

Curriculum Vitae

ASUMAN GÜVEN AKSOY

CROWN PROFESSOR OF MATHEMATICS AND ROBERTS FELLOW

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Research Interests

Banach space theory, operator theory, approximation theory, interpolation spaces, fixed point theory, modular spaces, nuclear spaces, minimal projections, symmetric spaces, functional equations, hyperconvex spaces, metric geometry.

Education

- 1978 – 1984 **Ph.D. in Mathematics**, University of Michigan.
Advisor: M.S. Ramanujan
Dissertation: “Approximation Schemes, Related s -Numbers and Applications”
- 1976 – 1978 **M.S. in Mathematics**, Middle East Technical University.
Supervisor: Tosun Terizoğlu
Masters Thesis: “Subspaces of Nuclear Fréchet Spaces”
- 1972 – 1976 **B.S. in Mathematics and Physics**, University of Ankara.
Academic Distinction: Ranked 1st in graduating class

Positions

- REGULAR

- 2009–Now *Crown Professor of Mathematics and Robert’s Fellow*, Claremont McKenna College
1996–2009 *Professor*, Department of Mathematics, Claremont McKenna College
2007–2009 *Chair*, Department of Mathematics, Claremont McKenna College
1997–2000 *Chair*, Department of Mathematics, Claremont McKenna College
1990–1996 *Associate Professor*, Department of Mathematics, Claremont McKenna College
1984–1987 *Assistant Professor*, Department of Mathematics, Oakland University, Rochester, Michigan
1980–1984 *Teaching Assistant*, Department of Mathematics, University of Michigan
1976–1978 *Teaching Assistant*, Department of Mathematics, Middle East Technical University

- VISITING

- 2008 Spr. *Visiting Professor*, University of Leeds, Leeds, United Kingdom
2005 Fall *Visiting Professor*, Banach Center, Warsaw, Poland
2002 Sum. *Visiting Professor*, Jagiellonian University, Krakow, Poland
2001 Spr. *Visiting Professor*, Department of Mathematics, Boğaziçi University, Istanbul, Turkey
2000 Spr. *Visiting Professor*, Department of Mathematics, University of California-Riverside, CA
1994 Sum. *Visiting Associate Professor*, Department of Mathematics, Middle East Technical University
1993 Fall *Visiting Associate Professor*, Department of Mathematics, California Institute of Technology
1984 Fall *Visiting Research Assistant*, Department of Mathematics, University of Kaiserslautern

Books

- A. G. Aksoy and M. A. Khamsi, “Nonstandard Methods in Fixed Point Theory”, Springer-Verlag, Universitext Series, 1990, ISBN: 978-0-387-97364-7.

- A. G. Aksoy and M. A. Khamsi, “A Problem Book in Real Analysis”, Springer-Verlag, Problem Books in Mathematics, 2009, ISBN: 978-1-4419-1295-4.
- A. G. Aksoy, R. Ashrov, Shavkat Ayupov and Bernard Russo (Editors), “Topics in Functional Analysis and Algebra”, AMS Contemporary Mathematics (Proceedings of the USA-Uzbekistan Conference on Analysis and Mathematical Physics), **672**, 2016, ISBN: 978-1-4704-1928-8
- A. G. Aksoy and Sam Nelson, “Pure Mathematics: Passport for the Impatient”, in progress.

Publications

* denotes undergraduate author

- 2017 1. A. G. Aksoy, *On a theorem of Terzioğlu*, in progress.
2. A. G. Aksoy, Q. Peng, *On a theorem of S. N. Bernstein for Banach spaces*, submitted, [arXiv:1605.04592](https://arxiv.org/abs/1605.04592).
3. A. G. Aksoy, M. Al-Ansari, Q. Peng, *Representation theorems for R-trees*, submitted, [arXiv:1601.03108](https://arxiv.org/abs/1601.03108).
4. A. G. Aksoy, E. Cumberbatch, *Uncovering GEMS of Mathematics*, accepted.
5. A. G. Aksoy, M. Al-Ansari, C. Case*, Q. Peng, *Subspace condition for Bernstein’s lethargy theorem*, accepted, [arXiv:1606.07977](https://arxiv.org/abs/1606.07977).
- 2016 6. A. G. Aksoy, *Al-Khwarizmi and the Hermeneutic Circle: Reflections on a Trip to Samarkand*, Journal of Humanistic Mathematics, **6**(2), pp. 114–127, 2016, DOI: [10.5642/jhummath.201602.09](https://doi.org/10.5642/jhummath.201602.09).
7. A. G. Aksoy, G. Lewicki, *Bernstein lethargy theorem for Fréchet spaces*, Journal of Approximation Theory, **209**, pp. 58–77, 2016, DOI: [10.1016/j.jat.2016.05.003](https://doi.org/10.1016/j.jat.2016.05.003).
8. A. G. Aksoy, G. Lewicki, *Characterization conditions and the numerical index*, Contemporary Mathematics, **672**, pp. 17–31, 2016, DOI: [10.1090/conm/672/13475](https://doi.org/10.1090/conm/672/13475).
9. A. G. Aksoy, Z. Ibragimov, *Convexity of the Urysohn Universal Space*, Journal of Nonlinear and Convex Analysis, **17**(6), pp. 1239–1247, 2016, [arXiv:1309.7381](https://arxiv.org/abs/1309.7381).
10. A. G. Aksoy, G. Lewicki, *Minimal projections with respect to numerical radius*, Ordered Structures and Applications: Positivity VII, Trends in Mathematics, pp. 1–11, 2016, DOI: [10.1007/978-3-319-27842-1](https://doi.org/10.1007/978-3-319-27842-1).
- 2015 11. A. G. Aksoy, J. Almira, *On Montel and Montel–Popoviciu theorems in several variables*, Aequationes mathematicae, **89**(5), pp. 1335–1357, 2015, DOI: [10.1007/s00010-014-0329-8](https://doi.org/10.1007/s00010-014-0329-8).
- 2014 12. A. G. Aksoy, J. Almira, *On approximation schemes and compactness*, Proceedings of the first conference on classical and functional analysis, Azuga-Romania, pp. 5–24, 2014, [arXiv:1311.2385](https://arxiv.org/abs/1311.2385).
13. A. G. Aksoy, Sixian Jin*, *The apple doesnt fall far from the metric tree: equivalence of definitions* Proceedings of the first conference on classical and functional analysis, Azuga-Romania, pp. 25–36, 2014, [arXiv:1306.6092](https://arxiv.org/abs/1306.6092).
14. A. G. Aksoy, J. Almira, *On Shapiro’s lethargy theorem and some applications*, Jaen J. Approx., **6**(1), pp. 87–116, 2014, [arXiv:1211.3356](https://arxiv.org/abs/1211.3356).
- 2013 15. A. G. Aksoy, Z. Glassman*, O. Kosheleva and V. Kreinovich, *From Uryshons universal space to a universal space-time*, Mathematical Structures and Modeling, **28**(2), pp. 28–34, 2013.
16. A. G. Aksoy, G. Lewicki, *Limit Theorems for Numerical Index*, Journal of Mathematical Analysis and Applications, **398**(1), pp. 296–302, 2013, DOI: [10.1016/j.jmaa.2012.08.055](https://doi.org/10.1016/j.jmaa.2012.08.055).
- 2012 17. A. G. Aksoy, G. Lewicki, *Minimal projections with respect to various norms*, Studia Mathematica, **210**(1), 2012, DOI: [10.4064/sm210-1-1](https://doi.org/10.4064/sm210-1-1).
- 2011 18. A. G. Aksoy, K. Kinneberg*, *Compact n-widths in metric trees*, Function spaces IX, the Banach Center Publications, **92**, 2011, DOI: [10.4064/bc92-0-1](https://doi.org/10.4064/bc92-0-1).

19. A. G. Aksoy, G. Lewicki, *Best approximation in numerical radius*, Numerical Functional Analysis and Optimization, **32**(6), pp. 593-609, 2011, DOI: [10.1080/01630563.2011.571886](https://doi.org/10.1080/01630563.2011.571886).
20. A. G. Aksoy, T. Oikhberg, *Some results in metric trees*, Banach Center Publications, **91**, pp. 9–34, 2011, DOI: [10.4064/bc91-0-1](https://doi.org/10.4064/bc91-0-1).
- 2008 21. A. G. Aksoy, B. Maurizi*, *Metric trees, hyperconvex hulls and extensions*, Turkish J. Math., **32**(2), pp. 219-234, 2008, [arXiv:math/0702125](https://arxiv.org/abs/math/0702125).
- 2007 22. A. G. Aksoy, M. S. Borman* and A. L. Westfahl*, *Compactness and measures of non-compactness in metric trees*, Proc. of the International Conference on Banach and Function Spaces II, Kitakyushu, Japan, pp.1-16, 2007, [arXiv:math/0702124](https://arxiv.org/abs/math/0702124).
23. A. G. Aksoy, M. Ed-Dari, M. A. Khamsi, *On numerical index of vector-valued function spaces*, Linear and Multilinear Algebra. **55**(6) pp. 507–513, 2007, DOI: [10.1080/03081080601030594](https://doi.org/10.1080/03081080601030594).
24. A. G. Aksoy, B. L. Chalmers, *Minimal numerical-radius extensions of operators*, Proc. of Amer. Math. Soc., **135**(4), pp. 1039-1050, 2007, DOI: [10.1090/S0002-9939-06-08609-6](https://doi.org/10.1090/S0002-9939-06-08609-6).
25. A. G. Aksoy, M. A. Khamsi, *Fixed points of uniformly Lipschitzian mappings in metric trees*, Sci. Math. Jpn. **65**(1), pp. 31-41, 2007.
- 2006 26. A. G. Aksoy, M. A. Khamsi, *A selection theorem in metric trees*, Proc. of Amer. Math. Soc. **134**(4), pp. 2957–2966, 2006, DOI: [10.1090/S0002-9939-06-08555-8](https://doi.org/10.1090/S0002-9939-06-08555-8).
- 2005 27. A. G. Aksoy, H. O. Tylli, *Interpolation of the essential spectrum and the essential norm*, Orlicz Centenary Volume II, Banach Center Publ, Polish Acad. Sci., Warsaw, **68**, pp. 9–18, 2005, DOI: [10.4064/bc68-0-1](https://doi.org/10.4064/bc68-0-1).
- 2004 28. A. G. Aksoy, M. Martelli, *Wave equation, mixed partial derivatives and Fubini's theorem*, The American Mathematical Monthly, **111**(4), 2004, DOI: [10.2307/4145243](https://doi.org/10.2307/4145243).
- 2002 29. A. G. Aksoy, M. Martelli, *Mixed partial derivatives and Fubini's theorem*, College Mathematics Journal of MAA, **33**(2), pp. 126–130, 2002, DOI: [10.2307/1558995](https://doi.org/10.2307/1558995).
- 2001 30. A. G. Aksoy, M. Martelli, *Global convergence for discrete dynamical systems and forward neural networks*, Turkish Journal of Mathematics, **25**, pp. 345–354, 2001.
- 1997 31. A. G. Aksoy, G. Lewicki, *Diagonal operators, s-numbers, and Bernstein pairs*, Note di Matematica, **17**, pp. 1–10, 1997.
32. A. G. Aksoy, *s-numbers, measure and weak measure of non-compactness and real interpolation*, Bulletin of Allahabad Math. Soc., **8-9**, pp. 15–35, 1997.
- 1996 33. A. G. Aksoy, G. Lewicki, *Modular spaces and K-widths*, Functional Analysis, Walter de Gruyter Publishing, Berlin, pp. 1–10, 1996.
34. A. G. Aksoy, L. Maligranda, *Lipschitz-Orlicz spaces and the Laplace equation*, Mathematische Nachrichten, **178**(1), pp. 81-101, 1996, DOI: [10.1002/mana.19961780104](https://doi.org/10.1002/mana.19961780104).
- 1995 35. A. G. Aksoy, L. Maligranda, *Real interpolation and measures of weak-noncompactness*, Mathematische Nachrichten, **175**(1), pp. 5–12, 1995, DOI: [10.1002/mana.19951750102](https://doi.org/10.1002/mana.19951750102).
36. A. G. Aksoy, *Fibonacci Sequences* (in Turkish), World of Mathematics, **6**(6), 1995.
37. A. G. Aksoy, *Logical Marriages, or Dihedral Group of Order 8* (in Turkish), World of Mathematics, **5**(4), 1995.
- 1994 38. A. G. Aksoy, *Mathematics as a Creative Art* (in Turkish), World of Mathematics, **4**(2), 1994.
- 1993 39. A. G. Aksoy, J. B. Baillon, *Measures of noncompactness in Orlicz modular spaces*, Collect. Math., **44**(1-3), pp. 1–11, 1993.
- 1992 40. A. G. Aksoy, *A generalization of n-widths*, Approximation Theory, Spline Functions and Applications, NATO-ASI Series, **356**, pp. 269–278, 1992, DOI: [10.1007/978-94-011-2634-2](https://doi.org/10.1007/978-94-011-2634-2).

- 1991 41. A. G. Aksoy, *Q-compact sets and Q-compact maps*, *Mathematica Japonica*, **36**(1), pp. 1–7, 1991.
- 1989 42. A. G. Aksoy, *Intermediate spaces*, *Turkish Journal of Mathematics*, **13**(3), pp. 79–90, 1989.
- 1987 43. A. G. Aksoy, *The radius of the essential spectrum*, *Journal of Mathematical Analysis and Applications*, **128**(1), pp. 101–107, 1987, DOI: [10.1016/0022-247X\(87\)90217-4](https://doi.org/10.1016/0022-247X(87)90217-4).
- 1986 44. A. G. Aksoy and M. Nakamura, *The approximation numbers $a_n(T)$ and Q-precompactness*, *Mathematica Japonica*, **31**(6), pp. 827–840, 1986.

Selected Talks

- AMS & MAA MEETINGS

- 2015 Oct. **AMS Western Sectional Meeting at CSUF** (Operator Theory and Operator Algebras)
Title: *Bernstein's Lethargy Theorem in Fréchet Spaces*.
- Oct. **AMS Western Sectional Meeting at CSUF** (Session on Humanistic Mathematics)
Title: *Al-Khwarizmi and the Hermeneutic circle*.
- 2014 May **USA-Uzbekistan Conference** (Session on Algebra and Functional Analysis)
Title: *Minimal projections with respect to numerical radius*.
- 2013 Nov. **AMS Western Sectional, UCR** (Analysis and Geometry of Metric Spaces)
Title: *The Uryshon Universal Space and hyperconvexity*.
- 2009 Jan. **JMM, Washington, DC** (Special Session on Dynamical Systems)
Title: *Some Results in Metric Trees*.
- 2008 Oct. **AMS Central Sectional, Michigan** (Nonlinear Analysis and Applications)
Title: *Structural properties of metric trees*.
- 2006 Oct. **MAA at Cal-State Long Beach** (The Southern California-Nevada Section)
Title: *Metric trees are everywhere*.
- 2004 Jan. **JMM, Phoenix, AZ** (Session on Fixed Points: Theory and Application)
Title: *Minimal Numerical Radius Extensions of Operators*.
- 2002 Oct. **MAA at Cerritos College** (The Southern California-Nevada Section)
Title: *Theorems of Hanh-Banach Type*.

- INTERNATIONAL CONFERENCES

- 2016 Jun. **Memorial Conference for Prof. Terzioğlu**, Istanbul, Turkey
May **Annual meeting of Turkish Mathematical Society**, Ankara, Turkey
- 2015 Jun. **VI Jean Conference on Approximation Theory**, Ubeda, Spain
Jul. **International Conference on Fixed Point Theory & Applications**, Istanbul, Turkey
- 2014 Sep. **Al-Khwarizmi Conference on Mathematics and Technology**, Samarkand, Uzbekistan
- 2013 Sep. **First conference on Classical and Functional Analysis**, Azuga, Romania
Jul. **Positivity conference at University of Leiden**, Leiden, Netherlands
- 2009 Jul. **Banach Algebra Conference at the Banach Mathematical Center**, Bedlewo, Poland
Jun. **Function Space Conference at Jagiellonian University**, Krakow, Poland

- COLLOQUIUM TALKS

- 2016 **California State University at Fullerton**, Seminar
- 2015 **Claremont Center for Mathematical Sciences**, Analysis Seminar
- 2015 **Claremont Center for Mathematical Sciences**, Applied Mathematics Seminar
- 2014 **California State University at Fullerton**, Seminar
- 2012 **University of Texas, El Paso**, Seminar
- 2011 **Southern California Association of Women in Math, UC Irvine**, Keynote Speaker
- 2009 **University of California, Irvine**, Analysis Seminar

- 2009 **Claremont Center for Mathematical Sciences**, Analysis Seminar
 2008 **Oakland University**, Seminar
 2008 **University of California, Riverside**, Seminar
 2008 **University of Leeds, United Kingdom**, Analysis Seminar

Teaching Experience

see recent courses at <http://www.asumanaksoy.com>

1987–Now Undergraduate Courses

Calculus I, Intermediate Calculus II-III, Freshman Honors Calculus, Advanced Calculus I-II, Real Analysis I-II, Complex Analysis, Linear Algebra, Advanced Linear Algebra, Differential Equations, Engineering Mathematics, Mathematics of Finance.

1989–Now Graduate Courses

Measure Theory, Functional Analysis I-II, Banach Space Theory, Interpolation Theory and Fixed Point Theory.

Memberships

- American Mathematical Society (AMS)
- Mathematical Association of America (MAA)
- Association of Women in Mathematics (AWM)
- Phi Beta Kappa (PBK)

Fellowships, Grants, and Awards

- 2016 Presidential Award from CMC.
 2013 Mathematical Association of America-Tensor Summa Grant for GEMS (outreach) program.
 2010 Blais Grant for Software Lab through Claremont Center for the Mathematical Sciences (with Ali Nadim, Amy Radunskaya)
 2009 Fletcher Jones Research Grant (with Ellis Cumberbatch).
 2008 Blais Research Grant through CCMS (with Ellis Cumberbatch).
 2008 Summer Fellowship, Claremont McKenna College.
 2006 G. David Huntoon Senior Teaching Award, Claremont McKenna College.
 2006 Distinguished College or University Teaching Award, Mathematical Association of America (MAA), Southern California-Nevada Section.
 2006 Faculty Advisor for NSF-funded Research Experiences for Undergraduates (NSF-REU-Claremont).
 2004 Summer Research for Minimal Projections, Claremont McKenna College.
 2002 Summer Research Fellowship, Claremont McKenna College.
 2000 The Roy P. Crocker Award for Merit, Claremont McKenna College.
 1999 F.G. Research Institutes Research Fellowship.
 1999 The Roy P. Crocker Award for Merit, Claremont McKenna College.
 1998 Research Grant, Claremont McKenna College. Awarded to visit Jagiellonian University to do research with Professor G. Lewicki on problems related to s -numbers in Banach spaces.
 1994 NATO-TOKTEN (Transfer of Knowledge through Expatriate Nationals) Grant. Awarded for a series of lectures on functional analysis to mathematics faculty and graduate students in the Middle East Technical University, Ankara, Turkey.
 1983 The University of Michigan Fellowship. Awarded to conduct research in USA and Kaiserlautern Germany.
 1982–1986 NATO Scholarship for Ph.D. Awarded through Turkish Scientific and research council to pursue a Ph.D. in mathematics

Meetings Organized

- 1990–Now Claremont McKenna College Analysis Seminar Organizer (year-round)
 2005–Now Southern California Functional Analysis Seminar
 2015 Oct. AMS Western Sectional at CSUF (Special Session on Functional Analysis)
 2013 Nov. AMS Western Sectional at UCR (Special Session on Analysis and Geometry of Metric Spaces)
 2008 May AMS Spring Western Section Meeting, Claremont McKenna College.
 1997 Oct. Joint AMS and MAA Meeting at Claremont McKenna College
 Mar. MAA Southern California Section at San Diego University
 1996 Oct. MAA Southern California Section at Cal State Fullerton

Service

- TO CMC AND THE CLAREMONT COLLEGES CONSORTIUM
- 2015–Now Member APT of CMC
 2015–Now Member APT of Keck Science
 2015–Now Board of Trustees Finance Committee
 2008–Now Organizer for Atul Vyas Lecture series at CMC
 2012–2015 Chair for the GEMS (outreach) program
 2015 Speaker for the Athenaeum at CMC
 2009–2013 Executive Committee member for APT of CMC
 2011–2015 Executive Committee member for CCMS
 2009–2011 Acting Director and Chair, Executive Committee for the Claremont Center for Math Sciences
 2010 Director to Summer Research Group for Fletcher Jones, CCMS
 2009–2010 Chair for Claremont Colleges Colloquium
 2008–2013 Member, Executive Committee for APT
 2006 Chair, Faculty Search Committee
 2006 Member, Faculty Research Committee
 2003–2005 Chair, Presidents Advisory Committee on Diversity
 2004 Chair, Dean of Faculty Search Committee
 2001 Chair, Dean of Faculty Search Committee
 1999–2014 Member, APT/ EC
 1999 Member, Presidential Search Committee for CMC
 1998 Committee on the Quality of Education at CMC
- TO THE MATHEMATICS COMMUNITY
- 2011–2012 American Mathematical Society (AMS) Western Section Program Chair
 2011–2012 American Mathematical Society (AMS) Committee on Committees
 2005–2013 Organizer for Southern California Functional Analysis (SCFA) seminars.
 2008 External Reviewer, Grinnell College Mathematics Department
 2006 Search Committee Member, Pomona College Mathematics Department
 2002 External Reviewer, Cal State Polytechnic University, Pomona, Mathematics Department
 2001 External Reviewer, Claremont Graduate University Mathematics Department
 2000 Chair, Panel on Careers in Mathematics, Southern California Section of the MAA
 1995–1997 Program Chair, Southern California Section of the MAA
 1991–1994 Program Chair, Mathematics Colloquium of the Claremont Colleges

Other Professional Activities

- Journals refereed:

- American Mathematical Monthly
- Turkish Journal of Mathematics
- J. Mathematical Analysis & Applications
- Nonlinear Analysis, Methods and Applications
- Central European Journal of Mathematics
- Archiv der Mathematik
- Jaen Journal of Approximation

- Proceedings of the AMS
- South African Journal of Mathematics
- International J. of Math. & Math. Sci.
- Arabian Journal of Mathematics
- Journal of Fixed Point Theory & Applications
- Monatshefte Fur Mathematik
- Positivity Journal (POST)

- 81 reviews for *Mathematical Reviews*.