France. Invited by M. Hirschowitz. March 2009.
- DIIGA, Università Politecnica delle Marche, Ancona, Italy. 1 seminar. Invited by F. Marinelli. February 2009.
- Department of Industrial Engineering, University of Florida, Gainesville, USA. 1 seminar. Invited by P.M. Pardalos. January 2007.
- IASI-CNR, Rome, Italy. 1 seminar. Invited by M. Sciandrone. September 2003.

Supervisions

Supervision of postdoc students

- Warley Gramacho, from September 2015 to August 2016.
- Douglas Soares Gonçalves, from April 2013 to March 2014.
- Andrea Cassioli, with L. Liberti (École Polytechnique), from October 2012 to December 2013.

Supervision of PhD students

- Virginia Silva Da Costa, with N. Maculan (Federal University of Rio de Janeiro), defended in 2013.
- Warley Gramacho, with C. Lavor (UNICAMP), defended in 2013.

Supervision of visiting PhD students

- Rafael Santos Alves, PhD student from UNICAMP, Campinas, São Paulo, Brazil, 4 months, 2012.
- Maria Cristina De Cola, PhD student from IASI, CNR, Rome, Italy, 3 months, 2012.

Supervision of Master students

- Florestan De Moor, École Normale Supérieure de Rennes, 2019 (with D. Frey).
- Pierre Le Luron, Université de Rennes 1, 2018 (with S. Collange).
- Florian Elain, INSA Rennes, 2017 (with L. Hoyet and R. Kulpa).
- Antonin Bernardin, Université de Limoges, 2017 (with L. Hoyet).
- Thiruvikkiraman Pandurangan, *eit* Digital, University of Rennes 1, 2016.
- Ivaylo Petrov, IRISA Master Research, University of Rennes 1, 2014.
- Giovanni Cicia, Second University of Naples, 2006 (with M. D'Apuzzo).
- Enrico Raimondo, Second University of Naples, 2004 (with M. D'Apuzzo).
- Matilde Muto, Second University of Naples, 2003 (with M. D'Apuzzo).

Supervision of undergraduate students

- Ariane Postel, Université de Rennes 1, 2016.

Committees

- PhD defense and reviewer of the monograph of Sammy Khalife, LIX, École Polytechnique, Palaiseau, France. August 31st, 2020.
- Master committee member for the `eit Digital` Master School (level 1), as well as for other two Master 1 programs at University of Rennes 1. Since academic year 2019–20.
- PhD following committee, Othman Toujier, INSA Rennes, Rennes, years 2018–19, (in French, *comité de suivi individuel doctorant*).
- PhD qualification, Julie Laniau, University of Rennes 1, Rennes, France, October 1st, 2015.
- PhD defense, Germano Abud de Rezende, UNICAMP, Campinas, São Paulo, Brazil, August 28th, 2014.
- Master thesis defense, Master BIG, SVE, University of Rennes 1, Rennes, France, June 20th, 2014.
- PhD defense, Virginia Silva Da Costa, UFRJ, Rio de Janeiro, Brazil, February 21st, 2013.
- PhD defense, Rafael Santos Alves, UNICAMP, Campinas, São Paulo, Brazil, February 25th, 2013.

Computer-related skills

- Programming Languages: C, C++, Java, Fortran 77/90, PHP, Matlab, Python.
- Operating Systems: UNIX, Linux, Windows.
- Linear Algebra Packages: BLAS, LAPACK.
- Optimization Systems and Software: CPLEX, AMPL and others, both commercial and free.
- Parallel Computing Packages: OpenMP, MPI, SCALAPACK, CUDA.

Developed software

MD–JEEP

Implementation of: the Branch and Prune algorithm for discretizable distance geometry

Programming language: C

Description: This is an implementation of the Branch & Prune (BP) algorithm for solving discretizable Distance Geometry Problems (DGPs) [13, 16, 18]. MD-JEEP is the result of a strong collaboration among myself, Leo Liberti, Carlile Lavor, Douglas Gonçalves, Jung-Hsin Lin, Nelson Maculan, and other people. The details regarding the discretization of the DGP and the BP algorithm can be found in our publications. MD-JEEP is distributed under the GNU General Public Licence (v.3), and it is available on GITHUB since the version 0.3.0. Details about the first release of MD-JEEP can be found in [62]. Details about the latest releases can be found in [36,38,39].

Sources available for download: <http://www.antoniomucherino.it/en/mdjeep.php>.

Current release: 0.3.2

Others software

Other developed software includes:

- A tool for feature selection that is based on consistent biclustering [79]. This tool is written in AMPL and invokes CPLEX for the solution of the inner problem arising in our bilevel reformulation [110], which is linear. The tool can be made available upon request.
- An implementation in C programming language of the Monkey Search Meta-Heuristic. This implementation can be made available upon request.

Languages

- Italian: mother tongue.
- English: excellent spoken and written.
- French: good spoken and written.

Publications

International journals

1. C. Lavor, M.F. de Souza, L.M. Carvalho, D.S. Gonçalves, A. Mucherino, *Improving the Sampling Process in the Interval Branch-and-Prune Algorithm for the Discretizable Molecular Distance Geometry Problem*, to appear in Applied Mathematics and Computation, 2020.
2. G. Abud, J. Alencar, C. Lavor, L. Liberti, A. Mucherino, *The K-discretization and K-incident Graphs for Discretizable Distance Geometry*, Optimization Letters **14**(2), 469–482, 2020.
3. A. Mucherino, J. Omer, L. Hoyet, P. Robuffo Giordano, F. Multon, *An Application-based Characterization of dynamical Distance Geometry Problems*, Optimization Letters **14**(2), 493–507, 2020.
4. T.E. Malliavin, A. Mucherino, C. Lavor, L. Liberti, *Systematic Exploration of Protein Conformational Space using a Distance Geometry Approach*, Journal of Chemical Information and Modeling **59**(10), 4486–4503, 2019.
5. S.J.L. Billinge, Ph.M. Duxbury, D.S. Gonçalves, C. Lavor, A. Mucherino, *Recent Results on Assigned and Unassigned Distance Geometry with Applications to Protein Molecules and Nanostructures*, Annals of Operations Research **271**(1), 161–203, 2018.
6. F. Fidalgo, D.S. Gonçalves, C. Lavor, L. Liberti, A. Mucherino, *A Symmetry-based Splitting Strategy for Discretizable Distance Geometry Problems*, Journal of Global Optimization **71**(4), 717–733, 2018.
7. D.S. Gonçalves, A. Mucherino, C. Lavor, L. Liberti, *Recent Advances on the Interval Distance Geometry Problem*, Journal of Global Optimization **69**(3), 525–545, 2017.
8. S.J.L. Billinge, Ph.M. Duxbury, D.S. Gonçalves, C. Lavor, A. Mucherino, *Assigned and Unassigned Distance Geometry: Applications to Biological Molecules and Nanostructures*, Quarterly Journal of Operations Research **14**(4), 337–376, 2016.
9. D.S. Gonçalves, A. Mucherino, *Optimal Partial Discretization Orders for Discretizable Distance Geometry*, International Transactions in Operational Research **23**(5), 947–967, 2016.
10. A. Cassioli, B. Bardiaux, G. Bouvier, A. Mucherino, R. Alves, L. Liberti, M. Nilges, C. Lavor, T.E. Malliavin, *An Algorithm to Enumerate all Possible Protein Conformations verifying a Set of Distance Restraints*, BMC Bioinformatics **16**:23, 15 pages, 2015.
11. D.S. Gonçalves, A. Mucherino, *Discretization Orders and Efficient Computation of Cartesian Coordinates for Distance Geometry*, Optimization Letters **8**(7), 2111–2125, 2014.
12. V. Costa, A. Mucherino, C. Lavor, A. Cassioli, L.M. Carvalho, N. Maculan, *Discretization Orders for Protein Side Chains*, Journal of Global Optimization **60**(2), 333–349, 2014.

13. L. Liberti, C. Lavor, N. Maculan, A. Mucherino, *Euclidean Distance Geometry and Applications*, SIAM Review **56**(1), 3–69, 2014.
Awarded **Best of Computing** by ACM Computing Reviews in 2014.
14. L. Liberti, B. Masson, J. Lee, C. Lavor, A. Mucherino, *On the Number of Realizations of Certain Henneberg Graphs arising in Protein Conformation*, Discrete Applied Mathematics **165**, 213–232, 2014.
15. C. Lavor, L. Liberti, A. Mucherino, *The interval Branch-and-Prune Algorithm for the Discretizable Molecular Distance Geometry Problem with Inexact Distances*, Journal of Global Optimization **56**(3), 855–871, 2013.
16. A. Mucherino, C. Lavor, L. Liberti, *The Discretizable Distance Geometry Problem*, Optimization Letters **6**(8), 1671–1686, 2012.
17. A. Mucherino, C. Lavor, L. Liberti, *Exploiting Symmetry Properties of the Discretizable Molecular Distance Geometry Problem*, Journal of Bioinformatics and Computational Biology **10**(3), 1242009(1–15), 2012.
18. C. Lavor, L. Liberti, N. Maculan, A. Mucherino, *The Discretizable Molecular Distance Geometry Problem*, Computational Optimization and Applications **52**, 115–146, 2012.
19. C. Lavor, J. Lee, A. Lee-St. John, L. Liberti, A. Mucherino, M. Sviridenko, *Discretization Orders for Distance Geometry Problems*, Optimization Letters **6**(4), 783–796, 2012.
20. C. Lavor, L. Liberti, N. Maculan, A. Mucherino, *Recent Advances on the Discretizable Molecular Distance Geometry Problem*, European Journal of Operational Research **219**, 698–706, 2012.
21. C. Lavor, A. Mucherino, L. Liberti, N. Maculan, *On the Computation of Protein Backbones by using Artificial Backbones of Hydrogens*, Journal of Global Optimization **50**(2), 329–344, 2011.
22. L. Liberti, C. Lavor, A. Mucherino, N. Maculan, *Molecular Distance Geometry Methods: from Continuous to Discrete*, International Transactions in Operational Research **18**(1), 33–51, 2011.
Awarded **ITOR Top Article** in 2013.
23. C. Lavor, A. Mucherino, L. Liberti, N. Maculan, *Discrete Approaches for Solving Molecular Distance Geometry Problems using NMR Data*, International Journal of Computational Biosciences **1**(1), 88–94, 2010.
24. A. Mucherino, A. Masello, *Statistical Analysis on the Globular Shape of Protein Conformations*, JP Journal of Biostatistics **4**(1), 1–12, 2010.
25. A. Mucherino, P.J. Papajorgji, P.M. Pardalos, *A Survey of Data Mining Techniques Applied to Agriculture*, Operational Research: An International Journal **9**(2), 121–140, 2009.
26. A. Mucherino, S. Costantini, D. di Serafino, M. D’Apuzzo, A. Facchiano, G. Colonna, *Towards a Computational Description of the Structure of all-alpha Proteins as Emergent Behaviour of a Complex System*, Computational Biology and Chemistry **32**(4), 233–239, 2008.
27. S. Cafieri, M. D’Apuzzo, M. Marino, A. Mucherino, G. Toraldo, *Interior Point Solver for Large-Scale Quadratic Programming Problems with Bound Constraints*, Journal of Optimization Theory and Applications **129**(1), 55–75, 2006.

National journals

28. A. Mucherino, *Introducing the Interaction Distance in the context of Distance Geometry for Human Motions*, Chebyshevskii sbornik **20**(2), 263–273, 2019.
29. A. Mucherino, C. Lavor, L. Liberti, N. Maculan, *On the Definition of Artificial Backbones for the Discretizable Molecular Distance Geometry Problem*, Mathematica Balkanica **23**(3-4), 289–302, 2009.

Authored books

30. A. Mucherino, P.J. Papajorgji, P.M. Pardalos, *Data Mining in Agriculture*, 274 pages, Springer, 2009.

Edited books

31. A. Mucherino, C. Lavor, L. Liberti, N. Maculan (Eds.), *Distance Geometry: Theory, Methods and Applications*, 410 pages, Springer, 2013.

Journal special issues

32. A. Mucherino, C. Lavor, *Distances in Optimization and Graphs dedicated to the Memory of Michel Deza*, special issue of *Optimization Letters* **14**(2), Springer, 269–507, 2020.
33. A. Mucherino, R. de Freitas, C. Lavor, *Distance Geometry and Applications*, special issue of *Discrete Applied Mathematics* **197**, Elsevier, 1–144, 2015.

Books of conference proceedings

34. A. Andrioni, R. de Freitas, C. Lavor, L. Liberti, N. Maculan, A. Mucherino (Eds.), *Proceedings of Distance Geometry and Applications (DGA13)*, Manaus, Amazonas, Brazil, 2013.
35. S. Cafieri, A. Mucherino, G. Nannicini, F. Tarissan, L. Liberti (Eds.), *Proceedings of the 8th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW09)*, Paris, France, 2009.

Conference papers (refereed)

36. A. Mucherino, D.S. Gonçalves, L. Liberti, J-H. Lin, C. Lavor, N. Maculan, *MD-jeep: a New Release for Discretizable Distance Geometry Problems with Interval Data*, to appear on IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS20), Workshop on Computational Optimization (WCO20), 2020.
37. S. Hu, H.P.H. Shum, A. Mucherino, *DSPP: Deep Shape and Pose Priors of Humans*, ACM Conference Proceedings, Motion, Interaction and Games 2019 (MIG19), Newcastle, UK, 6 pages, 2019.
38. A. Mucherino, J-H. Lin, *An Efficient Exhaustive Search for the Discretizable Distance Geometry Problem with Interval Data*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS19), Workshop on Computational Optimization (WCO19), Leipzig, Germany, 135–141, 2019.
39. A. Mucherino, J-H. Lin, D.S. Gonçalves, *A Coarse-Grained Representation for Discretizable Distance Geometry with Interval Data*, Lecture Notes in Computer Science **11465**, Lecture Notes in Bioinformatics series, I. Rojas et al (Eds.), Proceedings of the 7th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO19), Part I, Granada, Spain, 3–13, 2019.
40. Z. Liu, A. Mucherino, L. Hoyet, F. Multon, *Surface based Motion Retargeting by Preserving Spatial Relationship*, ACM Conference Proceedings, Motion, Interaction and Games 2018 (MIG18), Limassol, Cyprus, Greece, 12 pages, 2018.
41. A. Bernardin, L. Hoyet, A. Mucherino, D.S. Gonçalves, F. Multon, *Normalized Euclidean Distance Matrices for Human Motion Retargeting*, ACM Conference Proceedings, Motion in Games 2017 (MIG17), Barcelona, Spain, 6 pages, 2017.

42. A. Mucherino, D.S. Gonçalves, *An Approach to dynamical Distance Geometry*, Lecture Notes in Computer Science **10589**, F. Nielsen, F. Barbaresco (Eds.), Proceedings of Geometric Science of Information (GSI17), Paris, France, 821–829, 2017.
43. W. Gramacho, A. Mucherino, J-H. Lin, C. Lavor, *A New Approach to the Discretization of Multidimensional Scaling*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS16), Workshop on Computational Optimization (WCO16), Gdansk, Poland, 601–609, 2016.
44. S. Fidanova, O. Roeva, A. Mucherino, K. Kapanova, *InterCriteria Analysis of Ant Algorithm with Environment Change for GPS Surveying Problem*, Lecture Notes in Artificial Intelligence **9883**, Proceedings of the 17th International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA16), Varna, Bulgaria, 271–278, 2016.
45. A. Mucherino, *Optimal Discretization Orders for Distance Geometry: a Theoretical Standpoint*, Lecture Notes in Computer Science **9374**, Proceedings of the 10th International Conference on Large-Scale Scientific Computations (LSSC15), Sozopol, Bulgaria, 234–242, 2015.
46. A. Mucherino, S. Fidanova, M. Ganzha, *Ant Colony Optimization with Environment Changes: an Application to GPS Surveying*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS15), Workshop on Computational Optimization (WCO15), Lodz, Poland, 495–500, 2015.
47. A. Mucherino, *A Pseudo de Bruijn Graph Representation for Discretization Orders for Distance Geometry*, Lecture Notes in Computer Science **9043**, Lecture Notes in Bioinformatics series, F. Ortuño, I. Rojas (Eds.), Proceedings of the 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO15), Part I, Granada, Spain, 514–523, 2015.
48. D.S. Gonçalves, A. Mucherino, C. Lavor, *An Adaptive Branching Scheme for the Branch & Prune Algorithm applied to Distance Geometry*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS14), Workshop on Computational Optimization (WCO14), Warsaw, Poland, 463–469, 2014.
49. D.S. Gonçalves, A. Mucherino, C. Lavor, *Energy-based Pruning Devices for the BP Algorithm for Distance Geometry*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS13), Workshop on Computational Optimization (WCO13), Krakov, Poland, 335–340, 2013.
50. A. Mucherino, *On the Identification of Discretization Orders for Distance Geometry with Intervals*, Lecture Notes in Computer Science **8085**, F. Nielsen and F. Barbaresco (Eds.), Proceedings of Geometric Science of Information (GSI13), Paris, France, 231–238, 2013.
51. V. Costa, A. Mucherino, C. Lavor, L.M. Carvalho, N. Maculan, *On Suitable Orders for Discretizing Molecular Distance Geometry Problems related to Protein Side Chains*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS12), Workshop on Computational Optimization (WCO12), Wroclaw, Poland, 397–402, 2012.
52. A. Mucherino, C. Lavor, L. Liberti, N. Maculan, *On the Discretization of Distance Geometry Problems*, ITHEA Conference Proceedings, Mathematics of Distances and Applications 2012 (MDA12), Varna, Bulgaria, 160–168, 2012.
53. W. Gramacho, A. Mucherino, C. Lavor, N. Maculan, *A Parallel BP Algorithm for the Discretizable Distance Geometry Problem*, IEEE Conference Proceedings, Workshop on Parallel Computing and Optimization (PCO12), 26th IEEE International Parallel & Distributed Processing Symposium (IPDPS12), Shanghai, China, 1756–1762, 2012.

54. A. Mucherino, M. Fuchs, X. Vasseur, S. Gratton, *Variable Neighborhood Search for Robust Optimization and Applications to Aerodynamics*, Lecture Notes in Computer Science **7116**, I. Lirkov, S. Margenov, J. Wąsiewicz (Eds.), Proceedings of the 8th International Conference on Large-Scale Scientific Computations (LSSC11), Sozopol, Bulgaria, 230–237, 2012.
55. A. Mucherino, C. Lavor, L. Liberti, *A Symmetry-Driven BP Algorithm for the Discretizable Molecular Distance Geometry Problem*, IEEE Conference Proceedings, Computational Structural Bioinformatics Workshop (CSBW11), International Conference on Bioinformatics & Biomedicine (BIBM11), Atlanta, GA, USA, 390–395, 2011.
56. A. Mucherino, *Extending the Definition of β -Consistent Biclustering for Feature Selection*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS11), Workshop on Computational Optimization (WCO11), Szczecin, Poland, 269–274, 2011.
57. A. Mucherino, A. Urtubia, *Feature Selection for Datasets of Wine Fermentations*, Proceedings of the 10th International Conference on Modeling and Applied Simulation (MAS11), Rome, Italy, 309–313, 2011.
58. A. Mucherino, G. Ruß, *Recent Developments in Data Mining and Agriculture*, IbaI Conference Proceedings, Proceedings of the Industrial Conference on Data Mining (ICDM11), Workshop on Data Mining in Agriculture (DMA11), New York City, USA, 90–98, 2011.
59. L. Liberti, B. Masson, J. Lee, C. Lavor, A. Mucherino, *On the Number of Solutions of the Discretizable Molecular Distance Geometry Problem*, Lecture Notes in Computer Science **6831**, W. Wang, X. Zhu, D-Z. Du (Eds.), Proceedings of the 5th Annual International Conference on Combinatorial Optimization and Applications (COCO11), Zhangjiajie, China, 322–342, 2011.
60. A. Mucherino, C. Lavor, T. Malliavin, L. Liberti, M. Nilges, N. Maculan, *Influence of Pruning Devices on the Solution of Molecular Distance Geometry Problems*, Lecture Notes in Computer Science **6630**, P.M. Pardalos, S. Rebennack (Eds.), Proceedings of the 10th International Symposium on Experimental Algorithms (SEA11), Crete, Greece, 206–217, 2011.
61. C. Lavor, L. Liberti, A. Mucherino, *On the Solution of Molecular Distance Geometry Problems with Interval Data*, IEEE Conference Proceedings, International Workshop on Computational Proteomics (IWCP10), International Conference on Bioinformatics & Biomedicine (BIBM10), Hong Kong, 77–82, 2010.
62. A. Mucherino, L. Liberti, C. Lavor, *MD-jeep: an Implementation of a Branch & Prune Algorithm for Distance Geometry Problems*, Lectures Notes in Computer Science **6327**, K. Fukuda et al. (Eds.), Proceedings of the 3rd International Congress on Mathematical Software (ICMS10), Kobe, Japan, 186–197, 2010.
63. A. Mucherino, A. Urtubia, *Consistent Biclustering and Applications to Agriculture*, IbaI Conference Proceedings, Proceedings of the Industrial Conference on Data Mining (ICDM10), Workshop on Data Mining in Agriculture (DMA10), Berlin, Germany, 105–113, 2010.
64. A. Mucherino, C. Lavor, L. Liberti, E-G. Talbi, *A Parallel Version of the Branch & Prune Algorithm for the Molecular Distance Geometry Problem*, IEEE Conference Proceedings, ACS/IEEE International Conference on Computer Systems and Applications (AICCSA10), Hammamet, Tunisia, 1–6, 2010.
65. C. Lavor, A. Mucherino, L. Liberti, N. Maculan, *An Artificial Backbone of Hydrogens for Finding the Conformation of Protein Molecules*, IEEE Conference Proceedings, Computational Structural Bioinformatics Workshop (CSBW09), International Conference on Bioinformatics & Biomedicine (BIBM09), Washington D.C., USA, 152–155, 2009.
66. A. Mucherino, C. Lavor, *The Branch and Prune Algorithm for the Molecular Distance Geometry Problem with Inexact Distances*, Proceedings of World Academy of Science, Engineering and Technology **58**, International Conference on Bioinformatics and Biomedicine (ICBB09), Venice, Italy, 349–353, 2009.

67. C. Lavor, A. Mucherino, L. Liberti, N. Maculan, *Computing Artificial Backbones of Hydrogen Atoms in order to Discover Protein Backbones*, IEEE Conference Proceedings, International Multiconference on Computer Science and Information Technology (IMCSIT09), Workshop on Computational Optimization (WCO09), Mragowo, Poland, 751–756, 2009.
68. A. Mucherino, L. Liberti, C. Lavor, N. Maculan, *Comparisons between an Exact and a MetaHeuristic Algorithm for the Molecular Distance Geometry Problem*, ACM Conference Proceedings, Genetic and Evolutionary Computation Conference (GECCO09), Montréal, Canada, 333–340, 2009.
69. F. Marinelli, O. de Weck, D. Krob, L. Liberti, A. Mucherino, *A General Framework for Combined Module- and Scale-based Product Platform Design*, Electronic Proceedings, 2nd International Symposium on Engineering Systems Proceedings, MIT, Cambridge, Massachusetts, 2009.
70. A.R. Kammerdiner, A. Mucherino, P.M. Pardalos, *Application of Monkey Search Meta-Heuristic to Solving Instances of the Multidimensional Assignment Problem*, Lecture Notes in Control and Information Sciences **381**, M.J. Hirsch, C. Commander, P.M. Pardalos, R. Murphey (Eds.), Proceedings of the 8th International Conference on Optimization and Cooperative Control Strategies (CCO08), Gainesville, Florida, 385–397, 2009.
71. A. Mucherino, O. Seref, *Monkey Search: A Novel Meta-Heuristic Search for Global Optimization*, AIP Conference Proceedings **953**, O. Seref, O.E. Kundakcioglu, P.M. Pardalos (Eds.), Proceedings of the Conference “Data Mining, System Analysis and Optimization in Biomedicine”, Gainesville, Florida, 162–173, 2007.

Book chapters (refereed)

72. A. Mucherino, *Manipulating Two-Dimensional Animations by dynamical Distance Geometry*. In: “Recent Advances in Computational Optimization”, S. Fidanova (Ed.), Studies in Computational Intelligence **838**, 147–153, 2020.
73. A. Mucherino, *On the Exact Solution of the Distance Geometry with Interval Distances in Dimension 1*. In: “Recent Advances in Computational Optimization”, S. Fidanova (Ed.), Studies in Computational Intelligence **717**, 123–134, 2018.
74. A. Mucherino, S. Fidanova, M. Ganzha, *Introducing the Environment in Ant Colony Optimization*. In: “Recent Advances in Computational Optimization”, S. Fidanova (Ed.), Studies in Computational Intelligence **655**, 147–158, 2016.
75. D.S. Gonçalves, J. Nicolas, A. Mucherino, C. Lavor, *Finding Optimal Discretization Orders for Molecular Distance Geometry by Answer Set Programming*. In: “Recent Advances in Computational Optimization”, S. Fidanova (Ed.), Studies in Computational Intelligence **610**, 1–15, 2015.
76. J. Seo, J-K. Kim, J. Ryu, C. Lavor, A. Mucherino, D-S. Kim, *BetaMDGP: Protein Structure Determination Algorithm Based on the Beta-complex*. In: “Transactions on Computational Science XXII”, M.L. Gavrilova, C.J.K. Tan (Eds.), Lecture Notes in Computer Science **8360**, 130–155, 2014.
77. T.E. Malliavin, A. Mucherino, M. Nilges, *Distance Geometry in Structural Biology: New Perspectives*. In: “Distance Geometry: Theory, Methods and Applications”, A. Mucherino, C. Lavor, L. Liberti, N. Maculan (Eds.), 329–350, 2013.
78. L. Liberti, C. Lavor, A. Mucherino, *The Discretizable Molecular Distance Geometry Problem seems Easier on Proteins*. In: “Distance Geometry: Theory, Methods and Applications”, A. Mucherino, C. Lavor, L. Liberti, N. Maculan (Eds.), 47–60, 2013.
79. A. Mucherino, L. Liberti, *A VNS-based Heuristic for Feature Selection in Data Mining*. In: “Hybrid Meta-Heuristics”, Studies in Computational Intelligence **434**, E-G. Talbi (Ed.), 353–368, 2013.

80. A. Mucherino, O. Seref, *Modeling and Solving Real Life Global Optimization Problems with Meta-Heuristic Methods*. In: “Advances in Modeling Agricultural Systems”, Springer Optimization and Its Applications **25**, P.J. Papajorgji, P.M. Pardalos (Eds.), 403–420, 2008.
81. G. Ceci, A. Mucherino, M. D’Apuzzo, D. di Serafino, S. Costantini, A. Facchiano, G. Colonna, *Computational Methods for Protein Fold Prediction: an Ab-Initio Topological Approach*. In: “Data Mining in Biomedicine”, Springer Optimization and Its Applications **7**, P.M. Pardalos, V. Boginski and A. Vazacopoulos (Eds.), 391–429, 2007.

Short conference papers (up to 4 pages, refereed)

82. F. Elain, A. Mucherino, L. Hoyet, R. Kulpa, *Feature Selection in Time-Series Motion Databases*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS18), Workshop on Computational Optimization (WCO18), Poznan, Poland, 245–248, 2018.
83. A. Mucherino, D.S. Gonçalves, A. Bernardin, L. Hoyet, F. Multon, *A Distance-Based Approach for Human Posture Simulations*, IEEE Conference Proceedings, Federated Conference on Computer Science and Information Systems (FedCSIS17), Workshop on Computational Optimization (WCO17), Prague, Czech Republic, 441–444, 2017.
84. R. Alves, A. Cassioli, A. Mucherino, C. Lavor, L. Liberti, *Adaptive Branching in iBP with Clifford Algebra*, Proceedings of Distance Geometry and Applications (DGA13), Manaus, Amazonas, Brazil, 65–69, 2013.
85. V. Costa, A. Mucherino, L.M. Carvalho, N. Maculan, *On the Discretization of iDMDGP instances regarding Protein Side Chains with Rings*, Proceedings of Distance Geometry and Applications (DGA13), Manaus, Amazonas, Brazil, 99–102, 2013.
86. W. Gramacho, D.S. Gonçalves, A. Mucherino, N. Maculan, *A new Algorithm to Finding Discretizable Orderings for Distance Geometry*, Proceedings of Distance Geometry and Applications (DGA13), Manaus, Amazonas, Brazil, 149–152, 2013.
87. C. Lavor, A. Mucherino, L. Liberti, N. Maculan, *Finding Low-Energy Homopolymer Conformations by a Discrete Approach*, Proceedings of Global Optimization Workshop 2012 (GOW12), Natal, Brazil, 3–6, 2012.
88. A. Mucherino, I. Wohlers, G.W. Klau, R. Andonov, *Sparsifying Distance Matrices for Protein-Protein Structure Alignments*, Proceedings of the 10th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW11), Rome, Italy, 211–214, 2011.
89. L. Liberti, B. Masson, C. Lavor, A. Mucherino, *Branch-and-Prune Trees with Bounded Width*, Proceedings of the 10th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW11), Rome, Italy, 189–193, 2011.
90. A. Mucherino, C. Lavor, L. Liberti, N. Maculan, *Strategies for Solving Distance Geometry Problems with Inexact Distances by Discrete Approaches*, Proceedings of Toulouse Global Optimization 2010 (TOGO10), Toulouse, France, 93–96, 2010.
91. A. Mucherino, C. Lavor, N. Maculan, *The Molecular Distance Geometry Problem Applied to Protein Conformations*, Proceedings of the 8th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW09), Paris, France, 337–340, 2009.
92. C. Lavor, L. Liberti, A. Mucherino, N. Maculan, *On a Discretizable Subclass of Instances of the Molecular Distance Geometry Problem*, ACM Conference Proceedings, 24th Annual ACM Symposium on Applied Computing (SAC09), Hawaii, USA, 804–805, 2009.

Extended abstracts (refereed)

93. A. Mucherino, *On the Manipulation of Simple Animations by dynamical Distance Geometry*, Proceedings of the XVI international conference on “Algebra, Number Theory, and Discrete Geometry: Modern Problems, Applications, and Problems of History”, Tula, Russia, May 2019.
94. J. Omer, A. Mucherino, *Integer Programming for the Search of a Discretization Order in Distance Geometry Problems*, Proceedings of the conference ROADEF17, Metz, France, February 2017.
95. A. Mucherino, *Discretization Orders and Distance Geometry*, Proceedings of the conference ROADEF15, Marseille, France, February 2015.
96. D.S. Gonçalves, A. Mucherino, *Challenges for Extending Discretizable Molecular Distance Geometry to Interval Data*, Proceedings of Many Faces of Distances (MFD14), Campinas, São Paulo, Brazil, October 2014.
97. D.S. Gonçalves, J. Nicolas, A. Mucherino, *Searching for Optimal Orders for Discretized Distance Geometry*, Proceedings of Many Faces of Distances (MDF14), Campinas, São Paulo, Brazil, October 2014.
98. R. Alves, A. Cassioli, A. Mucherino, C. Lavor, L. Liberti, *The Integration of Clifford Algebra in the iBP algorithm for the DMDGP*, Proceedings of the International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO13), Granada, Spain, 745–746, 2013.
99. M. Le Boudic-Jamin, A. Mucherino, R. Andonov, *Modeling Protein Flexibility by Distance Geometry*, Proceedings of the conference ROADEF12, Angers, France, April 2012.
100. L. Liberti, C. Lavor, A. Mucherino, *An Exponential Algorithm for the Discretizable Molecular Distance Geometry Problem is Polynomial on Proteins*, Proceedings of the 7th International Symposium on Bioinformatics Research and Applications (ISBRA11), Book of extended abstracts, pages 40–43, Changsha, China, May 2011.
101. A. Mucherino, C. Lavor, L. Liberti, *The Discretizable Molecular Distance Geometry Problem: from Ideal to Real Instances*, Proceedings of the conference ROADEF11, Saint Etienne, France, March 2011.
102. A. Mucherino, L. Jourdan, E-G. Talbi, *A Heuristic for Biclustering based on a Bilevel Reformulation*, Proceedings of the International Conference on Metaheuristics and Nature Inspired Computing (META10), Djerba, Tunisia, October 2010.
103. A. Mucherino, S. Cafieri, *A New Heuristic Algorithm for Consistent Biclustering*, Proceedings of the EU/MEeting 2010, Lorient, France, June 2010.
104. A. Mucherino, C. Lavor, L. Liberti, E-G. Talbi, *On Suitable Parallel Implementations of the Branch & Prune Algorithm for Distance Geometry*, Proceedings of the Grid5000 Spring School, Lille, France, April 2010.
105. A. Mucherino, C. Lavor, L. Liberti, N. Maculan, *A Discrete Approach for Finding the Conformation of Molecules from NMR Data*, Proceedings of the conference ROADEF10, Toulouse, France, February 2010.
106. C. Lavor, L. Liberti, A. Mucherino, N. Maculan, *Recent Results on the Discretizable Molecular Distance Geometry Problem*, Proceedings of the conference ROADEF09, Nancy, France, 283–284, 2009.

Other

107. J. Omer, A. Mucherino, *Referenced Vertex Ordering Problem: Theory, Applications and Solution Methods*, HAL open archives (hal-02509522, version 1), March 2020.
108. M.C. De Cola, A. Mucherino, G. Felici, L. Liberti, *A Branch-and-Prune Algorithm for the Sensor Network Localization Problem*, IASI Technical Report R.4, 2013.
109. L. Liberti, C. Lavor, B. Masson, A. Mucherino, *Polynomial Cases of the Discretizable Molecular Distance Geometry Problem*, arXiv e-print, arXiv:1103.1264v1, March 2011.
110. A. Mucherino, S. Cafieri, *A New Heuristic for Feature Selection by Consistent Biclustering*, arXiv e-print, arXiv:1003.3279v1, March 2010.
111. A. Mucherino, O. Seref, P.M. Pardalos, *Simulating Protein Conformations through Global Optimization*, arXiv e-print, arXiv:0811.3094v1, November 2008.

Theses

112. A. Mucherino, *On the Discretization of Distance Geometry: Theory, Algorithms and Applications*, HDR Monograph, University of Rennes 1. July 17th, 2018.
113. A. Mucherino, *Geometric Aspects in the Simulation of Protein Folding Processes* (in Italian), PhD Thesis, Second University of Naples. December 18th, 2005.
114. A. Mucherino, *Quadratic Optimization: Algorithms and Software for Dense Problems* (in Italian), Master Thesis, Second University of Naples. October 30th, 2001.