

# CURRICULUM VITAE

Stéphane Lafortune  
Professor of Mathematics, College of Charleston

## Education:

1996 - 2000 : Ph.D., Université de Montréal and Université Paris VII  
1994 - 1996 : M.S., Université de Montréal  
1990 - 1994 : B.S., Université de Sherbrooke

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## Research Interests

My research interests deal with differential equations describing phenomena in physics, biology, and chemistry. I am particularly interested in studying the stability of the solutions of those differential equations. Stability is a fundamental concept in physics. An illustration of this concept is given by trying to make a pencil stand on its lead. In theory, it is possible but, in practice, because it is such an unstable state, it cannot be done. In the example just described, the study of stability is very simple and there is no need for a mathematical analysis to prove or disprove the stability of the system. The concept of stability carries over to solutions of differential equations. In this context, the concept of stability takes an abstract form and its study often involves some sophisticated mathematical tools. However, such a study is fundamental because only stable solutions can be seen experimentally. Unstable solutions, just like in the case of the pencil explained above, will never be observed. Hence, with stability studies, one can distinguish the solutions that can be seen experimentally from the ones that cannot.

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## External Research Grants

*Analytical and numerical tools for stability analysis*, SIMONS Foundation Collaboration Grant for Mathematicians, \$35,000, 2016-2023.

*RUI: Stability analysis for soliton solutions of the Vortex Filament Equation and beyond*, NSF Standard Grant No. DMS-0908074, \$137,721, 2009-2013.

*RUI: Existence and stability of coherent structures with applications to elasticity*, NSF Standard Grant No. DMS-0509622, \$88,344, 2005-2009.

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## Employment

- Assistant/Associate/Full Professor of Mathematics  
College of Charleston
    - Full Professor, since 2014.
    - Associate Professor, 2008-2014.
    - Assistant Professor, 2004-2008.
  - Hanno Rund Post-Doctoral Fellow in the Department of Mathematics, University of Arizona, 2002-2004.
  - Visiting Assistant Professor in the Department of Mathematics, University of Arizona, 2000-2002.
  - NSERC (National Science and Engineering Research Council of Canada) Post-Doctoral Fellowship 2000-2002 (CDN\$35,000 per year) at the University of Arizona.
  - Several PhD scholarships mainly from NSERC of Canada and FCAR of Québec between 1995 and 2000.
  - Scholarship that paid for a four-month stay in Paris every year. It was part of the France-Québec *dual advisor* program that enabled me to obtain a PhD from both Université de Montréal and Université Paris VII.
  - Teaching assistant at the Université de Montréal between 1995 and 2000.
  - Undergraduate research assistant at *I.N.R.S.-énergie et matériaux* (Varenes, Québec, Canada) in theoretical plasma physics in Spring 1992.
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## Books

- 1 A. Ghazaryan, S. Lafortune, and V. Manukian, *An introduction to traveling waves: fronts, pulses, and wavetrains*, CRC Press (**2022**).
- 2 A. Ghazaryan, S. Lafortune, and V. Manukian eds., Theme issue: *Stability of nonlinear waves and patterns and related topics*, Phil. Trans. R. Soc. A **376**, 2117 (**2018**).
- 3 A. Doliwa, R. Korhonen and S. Lafortune, eds., *Symmetries and Integrability of Difference Equations: Special issue dedicated to the subject of the SIDE VII meeting, 10-14 July 2006*, J. Phys. A **40**, Issue 42 (**2007**).

## Publications in Refereed Journals

- 48 S. Laforune, *Spectral and linear stability of peakons in the Novikov equation*, Accepted for publication in *Stud. Appl. Math.* (2024).
- 47 E. G. Charalampidis, R. Parker, P. G. Kevrekidis, and S. Laforune, *The stability of the b-family of peakon equations*, *Nonlinearity* **36**, 1192–1217 (2023).
- 46 S. Laforune and D.E. Pelinovsky, *Stability of smooth solitary waves in the b-Camassa–Holm equation*, *Physica D* **440**, 133477, (2022).
- 45 S. Laforune and D.E. Pelinovsky, *Spectral instability of peakons in the b-family of the Camassa–Holm equations*, *SIAM J.Appl.Anal.* **54**, 4572–4590 (2022).
- 44 A. Ghazaryan, S. Laforune, and C. Linhart, *Flame propagation in a porous medium*, *Physica D* **413**, 132653 (2020).
- 43 A. Ghazaryan, S. Laforune, and V. Manukian, *Spectral analysis of fronts in a Marangoni-driven thin liquid film flow down a slope*, *SIAM Journal on Applied Mathematics* **80**, 95–118 (2020).
- 42 A. Ghazaryan, S. Laforune, and V. Manukian, In: *Stability of nonlinear waves and patterns and related topics* (Introduction to the issue), *Phil. Trans. R. Soc. A* **376**, Issue 2117, A. Ghazaryan, S. Laforune, and V. Manukian eds., 20180001 (2018).
- 41 T. Ivey, and S. Laforune, *Stability of closed solutions to the VFE hierarchy with application to the Hirota equation*, *Nonlinearity* **31**, 458–490 (2018).
- 40 C.-X. Li and S. Laforune, *Matrix integral solutions to the discrete KP hierarchy and its Pfaffianized version*, *J. Phys. A* **49**, 475202 (2016).
- 39 A. Ghazaryan, S. Laforune, and P. McLarnan, *Stability of fronts in a model for combustion in hydraulically resistant porous media*, *Physica D* **332**, 23–33 (2016).
- 38 C.-X. Li, S. Laforune, and S.-F. Shen, *A semi-discrete Kadomtsev–Petviashvili equation and its coupled integrable system*, *J. Math. Phys.* **57**, 053503 (2016).
- 37 A. Ghazaryan, S. Laforune, and V. Manukian, *Stability of front solutions in a model for a surfactant driven flow on an inclined plane*, *Physica D* **307**, 1–13 (2015).
- 36 A. Ghazaryan, S. Laforune, and P. McLarnan, *Stability analysis for combustion fronts traveling in hydraulically resistant porous media*, *SIAM J. Appl. Math.* **75**, 1225–1244 (2015).
- 35 A.N.W. Hone and S. Laforune, *Stability of solutions for nonintegrable peakon equations*, *Physica D* **269**, 28–36 (2014).
- 34 S.Laforune, *Stability of solitons on vortex filaments*, *Phys.Lett.A* **377**, 766–9 (2013).
- 33 P. G. Kevrekidis, G. J. Herring, S. Laforune and Q. E. Hoq, *The higher-dimensional Ablowitz–Ladik model: from (non-) integrability and solitary waves to surprising collapse properties and more exotic solutions*, *Physics Letters A* **376**, 982–986 (2012).
- 32 A. Calini, S. Keith and S. Laforune, *Squared eigenfunctions and linear stability properties of closed vortex filaments*, *Nonlinearity* **24**, 3555–3583 (2011).
- 31 S.Laforune, J.Lega, S.Madrid, *Instability of local deformations of an elastic rod: numerical evaluation of the Evans function*, *SIAM J.Appl.Math.* **71**, 1653–1672 (2011).
- 30 N. Joshi, S. Laforune, and A. Ramani, *Hirota bilinear formalism and ultra-discrete singularity analysis*, *Nonlinearity* **22**, 871–887 (2009).
- 29 T. Ivey and S. Laforune, *Spectral stability analysis for periodic traveling wave solutions of NLS and CGL perturbations*, *Physica D* **237**, 1750–1772 (2008).

- 28 A. Doliwa, R. Korhonen and S. Lafortune., Preface to: *Symmetries and Integrability of Difference Equations: Special issue dedicated to the subject of the SIDE VII meeting, 10-14 July 2006*, J. Phys. A **40**, A. Doliwa, R. Korhonen and S. Lafortune, eds., 12509-12810 (**2007**).
- 27 S. Balasuriya, G. Gottwald, J. Hornibrook, and S. Lafortune, *High Lewis number combustion wavefronts: a perturbative Melnikov analysis*, *SIAM Journal on Applied Mathematics* **67**, 464-486 (**2007**).
- 26 A. Kasman and S. Lafortune, *When is negativity not a problem for the ultradiscrete limit?*, J. Math Phys. **47**, 103510, 16 pages (**2006**).
- 25 N. Joshi and S. Lafortune, *Integrable ultra-discrete equations and singularity analysis*, *Nonlinearity* **19**, 1295–1312 (**2006**).
- 24 S. Lafortune, A. Goriely, and M. Tabor *The dynamics of stretchable rods in the inertial case*, *Nonlinear Dynamics* **43**, 173-195 (**2006**).
- 23 N. Joshi and S. Lafortune, *How to detect integrability in Cellular Automata*, J. Phys. A **38**, L499-L504 (**2005**).
- 22 M.A. Agrotis, S. Lafortune, and P.G. Kevrekidis, *Discrete version of the Korteweg-de Vries equation*, *Discrete Contin. Dyn. Syst.*, suppl., 22–29 (**2005**).
- 21 S. Lafortune and J. Lega, *Spectral stability of local deformations of an elastic rod: Hamiltonian formalism*, *SIAM Journal of Mathematical Analysis* **36**, 1726-1741 (**2005**).
- 20 S. Lafortune and A. Goriely, *Singularity confinement and algebraic integrability*, *Journal of Mathematical Physics* **45** (**2004**), 1191-1208.
- 19 S. Lafortune and J. Lega, *Instability of local deformations of an elastic rod*, *Physica D* **82** (**2003**), 103-124.
- 18 S. Lafortune, A. Ramani and B. Grammaticos, *The last remake of the Gambier mapping*, *Physica A* **317**, 383-390 (**2003**).
- 17 A. Ramani, B. Grammaticos and S. Lafortune, *The discrete Chazy III system of Labrunie-Conte is not integrable*, *Journal of Physics A* **35**, 7943-7946 (**2002**).
- 16 S. Lafortune, A.S. Carstea, A. Ramani, B. Grammaticos, Y. Ohta, *Integrable third-order mappings and their growth properties*, *Reg. Chaot. Dyn.* **4**, 443–448 (**2001**).
- 15 S. Lafortune, S. Tremblay and P. Winternitz, *Symmetry classification of diatomic molecular chains*, J. Math Phys. **42** (**2001**), 5341-5357.
- 14 S. Lafortune, B. Grammaticos, A. Ramani and P. Winternitz, *Discrete systems related to equations of the Painlevé-Gambier classification*, *Phys. Lett. A* **270** (**2000**), 55–61.
- 13 L. Martina, S. Lafortune and P. Winternitz, *Symmetries of Generalized Toda field theories II: symmetry reduction*, J. Phys. A **33** (**2000**), 6431-6446.
- 12 S. Lafortune, P. Winternitz and L. Martina, *Point symmetries of generalized Toda field theories*, J. Phys. A **33** (**2000**), 2419-2435.
- 11 A. Ramani, B. Grammaticos, S. Lafortune and Y. Ohta, *Linearizable mappings and the low-growth criterion*, J. Phys. A **33** (**2000**), L287-L292.
- 10 D. Gómez-Ullate, S. Lafortune and P. Winternitz, *Symmetries of Discrete Dynamical systems involving two species*, J. Math Phys. **40** (**1999**), 2782-2804.
- 9 S. Lafortune, B. Grammaticos and A. Ramani, *Discrete and continuous linearisable equations*, *Physica A* **268** (**1999**), 129-141.
- 8 B. Grammaticos, A. Ramani and S. Lafortune, *Schlesinger transformations for linearisable equations*, *Lett. Math Phys.* **46** (**1998**), 131-145.

- 7 S. Lafortune, P. Winternitz and C. R. Menyuk, *Solutions to the optical cascading equations*, Phys. Rev. E **58** (1998), 2518-2525.
- 6 B. Grammaticos, A. Ramani, K. M. Tamizhmani and S. Lafortune, *Again, linearisable mappings*, Physica A **252** (1998), 138-150.
- 5 B. Grammaticos, A. Ramani and S. Lafortune, *The Gambier mapping, revisited*, Physica A **253** (1998), 260-270.
- 4 S. Lafortune, B. Grammaticos and A. Ramani, *Constructing third order integrable systems: the Gambier approach*, Inverse Problems **14** (1998), 287-298.
- 3 S. Lafortune, *Superposition formulas for pseudo-orthogonal matrix Riccati equations*, Can. J. Phys. **75** (1997), 345-355.
- 2 S. Lafortune and P. Winternitz, *Superposition formulas for pseudounitary matrix Riccati equations*, J. Math Phys. **37** (1996), 1539-1550.
- 1 R. Marchand, S. Lafortune and X. Bonnin, *Average ion approximation for modelling impurity transport in tokamaks*, Comp. Phys. Comm. **76** (1993), 203-214.

### Contributions to Conference Proceedings

- 4 S. Lafortune, A. Ramani, B. Grammaticos, Y. Ohta and K. M. Tamizhmani, *Blending two discrete integrability criteria: singularity confinement and algebraic entropy*, Bäcklund & Darboux Transformations: The Geometry of Soliton Theory, AARMS-CRM Workshop (Halifax, 1999) (A. Coley et al. (eds)), CRM Proceedings & Lecture Notes, vol. 29, Amer. Math. Soc., Providence, RI, **2001**, pp. 299-311.
- 3 S. Lafortune, B. Grammaticos and A. Ramani, *Linearisable systems and the Gambier approach*, SIDE III - Symmetry and Integrability of Difference Equations (D. Levi and O. Ragnisco (eds)) (Conference, Italy, 1998), CRM Proc. Lectures notes, vol.25, Amer. Math Soc., Providence, RI (2000), 255-261.
- 2 A. Ramani, B. Grammaticos and S. Lafortune, *A Study of the Continuous and Discrete Gambier Systems*, SIDE III - Symmetry and Integrability of Difference Equations (D. Levi and O. Ragnisco (eds)) (Conference, Italy, 1998), CRM Proc. Lectures notes, vol.25, Amer. Math Soc., Providence, RI (2000), 367-379.
- 1 D. Gómez-Ullate, S. Lafortune and P. Winternitz, *Symmetry Classification of Systems of Differential-Difference Equations*, SIDE III - Symmetry and Integrability of Difference Equations (D. Levi and O. Ragnisco (eds)), CRM Proc. Lectures notes, vol.25, Amer. Math Soc., Providence, RI (2000), 167-172.

## A Selection of Recent Invited Talks

- *Differential Equations and Dynamical Systems and their Applications Conference*, Miami University, (**Sept.'23**). *Stability analysis of solutions to the b-family of peakon equations.*
- *13th AIMS International Conference on Dynamical Systems, Differential Equations and Applications*, Wilmington, NC (**May '23**). Title: *Spectral and Linear Stability of Peakon Solutions*. This talk was given as part of the *Geometric Methods in Spectral Theory of Traveling Waves and Patterns* minisymposium.
- *Mathematics Days in Sofia, Bulgaria* (**July '23**), *Stability analysis of solutions to the b-family of peakon equations*. Part of the *Analysis of Nonlinear Waves* session.
- *Miami University Math Colloquium* (**December'22**). *Stability for solutions of non-integrable peakon equations.*
- *SIAM Conference on Nonlinear Waves*, Virtual (**August '22**), *Stability Analysis of Solutions to the b-family of Peakon Equations*. Part of the *Recent Results on the Stability of Traveling Waves* session.
- *Twelfth IMACS Conference on Nonlinear Evolution Equations*, Athens, Ga (**Apr.'22**). *Stability Analysis of Solutions to the b-family of Peakon Equations*. Part of the *Geometric Methods in spectral stability of waves and patterns* minisymposium.
- *SIAM Conference on Dynamical Systems*, Virtual (**May '21**). Title: *Stability of solutions for nonintegrable peakon equations*. Part of the *Coherent Structures in Dispersive Systems* minisymposium.
- *Math Department Colloquium, CofC*, (**Apr.'21**). *Stability of solutions for nonintegrable peakon equations* (Virtual).
- *Math Department Colloquium, BYU*, (**Apr.'21**). *Stability of solutions for nonintegrable peakon equations* (Virtual).
- *Miami Mathematics Fall Conference*, Miami University, (**Sept.'19**). *Stability of Front Solutions in a Model for a Surfactant Driven Flow on an Inclined Plane*.
- *XIth International Symposium: Quantum Theory and Symmetries (QTS)*, Montreal, Canada (**July'19**). *Stability of Front Solutions in a Model for a Surfactant Driven Flow on an Inclined Plane*. Part of the *Special Session in honour of Decio Levi*.
- *Eleventh IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena*, Athens, Ga (**Apr.'19**). *Study of a model of a liquid in presence of a surfactant*. Part of the *Stability and Traveling Waves* minisymposium.
- *SIAM Conference on Dynamical Systems*, Utah (**May '19**). Title: *Stability of Traveling Waves in a Model for a Thin Liquid Film Flow*. Part of the *Existence and Stability of Nonlinear Waves: Theory and Numerical Computations* minisymposium.
- *SIAM Conference on Nonlinear Waves*, Anaheim, CA, (**June'18**), *Stability of Traveling Waves in a Model for a Thin Liquid Film Flow*.
- *KUMUNU 2018*, Lawrence, KS, (**Apr.'18**), *Stability of Traveling Waves in a Model for a Thin Liquid Film Flow*.
- *AMS Central Sectional Meeting*, Columbus (**March'18**). *Stability of solutions to the VFE and its hierarchy*. Part of the *Nonlinear Waves and Patterns* minisymposium.
- *SIAM Conference on Analysis of Partial Differential Equations*, Baltimore, (**Nov.'17**), *Spectral Stability of Solutions to the Vortex Filament Hierarchy*.
- *Workshop on Geometrical Methods, non Self-Adjoint Spectral Problems, and Stability of Periodic Structures*, Oxaca, Mexico, (**Jun.'17**), *Spectral Stability of Solutions to the Vortex Filament Hierarchy*.
- *Tenth IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena*, Athens, Ga (**Apr.'17**). *Spectral Stability of Solutions to the Vortex Filament Hierarchy*. Part of the *Traveling Waves and Spectral Theory* minisymposium.

## Recent organizational activities and service to the scientific community

- Referee for *Stud. Appl. Math.*, *Proc. R. Soc. A*, *J. Phys. A*, *Physics Letters A*, *Physica D*, *IMA J. Appl. Math.*, *SIGMA*, *Symmetry*, *Acta Mathematica Scientia*, *Analysis and Applied Mathematics*, *Reports on Mathematical Physics*, *Proc. of the AMS*, *J. Diff. Equ.*, *Annales de l'Institut Poincaré*, *SIAM Undergraduate Research Online*, *Journal of Difference Equations and Applications*, *Modern Physics Letters B*, *Journal of Dynamics and Differential Equations*.
- Organizer of the minisymposium *Qualitative and Quantitative Techniques for Differential Equations Arising in Applied and Natural Sciences* part of the 13th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Wilmington, NC (May 2023).
- Organizer of the minisymposium *Existence and stability of traveling waves in nonlinear systems* part of *The IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena*, Athens, Georgia (April 2022).
- Organizer of the minisymposium *Recent Developments in Pattern and Wave Formation: Theory and Applications* part of the *SIAM Conference on Applications of Dynamical Systems* held virtually (May 2021).
- Organizer of the workshop *Stability of Multidimensional Waves* held at and funded by the *Banff International Research Station* (June 2019).
- Organizer of the minisymposium *Stability and traveling waves* part of the *SIAM Conference on Applications of Dynamical Systems*, Snowbird, Utah (May 2019).
- Organizer of two minisymposia *Wave phenomena in combustion* and *Negative flows, peakons, integrable systems, and their applications* part of *The IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena*, Athens, Georgia (April 2019).
- Guest editor for a special issue on waves and patterns published in 2018 in *Philosophical Transactions of the Royal Society A* **376**, Issue 2117.
- Organizer of the minisymposium *Existence and Stability of Traveling Waves* part of the *SIAM Conference on Nonlinear Waves*, Anaheim (June 2018).
- Organizer of the minisymposium *Nonlinear Waves and Patterns* part of the *AMS Spring Central Sectional Meeting*, Columbus (March 2018).
- Minisymposium organizer: *Recent Results on Traveling Waves in Systems* part of the *SIAM Conference on Applications of Dynamical Systems*, Snowbird, UT (May 2017).
- Minisymposium organizer: *Wave phenomena in combustion* part of *The IMACS Conference on Nonlinear Evolution Equations*, Athens, GA (Apr. '17).
- Scientific program Committee member of the *The IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena*, Athens, Georgia (April 2017).
- Organizer of the minisymposium *Nonlinear Waves: Analysis and Numerics* part of the *AMS Southeastern Sectional Meeting*, Charleston (March 2017).
- Organizer of the minisymposium *Existence and Stability of Nonlinear Waves and Patterns* part of the *SIAM Conf. on Nonlinear Waves*, Philadelphia (Aug. '16).
- Organizer of the minisymposium *Geometric Techniques in the Analysis of Traveling Waves* part of the *The IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena*, Athens, Georgia (April 2015).
- Organizer of the minisymposium *Existence and stability of coherent structures* part of the *SIAM Conference on Nonlinear Waves*, Cambridge (August 2014).
- Minisymposium organizer: *Existence and stability of traveling waves* part of the *SIAM Conference on Applications of Dynamical Systems*, Snowbird, UT (May 2013).

## Courses taught at the College of Charleston

- College Algebra (Math101).
- Contemporary Math. with Applications (Math103).
- Calculus I (Math120).
- First Year Seminar (FYSM144).
- Linear Algebra (Math203).
- Ordinary Differential Equations (Math323).
- Partial Differential Equations (Math423/523\*).
- Partial Differential Equations II (Math623\*).
- Mathematical Methods for Physicists (Math480/580\*).
- Symmetry Methods for Differential Equations (Math480/580\*),

\* Graduate course

## Research and independent studies with students

- Summer funded research project concerning Patterns Observed on Mussel Bed Formations with Chloe Mattila, 2020.
- Independent Study: Partial Differential Equations II, MATH 699, with Choral Linhart, Spring 2020.
- Summer funded research project concerning combustion waves with Choral Linhart, 2019.
- Honors Bachelor's Essay research project with Choral Linhart, 2018-2019.
- Honors Immersed research project with Choral Linhart, Spring 2018.
- Undergraduate research project *Interacting circular vortex filaments* with Allison Conger and Danielle Masse (Summer 2015).
- Master's thesis co-advisor for Son Van at Miami University, 2014-2015.
- Master's thesis co-advisor for Peter McLarnan at Miami University in Ohio, September 2011 to August 2013.
- Eight independent studies with undergraduate students on advanced topics: Summer 2014, Spring 2013, Fall 2012, 2 in Fall 2011, Spring 2008, Summer 2008, Spring 2007.
- Undergraduate research project *Stability of Peakons* with Hunter Moss (summers 2011 and 2012), J Seymour (Summer 2011), and Shikha Chaurasia (Summer 2012).
- Master's thesis advisor for Elena Fenici, September 2010 to December 2011.
- Undergraduate research project *Linear Stability of solitary wave solution to KdV-Burgers equations* with Robert Vandermolen, May to December 2010.
- Undergraduate research project *Linear Stability of Vortex Filaments* with Scotty Keith, 2007-2009.
- Undergraduate research project *A study of the Evans function technique* with Kathryn Pedings, 2006-2007.



## Service to the College of Charleston and the community

Note: the community services are boldfaced

- Organizer of the weekly Math. Colloquium, College of Charleston, 2014-2023.
- **Science Fair Judge at Charleston Day School, February 2023.**
- Member of the 2023 College-wide Signature Academic Program Committee.
- Member of the 2023 College-wide committee that evaluated the undergraduate research grant proposals.
- **Science Fair Judge at Charleston Day School, February 2022.**
- College of Charleston Faculty Welfare Committee member, 2020-2021.
- Math. Dept. Math103 course coordinator, College of Charleston, 2019-2020.
- Member of the R&D Math. Dept. committee, College of Charleston, 2009-2019.
- Member of the Math. Dept. hiring committee, College of Charleston, 2017-2019.
- **Science Fair Judge at Charleston Day School, February 2019.**
- External member of the T&P Physics Department Committee, 2017-2018.
- Kimberly Stubbs thesis reviewer committee, April-May 2018.
- **Science Fair Judge at Charleston Day School, February 2018.**
- Member of the Library Committee, College of Charleston, 2016-2017.
- **Science Fair Judge at Charleston Day School, February 2017.**
- Member of the First-Year-Experience Committee, Coll. of Charleston, 2015-2016.
- **Presenter at the Charleston Charter School for Math and Science STEM Night, April 2016.**
- **Science Fair Judge at Charleston Day School, February 2016.**
- Member of the Compensation Committee, College of Charleston, 2013-2015.
- **Science Fair Judge at Charleston Day School, February 2014 and 2015.**
- **Judge at the Invention Convention at Charleston Day School, March 2014.**
- Member of the T&P Committee, College of Charleston, 2012-2013.
- Member of the Faculty Welfare Committee, College of Charleston, 2011-2012.
- Member of the Math. Dept. hiring committee, College of Charleston, 2009-2012.
- Member of the Academic Planning Committee, College of Charleston, 2009-2010.
- Member of the Privacy Committee, College of Charleston, 2008-2009
- Member of the Faculty Welfare Committee, College of Charleston, 2007-2009.
- Organizer of the Math. weekly Colloquium, College of Charleston, 01/2007 to 05/2008.
- Head of the Math. Dept. R&D committee, College of Charleston, 01/2007 to 05/2008.
- Member of the Math. Dept. hiring committee, College of Charleston, 2005-2006.
- Member of the 2005 and 2006 College-wide committee that evaluated the undergraduate research grant proposals at the College of Charleston.
- Organizer of the 2003-2004 Applied Math. weekly colloquium, University of Arizona.

## Awards

- Selected as the Department of Mathematics candidate for the 2010, 2011, 2017, and 2018 College of Charleston Faculty Research Award and for the years 2012 to 2016 Teacher-Scholar Award.
- Finalist for the Un. of Arizona *Excellence in Teaching* Awards for Summer 2002.
- I was selected to be the candidate of the Université de Montréal for the NSERC (National Science and Engineering Research Council of Canada) 2000 Doctoral Prize, the CMS (Canadian Mathematical Society) 2000 Doctoral prize, and the *Académie des Grands Montréalais* 2000 (doctoral prize for the city of Montreal).
- Prize from the *Quebec Ministry of International Relations* for the best thesis done in the *dual advisor* program in 2000: \$700.

## Thesis reviewing

- 8) Spring 2021: Master's thesis in Math (Coll. of Charleston) submitted by Z. Hilliard.
- 7) Spring 2019: Master's thesis in Math (Coll. of Charleston) submitted by E. Collins.
- 6) Spring 2018: Master's thesis in Math (Coll. of Charleston) submitted by K. Stubbs.
- 5) Spring 2010: Master's thesis in Math (Coll. of Charleston) submitted by S. Nelson.
- 4) Fall 2008: PhD thesis in Math (Un. of Arizona) submitted by M. Beauregard.
- 3) Spring 2008: Master's thesis in Math (Sydney Un.) submitted by J. Hornibrook
- 2) Spring 2008: Master's thesis in Math (Coll. of Charleston) submitted by K. Eperson.
- 1) Spring 2007: Master's thesis in Math (Coll. of Charleston) submitted by L. Ingram.