Curriculum vitæ

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Present Positions

- ◇ Professor, Campus Saint-Jean, University of Alberta
- ◇ Adjunct Professor, Department of Mathematical & Statistical Sciences, University of Alberta

Education

◇ Post-doctoral - Department of Mathematics, University of Quebec at Montreal, Canada	1999–2001
◇ Ph.D. in applied mathematics, Blaise Pascal University, Clermont-Ferrand, France	1996–1999
◇ Diploma of Advanced Studies in Pure Mathematics, Caen University, Caen, France	1995–1996
◇ MSc in Applied Mathematics, Hassan II University, Casablanca, Morocco	1992–1994
◇ Analyst Programmer Diploma, École Française de l'Enseignement Technique, Morocco	1992–1994

Work experience

◇ Professor of Mathematics, Campus Saint-Jean, University of Alberta	2008–
◇ Associate Dean Research & Graduate Studies, Campus Saint-Jean, University of Alberta	2013–2016
◇ Associate Dean Research, Campus Saint-Jean, University of Alberta	2010–2013
◇ Founder and Director of Research-Apprentice Program at Campus Saint-Jean	2010-2016
◇ Director - Western Provinces & Territories, the Canadian Mathematical Society	2011–2015
◇ Scientific Director & Principal Organizer of the Alberta Meetings "The Alberta College Maths Conference & North South Dialogue in Mathematics"	2011–2012
◇ Scientific Director of the 2011 Summer Meeting of the Canadian Mathematical Society	2010–2011
◇ Scientific Director & Principal Organizer of the International Conference "Odyssey of Mathematical and Computational Aspects of Molecular Structure Calculation"	2006–2008
◇ Peer Consultant in Teaching, University Teaching Service, University of Alberta	2003–2009
◇ Vice President of Association Francophone pour le Savoir, ACFAS Alberta	2004–2009
◇ Associate Professor of Mathematics, Campus Saint-Jean, University of Alberta	2005–2008
◇ Assistant Professor of Mathematics, Campus Saint-Jean, University of Alberta	2001–2005
◇ Postdoctoral Fellow, Department of Mathematics, University of Quebec at Montreal	1999–2001

National & International Committees

◇ Member of the Board of Directors, The Canadian Mathematical Society	2011–2015
◇ Chair of the Endowment Grants Committee, The Canadian Mathematical Society	2008–2012
◇ Member of the Bilingualism Committee, The Canadian Mathematical Society	2008-2011
◇ Member of the International Program Committee The International meeting on Mathematical Modeling and Computational Physics Slovakia - July 2015	2014–2015
◇ Member of the International Program Committee The International meeting on Mathematical Modeling and Computational Physics Russia, July 2013	2012–2013
◇ Member of the Scientific Committee of the International Meeting Méthodes mathématique et modélisation, University Hassan II, Morocco, November 2009	2008–2009
◇ Chair of the International Scientific Committee "Odyssey of Mathematical and Computational Aspects of Molecular Structure Calculation"	2006–2008
◇ Member of the Mathematics Scholarships and Fellowships Selection Committee Natural Sciences and Engineering Research Council of Canada	2004–2007

Committees UofA

- ◇ Representative of the University of Alberta for France-Canada Research Fund (FCRF) 2010–2016
- ◇ The University Research Policy Committee (URPC) 2010–2016
- ◇ The President's Research Awards Advisory Committee (PRAAC) 2010–2015
- ◇ The McCalla Professor Selection Committee 2010–2014
- ◇ The SSHRC Leaders Committee 2010–2016
- ◇ FGSR and Associate Deans Committee 2014–2016
- ◇ Faculty Ambassador, Undergraduate Research Initiative (URI) 2014–2018
- ◇ The Undergraduate Research Initiative (URI) Advisory Committee 2011–2014
- ◇ The NSERC Grant Assist Program 2014–2016
- ◇ ALES Adjudication Committee - Food and Health Initiative - Vitamin Fund 2010–2012
- ◇ Undergraduate Research Symposium Planning Committee 2011
- ◇ The Science Faculty Council, University of Alberta 2008–2010

Committees CSJ

- ◇ Chair of the Faculty Research Committee 2010–2016
- ◇ The Faculty Executive Committee 2010–2016
- ◇ Member of the Faculty Evaluation Committee 2014–2015
- ◇ Faculty Teaching and Learning Committee 2010–2015
- ◇ Faculté Saint-Jean Presidential Academic Review and Renewal Committee 2013–2014
- ◇ Council of the Institute of Canadian Studies 2011–2014
- ◇ Chair of the Faculty Evaluation Committee 2012–2013
- ◇ "Comité de Synthèse" 2010–2011
- ◇ Member of the Faculty Evaluation Committee (FEC) 2009–2011
- ◇ The Faculty Research Committee, Campus Saint-Jean 2006–2009
- ◇ Chair of the Excellence in Teaching Awards Committee 2005–2007
- ◇ The Faculty Nomination Committee, Campus Saint-Jean 2004–2006

Research Interests

- ◇ Asymptotics and Collocation Method
- ◇ Extrapolation methods and Nonlinear Transformations
- ◇ Numerical Integration
- ◇ Mathematical Modeling
- ◇ Molecular Electronic Structure Calculations
- ◇ Nuclear Magnetic Resonance

NSERC Research Grants

- ◇ Discovery Grant - Individual 2016–2021, 100000$
  Natural Sciences and Engineering Research Council of Canada (NSERC)
  Project : Analytical and numerical methods for slowly convergent integrals
- ◇ Engage Grant 2016, 25000$
  Natural Sciences and Engineering Research Council of Canada (NSERC)
  Project : Statistical machine learning for improving failure detection.
- ◇ Discovery Grant - Individual 2011–2016, 75000$
  Natural Sciences and Engineering Research Council of Canada (NSERC)
  Project : Extrapolation Methods and Sequence Transformations
- ◇ Discovery Grant - Individual 2009–2011, 27000$
  Natural Sciences and Engineering Research Council of Canada (NSERC)
  Project : Extrapolation Methods and Nonlinear Transformations for Applied Mathematics, Theoretical Chemistry and Molecular Physics.
- ◇ Collaborative Research and Development Grant (CRD) 2007–2010, 76500$
  Natural Sciences and Engineering Research Council of Canada
  Project : Residential construction material waste minimization.

◇ Discovery Grant - Individual — 2003–2008, 30000$
Natural Sciences and Engineering Research Council of Canada (NSERC)
Project : Fast and accurate numerical evaluation of molecular integrals

Industrial Research Grants

◇ Industrial Contribution to NSERC Engage — 2016, 48000$
Optimum Instruments Inc.
Project : Statistical machine learning for improving failure detection.

◇ Landmark Master Builder - Collaborative Research — 2007–2010, 90000$
Project : Residential construction material waste minimization.

◇ MITACS Inc. - Collaborative Research — 2007–2010, 45000$
Project : Residential construction material waste minimization.

External Research Grants

◇ Fonds du Secrétariat Francophone — 2015–2016, 50000$
Secrétariat Francophone
Project : Modèle transitionnel en littératie et compétences essentielles chez les adultes francophones d'Edmonton.

◇ Human Resources and Skills Development Canada — 2012–2014, 250000$
Office of the Information Commissioner of Canada
Project : Towards an Integrated Model to support the literacy development and essential skills of military families

◇ Pacific Institute of the Mathematical Sciences — 2013–2014, 4500$
Project : Organization of the North & South Dialogue in Mathematics 2014.

◇ Alberta Innovates - Conference Funds — 2013–2014, 4000$
Project : Organization of the North & South Dialogue in Mathematics 2014.

◇ Pacific Institute of the Mathematical Sciences — 2012–2013, 8500$
Project : Organization of the North & South Dialogue in Mathematics 2013.

◇ Alberta Innovates - Conference Funds — 2012–2013, 4000$
Project : Organization of the North & South Dialogue in Mathematics 2013.

◇ Pacific Institute of the Mathematical Sciences — 2011–2012, 4000$
Project : Organization of the North & South Dialogue in Mathematics 2012.

◇ Alberta Advanced Education and Technology — 2008–2009, 7500$
Project : Organization of the International Conference *the Odyssey 2008*.

◇ Presidential Fund for Innovation and Development, Collaborative Research — 2007–2008, 25000$
Project : Impacts Politiques et Sociaux de la Recherche Canadienne en Sciences Humaines.

Internal Research Grants

◇ Teaching and Learning Enhancement (TLEF) Fund – Collaborative — 2011–2014, 90228$
University of Alberta
Project : Mathematical Suite foir Moodle (MSM).

◇ Special Capital Equipment Fund, University of Alberta — 2002–2005, 12450$
Projet : The development of ab initio software for molecular integrals.

Research Supervision

◇ **Postdoctoral Fellows (2)**

Name	Year	Project	Present Position
Temga Temga	2008–2010	Analytical and numerical treatment of magnetic properties of molecules	Petroleum Field Specialist Engineering Seismology Group Canada Inc.
John Fofanah	2007–2008	Management of the infrastructure and quality of life assessment in war torn third world countries	Professional Engineer & Project Management Allegheny Energy, Pittsburgh USA

◇ **Ph.D Students (7)**

Name	Year	Department	Project	Present Position
Philippe Gaudreau	2013–2016	Depart Math & Stat Sciences UofA	Sinc Collocation Methods for Solving Quantum Mechanical Problems	Fellowship The Data Incubator
Richard Slevinsky	2011–2014	Depart Math & Stat Sciences	Techniques in numerical Integration	Assistant Professor Univ. Manitoba
Don Mah (Co-supervision)	2006–2010	Depart. Civil & Environ. Engineering, UofA	Residential Construction Material Waste Minimization	Professional Engineer & Chair of the Construction Programs, NAIT
Samira Elbaroudi (Co-supervision)	2006–2009	Université Chouaïb Doukkali Morocco	Molecular quantum similarity measurements and applications	Unknown
Vishal Sharma (Co-supervision)	2004–2009	Depart. Civil & Environ. Engineering, UofA	Levels of Service (LOS) Optimization using multi-objective decision-making	Professional Engineer & Faculty Instructor NAIT
John Fofanah (Co-supervision)	2003–2007	Depart. Civil & Environ. Engineering, UofA	Management of infrastructure and quality of life assessment in war torn third world countries. The case of Sierra Leone.	Professional Engineer & Project Management Allegheny Energy Pittsburgh USA
Lilian Berlu (Co-supervision)	2001–2003	Université Blaise Pascal France	Development of software package for the evaluation of molecular integrals	Researcher Commissariat à l'Énergie Atomique (CEA), France

◇ **Master Students (7)**

Name	Year	Department	Project	Present Position
Philippe Gaudreau	2012–2013	Depart Math & Stat Sciences UofA	Asymptotic Expansion for Energy Eigenvalues for Anharmonic Oscillators	Fellowship The Data Incubator
Richard Slevinsky	2009–2011	Depart Math & Stat Sciences UofA	Generalized transformations for numerical integration of oscillatory integrals	Assistant Professor Depart. Math Univ. Manitoba
Brahim Sabghane (Co-supervision)	2009–2010	Univ. Hassan II Morocco	Extrapolation methods for slowly convergent series	Unknown
Mohammed Mouattamid (Co-supervision)	2008–2010	Depart. Civil & Environ. Engineering, UofA	Industrial site-layout optimization utilizing multiple cranes	Engineering Analyst Enbridge Inc.
Khaled Kattan (Co-supervision)	2008–2010	Depart. Civil & Environ. Engineering, UofA	3D modeling approach for the automation of construction operations	Project Manager Trans-Northern Pipelines Inc.
Aziz Tariq (Co-supervision)	2008–2010	Depart. Civil & Environ. Engineering, UofA	Cast-in-place steel fiber reinforced concrete liner design for pressurize tunnel constructability perspective	Professional Engineer & Construction Project Manager The City of Edmonton
Hasan Shafiul (Co-supervision)	2008–2010	Depart. Civil & Environ. Engineering, UofA	Interactive and dynamic integrated module for lmobile cranes supporting	Project Engineer Mamoet Canada Western Ltd

◇ **Undergraduate Research Students (23)**

Name	Year	Department	Project	Present Position
Émelie El-Hage (NSERC USRA)	2016	CSJ	Cancer metabolism	Pharmacy student UofA
Étienne Vincent	2016	CSJ	Cancer metabolism	BSc student, UofA
Fatima Davelouis	2016	Depart Math & Stat Sciences	Sinc collocation methods and applications	BSc student UofA
Patricia Gomez (Roger Smith)	2016 2015	CSJ	Essential Competencies in Math education	Teacher Elementary School
Nan Yuesong (UAI)	2016	International Student. China	Julia Programming for molecular integrals	Grad Student China
Kaylin Bechard (NSERC USRA)	2015	CSJ	Modern tools in numerical integration	UofA Employee
Tyler Cassidy (NSERC USRA)	2015	Depart Math & Stat Sciences	Computing eigenvalues of coulombic potentials	Graduate Student McGill Univ.
Michelle Sullivan	2015	CSJ	Numerical treatment of molecular NMR properties	BSc Student UofA
Tyler Cassidy (NSERC USRA)	2014	CSJ	Computing eigenvalues of coulombic potentials	Graduate student McGill Univ
Bria Kindersley (NSERC USRA)	2013	CSJ	A Model for Measuring Essential Competencies	Developer. PNI Digital Media Ltd.
Philippe Gaudreau (NSERC USRA)	2012 2011	CSJ	Tails of probability distributions	Fellowship The Data Incubator
Kartik Vasudev	2012 2011	Enginneering Physics, UofA	NMR properties of molecular systmes	Graduat student Fac. Engineering
Bria Kindersley (NSERC USRA)	2012	CSJ	Clenshaw-Curtis quadrature method	Developer. PNI Digital Media Ltd.
Pranai Vasudev	2011 2010	CSJ	Nuclear magnetic resonance of molecular systems	Graduat student UofT
Richard Slevinsky (NSERC USRA)	2009	Enginneering Physics, UofA	Algorithms for of the G transformations	Assistant Professor Univ. Manitoba
Currie Lewis (STE Funding)	2008	CSJ	Connecting applied mathematics to biology	Family Doctor
Richard Slevinsky (NSERC USRA)	2008 2007	Enginneering Physics, UofA	Extrapolation methods for the Twisted tail	Assistant Professor Univ. Manitoba
Chad Krayenhoff (Roger Smith)	2007	CSJ	Technology in secondary level mathematics	Teacher - Jasper Junior High School
Khaled Kattan (STEP)	2007 2006	CSJ	Symbolic programming language in mathematics	Project Manager. Trans-Northern Pipelines Inc.
Stefan Duret (NSERC USRA)	2006 2005	Enginneering Physics, UofA	The WD and SD transformations	Entrepreneur
Nathan Linfoot	2006	CSJ	Overlap-like quantum similarity integrals	Unknown
Pierre Muhie	2006	CSJ	Symbolic programming language in mathematics	Economist
Paulina Stroemich	2005	Enginneering Physics, UofA	Symbolic programming language in mathematics	Substation Engineer Epcor

Editorship

◇ Editor – *Advances in Numerical Analysis* 2011–

◇ Member of the Editorial Board – *Dataset Papers in Physical Chemistry* 2012–2015

◇ Member of the Editorial Board – *Abstract and Applied Analysis* 2010–2011

◇ Guest Editor, *International Journal of Quantum Chemistry* 2008–2009
Proceedings of the International Conference *Odyssey 2008 – Alberta*

Reviewer

- ◇ *Numerical Algorithms*
- ◇ *Applied Numerical Mathematics*
- ◇ *Journal of Computational Applied Mathematics*
- ◇ *Journal of Physics A : Mathematical and Theoretical*
- ◇ *Journal of Computational Physics*
- ◇ *Journal of Computational Chemistry*
- ◇ *Canadian Journal of Physics*
- ◇ *Journal of Molecular Modeling*
- ◇ *Journal of Physical Chemistry*

Courses Taught

- ◇ Analysis – 1st year course (France)
- ◇ General Mathematics – 1st year course (France)
- ◇ Calculus I & II for Engineering – MATHQ 100 & 101
- ◇ Calculus I & II – MATHQ 113 & 115
- ◇ Linear Algebra for Engineering – MATHQ 102
- ◇ Differential Equations for Engineering – MATHQ 201
- ◇ Introduction to Differential Equations – MATHQ 334
- ◇ Partial Differential Equations – MATHQ 337
- ◇ Mathematical Modelling – Math 372
- ◇ Techniques in Applied Mathematics – MATH 538
- ◇ Operation Research – CIV E 605
- ◇ Advanced Mathematics for Engineers – CIV E 709

Honors & Awards

- ◇ Graduate Student Supervisor Award, Graduate Students' Association, University of Alberta 2014
- ◇ Rutherford Award for Excellence in Undergraduate Teaching, University of Alberta 2012
- ◇ Best Paper Award in Computing, Education and Research 2009
  American Society of Civil Engineering. The 2009 Construction Research Congress
- ◇ Nominated Expert in Applied Mathematics 2009
  Nomination by AUF (Agence universitaire de la Francophonie)
- ◇ Award for Excellence in Teaching, Campus Saint-Jean, University of Alberta 2004 and 2008
- ◇ Award for Excellence in Research, Campus Saint-Jean, University of Alberta 2004, 2005 and 2007
- ◇ McCalla Research Professorship, University of Alberta 2006
- ◇ Award for young researchers, Clermont-Ferrand & Blaise Pascal University, France 1999
- ◇ Award for Excellence, École Française de l'Enseignement Technique 1994

Publications

◇ **Articles published in refereed journals (graduates students in blue; undergraduates in red)**

1. P. Gaudreau and H. Safouhi. A Numerical Treatment of Energy Eigenvalues of Harmonic Oscillators Perturbed by a Rational Function. *Journal of Mathematical Physics*, Submitted, 2016.
2. T. Cassidy, P. Gaudreau, and H. Safouhi. On the Computation of Eigenvalues of the Anharmonic Coulombic Potential. *Journal of Mathematical Chemistry*, Submitted, 2016.
3. P. Gaudreau and H. Safouhi. Centrosymmetric Matrices in the Sinc Collocation Method for Sturm-Liouville Problems. *European Physical Journal*, 108, 01004 (1–12), 2016.
4. P. Gaudreau, R. Slevinsky and H. Safouhi. The Double Exponential Sinc Collocation Method for Singular Sturm-Liouville Problems. *Journal of Mathematical Physics*, 57, 043505 (1–19), 2016.
5. P. Gaudreau, R. Slevinsky and H. Safouhi. Computing Energy Eigenvalues of Anharmonic Oscillators using the Double Exponential Sinc collocation Method. *Annals of Physics.*, 360, 520–538, 2015.
6. P. Gaudreau, K. Hayami, Y. Aoki, H. Safouhi and A. Konagaya. Improvements to the Cluster Newton Method for an Underdetermined Inverse Problem. *Journal of Applied and Computational Mathematics.*, 283, 122–141, 2015.

7. M. Slevinsky and H. Safouhi. Useful Properties of the Coefficients of the Slevinsky-Safouhi Formula for Differentiation. *Numer. Algor.*, 66, 457–477, 2014.
8. P. Gaudreau, R. Slevinsky and H. Safouhi. An Asymptotic Expansion for Energy Eigenvalues for Anharmonic Oscillators. *Annals of Physics.*, 337, 261–277, 2013.
9. M. Slevinsky and H. Safouhi. A comparative numerical study of numerical steepest descent, extrapolation methods and sequence transformations in computing semi-infinite integrals. *Numer. Algor.*, 60, 2, 315–337, 2012.
10. P. Gaudreau, R. Slevinsky and H. Safouhi. Computation of tail probability distributions via extrapolation methods and connection with rational and Padé approximants. *SIAM J. Sci. Comput.*, 34, B65–B85, 2012.
11. H. Safouhi, M. Mouattamid, U. Hermann and A. Hendi. An algorithm for the calculation of feasible mobile crane position areas. *Automation in Construction*, 20, 360–367, 2011.
12. J. D. Manrique, M. Al-Hussein, A. Bouferguene, H. Safouhi and R. Nasseri. Combinatorial algorithm for optimizing wood wast in framing designs. *ASCE J. Construct. Eng. Manag.*, 137, 188–197, 2011.
13. H. Safouhi. Integrals of the paramagnetic contribution in the relativistic calculation of the shielding tensor. *J. Math. Chem.*, 48, 601–616, 2010.
14. M. Slevinsky and H. Safouhi. A Recursive algorithm for the G transformation and accurate computation of incomplete Bessel functions. *App. Num. Math.*, 60, 1411–1417, 2010.
15. R. Slevinsky, T. Temga, M. Mouattamid and H. Safouhi. One- and two-center ETF-integrals of first order in relativistic calculation of NMR parameters. *J. Phys. A : Math. Theor.*, 43, 225202 (14pp), 2010.
16. H. Safouhi. Bessel, sine and cosine functions and extrapolation methods for computing molecular multi-center integrals. *Numer. Algor.*, 54, 141–167, 2010.
17. H. Shafiul, M. Al-Hussein, U. Hermann and H. Safouhi. Interactive and dynamic integrated module for mobile cranes supporting system design. *ASCE J. Construct. Eng. Manag.*, 136, 179–186, 2010.
18. M. Slevinsky and H. Safouhi. New Formulae for Higher Order Derivatives and Applications. *J. Comput. App. Math.*, 2, 405–419, 2009.
19. H. Safouhi. Erratum and Answer to the comment by Harris on : Numerical treatment of two-center overlap integrals (J. Mol. Mod., 12, 213–220, 2006). *J. Mol. Model.*, 15, 1541-1543, 2009.
20. M. Slevinsky and H. Safouhi. The S and G transformations for computing three-center nuclear attraction integrals. *Int. J. Quantum Chem.*, 109, 1741–1747, 2009.
21. M. Slevinsky and H. Safouhi. Numerical Treatment of a Twisted Tail using Extrapolation Methods. *Numer. Algor.*, 48, 301 - 316, 2008.
22. L. Berlu and H. Safouhi. Analytical treatment of nuclear magnetic shielding tensor integrals over exponential type functions. *J. Theor. Comput. Chem.*, 7, 1215–1225, 2008.
23. S. Duret, A. Bouferguene and H. Safouhi. Strategies for an efficient implementation of the Gauss-Bessel quadrature for the evaluation of multicenter integral over STFs. *J. Comput. Chem.*, 29, 6, 934–944, 2008.
24. V. Sharma, M. Al-Hussein, H. Safouhi and A. Bouferguene. Municipal infrastructure asset levels of service assessment for investment decisions using analytic hierarchy process. *ASCE J. Infrastruct. Sys.*, 14, 3, 193–200, 2008.
25. S. Duret and H. Safouhi. The W algorithm and the $\bar{D}$ transformation for the numerical evaluation of three-center nuclear attraction integrals. *Int. J. Quantum Chem.*, 107, 1060–1066, 2007.
26. H. Safouhi and A. Bouferguene. Nonlinear transformation methods for accelerating the convergence of Coulomb integrals over exponential type functions. *Theor. Chem. Acc.*, 117, 183–332, 2007.
27. J. B. Fofanah, M. Al-Hussein, H. Safouhi and A. Bouferguene. Postwar reconstruction : sustainability approach using hamming distance and analytic hierarchy process concepts. A case study of Sierra Leone, *Int. J. Environ. Cult. Econ. Soc. Sustain.*, 3, 1, 28–41, 2007.
28. A. Bouferguene and H. Safouhi. The Gauss-Bessel quadrature : A tool for the evaluation of Barnett-Coulson/Lowdin functions. *Int. J. Quantum Chem.*, 106, 2398–2407, 2006.
29. H. Safouhi. Numerical treatment of two-center overlap integrals. *J. Mol. Model.*, 12, 213–220, 2006.

30. H. Safouhi. Analytical and numerical development for the two-center overlap-like quantum similarity integrals over Slater type functions. *J. Phys. A. : Math. Gen.*, 38, 7341–7361, 2005.
31. H. Safouhi and A. Bouferguene. Extrapolation methods for improving convergence of spherical Bessel integrals for the two-center Coulomb integrals. *Int. J. Quantum Chem.*, 106, 2318–2323, 2006.
32. A. Bouferguene and H. Safouhi. An Efficient method for computing NMR spectral densities involving Kohlrausch/Williams-Watts decay function. *Int. Elect. J. Mol. Des.*, 5, 201–212, 2006.
33. H. Safouhi and L. Berlu. The Fourier transform method and the $S\bar{D}$ approach for the analytical and numerical treatment of multicenter overlap-like quantum similarity integrals. *J. Comp. Phys.*, 216, 19–36, 2006.
34. A. Bouferguene and H. Safouhi. A complexity analysis of the Gauss-Bessel quadrature as applied to the evaluation of multi-centre integrals over STFs. *J. Phys. A. : Math. Gen.*, 39, 499–511, 2006.
35. H. Safouhi and A. Bouferguene. The symbolic programming language in molecular multicenter integral problem. *Int. J. Quantum Chem.*, 106, 65–78, 2006.
36. A. Bouferguene and H. Safouhi. Polynomial approximates of Boys function using the Lanczos Tau method. *Recent Res. Devel. Quantum Chem.*, 5, 1–13, 2006.
37. L. Berlu and H. Safouhi. Analytical development of multicenter overlap-like quantum similarity integrals over Slater type functions and numerical evaluation. *J. Theor. Comput. Chem.*, 4, 787–801, 2005.
38. A. Bouferguene and H. Safouhi. Use of Lanczos Tau method to derive polynomial approximate from the addition theorem of Slater type orbitals. *Int. Elect. J. Mol. Des.*, 4, 527–536, 2005.
39. H. Safouhi. Highly accurate numerical results for three-center nuclear attraction and two-electron Coulomb and exchange integrals over Slater type functions. *Int. J. Quantum Chem.*, 100, 172–183, 2004.
40. H. Safouhi and L. Berlu . Molecular three-center electronic integrals over Slater type orbitals evaluated using nonlinear transformations. *Int. Elect. J. Mol. Des.*, 3, 83–92, 2004.
41. L. Berlu and H. Safouhi. Multicenter two-electron Coulomb and exchange integrals over Slater functions evaluated using a generalized algorithm based on nonlinear transformations. *J. Phys. A. : Math. Gen.*, 37, 3393–3410, 2004.
42. L. Berlu, H. Safouhi and P. Hoggan. Fast and accurate evaluation of three-center two-electron Coulomb, hybrid and three-center nuclear attraction integrals over Slater type orbitals using the $S\bar{D}$ transformation. *Int. J. Quantum Chem.*, 99, 221–235, 2004.
43. L. Berlu and H. Safouhi. A new algorithm for accurate and fast numerical evaluation of hybrid and three-center two-electron Coulomb integrals over Slater type functions. *J. Phys. A. : Math. Gen.*, 36, 11267–11283, 2003.
44. L. Berlu and H. Safouhi. An extremely efficient and rapid algorithm for a numerical evaluation of three-center nuclear attraction integrals over Slater type functions. *J. Phys. A. : Math. Gen.*, 36, 11791–11805, 2003.
45. H. Safouhi and P. E. Hoggan. Nonlinear transformation methods for improving convergence of molecular electronic integrals over exponential type orbitals. *Mol. Phys.*, 101, 19–31, 2003.
46. H. Safouhi. Convergence properties of the $S\bar{D}$ transformation and a fast and accurate numerical evaluation of molecular integrals. *J. Phys. A. : Math. Gen.*, 35, 9685–9698, 2002.
47. H. Safouhi and P. E. Hoggan. Three-center nuclear attraction, three-center two-electron Coulomb and hybrid integrals over B functions evaluated using the nonlinear $S\bar{D}$ transformation. *Int. J. Quantum Chem.*, 119–135, 2002.
48. H. Safouhi. Efficient and rapid numerical evaluation of the two-electron four-center Coulomb integrals using nonlinear transformations and practical properties of sine and Bessel functions. *J. Comput. Phys.*, 176, 1–19, 2002.
49. H. Safouhi and P. E. Hoggan. Recent progress in the accurate and rapid evaluation of all Coulomb integrals over Slater type orbitals. *Int. J. Quantum Chem.*, 84, 580–591, 2001.
50. H. Safouhi. An extremely efficient approach for accurate and rapid evaluation of three-centre two-electron Coulomb and hybrid integrals over B functions. *J. Phys. A. : Math. Gen.*, 34, 881–902, 2001.

51. H. Safouhi. Properties of the sine, spherical Bessel and reduced Bessel functions for improving convergence of semi-infinite very oscillatory integrals : The evaluation of three-centre nuclear attraction integrals over B functions. *J. Phys. A. : Math. Gen.*, 34, 2801–2818, 2001.
52. H. Safouhi. Numerical evaluation of three-center two-electron Coulomb and hybrid integrals over B functions using the HD and $H\bar{D}$ methods and convergence properties. *J. Math. Chem.*, 29, 213–232, 2001.
53. H. Safouhi. The HD and $H\bar{D}$ methods for accelerating the convergence of three-center nuclear attraction and four-center two-electron integrals over B functions and their convergence properties. *J. Comput. Phys.*, 165, 473–495, 2000.
54. H. Safouhi and P. E. Hoggan. New method of rapid and accurate evaluation for multicenter bielectronic integrals over B functions. *Int. J. Quantum Chem.*, 80, 236–248, 2000.
55. H. Safouhi and P. E. Hoggan. Non-linear transformations for rapid and efficient evaluation of multicenter bielectronic integrals over B functions. *J. Math. Chem.*, 25, 259–280, 1999.
56. H. Safouhi and P. E. Hoggan. Three-centre two electron Coulomb and hybrid integrals evaluated using nonlinear D- and $\bar{D}$-transformations. *J. Phys. A. : Math. Gen.*, 32, 6203–6217, 1999.
57. H. Safouhi and P. E. Hoggan. Efficient and rapid evaluation of three-center two electron Coulomb and hybrid integrals using nonlinear transformations. *J. Comput. Phys.*, 155, 331–347, 1999.
58. H. Safouhi and P. E. Hoggan. Efficient evaluation of Coulomb integrals : the nonlinear D- and $\bar{D}$-transformations. *J. Phys. A. : Math. Gen.*, 31, 8941–8951, 1998.
59. H. Safouhi, D. Pinchon and P. E. Hoggan. Efficient evaluation of integrals for density functional theory : the nonlinear D-transformations to evaluate three-center nuclear attraction integrals over B functions. *Int. J. Quantum Chem.*, 70, 181–188, 1998.

◇ **Articles published in refereed conference proceedings**

1. H. Shafiul, M. Al-Hussein, U. R. Hermann and H. Safouhi. An automated system for mobile crane selection, swing control and ground pressure calculation. *Proceedings of the Twelfth International Conference on Civil, Structural and Environmental Engineering Computing*, 1–14, 2009.
2. J. D. Manrique, M. Al-Hussein, A. Bouferguene, H. Safouhi and R. Nasseri. Automation of construction drawings and waste minimization for stick-frame constructions based on the I^3 concept. *Proceedings of the 2008 CSCE Conference*, 1, 398–406, 2008.
3. H. Shafiul, M. Al-Hussein, U. R. Hermann and H. Safouhi. Integrated module for mobile crane dynamic instability analysis and supporting system design. *ASCE Proceedings of the 2009 Construction Research Congress*, 386–395, 2009.
4. V. Sharma, M. Al-Hussein and H. Safouhi. Interactive 3D-based decision support system for municipal infrastructure investment : A framework. *Proceedings of the 2007 CSCE Conference*, 2, 1211–1222, 2007.
5. H. Safouhi and A. Bouferguene. Numerical evaluation of two-center overlap integrals over Slater-type orbitals and convergence properties. *Int. Elect. J. Mol. Des.*, 4, 413–422, 2005.
6. H. Safouhi and L. Berlu. Convergence improvement of two-electron four-center Coulomb and exchange integrals over Slater type orbitals. *Int. Elect. J. Mol. Des.*, 3, 728–736, 2004.
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