

# KELVIN A. LAGOTA

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## EDUCATIONAL BACKGROUND

- 2015-2019**      **Ph.D. Mathematics**  
Concordia University  
Thesis: “*Green function and self-adjoint Laplacians on polyhedral surfaces*”  
Supervisors: Alexey Kokotov, PhD and Victor Kalvin, PhD
- 2011-2015**      **Ph.D. Mathematics** (Withdrawn, transferred to Concordia U)  
University of the Philippines Diliman
- 2008-2011**      **M.S. Mathematics**  
University of the Philippines Diliman  
Thesis: “*Symmetric Expressions  $M$  of order  $2n$  with Essential Spectrum and Deficiency index  $d(M)=n+3$* ”  
Supervisor: Marian P. Roque, PhD
- 2005-2008**      **B.S. Mathematics**  
University of the Philippines Diliman  
Undergraduate Research: “On Approximation by Polynomials:  
The Weierstrass Approximation Theorem”  
Supervisor: Marian P. Roque, PhD

## RESEARCH PUBLICATIONS

- A. Kokotov, K. Lagota, Green function and self-adjoint Laplacians on polyhedral surfaces, *Canadian Journal of Mathematics*, Vol. 72(5), (2020), pp. 1324-1351. doi: 10.4153/S0008414X1900033
- K. Lagota, On the domain of the adjoint Laplacian on a compact Riemann surface with conical singularities, *Matimyas Matematika*, Vol. 43, No. 1, (2020), pp.1-18.
- M.P. Roque, G. Limson, K. Lagota, Non Limit-Point Symmetric Differential Expressions with Essential Spectrum, *Matimyas Matematika*, Vol. 30, Nos. 2-3 (2007), pp. 85-93.

## PRESENTATIONS IN CONFERENCES AND SYMPOSIA

- *Self-adjoint Laplacians on a compact Riemann surface with conical singularities and their determinants*, 2021 MSP<sup>1</sup> Annual Convention (virtual), May 2021
- *Symmetric Expressions of the Form  $My=(-1)^n y^{(2n)} + (cx^6 y^{(4)})^{(4)} - (x^5 y''')''' + (x^2 y')'$* , (with MP Roque), 2012 MSP Annual Convention, De La Salle Lipa, Lipa City, Batangas, PHILIPPINES, May 2012
- *Symmetric Expressions  $M$  of order  $2n$  with Essential Spectrum and Deficiency Index  $n+3$* , (with MP Roque), *The 6th SEAMS-GMU<sup>2</sup> International Conference on Mathematics and Its Applications*, Universitas Gadjah Mada, Yogyakarta, INDONESIA, 12-15 July 2011

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<sup>1</sup> Mathematical Society of the Philippines

<sup>2</sup> Southeast Asian Mathematical Society – Gadjah Mada University

- *Symmetric Expressions of the Form  $My = (-1)^n y^{(2n)} + (cx^2 y')'$* , (with MP Roque), 2011 MSP Annual Convention, University of Santo Tomas, Manila, PHILIPPINES, May 2011
- *Symmetric Expressions of order  $2n$  with Essential Spectrum and Deficiency Index  $n+3$* , (with MP Roque), 2009 MSP Annual Convention, Limketkai, Cagayan De Oro, Misamis Oriental, PHILIPPINES, May 2009

## **WORK EXPERIENCES**

### **Institute of Mathematics, University of the Philippines Diliman Senior Lecturer (part-time, equivalent to Assistant Professor)**

- *Second Semester, 2020-2021*
  - Math 22: Elementary Analysis 2 (remote teaching, 2 sections)

### **Mathematics Department, Dawson College Faculty (Continuing Education)**

- *Summer 2021*
  - Linear Algebra (Science) 201-NYC-05 (delivered online)
  - Remedial Activities for Secondary IV Math 201-016-RE (delivered online)
  - Calculus 2 (Science) 201-NYB-05 (delivered online)
- *Winter 2021*
  - Linear Algebra (Science) 201-NYC-05 (delivered online)
  - Remedial Activities for Secondary IV Math 201-016-RE (delivered online, 2 sections)
- *Fall 2020*
  - Linear Algebra (Science) 201-NYC-05 (delivered online)
  - Business Mathematics 201-801-DW (delivered online)
- *Summer 2019*
  - Linear Algebra (Social Science) 201-105-DW
  - Calculus 1 (Social Science) 201-103-DW
- *Winter 2019*
  - Calculus 2 (Science) 201-NYB-05
- *Fall 2018*
  - Calculus 1 (Social Sciences/Commerce) 201-103-DW
  - Remedial Activities for Secondary IV Math 201-016-50
- *Winter 2018*
  - Linear Algebra (Science) 201-NYC-05
  - Business Mathematics 201-801-DW

### **Department of Mathematics & Statistics, Concordia University Grad Student Instructor, Teaching Assistant**

- *Winter 2019*
  - Class Tutor (Algebra and Functions, Differential and Integral Calc 1)
  - Tutor (Math Help Center)
  - Marker (Linear Algebra and Applications II)
- *Fall 2018*
  - Teaching Assistant (Fundamental Concepts of Algebra) (online)
- *Winter 2018*
  - Class Tutor (Differential and Integral Calculus 1)
  - Tutor (Math Help Center)
  - Marker (Mathematical Modeling)

- *Fall 2017*
  - Lecturer (Differential and Integral Calculus 2)
- *Winter 2017*
  - Lecturer (Algebra and Functions)
- *Fall 2016*
  - Lecturer (Differential and Integral Calculus 2)
- *Summer 2016*
  - Class Tutor (Differential and Integral Calculus 2)
- *Winter 2016*
  - Lecturer (Differential and Integral Calculus 2)
- *Fall 2015*
  - Class Tutor (Differential and Integral Calculus 2)
  - Marker (Complex Analysis 1, Differential Equations)

## **Institute of Mathematics, University of the Philippines Diliman**

### **Instructor**

- Oct 2011 – July 2015                      Instructor 7
- Nov 2008 – Oct 2011                      Instructor 1
- **Math 53 (Elementary Analysis 1) Coordinator**, 2<sup>nd</sup> Semester AY 09-10
- **Co-Author/Co-Editor of Math 53 Module 1<sup>st</sup> Edition**

### *Courses taught:*

- Trigonometry – 1x
- Algebra and Trigonometry – 5x
- Elementary Analysis 1 – 10x
- Elementary Analysis 2 – 6x
- Elementary Analysis 3 – 2x
- Precalculus – 3x
- Calculus 1 – 5x
- Calculus 2 – 3x
- Calculus 3 – 1x
- Differential Equations and Applications – 6x
- Undergraduate Research – 1x

## **College of Science, University of the Philippines Diliman**

### **Coordinator, National Service Training Program (NSTP)**

- June 2011 – July 2015

## **SEMINARS, WORKSHOPS, AND SCHOOLS ATTENDED**

- *2016 CRM Summer School on Spectral theory and applications*, Laval University, Quebec, Canada, 4 – 14 July 2016
- *CIMPA-NIMS<sup>3</sup> Research School on dynamical systems: Examples, billiards and the 3-body problems*, Center for Applications of Mathematical Principle, Daejeon, South Korea, 25 May – 3 June 2015
- *<sup>4</sup>CIMPA-ICIAM-IMU-CDC-Philippines Research School 2014: Partial Differential Equations: Analysis, Numerics, and Applications to Flood and Tsunamis*, Institute of Mathematics, University of the Philippines Diliman, 23 June – 4 July 2014
- *SEAMS Manila School on the Applications of Algebra and Analysis*, Institute of Mathematics UP Diliman, 4-15 April 2011

<sup>3</sup> Centre International de Mathematiques Pures et Appliquees – National Institute for Mathematical Sciences

<sup>4</sup> [http://www.cimpa-icpam.org/IMG/pdf/manila%202014\\_mr.pdf](http://www.cimpa-icpam.org/IMG/pdf/manila%202014_mr.pdf)

**OTHER ACTIVITIES AND APPOINTMENTS**

- Assistant Director, 14th Philippine Mathematical Olympiad
- Member, College of Science-NSTP Committee (2010-2015)
- Member, UPD-NSTP Executive Committee (2011-2015)
- Member of the local organizing committees of CIMPA School in Manila (2014) and SEAMS School in Manila (2011)
- Volunteer mentor at Diliman Learning Resource Center, UPD (2006-2008)