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CURRICULUM VITA

ABBAS ALHAKIM
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EDUCATION

- Ph.D. University of North Carolina at Charlotte, 2001
  (Applied Mathematics)
- MS. The American University of Beirut, Lebanon, 1996
  (Pure Mathematics)
- BS The American University of Beirut, Lebanon, 1994
  (Mathematics with emphasis in Computer Science)

EXPERIENCE

- Mathematics Department, American University of Beirut (AUB),
  Associate Professor (September 2015 - present)
- Mathematics Department, American University of Beirut (AUB),
  Assistant Professor (September 2009 – August 2015)
- Division of Mathematics and Computer Science, Clarkson University,
  Adjunct Research Assistant Professor (July 2009 – June 2012)
- Division of Mathematics and Computer Science, Clarkson University,
  Assistant Professor (August 2003 – June 2009)
- Department of mathematical Sciences, University of Delaware
  Visiting Assistant Professor (September 2001 – June 2003)
- Mathematics Department, University of North Carolina at Charlotte
  Teaching Assistant (August 1996 – July 2001)
- Department of Mathematics and Computer Science, the American University of Beirut, Graduate Teaching Assistant (October 1994 – June 1996)

MEMBERSHIP AND HONORS

- Vice President, Lebanese Society of Mathematical Sciences (LSMS), (July 2012-June 2015 and July 2015-July 2018, July 2018-June 2024, July 2024-2027.
- Fellow, Center for Advanced Mathematical Sciences (CAMS, AUB) February 2012-January 2013
- Member, American Mathematical Society (AMS), 1997-2015.

(Contributions in the rank are highlighted in boldface below, DOI provided when available)

REFEREED JOURNAL ARTICLES

1) ***Evan Sala*, Joe Sawada, Abbas Alhakim. Efficient Constructions of the Prefer-Same and Prefer-Opposite de Bruijn Sequences. ACM Transactions on Algorithms, 2024.**
   DOI: 10.1145/3679015
2) **Abbas Alhakim, Chris Mitchell, Janusz Szmidt, Peter Wild. Orientable sequences over non-binary alphabets. Cryptography and Communications, 2024.**

DOI: 10.1007/s12095-024-00742-x

3) **Abbas Alhakim. Hadamard matrices, quaternions, and the Pearson chi-square statistic. Statistical Papers, 2024.**
DOI: 10.1007/s00362-024-01602-9
4) **Abbas Alhakim, Janusz Szmidt. Multiple de Bruijn Sequences and the Cross-Join Method. Mathematics, 11(5), 9 pages, 2023. Published by MDPI.**
DOI: 10.3390/math11051262
5) **Abbas Alhakim, Designing Preference Functions for De Bruijn Sequences with Forbidden Words. Designs Codes and Cryptography, 90(10) pp. 2319-2335. 2022. Published by Springer.**
DOI: 10.1007/s10623-022-01077-5
6) **Abbas Alhakim, *Evan Sala*, Joe Sawada. Revisiting the Prefer-Same and Prefer-Opposite de-Bruijn Sequence Constructions. Theoretical Computer Science. 852, pp. 73-77, 2021.**
DOI: 10.1016/j.tcs.2020.11.018
7) **Abbas Alhakim, Stanislav Molchanov. The Density Flatness Phenomenon. Statistics and Probability letters, 152, pp. 156-161. 2019.**
DOI: 10.1016/j.spl.2019.05.006
8) **Abbas Alhakim, *Maher Noueihed*. Stretching de Bruijn sequences. Designs Codes and Cryptography, 85(2), pp. 381-394, 2017.**
DOI: 10.1007/s10623-016-0314-4
9) Abbas Alhakim, Steven Butler, Ron Graham. De Bruijn Sequences with Varying Combs. Journal of Integers, Dick de Bruijn memorial issue, 14A, 2014. Published by Colgate University.
10) Abbas Alhakim, with Stanislav Molchanov. Limit Theorems for Bessel processes for General Dimension d. Markov Processes and Related Fields, 18, 2012, pages 693-700.
11) Abbas Alhakim. Spans of Preference Functions for De Bruijn Sequences. Discrete Applied Mathematics, Volume 160, Issues 7–8, 992-998. May 2012. Published by Elsevier.
DOI: 10.1016/j.dam.2011.11.024
12) Abbas Alhakim, *Mufutau Akinwande*. A Recursive Construction of Non-binary de Bruijn Sequences. Designs, Codes and Cryptography, volume 60(2), pp. 155-169, 2011. Published by Springer.
DOI: 10.1007/s10623-010-9423-7
13) Abbas Alhakim, A Simple Combinatorial Method to Generate de Bruijn Cycles, the American Mathematical Monthly, 117(8), pp. 728-732, 2010. Published by the Mathematical Association of America.
DOI: 10.4169/000298910X515794
14) Abbas Alhakim, *Mufutau Akinwande*, A Multiple Stream Generator Based on de Bruijn Digraph Homomorphisms. Journal of Statistical Computation and Simulation, V 79(11), 1371-1380, 2009. Published by Taylor and Francis.
DOI: 10.1080/00949650802322129
15) Abbas Alhakim, William Hooper. A Nonparametric Test for Several Independent Samples. Journal of Nonparametric Statistics, 20(3), pp. 253-261, 2008. A publication of the American Statistical Association, published by Taylor and Francis Group.
DOI: 10.1080/10485250801976741
16) Abbas Alhakim, Janusz Kawczak, Stanislav Molchanov. On a Class of Nilpotent Markov Chains I. The Spectrum of the Covariance Operator, 2004, *Markov Processes and Related Fields, 10, 2004*.
17) Abbas Alhakim. On the Eigenvalues and Eigenvectors of an Overlapping Markov Chain. *Probability Theory and Related Fields*, 128(4), pp.589-605 2004. Springer.
DOI: 10.1007/s00440-003-0321-z
18) Abbas Alhakim. "On a joint distribution for long runs, a limit theorem for approximate entropy with applications to the testing of random number generators". PhD. Dissertation.
Advisor: Stanislav Molchanov, University of North Carolina at Charlotte, 2001.

REFEREED CONFERENCE PROCEEDINGS

1) **Abbas Alhakim. More de Bruijn sequences as concatenations of Lyndon words. Extended Abstract (5 pages), presented at the 8th International Workshop on Boolean Functions and their Applications, BFA 2023.**
2) **Fatima Makki, Wassim El-Hajj, Haidar Safa, Abbas Alhakim. A Module for Protecting Data Location Privacy on Mobile Devices, IEEE International Wireless Communications and Mobile Computing Conference (IWCMC 2018), Limassol, Cyprus, June 25-29, 2018.**
3) Abbas Alhakim, Stanislav Molchanov. Some Markov Chains on Abelian Groups with Applications, *"Random Walks and Geometry", Proceedings of a workshop held at the Erwin S Schrödinger Institute 2001, Kaimanovich(Ed.),* Published by de Gruyter 2004.

SUBMITTED MANUSCRIPTS AND PREPRINTS

1) **Abbas Alhakim, Mohammad El-Joubbeh. Subdivisions of oriented cycles in digraphs with Hamiltonian directed path. Submitted.**
2) **Abbas Alhakim. Hamiltonicity of the cross-join graph of de Bruijn cycles. Submitted.**
3) **Abbas Alhakim. Non-binary counterparts of the prefer-same and prefer-opposite de Bruijn sequences", Preprint.**
4) **Abbas Alhakim. More de Bruijn sequences as concatenations of Lyndon words. (full version), Preprint.**
5) **Abbas Alhakim, *Fatima Fneish*. On Fire Conservancy and the Mitigation of Dry Undergrowth: Gauging Lebanese Citizens' Knowledge and Practices, technical report. Funded by a CASAR grant.)**

FUNDED GRANT PROPOSALS

- **Studying patterns of preference for de Bruijn sequences generated by span 1 preference functions (26300 USD, Funded by URB, July 2023 – June 2025.)**
- **Analysis and Assessment of Akkar Wind Energy Project, with Professors F. Chaaban and S. Karaki (10000 USD, Funded by MEPI-TLP, June 2021 –May 2022)**
- **Efficient Successor Rules for De Bruijn Sequences with Good Statistical Properties (24000 USD, Funded by URB for two years, July 2021 – June 2023)**
- **Gauging Awareness about Wildfires, Dry Undergrowth and the Association between Them. (4000 USD, Funded by the Alwaleed Center for American Studies & Research CASAR, 2021)**
- Novel and Efficient Methods of Generation of de Bruijn Sequences and Applications (15M L.L., Funded by LCNRS, 2013 – 2015)
- Implementing a Novel Parallel Random Number Generator (3000 USD, Funded by URB, 2010-2011)

CONFERENCES AND SEMINARS

1) **"Decomposing a de Bruijn sequence into primes", Mathematics Department Seminar, AUB, October 2023.**
2) **"More de Bruijn sequences as concatenations of Lyndon words. Contributed talk presented online at the 8th International Workshop on Boolean Functions and their Applications, Norway, September 2023.**
3) **"The flatness phenomenon and the Dickman distribution". Mathematics Department Seminar, AUB, November 2020.**
4) **"Hadamard, Quaternions and the Pearson Chi-squares Statistic". Applied Statistics Day, Beirut Arab University, April 2018.**
5) **"Return probabilities for Random Walks on Real Dense Groups", Invited talk, Saint Joseph University, June 8, 2017.**
6) **"A Survey of Some Recent Constructions of de Bruijn Sequences, and Some Open Problems." Invited talk, San Jose State University, California. January 2016.**

7) **"Generalized de Bruijn Graphs", Joint Annual Meeting of the American Mathematical Society, Seattle, Washington. January 2016.**
8) **"Recursive constructions of de Bruijn cycles: two paradigms", contributed talk at the Conference for Ron Graham's 80th birthday, Simon Fraser University, Burnaby, Canada. June 2015.**
9) "Decomposition of Pearson's Chi-square Statistic in the Non-Equiprobable case". Notre Dame University, Mathematics Department seminar, May 2014.
10) "Generating and Compressing De Bruijn Sequences Using Preference Diagrams", special session on de Bruijn sequences, AMS annual meeting 2014, Baltimore.
11) "De Bruijn Sequences Can All Be Greedy", April 10, 2012. Discrete Mathematics Seminar, Iowa State University. Invited lecture.
12) "Generation of de Bruijn Sequences", Center for Advanced Mathematical Sciences Seminar, AUB, March 2012.
13) "Spans of Preference Functions for De Bruijn Sequences", the Joint Meeting of the American Mathematical Society, January 2012. Special Session on Recent Trends in Graph Theory.
14) "Generating De Bruijn Sequences Via Preference Functions". Mathematics Department Colloquium, AUB, December 2011.
15) "Limit Theorems for First Return Times in Bessel Processes with Arbitrary Dimension d", invited, University of North Carolina at Charlotte Department Seminar, September 2011.
16) "Recursive Construction of Non-binary de Bruijn Sequences", invited, University of North Carolina at Charlotte Department Seminar, September 2011.
17) "A Combinatorial de Bruijn Sequence". The Second Annual Meeting of the Lebanese Society of Mathematical Sciences (LSMS), April 2, 2011.
18) "A Recursive Construction of Non-binary de Bruijn Sequences". The Joint Meeting of the American Mathematical Society, January 2011.
19) "Recursive Construction of Non-binary de Bruijn Sequences". Mathematics Department Colloquium, AUB, April 2010.
20) "A Spectral Analysis of the Overlapping Serial Test of Randomness". The First Annual Meeting of the Lebanese Society of Mathematical Sciences (LSMS), February 2010.
21) "The Coupling Method in Markov Chains", Seminar on Nonlinear Dynamics, Clarkson University, Potsdam, NY. March 2008.
22) "Approximate Entropy", Seminar on Nonlinear Dynamics, Clarkson University, Potsdam, NY. November 2007.
23) "De Bruijn Graphs Homomorphisms and Construction of de Bruijn Cycles", MAA Seaway Section Meeting, Oneonta, NY, April 2007.
24) "A Parallelization Method for Shift Register Sequences". In 38th Symposium on the Interface of Statistics, Computing Science and Applications, Jet Propulsion Lab., Pasadena, CA, May 24-26, 2006.
25) "An Overview of Word Counting in Computational Biology and Normal Approximation', Math Department Seminar, Clarkson University, Potsdam, NY. February 2005.
26) 'Decomposition of General Overlapping Markov Chains' Seminar on Stochastic processes (SSP2005), Cornell University, March 24th-25th, 2005.
27) "An Overlapping Markov Chain with Applications and Open Problems", Math Department Seminar, Clarkson University, Potsdam, NY. February 2004.
28) On the Theory of Markov Chains and its Applications, (five invited lectures) Host: Research Experience for Undergraduate Program (REU) at the State University of New York (SUNY) Potsdam, June 2004.
29) 'On a Class of Nilpotent Markov Chains, I. The Spectrum of the Covariance Operator', Joint AMS Meeting, Baltimore, January 2003.
30) "Generating Random Numbers", Math Department Seminar, Clarkson University, Potsdam, NY. November 2003.

31) 'On the Design and Performance of a Test for Randomness Based on the Statistics of Long Runs of Similar (Binary) Digits' Southeast Conference on Applied Mathematics, North Carolina State University, November 2001.

DEPARTMENTAL SEMINARS (Pre-Clarkson)

1) Several Seminar talks at the University of Delaware (Math dept.) 2001-2003.

TEACHING

COURSES TAUGHT

Below is a list of all the courses I taught at AUB and earlier. The info in parentheses is the course abbreviation, the standing (Grad/Undergrad) and the number of times taught by the applicant. Each course title is followed by a short synopsis of the course content (except for obvious ones like Calculus I, etc.)

AT AUB:

1. **Discrete Mathematics** (MATH 211, U, 7 times)
2. **Probability and Random Variables for Engineers** (STAT230, U, 47 times) basic *Engineering Statistics that includes such topics as introductory probability, conditional probability and independence, Bayes' formula, discrete and continuous random variables and their moments, the central limit theorem and its applications, confidence intervals, hypothesis testing, covariance, correlation.*
3. **Introduction to Probability** (STAT233, U, 11 times) *axiomatic definition of probability and basic theorems, discrete and continuous random variables and their distributions, moment generating functions, stochastic convergence, probability inequalities, the law of large numbers and the central limit theorem.*
4. **Introduction to the Theory of Statistical Inference** (STAT234, U, 10 times) *sampling distribution, the theory of point estimation and maximal likelihood theory (unbiasedness, sufficiency, efficiency, and asymptotic theory of maximal likelihood estimators), confidence interval estimation, Neumann-Pearson theory of hypothesis testing.*
5. **Theory of Statistical Sampling** (STAT236, U, 4 times) *methods of sampling and their characteristics, including simple random sampling, cluster sampling, stratified sampling, two-stage and multistage sampling, ratio and regression sampling, capture-recapture methods and the problem of non-response.*
6. **Nonparametric Statistics** (STAT237, U, 6 times)
   This course discusses statistical methods when the data cannot not be assumed to have any particular parametric form (essentially when the data is not normal.) These are methods based on ranking the data values and then replacing these data values by their ranks. Basic nonparametric tests for one, two or more samples are discussed, including binomial tests, the sign test, the Wilcoxon-signed rank test, the Mann-Whitney test, the Kruskall-Wallis test, goodness-of-fit tests. The notion of efficiency is defined and studied, and it is carefully shown that some of these tests are more efficient than their well-known parametric counterparts.
7. **Applied Probability** (STAT238, U, 3 times) conditional probability and various methods of finding expectation and variance, discrete and continuous time Markov chains, classification of states, stationary distributions, Kolmogorov backward and forward differential equations, Poisson, branching, birth and death processes, properties of the exponential distribution, arrival times, queuing theory.

8. **Introduction to Stochastic Processes** (MATH 338, G, 4 times) a new graduate course at AUB, that introduces the essential models of stochastic processes (Markov processes, Martingales, Random Walks, Brownian motion) and their basic theorems. It is geared towards the development of stochastic integration with respect to a martingale, which is an essential topic in mathematical finance. Ito's Formula and basic models of stochastic differential equations (SDE's) are discussed.
9. **A Reading Course in Graduate Probability** (MATH 399, G, 1 time) a graduate course in measure theoretic probability— Attended by 3 students. We covered the first few chapters of Billingsley's book (a mainstream book for a rigorous study of graduate probability)

AT CLARKSON UNIVERSITY:

- Calculus I (U, 1 time)
- Calculus II (U, 1 time)
- Foundations/Discrete Mathematics (U, 2 times)
- Elementary Linear Algebra (U, 2 times) a course on basic linear algebra given to students majoring in nursing, nutrition and food sciences. It stressed the solutions of systems of linear equations. Matrices and their basic factorization algorithms, eigenvalues and eigenvectors are introduced and studied in this capacity.
- General Statistics (U, 4 times) a non-Calculus based statistics course offered to life sciences and social sciences students. It discusses discrete and continuous probability, random variables and their expectation, confidence intervals and hypothesis tests, including t tests, F tests and goodness of fit tests.
- Online General Statistics (U, 2 times) an online version of the previous course. It was completely given online, including power point slides, video lectures, homework sets. Tests and final examinations were also given online.
- Applied Linear Algebra (U, 2 times) a discrete mathematics course designed for Electrical and Computer Engineering students, with more emphasis on applied areas such as logical gates and networks and less emphasis on methods of proof.
- Probability (U/G, 5 times) cross-listed as undergraduate and graduate ; the undergraduate part is essentially equivalent to AUB's STAT233 (above). Graduate students were given or assigned extra material such as a detailed proof of the central limit theorem, the law of large numbers and modes of convergence.
- Applied Statistics (U, 3 times) equivalent to AUB's STAT230, but with more emphasis on Applied Statistics.
- Mathematical Statistics (U, 2 times) This was cross listed as both graduate and undergraduate. The undergraduate part is essentially equivalent to AUB's STAT234. The graduate part spanned more content such as Fisher information, limit theorems for maximal likelihood estimators, decision theory.
- Statistics Module for MBA (U, 2 times) This is an intensive two-week course given to graduate pre-MBA students as a brainstorming reminder of the methods and techniques of basic random variables and statistical inference.
- Simulation and Monte Carlo (G, 1 time) Beginning graduate level on the Monte Carlo simulation, basic review of relevant probability and statistics, random number generation methods, rejection and importance sampling, Metropolis Hastings and Gibbs sampling, perfect sampling, diagnosis of convergence for MCMC schemes.
- Directed Study (U, 3 times) graduate level courses given to individual students to fulfill requirements and prepare for qualifying exams.
    a. Point Set Topology
    b. Theory of Markov Chains
    c. Stochastic Processes

BEFORE CLARKSON:
These are courses taught at the University of Delaware as a visiting Assistant professor with full teaching duties, at UNC Charlotte as a PhD student and at AUB as a graduate student. They include:

- Introduction to Computer Programming
- College Algebra
- Pre-Calculus
- Calculus I
- Calculus II
- Calculus III
- Finite Mathematics
- Mathematical Statistics

STUDENT ADVISING

Ph.D. Student

1) Mufutau Akinwande, advisee for doctoral dissertation, Clarkson University.
Dissertation title: Homomorphisms of de Bruijn digraphs and their applications. Defense completed: Summer 2010.

M.S. Students

1) **Hanin Hmady, master's thesis topic: The bias-variance problem in neural networks. 2025-2026.**
2) **Esmail Abdul Fattah, master's Thesis Title: Application of Higher-Order Approximations in Bayesian Inference. May 2018, AUB**
3) **Frederic El Bayeh, Thesis title: A sufficient Normality Condition for Turing's Formula. Defense date: April 25 2017, Department of Mathematics. AUB**
4) Kindanna Coulibaly, master's degree, Project topic: Implementation of a randomness test using runs, longest runs and their number of occurrences. Clarkson University, May 2006

THESIS, DISSERTATION and PROJECT COMMITTEES

1) **Committee member, MS thesis in Mathematics. Candidate: Yahya Ayash, AUB, 2025**
2) **Committee member, MS thesis in Mathematics. Candidate: Ali Halawi, AUB, August 2022**
3) **Committee member/co-advisor Candidate: Ghina Al-Atat, MS thesis in Computational Science. AUB, August 2022**
4) **Reviewer/committee member. Ph.D. Candidate: Noura Obeid, Ph.D. in Statistics. Beirut Arab University, May 2022**
5) **Reviewer/committee member. Candidate: Saeed Dahrouj, MS thesis in Statistics. Beirut Arab University, April 2022**
6) **Committee member/co-advisor, Candidate: Ms. Sara Jalaleddine, MS thesis in Computer Engineering. AUB, September 2016**
7) **Committee member/co-advisor, Candidate: Ms. Fatima Makki, MS thesis in Computer Science. AUB, Spring 2015**
8) **Committee member, MS thesis in Mathematics. Candidate: Ms. Batoul Mantash, AUB, Fall 2015**
9) **Co-advisor, with Professors Farid Chaaban and Sami Karaki (ECE), Hawa Akkar Project (funded by MEPI), June 2021-May 2022**
10) Committee member, MS thesis in Mathematics. Candidate: Ms. Sally Sabrawi, AUB, Spring 2013/2014
11) Committee member, MS thesis in Computational Mathematics. Candidate: Ms. Amani Srour, AUB, Fall 2013/2014

12) Committee member, PhD dissertation. Candidate: Ms. Rana Fakhreddine. title: "Methodes de Monte Carlo Stratifiees pour L'integration et la Simulation Numeriques". Defense date: Sept. 26, 2013, Universite Saint Joseph and Universite de Grenoble
13) Committee member, MS thesis. Candidate: Mr. Rui Huang, Division of Mathematics and Computer Science., title: "An Optimized Tri-connected Component Decomposition for the Generation of Random Labeled Planar Graphs", Clarkson University, 2008.
14) Committee member, Ph.D. Dissertation, candidate: Mr. Kambiz Nazridoust, Department of Mechanical and Aeronautical Engineering. title: "Fundamentals and Applications of Environmental and Geophysical Multiphase Flows", advisor: Prof. Goodarz Ahmadi, Clarkson University, 2006.

PROFESSIONAL DEVELOPMENT

1) **Participated in a workshop on teaching effectiveness at the Center of Teaching Excellence at AUB, 2023.**
2) Participated in a workshop on teaching effectiveness at the Center of Teaching Excellence at AUB, 2010.
3) Attended a short course in Monte Carlo Simulation and Quasi Monte Carlo Methods in Finance, Montreal, July 2008.
4) Attended a one-semester course on Bioinformatics (taught at Clarkson University by Biology Professor Jim Schulte), 2007.
5) Attended a short course in Minimal Distance Length (MDL, Information Theory), Pasadena, California, May 2006.
6) Participated in one week workshop on the mathematics of Markov Chain Monte Carlo, Mathematical Sciences Research Institute (MSRI), Berkeley, CA, June 2006.
7) Attended a one-semester course on Wavelets (taught at Clarkson University by Professor A. Jerri), 2005.
8) Ran a one-year seminar on the roots of random polynomials, with Wenbo Li, University of Delaware, Fall 2002/Spring 2003.

SERVICE

DEPARTMENTAL LEVEL:

1) **Member, Promotion Review Committee, Fall 2022**
2) **Member, Strategic Planning Committee, Fall 2019-Spring 2023**
3) **Chair, Mathematics Department Curriculum Committee, Fall 2014-Spring 2019**
4) **Member, Coordination Committee for Math 211/CMPS 211, 2018/2019**
5) **Member, Committee on the Proposal for MS Track in Applied Math, 2015**
6) Interim Chair, Math Department Curriculum Committee, Spring 2014
7) Member, Math Department Curriculum Committee, Fall 2013
8) Member, Coordination Committee on Engineering Courses, AUB, Fall 2009-Spring 2013
9) Member, Committee on placement exams, AUB, Fall 2009—Spring 2011
10) Member, Senior hiring committee, Clarkson 2007-2008
11) Member, Statistics hiring committee, Clarkson 2006-2007
12) Member, `the Math for Business committee', developing and updating the mathematics requirements for Business students, Clarkson, Fall 2003
13) Member, Graduate Committee, Clarkson Mathematics Department 2003- 2009

FAS LEVEL:

1) **Chair, Undergraduate Student Academic Affairs Committee, September 2023-June 2024**
2) **Majorless Students' Advisor, September 2022-June 2024**
3) **Member, Undergraduate Student Academic Affairs Committee, Fall 2020-Spring 2023**
4) **Member, Graduate Studies Committee, Fall 2019-Spring 2022**

5) **Member, Undergraduate Curriculum Committee, Fall 2018-Spring 2020**
6) **Member, Admission Committee, Fall 2016-Spring 2018**
7) **Member, Graduate Studies Committee, Fall 2014-Spring 2016**
8) **External member, Hiring Committee of the Department of Computer Science, 2015/2016, 2016/2017 and 2019/2020**

9) Majorless Students' Advisor, August 2014-August 2016
10) Volunteer file reader of Freshman applications for the Undergraduate Admission Committee, March 2012
11) Freshman Advisor, Fall 2010-Spring 2013.
12) Interim Chair, Undergraduate Admissions Committee, July-August 2012
13) Member, Faculty of Arts and Sciences Undergraduate Admissions Committee, AUB, Spring 2012
14) Member, Library Committee, Fall 2010-Spring 2012
15) Member, Steering Committee on Computational Science Program, December 2010-December 2011

UNIVERSITY LEVEL:

1) **Member, AUB Senate, Fall 2023-Present**
2) **Member, AUB Senate (in replacement of a colleague on leave), Spring 2023.**
3) **Member, University Student Faculty Committee, Spring 2023**
4) **Member, University Board of Graduate Studies (BGS), 2019-2022**
5) **Member, Core Curriculum Committee Task Force for Quantitative Thought, 2018-2019**
6) **FAS representative, University Admission Committee (Fall 2016-Spring 2018)**
7) Member, Unified Undergraduate Admissions Committee, AUB, Spring 2012

SERVICES TO THE PROFESSION AND OTHER SERVICE ACTIVITIES*:*

1) **Member of the scientific committee, Annual Meeting of the Lebanese Society of Mathematical Sciences, 2024**
2) **Faculty Lead, Mathematics Program developer on PADILEIA Project, helping restore basic Education of Syrian Refugees, through the AUB Center for Civic Engagement and Community Service (CCECS), 2017-2019**
3) **Interviewer, USAID scholarships (holding open days interviews for USAID scholarship candidates), May and June 2017**
4) Member of the organizing committee, Annual Meeting of the Lebanese Society of Mathematical Sciences, 2011, 2012, 2013, 2014
5) Co-organizer, Special Session on de Bruijn Sequences, Joint Annual Meetings of the American Mathematical Society, Baltimore, 2014
6) Clarkson University's Mathematics Department Liaison with the Mathematics Association of America (MAA), 2006-2009
7) Journal ***Referee:***
   Journal of Discrete Mathematics, Elsevier Q1 journal
   Journal of Discrete Applied Mathematics, Elsevier Q1 journal
   Designs Codes and Cryptography, Springer Q1 Journal
   Theoretical Computer Science, Elsevier Q3 Journal
   IEEE Transactions on Information Theory, IEEE Q1
   IEEE Transactions on Industrial Electronics. IEEE Q1
   Frequent reviewer for the MathReviews website of the American Mathematical Society
   Frequesnt Reviewer of the AUB URB
   Journal of Statistical Computation and Simulation, Taylor and Francis
   Journal of Sampling Theory, Berkhauser
   SIAM Undergraduate Research Online, SIAM
   Journal of Integers, Colgate Univ., Charles Univ. and DIMATIA

Reviewer for the Discovery Grant Applications of the Natural Sciences and Engineering Research Council of Canada (NSERC)