CURRICULUM VITAE (Jasang Yoon)

School of Mathematical and Statistical Sciences (SMSS)
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Education

Ph.D. Mathematics, The University of Iowa, Iowa City, Iowa, August 2003
Dissertation title: Structure and Spectral Theory of Hyponormal Multivariable
Weighted Shifts, Ph.D. Advisor: Professor Raúl E. Curto

M.S. Mathematics, Sungkyunkwan University (SKKU), Seoul, Korea, February 1993
Thesis title: On Regular Elements in a Normed Algebra
M.S. Advisor: Professor Woo Young Lee

B.S. Mathematics, Teacher Certification in Secondary Education (Mathematics),
SKKU, Seoul, Korea, February 1991

Employment

Professor. UTRGV, SMSS, Fall 2017 – Present.
Associate Prof. UTRGV, SMSS, Fall 2015 – Summer 2017.
Associate Prof. The University of Texas-Pan American (UTPA),
Department of Mathematics, Fall 2011 – Summer 2015.
Assistant Prof. UTPA, Department of Mathematics, Fall 2007 – Summer 2011.
Visiting Assi. Prof. Iowa State University, Dept. of Math., Fall 2003 – Summer 2007.

Main Research Interest

- Matrix Computations and Theory; Multivariable Operator Theory; C*-Algebras
  Several Complex Variables; Classical Theory of Moments; Mathematics Education.

Grant Activities

- PI: UT System-CONACYT Collaborative Research Grants (ConTex)
  "Generalization of Fredholm theory and commuting n-tuples of operators"
  Fall 2017 – Spring 2019 (**funded**).
- PI: "Studies of the properties of positive semi-definiteness of block Hankel matrices
  through the properties of subnormality of multivariable weighted shifts"
  Faculty/Undergraduate student research projects in NSF-LSAMP atUTPA,
  Fall 2010 – Spring 2011 (**funded**).
- co-PI with Dr. Yul Chu in Department of Electrical Engineering at UTPA,
  "Acquisition of Parallel Processing Equipments for High-Performance Computing"
  NSF Major Research Instrumentation Program (MRI),
  Fall 2010 – Spring 2013 (**funded**).
- PI: "Notes on the subnormalities of arbitrary powers of 2-variable weighted shifts"
  Faculty/Graduate students research projects in STEM at UTPA,
  Summer 2010 – Summer 2011 (**funded**).
- PI: "Studies of commuting multivariable operators"
  Faculty Research Council at UTPA, Fall 2008 – Spring 2009 (**funded**).

Editorial board members of journals:

- Communications of the Korean Mathematical Society; Advances in Pure Mathematics.

Graduate Students Supervised MS Thesis or Mentored

- Alyssa Lewis (F2007 – F2008); Ursula Zavala (F2008 – S2009);
  Teresa N. Nguyen (F2009 – S2011); David Medina (F2010 – S2011);

Mayra Martinez (F2010 – S2011); Manuel Villarreal Jr. (S2016 – Present).

Publications

1. A new subnormal characterization for a class of 2-variable weighted shifts with 1-atomic core, **Linear Algebra and its Applications (LAA) (accepted),** Jaewoong Kim and **Jasang Yoon (KY).**

2. The Square Root Problem and Aluthge transforms of weighted shifts, **Mathematische Nachrichten (MN) (accepted),** Sang Hoon Lee and **Jasang Yoon (LY).**

3. An answer to a question of A. Lubin: The lifting problem for commuting subnormals **Israel Journal of Mathematics (IJM) (accepted),** Sang Hoon Lee, Woo Young Lee and **Jasang Yoon (LLY).**

4. Generalized Cauchy-Hankel matrices and their applications to subnormal operators, **MN** 290(2017) 840-851, **(KY).**

5. Aluthge transforms and common invariant subspaces for a commuting n-tuple of operators, **Integral Equations and Operator Theory (IEOT),** 87(2017) 245–262 **(KY).**

6. Properties of mono-weakly hyponormal 2-variable weighted shifts, **Linear and Multilinear Algebra Journal (LMAJ)** 65 (2017) 1260–1275 **(KY).**

7. Toral and spherical Aluthge transforms of 2-variable weighted shifts, **Comptes Rendus Mathématique. Académie des Sci. Paris, Ser I (CRM)** 354(2016) 1200–1204, Raul E. Curto and **Jasang Yoon, (CY).**

8. Recursiveness for 2-variable Weighted Shifts, **LAA** 504(2016) 228–247, **(LY).**

9. Hyponormality for commuting pairs of operators, **Journal of Mathematical Analysis and Applications (JMAA)** 434(2016) 1077-1090, **(KY).**

10. Flat phenomena of 2-variable weighted shifts, **LAA** 486(2015), 234–254, **(KY).**

11. Completion of Hankel partial contractions of non-extremal type, **Journal of Korean Mathematics Society (JKMS)** 52(2015), 1003–1021 In Hyoun Kim, Seonguk Yoo and **Jasang Yoon (KYY)**

12. Schur product techniques for the subnormality of commuting 2-variable weighted shifts, **LAA** 453(2014), 174–191, **(KY).**

13. One-step extensions of subnormal 2-variable weighted shifts, **IEOT** 78(2014) 415–426 R.E. Curto, S.H. Lee and **Jasang Yoon, (CLY).**

14. The mean transform of bounded operators, **JMAA** 410(2014) 70–81, Sang Hoon Lee, Woo Young Lee and **Jasang Yoon (LLY).**

15. Subnormality of 2-variable weighted shifts with diagonal core, **CRM** 351(2013) 203–207, **(CLY).**

16. Completion of Hankel partial contractions of extremal type, **Journal of Mathematical Physics (JMP)** 53, 123526(2012), 11pp, **(CLY).**

17. Subnormality of Aluthge transform of weighted shifts, **IEOT** 72(2012) 241–251, **(LLY).**

18. Subnormality of arbitrary powers of 2-variable weighted shifts whose restrictions to a large invariant subspace are tensor form, **Journal of Functional Analysis (JFA)** 262(2012) 569–583, **(CLY).**

19. When is hyponormality for 2-variable weighted shifts invariant under powers?, **Indiana University Mathematics Journal (IUMJ)** 60(2011) 997–1032 **(CY).**

20. When does the k-hyponormality of a multivariable weighted shift become subnormality?, **JMAA** 379(2011) 487–498, **Jasang Yoon**.

21. New approach to the 2-variable subnormal completion problem, **JMAA** 370(2010) 270–283, **(CLY).**

22. Which 2-hyponormal 2-variable weighted shifts are subnormal?, **LAA** 429(2008) 2227–2238, **(CLY).**

23. Reconstruction of the Berger measure when the core is of tensor form, **Biblioteca Revista Matematica Iberoamericana**, (2007), 317-331, **(CLY).**

24. Disintegration of measures and contractive 2-variable weighted shifts,
    IEOT 59(2007), 281-298, **Jasang Yoon**.
25. Quadratically hyponormal recursively generated weighted shifts need not be positively
    quadratically hyponormal, **IEOT** 58(2007), 551-562, Yiu T. Poon and **Jasang Yoon (PY)**.
26. Schur product techniques for commuting 2-variable weighted shifts,
    JMAA 333(2007), 626-641, **Jasang Yoon**.
27. Propagation phenomena for hyponormal 2-variable weighted shifts,
    Journal of Operator Theory (JOT) 58(2007), 101-130, **(CY).**
28. Hyponormality and subnormality for powers of pairs of subnormal operators,
    JFA 245(2007), 390-412, **(CLY).**
29. Spectral pictures of 2-variable weighted shifts, **CRM** 343(2006), 579–584, **(CY).**
30. Jointly hyponormal pairs of subnormal operators need not be subnormal,
    Transactions of the American Mathematical Society, 358(2006), 5139-5159, **(CY).**
31. Disintegration-of-measure techniques for commuting multivariable weighted shifts,
    Proceedings of the London Mathematical Society, 92(2006), 381-402, **(CY).**
32. k-hyponormality of multivariable weighted shifts, **JFA** 15(2005), 462-480, **(CLY).**
33. Subnormality of Bergman-like weighted shifts, **JMAA** 308(2005), 334-342,
    Raul E. Curto, Yiu T. Poon and **Jasang Yoon (CPY)**.

Submitted papers
1. Aluthge transforms of 2-variable weighted shifts, (**CY**).
2. Taylor spectra and common invariant subspaces through the Duggal and generalized
   Aluthge transforms for commuting n-tuples of operators, **(KY)**.
3. Aluthge transforms and the Square Root Problem, (**CKY**).

Selected Presentations
- Square Root Problems for operators, Fourth International Conference on Mathematics and
  its Applications, Benemerita Universidad Autonoma De Puebla, Puebla, Mexico,
  September 2017.
- Toral and Spherical Aluthge transforms and their common invariant subspaces, Korea
  Operator Theory And Its Applications Conference (KOTAC), Seoul national university,
  South Korea, June 2017.
- Square Root Problems for bounded operators,
  Mathematics Colloquia, Seoul National University, South Korea, June 2017.
- Aluthge transforms and common invariant subspaces for a commuting n-tuple of
  operators, 2016 SMSS Visiting scholar, faculty and students workshop, November 2016.
- Toral and spherical Aluthge transforms of operators, Texas Analysis and Mathematical
  Physics Symposium (TexasAMP), Rice University, Texas, October 2016.
- Spherically quasinormal 2-variable weighted shifts with a recurrence relation,
  NSF-CBMS Regional Research Conference, UTRGV, Texas, May 2016.
- Embedding 2-variable weighted shifts, PARC International Workshop on Operator Theory
  and Its Applications, Chung Nam National University, South Korea, December 2015.
- An answer to a question of A. Lubin: The lifting problem for commuting subnormals,
  TexasAMP, University of Texas at Dallas, Texas, November 2015.
- The lifting problem for commuting subnormals, The Third International Workshop of
  Mathematical Analysis and Applications: Fourth
  Session, Benemerita Universidad Autonoma De Puebla, Puebla, Mexico, August 2015.
- Aluthge and Mean transform of bounded linear operators,
  TexasAMP, Rice University, Houston, October 2013.
- Aluthge transform of 2-variable weighted shifts,
  Asia Mathematics Conference, South Korea, Pusan, July 2013.