

CURRICULUM VITAE:

ABEDALLAH RABABAH,

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PERSONAL DATA AND STATS:

Canadian citizen.

Languages: Fluent in both English and German.

Erdős Number: 3 (One of the lowest).

RG Impact Factor: > 72

Publications: more than 100 publications in Mathematics.

EDITORIAL ACTIVITIES:

- Editor-in-Chief of **Journal of Computer Science**,
- Editor of **Communications in Mathematics and Applications**,
- Editor of **International Journal of Advanced and Applied Sciences**,
- Editor of **Applied Mathematical and Computational Sciences**,
- Editor of **Jordanian Journal of Mathematics and Statistics**,
- Editor of **International Journal of Advanced and Applied Sciences**,
- Editor of **Journal of Advances in Computer Engineering and Technology**,
- Editor of **Fractal Geometry and Nonlinear Analysis in Medicine and Biology**,
- Editor of **Computer Science Communications and Applications**,
- Editor of **International Journal of Numerical Methods and Applications**,
- Editor of **Proceedings of the First Symposium on Curves and Surfaces (ACS 2014)**, Rhodes, Greece, September 22-28, 2014 (Published by AIP, ISI, SCOPUS),
- Editor of **Proceedings of the Second Symposium on Approximation of Curves and Surfaces (ACS 2015)**, Rhodes, Greece, September 23-29, 2015 (Published by AIP, ISI, SCOPUS),
- Editor of **Proceedings of the Third Symposium on Approximation of Curves and Surfaces (ACS 2016)**, Rhodes, Greece, September 19-25, 2016 (Published by AIP, ISI, SCOPUS),
- Guest editor of **Special Issue on “Numerical Analysis and Application”**, Published by Communications in Mathematics and Applications, Vol. 8, No. 2, 2017,

- Editor of **Proceedings of the Fourth Symposium on Approximation of Curves and Surfaces (ACS 2017)**, Thessaloniki, Greece, September 25-30, 2017 (To be Published by AIP, ISI, SCOPUS),
- Supervising the authorship of the books for school mathematics: For the classes from 6–th to 12–th class.

EDUCATION:

- Ph.D. in Applied Mathematics-Numerical Analysis, Approximation Theory, and Computer Aided Geometric Design (CAGD), University of Stuttgart, **West Germany, 1992.**
- M.Sc. in Mathematics-Applied Mathematics, Yarmouk University, **Jordan, 1988.**
- B.Sc. in Mathematics and Statistics, Yarmouk University, **Jordan, 1986.**

THESES:

- Ph.D. Thesis entitled: “**Polynomial and spline approximation of curves**”, supervised by **Prof. Klaus Höllig.**
- M.Sc. Thesis entitled: “**On Hermite-Fejér interpolation to functions of bounded variation based on the zeros of certain Jacobi polynomials**”, supervised by **Prof. Radwan Al-Jarrah.**

RESEARCH INTERESTS: My research interests include: Applied Mathematics-Numerical Analysis, Approximation Theory, and Computer Aided Geometric Design.

ACADEMIC CAREER:

- September 2018-Present, Department of Mathematical Sciences, United Arab Emirates University, **UAE.**
- September 2013-August 2015, Head of Department of Mathematics and Statistics, Jordan University of Science and Technology (JUST), **Jordan.**
- September 2012-September 2018, Professor, Department of Mathematics and Statistics and Department of Computer Science (joint appointment), Jordan University of Science and Technology (JUST), **Jordan.**
- September 2009-August 2012, Professor, David R. Cheriton School of Computer Science, Faculty of Mathematics, University of Waterloo, Waterloo, Ontario, **Canada.**
- August 2005-August 2009, Associate Professor, Department of Mathematics and Statistics and Department of Computer Science (joint appointment), JUST, **Jordan.**
- September 2000-August 2005, Assistant Professor, Department of Mathematics and Statistics and Department of Computer Science (joint appointment), JUST, **Jordan.**
- September 1995-August 2000, Assistant Professor, Department of Mathematics, Qatar University, **Qatar.**
- September 1994-August 1995, Assistant Professor, Department of Mathematics, Yarmouk University, **Jordan.**

- September 1992-August 1994, Assistant Professor, Mathematics Institute B, University of Stuttgart, **West Germany**.
- September 1989-August 1992, Research and teaching assistant, Mathematics Institute A, University of Stuttgart, **West Germany**.
- September 1988-August 1989, Learning German language, Auslandsinstitute, Dortmund, **West Germany**.
- September 1986-June 1988, Teaching assistant, Department of Mathematics, Yarmouk University, **Jordan**.

TEACHING EXPERIENCE:

- **University of Waterloo, Canada** (September 2009-August 2012):
I taught Math 211: Advanced Calculus for Electrical and Computer Engineering (ECE) Students (Ordinary Differential Equations, Laplace Transform, Fourier Series, and Partial Differential Equations):
<https://ece.uwaterloo.ca/~math211/Outline/>
CS 488 and CS 688: Computer Graphics (Undergraduate and Graduate Courses):
<http://www.student.cs.uwaterloo.ca/~cs488/>
and Math 127: Calculus I for the Sciences:
- **University of Stuttgart, West Germany** (September 1992-August 1994):
I taught Calculus I , II, and III, Differential Geometry, Linear Algebra, Analytic Geometry, and Curves and Surfaces in Computer Aided Geometric Design.
- **Jordan University of Science and Technology, Jordan** (September 2000-2009 and September 2012-Present), **Qatar University, Qatar** (September 1995-August 2000), and **Yarmouk University, Jordan** (September 1994-August 1995):
I have taught repeatedly most of the undergraduate level courses. I list, in particular, the following courses: Calculus I , II, III & IV, Calculus for Biological Sci., Linear Algebra, Analytic Geometry, Introduction to Approximation Theory, Numerical Analysis I & II, Partial Differential Equations, Ordinary Differential Equations, Discrete Mathematics, Mathematical Methods, Computer Graphics, Programming and Scientific Computations I & II, Operations Research, and Linear Programming.
Approximation Theory (Graduate Level), Numerical Analysis I and II (Graduate Levels), Independent Study (Graduate Level), Special Topics in Applied Mathematics (Graduate Level), Special Topics in Mathematics (Graduate Level), and Mathematics for Pharmaceuticals (Graduate Level).
- **Furthermore:**
 - **Students' Evaluation:** Although there are diverse of factors that affect the students' evaluation to their teachers, teachers should benefit from this feedback and consider it as a useful instrument that helps to improve the teaching's outcome and the students learning and satisfaction. Furthermore, giving the students the opportunity to share their opinion on the learning process encourages the students to be more responsible and improves the students' attitudes towards evaluating their teachers. This should be reflected on the students' performance and they like the lecture that their teachers offer. My students always give me excellent feedback about the courses that I teach; this also encourages me to give my students more and more.

- **Courses Development:** I developed the contents and teaching methods of the following courses: Numerical Analysis I, Numerical Analysis II, Numerical Methods, Higher Mathematics VI for Engineering Students, Programming and Scientific Computations I, Programming and Scientific Computations II.
- **Computer and Technology:** As a Mathematics Professor, I am familiar with using technology and computer programming languages in research, teaching, and learning of Mathematics; these computer algebra systems include Maple, Mathematica, and Matlab.
- **Accreditation and Quality Assurance:** Active participating in many workshops, training days, and symposiums in computer skills, mathematics education, accreditation, quality assurance, and interactive learning.
- **ABET Accreditation:** for the Department of Mathematics, 2013-2015.

COMMITTEE SERVICE: During the period 1992-Present, I have served the following Committees:

- Community Level:
 - Member of the Council of Trustees of Jadara University, Jordan.
 - Member of the Board of Directors of Jadara University, Jordan.
 - Member of the Society for Faculty Members of the Jordan Universities.
 - Member of Environmental Society and Cancer Education Society.
- University Level at Jordan University of Science and Technology:
 - Member of the University Court, 2014-2015.
 - Member of the University Council, 2007-2008.
 - Member of the Saving Fund committee, 2007-2009.
- College Level:
 - Coordinator of the Committee of Proposing a Building for the Faculty of Science, 2013-2014.
 - Coordinator of the Faculty Scientific Day, 2013-2014.
 - Member of the Graduate Studies Committee, 2012-2015.
 - Member of the Research Committee, 2012-2015.
 - Member of the College Council, 2001-2002, 2013-2015.
 - Member of the Scientific Day and Seminars Committee, 2001-2002.
 - Member of the Internet Committee, 2001-2002.
 - Coordinator and Member of many promotion and other committees.
- Department Level at:
 - JUST, September 2000-August 2009 and September 2012-Present: Graduate Studies Committee, Library Committee, Research Committee, Students Advisory Committee, Social Committee, Course Description Committee, Qualifying Exam Committee.
 - Qatar University, September 1995-August 2000: Course Description Committee, Computer Lab Committee, Department Coordinator with Engineering Faculty, Appointment Committee, Textbooks Committee, Cont. Learning and Society Service Committee, Stu-

dents Advisory Committee, Social Committee.

- Yarmouk University, September 1994-August 1995: Computer Lab Committee, Graduate Studies Committee, Appointment Committee, Scholarship Committee, Qualifying Exam Committee.
- Stuttgart University, September 1992-August 1994: Computer Lab Committee, Research Committee, Seminar Committee, Social Committee, Student Advisory Committee.
- University of Waterloo, September 2009-August 2012: Seminar Committee, Computer Graphics Lab Committee, Research Committee.

MEMBERSHIP: I am/was member of the following mathematical societies and professional organizations:

- The American Mathematical Society, 1992-2000.
- The German Mathematical Society, 1992-Present.
- The IEEE Computer Society, 1995-2000.
- The Jordan Mathematical Society, 1992-Present.
- Society for Special Functions & their Applications, 2015-Present.

EDITORIAL AND REFEREEING ACTIVITIES: I have been serving as a referee, or editor, for the following Journals since 1992:

- (Editor-in-Chief/Associate Editor) for Journal of Computer Science,
- (Editorial Board) for Communications in Mathematics and Applications,
- (Editorial Board) for International Journal of Advanced and Applied Sciences,
- (Editorial Board) for Applied Mathematical and Computational Sciences,
- (Editorial Board) for The Jordanian Journal of Mathematics and Statistics,
- (Editorial Board) for Journal of Advances in Computer Engineering and Technology,
- (Editorial Board) for Fractal Geometry and Nonlinear Analysis in Medicine and Biology,
- (Editorial Board) for Computer Science Communications and Applications,
- (Editorial Board) for International Journal of Numerical Methods and Applications,
- (Editor) of the Proceedings of the First Symposium on Curves and Surfaces, Rhodes, Greece, September 22-28, 2014 (Published by AIP, ISI, SCOPUS),
- (Editor) of the Proceedings of the Second Symposium on Approximation of Curves and Surfaces, Rhodes, Greece, September 23-29, 2015 (Published by AIP, ISI, SCOPUS),
- (Editor) of Proceedings of the Third Symposium on Approximation of Curves and Surfaces, Rhodes, Greece, September 19-25, 2016 (Published by AIP, ISI, SCOPUS),
- (Guest editor) of Special Issue on “Numerical Analysis and Application”, published by Communications in Mathematics and Applications, Vol. 8, No. 2, 2017,
- (Editor) of Proceedings of the Fourth Symposium on Approximation of Curves and Surfaces, Thessaloniki, Greece, September 25-30, 2017 (To be Published by AIP, ISI, SCOPUS),

- Journal of Approximation Theory,
- Journal of Computer Mathematics,
- Journal of Mathematical Analysis and Applications,
- Journal of Computational and Applied Mathematics,
- Computer-Aided Design,
- Computer Aided Geometric Design,
- Computational Methods in Applied Mathematics,
- Computers and Graphics,
- Applied Mathematics and Computation,
- Zentralblatt für Mathematik,
- Mathematical Reviews,
- A referee for many promotions,
- External Examiner for many dissertations of graduate students,
- And local Journals: Mu'tah Sci. Journal; Abhath Al-Yarmouk Sci. Journal; Qatar University Sci. Journal; Jordan Journal of Mathematics.

SCHOLARSHIPS AND HONORS:

- A DAAD-Stipendium at Fakultät für Mathematik, Darmstadt Universität, Summer 2002.
- Mitarbeiter der Fakultät für Mathematik, Stuttgart Universität, September 1989-August 1992.
- Listed several times on the Faculty of Science Honor List, Yarmouk University, 1983-1986.
- Best five papers on Solid and Physical Modeling Conference, Dijon, **France**, 2012.
- I have got small grants to support my students and buy computers as follows: In 2001 (JD 1500); in 2012 (JD 1500); in 2013 (JD 5000); in 2014 (JD 4500).
- Awards of excellence for editorship in several journals.

GRADUATE STUDENTS' SUPERVISION:

- I have supervised the following theses for Master and Ph. D Students in mathematics:
 - Sabine Wengor, Geometrische Stetigkeit zwischen Bézierflächen, 1993, University of Stuttgart, West Germany.
 - Mohammad Al-Qudah, Jacobi-weighted orthogonal polynomials on triangular domains, 2002, JUST.
 - Khaldoun Ayyal-Salman, Quadrature and cubature formulas, 2003, JUST.
 - Mohammad Al-Natour, Weighted dual functionals for univariate Bernstein polynomials, 2004, JUST.
 - (Co-Supervisor) Osama Abo Eid, Enhancement of Keywords Extraction from Databases, 2007, JUST.
 - Ashraf Alquran, Cubic and quartic high order approximation, 2007, JUST.

- Nidal Ababneh, Degree reduction of Bézier surfaces, 2008, JUST.
- Salisu Ibrahim, Weighted G^2 multi-degree reduction of Bézier curves, 2014, JUST.
- Yusuf Fatihu, Degree reduction of disk Bézier curves, 2014, JUST.
- Sadiya Rano, Methods for computing derivatives of the Jacobi polynomials using recurrence relations, 2014, JUST.
- Walaa Al-Kasasbeh, Orthogonal polynomials on the triangular domain, 2014, JUST.
- Ayman Al-Shbool, The transformation matrix of Chebyshev III – Bernstein polynomial bases, 2014, JUST.
- Haneen Hinawi, Transformation between Gauss-Lobatto and Bernstein bases, 2015, JUST.
- Wesam Odaibat, Bernstein methods to solve differential equations, 2015, JUST.
- Wala Hijazi, Solving differential equations using the Jacobi polynomials, 2016, JUST.
- Alaa Badarneh, Methods of high order approximation for curves and surfaces, 2016, JUST.
- Israa Hijazi, Characterization of some types of Chebyshev polynomials, 2016, JUST.
- Anas AlKalani, Expansion of reciprocal polynomial using Chebyshev polynomials of the second kind, 2016, JUST.
- Maram Al-Jammal, Defining and solving some fractional differential equations, 2017, JUST.
- Zaid Khalaileh, Solution of linear second-order partial differential equations with mixed conditions using Bernstein polynomials and differentiation matrices, 2017, JUST.
- Asma Al-Sharqi, Construction of generalized orthogonal polynomials in Bernstein form on triangular domain, 2017, JUST.
- Current Students:
 - (Ph. D. Thesis) Nora Mahloul, Polynômes de Krawtchouk et leurs applications, Université des Sciences et de la Technologie - Hourii Boumediene Technology University, Algeria.
 - (JUST) Moath Jaradat, Shihnaz Abo Ghazleh, Israa Rababah, Amani Thalji, and Rashed Rababa.
- I have served as a member of the examining committees for several graduate students at both levels of Master and Ph.D. in Jordan and abroad. I have been appointed as a member of the board of examiners for adjudicating the Ph.D. theses for several students.

BOOKS: I am the author/guest editor of the following books entitled:

- Author of “Programming and Scientific Computations”, (1999), 370 pages, published by Qatar University, ISBN 999214656-7 (Textbook for 2 courses).
- Guest editor of the Proceedings of the First Symposium on Curves and Surfaces, Rhodes, Greece, 2014, Published by American Institute of Physics, Vol. 1648, (ISI, SCOPUS).
- Guest editor of the Proceedings of the Second Symposium on Approximation of Curves and Surfaces, Rhodes, Greece, 2015, Published by American Institute of Physics, Vol. 1738, (ISI, SCOPUS).

- Guest editor of the the Proceedings of the Third Symposium on Approximation of Curves and Surfaces, Rhodes, Greece, 2016, Published by American Institute of Physics, Vol. 1863, (ISI, SCOPUS).
- Guest editor of Special Issue on “Numerical Analysis and Applications”, Published by Communications in Mathematics and Applications, Vol. 8, No. 2, 2017 (ISI).
- Guest editor of the the Proceedings of the Fourth Symposium on Approximation of Curves and Surfaces, Thessaloniki, Greece, 2017, To be Published by American Institute of Physics, (ISI, SCOPUS).
- Supervising the authorship of the books for school mathematics: For the classes from 6-th to 12-th class.
- Author of “Numerical Analysis”, A book in preparation.

PRESENTATIONS AND ABSTRACTS IN CONFERENCES: I have participated and/or presented talks in the following conferences:

1. 5Th International Conference on Recent Advances in Pure and Applied Mathematics, at Karadeniz Technical University Prof. Dr. Osman Turan Convention Center in Trabzon, **Turkey**, July 23-27, 2018.
 - Talk:
 - Invited Speaker
 - Scientific Committee

<http://2018.icrapam.org/>
2. 16th International Conference of Numerical Analysis and Applied Mathematics, Rhodes, **Greece**, September 13-18, 2018. (Organizer of symposium: The Fifth Symposium on Approximation of Curves and Surfaces (ACS 2018))
 - Talk:
 - (Organizer of Symposium)
 - Member of Scientific Committee
 - Head of the sessions

<http://www.icnaam.org/>
3. Fourth International Conference on Mathematics and Computing, Indian Institute of Technology, Varanasi, **India**, January 9-11, 2018.
 - Talk: Geometric degree reduction of Bézier curves
 - Invited Speaker
 - Technical Program Committee

<http://iitbhu.ac.in/icmc2018/apm/index.html>
4. First International Conference on Computational and Mathematical Methods in Engineering & Technology, Melbourne, **Australia**, December 18-20, 2017. (Organizer of symposium: Orthogonal Polynomials: Theory and Applications.)
 - Honorary Conference Co-Chair

- (Organizer of Symposium)
- Member of International Advisory Committee

<http://icommet.net>

5. Fifteenth International Conference of Numerical Analysis and Applied Mathematics, The MET Hotel, Thessaloniki, **Greece**, September 25-30, 2017. (Organizer of symposium: The Fourth Symposium on Approximation of Curves and Surfaces (ACS 2017))

- Talk: Chebyshev reciprocal approximation.
- (Organizer of Symposium)
- Member of Scientific Committee
- Head of two sessions

<http://www.icnaam.org/>

6. 17th International Conference Computational and Mathematical Methods in Science and Engineering, Rota, Cadiz, **Spain**, July 4-8, 2017. (Organizer of symposium: Orthogonal Polynomials and Applications).

<http://cmmse.usal.es/cmmse2017/welcome>

7. Third International Conference on Networks & Communications, Dubai, **UAE**, May 27-28, 2017.

- Program Committee Member
- Reviewer

<http://iccsea.org/2017/nwcom/program.html>

8. Nineteenth International Conference on Geometry, Integrability and Quantization, Bulgaria, June 2-7, 2017. Talk: Best approximation of circular arcs of degree ten with twenty one equioscillations.

<http://www.bio21.bas.bg/conference/>

9. International Conference on Computational Mathematics and Engineering Sciences, Istanbul, **Turkey**, May 20 - 22, 2017.

- (Plenary Speaker) Talk: Multi-degree reduction of Said-Ball curves with endpoints constraints.
- Member of Scientific Committee
- Head of a session

<https://cmes.sciencesconf.org/resource/page/id/21>

10. International Conference on recent advances in pure and applied mathematics, Izmir, **Turkey**, May 11-15, 2017.

- Talk: Quadrature formula with high degree of exactness (Presented by Mohammad Bani Khaled).
- Poster: Best cubic spline interpolation based on minimizing the error (Presented by Mohammad Bani Khaled).
- Poster: On Chebyshev collocation method and applications to nonlinear integral equations (Presented by Nora Mahloul).

- Member of Scientific Committee
- <http://2017.icrapam.org/>
http://2017.icrapam.org/files/abstract_book.pdf
11. Fourth Annual International Conference on Design, Manufacturing, and Mechatronics, Guangzhou, Guangdong, **China**, May 26-28, 2017.
 - Technical Program Committee
 - Reviewer

<http://www.icdmm2017.org/>
 12. Third International Conference on Signal and Image Processing, Dubai, **UAE**, January 28-29, 2017.
 - Program Committee Member
 - Reviewer

<http://csen2016.org/2017/SIPRO/index.html>
 13. Fourteenth International Conference of Numerical Analysis and Applied Mathematics, Rodos Palace Hotel, Rhodes, **Greece**, September 19-25, 2016. (Organizer of symposium: The Third Symposium on Approximation of Curves and Surfaces (ACS 2016))
 - Talk: Weighted degree reduction of Bézier curves.
 - (Organizer of Symposium)
 - Member of Scientific Committee
 - Head of three sessions

<http://www.icnaam.org/>
 14. Third International Conference on recent advances in pure and applied mathematics, Bodrum, **Turkey**, May 19-23, 2016.
 - Talk: The best quadratic approximation of hyperbola with order four.
 - Head of three sessions

<http://2016.icrapam.org/>
<http://2016.icrapam.org/images/AbsBook2016.pdf>
 15. 24th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Anand International College of Engineering, Jaipur, **India**, August 22-26, 2016.
 - (Invited Speaker) Talk: On Hermite-Fejer interpolation of functions of bounded variation.
 - Member of Scientific Committee

<http://www.anandice.ac.in/24icfidcaa-2016/>
 16. International Conference on Special Functions & Applications, Jamia Millia Islamia - Central University, New Delhi, **India**, September 9 - 11, 2016.
 - (Invited Speaker) Poster: Chebyshev-Bernstein polynomial bases
 - Member of Scientific Committee

<http://www.ssfaindia.webs.com/index.htm>
 17. Thirteenth International Conference of Numerical Analysis and Applied Mathematics, Rodos

Palace Hotel, Rhodes, **Greece**, September 23-28, 2015. (Organizer of a symposium: The Second Symposium on Approximation of Curves and Surfaces (ACS 2015))

- Talk: Weighted G^2 -multi-degree reduction of Bézier curves.
- (Organizer of Symposium)
- Member of Scientific Committee
- Head of three sessions

<http://www.icnaam.org/>

18. A. Rababah and Yusuf Fatihu, G^2 -Multi-degree reduction of disk Bézier curves, ICNAAM 2015.

19. A. Rababah and Sadiya Rano, Methods for computing derivatives of the Jacobi polynomials using recurrence relations, ICNAAM 2015.

20. A. Rababah and Ayman Al-Shbool, The transformation matrix of Chebyshev III – Bernstein polynomial basis, ICNAAM 2015.

<http://icnaam.org/>

21. International Conference on Special Functions and Applications (ICSFA-2015), Amity University New Delhi, Noida, September 10-12, 2015.

- (Invited Speaker) Talk: Techniques for computing orthogonal polynomials on triangular domains
- Member of Scientific Committee
- Head of three sessions
- The honor of awarding certificates to senior Mathematicians who significantly contributed to mathematics.

<http://www.ssfaindia.webs.com/conf.htm>

22. The 28th International Conference of the Jangjeon Mathematical Society (ICJMS'2015), Akdeniz University Antalya, **Turkey**, May 15-19, 2015.

- Talk: Recurrence relation for orthogonal polynomials on triangular domains.
- Head of two sessions

<http://jms.akdeniz.edu.tr/en>

23. Twelfth International Conference of Numerical Analysis and Applied Mathematics, Rodos Palace Hotel, Rhodes, Greece, **Greece**, September 23-29, 2014 (Organizer of a symposium: The First Symposium on Approximation of Curves and Surfaces (ACS 2014)).

- Talk: Quartic approximation of circular arcs using equioscillating error function
- (Organizer of Symposium)
- Member of Scientific Committee
- Head of three sessions

<http://www.icnaam.org/>

24. Michigan Computational Algebraic Geometry Conference, Western Michigan University, Kalamazoo, MI, **USA**. Talk: Improving the order of the Taylor method, May 3-4, 2013.

<https://sites.google.com/site/michigancag/home>

25. Solid and Physical Modeling (SPM12) Conference, University of Burgundy, Dijon, **France**, October 29-31, 2012. Talk: Linear methods for G^1 , G^2 , and G^3 -multi-degree reduction of Bézier curves
<http://spm12.u-bourgogne.fr>
26. The SIAM/ACM Geometric and Physical Modeling (GD/SPM11) Conference, Orlando, Florida, **USA**, Linear methods for degree reduction of Bézier curves with geometric continuity, October 24-27, 2011, joint work, Talk presented by Stephen Mann.
<http://www.siam.org/meetings/gdspm11/>
27. The Fields Institute and Waterloo Workshop in Computer Algebra W80, Wilfrid Laurier University, Waterloo, **Canada**, May 26-29, 2011.
<http://www.cargo.wlu.ca/W80/index.html>
28. The OCCAM-Fields-MITACS Biomedical Problems Solving Workshop, University of Toronto, Toronto, **Canada**, June 22-26, 2009.
<http://www.fields.utoronto.ca/programs/scientific/08-09/biomedical/>
29. The Taylor Model Methods V, Fields Institute, Toronto, **Canada**, May 20-23, 2008, Talk: Hermite approximation with high accuracy for space curves in \mathfrak{R}^d , (One hour talk), can be viewed at:
<http://www.fields.utoronto.ca/audio/07-08/taylor-model/rababah/>
30. The Fourth Education Forum, Amman, **Jordan**, April 24-25, 2007.
31. The Tenth Faculty Scientific Day at JUST, **Jordan**, May 9-10, 2007, Talk: Degree reduction and approximation.
32. Korea Conference on Mathematical Methods for Curves and Surfaces, Busan, **South Korea**, January 9-11, 2006.
 - (Invited Speaker) Talk: Bivariate orthogonal polynomials on triangular domains
 - Member of Scientific Committee
 - Head of three sessions
 Talk can be viewed at:
<http://mathnet.kaist.ac.kr/Video/etc/etc.html>
33. Conference on Interactive Mobile and Computer Aided Learning (IMCL 2006) Amman, Jordan, April 19 - 21, 2006. Talk: The dual functions for the generalized Bernstein basis.
<http://www.imcl-conference.org/>
34. Ninth Faculty Scientific Day at JUST, **Jordan**, May 9-10, 2006. Talk: Degree raising and reduction of triangular Bézier surfaces.
35. Numerical Analysis and Approximation Theory, Cluj-Napoca, **Romania**, July 5-8, 2006. Talk: Degree raising and reduction of Bézier surfaces
<http://www.cs.ubbcluj.ro/naat2006/>
36. Conference on Shimura Varieties and Arakelov Geometry, CRM, Barcelona, **Spain**, July 10-15, 2006, Talk: Degree reduction and elevation of triangular Bézier surfaces.
<http://www.crm.es/General/Memories/MemoriaAng2006.pdf>
37. Seventh Faculty Scientific Day at JUST, **Jordan**, May 18-19, 2004. Talk: Jacobi-weighted orthogonal polynomials.

38. Sixth International Conference on Mathematical Methods for Curves and Surfaces, Tromsø, **Norway**, July 1-6, 2004. Talk: Degree reduction of triangular Bézier surfaces with continuous conditions at vertices
<http://heim.ifi.uio.no/cagd/>
39. Sixth Faculty Scientific Day at JUST, **Jordan**, May 27-28, 2003.
40. First Annual Conference on Mathematics and Computer Science, Irbid National University, **Jordan**, October 15-16, 2003. Talk: Applications to Chebyshev-Bernstein transformation.
41. SIAM Conference on geometric design and computing, Seattle, Washington, **USA**, November 10-13, 2003. Talk presented by B. G. Lee: Multiple degree reduction and elevation of Bézier curves using Jacobi-Bernstein basis transformation.
<http://meetings.siam.org/sess/>
42. Fifth International Conference on Curves and Surfaces, Saint Malo, **France**, June 27-July 3, 2002. Talk: Jacobi-Bernstein basis transformation.
<https://books.google.jo/books/about/CurveandSurfaceDesignSaintMalo2002.html>
43. Fifth Faculty Scientific Day at JUST, May 12-16, 2002, Talk: On high order piecewise approximation methods.
44. Chemnitz Finite Element Symposium, Chemnitz, **Germany**, September 23-25, 2002. Talk: High accuracy piecewise approximation for curves.
<http://www.tu-chemnitz.de/sfb393/fem-symposium/2002/registration/participants.php3>
45. Workshop on Fourier Analysis and Convexity, Milano, **Italy**, June 11-22, 2001. Talk: Transformation of Chebyshev-Bernstein polynomial basis
46. Fourth Faculty Scientific Day at JUST, **Jordan**, May 23-24, 2001. Talk: On Hermite-Fejér interpolation
47. Dirac Operators: Yesterday and Today, American University of Beirut, **Lebanon**, August 27-September 7, 2001.
48. Third Jordanian Mathematics Conference, **Jordan**, September 2-5, 1996. Talk: Approximation with quartic Bernstein polynomials.
49. 17.te Konferenz über Differentialgeometrie, Darmstadt, **West Germany**, June 3, 1994. Talk: Verbesserung der Taylorschen Approximationsordnung
50. Second Jordanian Mathematics Conference, **Jordan**, September 11-14, 1994. Talk: Geometric Hermite approximation.
51. Conference about Differential Geometry, Stuttgart, **West Germany**, June 11, 1993. Talk: Piecewise approximation with high order.
52. The Second Gauss Symposium, München, **West Germany**, August 1-7, 1993. Talk: Local approximation of high geometric order.
53. DFG/GAMM-Conference about Boundary Interpolation, Stuttgart, **West Germany**, November 19-20, 1993, Talk: Conjecture about spline interpolation.

PUBLICATIONS IN PEER REVIEWED INTERNATIONAL CONFERENCES:

The following articles have been published in peer reviewed international conferences:

1. A. Rababah and Salisu Ibrahim, Geometric degree reduction of Bézier curves, To appear in Conference Proceedings of the Fourth International Conference on Mathematics and Computing, (2018), Springer Publications.
2. A. Rababah, Preface for “The Fourth Symposium on Approximation of Curves and Surfaces (ACS 2017)”, ICNAAM (2017), To appear in AIP Conference Proceedings (2017) (ISI, SCOPUS).
3. A. Rababah and Zakia Hammouch, On Hermite-Fejér Interpolation, To appear in AIP Conference Proceedings (2018) (ISI, SCOPUS)
4. A. Rababah, Preface for “The Third Symposium on Approximation of Curves and Surfaces (ACS 2016)”, ICNAAM (2016), AIP Conference Proceedings 1863, 060001 (2017) (ISI, SCOPUS); <http://doi.org/10.1063/1.4992215>
5. A. Rababah and Zainab AlMeraj, The best uniform approximation of ellipse with degree two, AIP Conference Proceedings 1863, 060003 (2017) (ISI, SCOPUS); <http://doi.org/10.1063/1.4992217>
6. A. Rababah The best uniform quintic approximation of circular arcs with high accuracy, AIP Conference Proceedings 1863, 060005 (2017) (ISI, SCOPUS); <http://doi.org/10.1063/1.4992219>
7. A. Rababah, Mohammed Bani Khalid, and Mohammed Shakhaterh, Quadratic spline interpolation with minimized error, AIP Conference Proceedings 1863, 060007 (2017) (ISI, SCOPUS); <http://doi.org/10.1063/1.4992221>
8. A. Rababah, Preface for “The Second Symposium on Approximation of Curves and Surfaces (ACS 2015)”, ICNAAM (2015), AIP Conference Proceedings 1738, 050001 (2016) (ISI, SCOPUS); <http://doi.org/10.1063/1.4951816>
9. A. Rababah and Ayman Al-Shbool, The transformation matrix of Chebyshev III – Bernstein polynomial basis, ICNAAM (2015), published by AIP. 1738, 050007; <http://doi.org/10.1063/1.4951822>
10. A. Rababah and Yusuf Fatihu, G^2 -degree reduction of disk Bézier curves, ICNAAM (2015), published by AIP, 1738, 050003; <http://doi.org/10.1063/1.4951818>
11. A. Rababah and Salisu Ibrahim, Weighted G^0 - and G^1 - multi-degree reduction of Bézier curves, ICNAAM (2015), published by AIP, 1738, 050005; <http://doi.org/10.1063/1.4951820>
12. A. Rababah, Techniques for computing orthogonal polynomials on triangular domains, Proceedings of International Conference on Special Functions and Applications (ICSFA-2015), Amity University New Delhi, Noida **India**, September 10-12, 2015.
13. A. Rababah Preface of the “Virtual symposium on Bézier curves and surfaces”, AIP Conference Proceedings 1648 (2014), 590001; <http://doi.org/10.1063/1.4912828>
14. A. Rababah and Yusuf Fatihu, G^0 - and G^1 -Degree reduction of disk Bézier curves, ICNAAM (2014), published by AIP, 590005-1, 1-4; <http://doi.org/10.1063/1.4912832>
15. A. Rababah, The dual functions for the bivariate Bernstein basis. The First International Conference on Interactive Mobile and Computer Aided Learning, Amman-Jordan, (2006). http://www.imcl-conference.org/Past_conferences.htm
16. A. Rababah, Verbesserung der Taylorsche Approximationsordnung. 17.te Konferenz über Differentialgeometrie, Darmstadt, West Germany, (1994), 47-59.

PUBLICATIONS IN PEER REVIEWED INTERNATIONAL JOURNALS:

The following articles have been published in peer reviewed international journals:

1. A. Rababah, Quadratic Quadrature Formula for Curves with Third Degree of Accuracy, *Filomat* 2019.
http://www.pmf.ni.ac.rs/pmf/publikacije/filomat/filomat_pocetna.php
2. A. Rababah and E. Hijazi, Generalized Chebyshev Polynomials of Third Kind, To appear in *Proceedings of the Jangjeon Math. Soc.*, 2018.
<http://www.jangjeonopen.or.kr/PJMS/journal.php>
3. A. Rababah, Recursive formulas for Jacobi-weighted orthogonal polynomials on triangular domains, to appear in *Ukrainian Mathematical Journal*, 2018.
<http://www.springer.com/mathematics/journal/11253>
4. A. Rababah, The Best Quartic Approximation of Hyperbola with Order Eight, to appear in *Italian Journal of Pure and Applied Mathematics*, Vol. 38, 2018.
<http://ijpam.uniud.it/journal/home.html>
5. A. Rababah and Yusuf Hamza, Weighted G^2 -Degree Reduction of Disk Bézier Curves, to appear in *Italian Journal of Pure and Applied Mathematics*, Vol. 38, 2018.
<http://ijpam.uniud.it/journal/home.html>
6. A. Rababah, Best sextic approximation of circular arcs with thirteen equioscillations, To appear in *Proceedings of the Jangjeon Math. Soc.*, volume 21 (1), 111-123, 2018.
<http://www.jangjeonopen.or.kr/PJMS/journal.php>
7. A. Rababah and Y Hamza, Multi-degree Reduction of Said-Ball Curves with Endpoints Constraints, *International Information Institute (Tokyo). Information* 20 (7A), 4647-4654, 2017.
[http://www.information-iii.org/abs_e2.htmlNo7\(A\)-2017](http://www.information-iii.org/abs_e2.htmlNo7(A)-2017)
8. A. Rababah, Convergence of Hermite-Fejér interpolation over roots of third-kind Chebyshev polynomials, *International Journal of Advanced and Applied Sciences* 3 (12), 69-72, 2016.
<http://science-gate.com/IJAAS/Articles/2016-3-12/10>
9. A. Rababah, The Best Uniform Cubic Approximation of Circular Arcs with High Accuracy, *Communications in Mathematics and Applications* Vol. 7, No. 1, 37-46, 2016.
<http://www.rgnpublications.com/journals/index.php/cma/article/viewFile/362/350>
10. A. Rababah and Salisu Ibrahim, Weighted Degree Reduction of Bézier curves with G^2 -continuity, *International Journal of Advanced and Applied Sciences*, Vol. 3 Issue 3, 13-18 (2016).
<http://www.science-gate.com/IJAAS/Articles/2016-3-3/03>
11. A. Rababah, The best quadratic approximation of hyperbola with order four, *Journal of Inequalities and Special Functions*, Volume 7 Issue 3(2016), 1-11.
<http://www.ilirias.com>
12. A. Rababah, Quartic approximation of circular arcs using equioscillating error function, *International Journal of Advanced Computer Science and Applications*, Volume 7 Issue 7, 590-595, (2016).
<http://thesai.org/Downloads/Volume7No7>

13. [A. Rababah](#), The best uniform quadratic approximation of circular arcs with high accuracy, *Open Mathematics* 14, 118-127, (2016).
<http://www.degruyter.com/view/j/math.2016.14.issue-1/math-2016-0012/math-2016-0012.xml>
14. [A. Rababah](#) and Salisu Ibrahim, Weighted G1-multi-degree reduction of Bézier curves, *International Journal of Advanced Computer Science and Applications*, Vol. 7 Iss. 2, 540-545 (2016).
<http://thesai.org/Publications/ViewPaper?Volume=7&Issue=2&Code=IJACSA&SerialNo=70>
15. [A. Rababah](#), Recurrence relations for orthogonal polynomials on triangular domains, *Mathematics* 4(2), 25, (2016); doi:10.3390/math4020025
<http://www.mdpi.com/2227-7390/4/2/25/htm>
16. [A. Rababah](#) and Ayman Al-Shbool, The transformation matrix of Chebyshev IV-Bernstein polynomial bases, *Journal of Mathematical Analysis*, Vol. 7 Iss. 4, 123-129 (2016).
<http://ilirias.com/jma>
17. [A. Rababah](#) and Y. Hamza, Multi-degree reduction of disk Bézier curves with G0- and G1-continuity, *Journal of Inequalities and Applications* 2015 (2015), 307.
<http://journalofinequalitiesandapplications.springeropen.com/articles/>
18. [A. Rababah](#) and Y. Hamza, Weighted G0- and G1-Degree reduction of disk Bezier curves, *Journal of informatics and Mathematical Sciences* Vol. 8, NO. 1, 17-27, 2016.
<http://www.rgnpublications.com/journals/index.php/jims/article/view/351/0>
19. [A. Rababah](#) and Y. Hamza, G2-Degree reduction of disk Bézier curves, *Advances and Applications in Mathematical Sciences* Volume 15, Issue 3, 87-107, 2016.
20. [A. Rababah](#) and Stephen Mann, Linear methods for G^1 , G^2 , and G^3 -multi-degree reduction of Bézier curves. *Computer-Aided Design* 45(2), (2013), 405-414.
<http://dx.doi.org/10.1016/j.cad.2012.10.023>
21. [A. Rababah](#) and Stephen Mann, Iterative process for G^2 -multi degree reduction of Bézier curves. *Applied Mathematics and Computation* 217(20), (2011), 8126-8133.
<http://www.sciencedirect.com/science/article/pii/S0096300311003559>
22. [A. Rababah](#), Degree reduction of triangular Bézier surfaces with C^α -vertices. *Int. Journal of Math. Analysis*, Vol. 4 no. 21-24, (2010), 1055-1066.
<http://www.sciencedirect.com/science/journal/>
23. [A. Rababah](#), M. Al-Refai, and R. Al-Jarrah, Computing derivatives of Jacobi polynomials using Bernstein transformation and differentiation matrix. *Numerical Functional Analysis and Optimization* 29, Issue 5-6, (2008) 660-673.
<http://www.tandf.co.uk/journals/titles/01630563.asp>
<http://www.informaworld.com/10.1080/01630560802099761>
24. [A. Rababah](#), Bivariate orthogonal polynomials on triangular domains. *Mathematics and Computers in Simulation* 78, (2008) 107-111.
<http://www.sciencedirect.com/science/journal/03784754>
25. [A. Rababah](#) and M. Al-Natour, Weighted dual functions for Bernstein basis satisfying boundary constraints. *Applied Mathematics and Computation* 199, (2008) 456-463.
<http://www.elsevier.com/locate/amc>
26. [A. Rababah](#), High accuracy Hermite approximation for space curves in \mathbb{R}^d . *Journal of Mathematical Analysis and Applications* 325, Iss. 2, (2007) 920-931.
<http://www.elsevier.com/locate/jmaa>

27. [A. Rababah](#) and M. Al-Natour, Weighted dual functionals for univariate Bernstein polynomials. *Applied Mathematics and Computation* 186, (2007) 1581-1590.
<http://www.elsevier.com/locate/amc>
28. [A. Rababah](#), B. G. Lee, and J. Yoo, Multiple degree reduction and elevation of Bézier curves using Jacobi-Bernstein basis transformation. *Numerical Functional Analysis and Optimization* 28, Issue 9-10, (2007) 1179-1196.
<http://www.tandf.co.uk/journals/titles/01630563.asp>
<http://www.informaworld.com/10.1080/01630560701564139>
29. [A. Rababah](#), Integration of Jacobi and weighted Bernstein polynomials using bases transformations. *Computational Methods in Applied Mathematics* 7(3), (2007) 221-226.
<http://www.cmam.info/issues/?Vol=7&Num=3&ItID=172>
30. [A. Rababah](#), On bounds of the fundamental polynomials associated with the Hermite-Fejér interpolation on the roots of the Jacobi polynomials. *Int. Journal of Math. Analysis*, No 23, (2007) 1125 - 1130.
31. [A. Rababah](#), Asymptotic properties of the Hermite-Fejér interpolation on the roots of the Legendre polynomials. *Int. Journal of Math. Analysis*, No 23, (2007) 1131 - 1135.
32. [A. Rababah](#), Inequalities for the Jacobi polynomials and their derivative. *International Journal of Pure and Applied Mathematics*, V. 41, No. 5, (2007) 697-701.
33. [A. Rababah](#) and A. Taani, Cardinal interpolation problem for shifted E-Spline. *Abhath Al-Yarmouk: Basic Sci. & Eng.*, Vol. 15, No. 1 (2006) 91-100.
34. [A. Rababah](#), B. G. Lee, and J. Yoo, A simple matrix form for degree reduction of Bézier curves using Chebyshev-Bernstein basis transformations. *Applied Mathematics and Computation* 181, (2006) 310-318.
<http://www.elsevier.com/locate/amc>
35. [A. Rababah](#), L-2 degree reduction of triangular Bézier surfaces with common tangent planes at vertices. *International Journal of Computational Geometry & Applications*, Vol. 15, No. 5 (2005) 477-490.
<http://www.worldscinet.com/ijcga/15/1505/S02181959051505.html>
36. [A. Rababah](#) and M. Al-Qudah, Jacobi-weighted orthogonal polynomials on triangular domains. *Journal of Applied Mathematics* Vol. 2005, Issue 3, (2005) 205-217.
<http://www.hindawi.com/journals/jam/index.html>
37. [A. Rababah](#), Distances with rational triangular Bézier surfaces. *Applied Mathematics and Computation* 160, (2005) 379-386.
<http://www.elsevier.com/locate/amc>
38. [A. Rababah](#), Jacobi-Bernstein basis transformation. *Computational Methods in Applied Mathematics* 4(2), (2004) 206-214.
<http://www.cmam.info/issues/?Vol=4&Num=2&ItID=100>
39. [A. Rababah](#), Fractional partial derivatives of bivariate Bernstein polynomials. *International Journal of Computational and Numerical Analysis and Applications*, V. 6, No. 4, (2004) 385-390.
40. [A. Rababah](#), Transformation of Chebyshev-Bernstein polynomial basis. *Computational Methods in Applied Mathematics* 3(4), (2003) 608-622.
<http://www.cmam.info/issues/?Vol=3&Num=4&ItID=86>

41. A. Rababah, Distance for degree raising and reduction of triangular Bézier surfaces. *Journal of Computational and Applied Mathematics* 158, (2003) 233-241.
<http://ees.elsevier.com/cam/>
42. A. Rababah, Bernstein representation of quartic polynomial approximation. *Damascus University Journal for Basic Sciences*, V. 14(1), (1998) 107-117.
43. A. Rababah, High accuracy piecewise approximation for planar curves. *Arab Gulf Journal of Scientific Research*, V. 15(1), (1997) 1-14.
44. A. Rababah, Quartic piecewise approximation in Bernstein form. *Journal King Saud University in Science*, V. 9(2), (1997) 211-220.
45. A. Rababah and A. Taani, A 6th-order local approximation by a cubic curve, *Qatar Uni. Sci. Jour.*, V. 17(1), (1997) 21-26.
46. A. Rababah, Geometric Hermite approximation. *Bulletin of the Calcutta Mathematical Society*, V. 88, (1996) 87-92.
47. A. Rababah, Bernstein representation of quadratic polynomial approximation. *Jour. Inst. Math. and Comp. Sci.*, V. 7(1), (1996) 1-6.
48. A. Rababah, Improvement of piecewise approximation methods. *Qatar University Science Journal*, V. 16(2), (1996) 193-199.
49. A. Rababah, Quartic piecewise approximation with high accuracy. *Jour. Math. and Comp. Sci.*, V. 9(1), (1996) 81-89.
50. A. Rababah, High order approximation method for curves. *Computer Aided Geometric Design*, V. 12, (1995) 89-102.
<http://www.elsevier.com/locate/cagd>
51. A. Rababah, Quadratic piecewise approximation with high accuracy. *Jour. Inst. Math. and Comp. Sci.*, V. 8(1), (1995) 55-61.
52. A. Rababah and A. Taani, Cubic polynomial approximation, *Jour. Coll. Ed.*, V. 5, (1995) 1-7.
53. A. Rababah, Quadratic piecewise approximation in Bernstein form. *Jour. Inst. Math. and Comp. Sci.*, V. 6(2), (1995) 131-135.
54. A. Rababah, Hermite approximation with high accuracy. *University of Stuttgart, Report No. 9301*, (1993) 1-20.
55. A. Rababah, Taylor theorem for planar curves. *Proceedings of the American Mathematical Society*, V. 119(3), (1993) 803-810.
<http://www.jstor.org/pss/2160515>
56. A. Rababah, High accuracy piecewise approximation for planar curves. *University of Stuttgart, Report No. 9220*, (1992) 1-19.
57. R. Al-Jarrah and A. Rababah, On the rate of convergence of Hermite-Fejér interpolation to functions of bounded variation on the zeros of certain Jacobi polynomials. *Revista Colombiana de Matemáticas*, V. 24, (1990) 51-64.
<http://www.scm.org.co/revistas.php?modulo=MasInformacion&ver=556>

PAPERS IN PROCESS:

1. A. Rababah and Yusuf Hamza, Multi-degree Reduction of Said-Ball Curves with Endpoints

Constraints.

2. A. Rababah and M. Bani Khaled, Best Quadratic Spline Interpolation Based on Minimizing the Error.
3. A. Rababah and Anas Alkalani, Expansion of Reciprocal Polynomials of Known Partial Fractions Using Second Kind Chebyshev Polynomials.