



Curriculum Vita

Instructor: Mehmet Celik
Academic Department: Mathematics

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EDUCATION

Texas A&M University, College Station, TX Ph.D. - Mathematics, 2008
Advisor: Emil Straube

Primary research area: Complex Analysis in Several Variables;

Secondary research area: Partial Differential Equations and Operator Theory.

Research Interest: Compactness and Regularity of the $\bar{\partial}$ -Neumann Problem, Hankel Operators, Toeplitz Operators, Hilbert-Schmidt operators.

Additional research interest: Math Education.

TEACHING EXPERIENCE

08/2018 – Associate Professor of Mathematics, Texas A&M University
-Commerce, TX

08/2015 – 08/2018 Assistant Professor of Mathematics, Texas A&M University
-Commerce, TX

08/2010 – 08/2015 Assistant Professor of Mathematics, Un. of North Texas
at Dallas, TX

PUBLICATIONS

1. (with Sahutoglu, S. & Straube, E. J.) A sufficient condition for compactness of Hankel operators, to appear in *Journal of Operator Theory*
2. (with Sahutoglu, S. & Straube, E. J.) (2020) Compactness of Hankel Operators with Continuous Symbols on Convex Domains, *Houston J. Math.* 46, no. 4, 991-1002.
3. (with Sahutoglu, S. & Straube, E. J.) (2020). Convex Domains, Hankel operators, and Maximal Estimates, *Proc. Amer. Math. Soc.* 148, no. 2, 751-764.
4. (with Clos, T. G. & Sahutoglu, S.) (2018). Compactness of Hankel operators with symbols continuous on the closure of pseudoconvex domains, *Integral Equations and Operator Theory*, no. 6, Art. 71, 14 pp.
5. (with Shaqlaih, A.) (2017) Fostering Students' Preparation and Achievement in Upper Level Mathematics Courses, *International Journal for Mathematics Teaching and Learning*, Vol. 18.3, 383 – 397.
6. (with Zeytuncu, Y. E.) (2017). Analysis on the Intersection of Pseudoconvex Domains, *Analysis and geometry in several complex variables*, 51–64, *Contemp. Math.*, 681, Amer. Math. Soc.
7. (with Zeytuncu, Y. E.) (2017). Hilbert-Schmidt Hankel operators with anti-holomorphic symbols on complete pseudoconvex Reinhardt domains. *Czechoslovak Math. J.* 67(142), no. 1, 207–217.

8. (with Zeytuncu, Y. E.) (2016). Obstructions for Compactness of Hankel Operators: Compactness Multipliers, *Illinois Journal of Mathematics*. 60, no. 2, 563–585.
9. (with Zeytuncu, Y. E.) (2016). Nilpotent Toeplitz Operators on Reinhardt Domains, *Rocky Mountain Journal of Mathematics*, Volume 46, Number 5, 1395-1404.
- 10.(with Sahutoglu, S.) (2014). Compactness of the $\bar{\partial}$ -Neumann operator and commutators of the Bergman projection with continuous functions. *Journal of Mathematical Analysis and Applications*, 409 (1), 393–398.
- 11.(with Zeytuncu, Y. E.) (2013). Hilbert-Schmidt Hankel Operators with anti-holomorphic Symbols on Complex Ellipsoids. *Integral Equations and Operator Theory*, 76 (4), 589–599.
12. (with Shaqlaih, A.) (2013). Student’s Preferences in Mathematics Lab. *American Journal of Educational Studies*, 6 (2), 17-35.
13. (with Sahutoglu, S.) (2012). On Compactness of the $\bar{\partial}$ -Neumann Problem and Hankel Operators. *Proceedings of the American Mathematical Society*, 140 (1), 153–159.
14. (with Straube, E. J.) (2009). Observations Regarding Compactness in the $\bar{\partial}$ -Neumann Problem. *Complex Variables and Elliptic Equations*, 54 (3-4), 173–186.
15. (2008) Contributions to the compactness theory of the $\bar{\partial}$ -Neumann operator. *Thesis (Ph.D.)–Texas A&M University*. 79 pp. ISBN: 978-0549-72143-7, ProQuest LLC

AWARDS AND NOTEABLES

- 2020 A trophy from *College of Innovation & Design* at TAMUC as a recognition of being a *Signature Course instructor* for multiple years.

- (with Padmapani Seneviratne), *National Research Experience for Undergraduates Program (NREUP)*, administered by Mathematical Association of America (MAA), funded by National Science Foundation (NSF)
 - 2019 '*Investigating Mathematical Problems with Computer Algebra Systems*', (extension of NSF, DMS-1652506). \$27,500
 - 2018 '*Experimenting with Mathematica and Magma*', (NSF, DMS-1652506). \$27,000
- 2017-2018 Coached the TAMUC Calculus team (with the help of colleagues from the Department of Mathematics at TAMUC), won 1st place at Calculus Bowl competition in 2018 at MAA-TX Sectional Meeting & the 3rd place in 2017 at MAA-TX at MAA-TX Sectional Meeting.
- 2016 Won \$5000 research stipend from L3-Technologies, Greenville, TX.
- 2012 *Liberal Arts and Sciences Faculty Teaching Award* University of North Texas at Dallas. \$1000

Students (Undergraduate/Graduate)

- Nicholas Arsenault (*undergraduate Honor's thesis*) graduated in May 2020, currently a Ph.D. candidate in Mathematics at the University of Kentucky.
- *Master Students*: Blair Elliott (expected graduation 2022), Ever Rodriguez (graduated in 2020), Mehmet Bozkurt (graduated in 2019), Mehmet Cellik (graduated in 2018), Margarita Morales (graduated in 2018), & Ismail Yildirim (graduated in 2017);
- *Mentored MAA - National REU Program students*: Micalyn Rowe (2018) (*currently a Ph.D. candidate in Astrophysics at TAMU*), Cristo Sanchez (2018) (*currently a Ph.D. candidate in Astronomy at NMSU*); Haley Bambico (2021), Sarah Gross (2021), & Frank Hall (2021);

Presentations

(2021). On Compactness of Hankel Operators, *(online) Analysis Seminar, organized by Bilkent University, TURKIYE.*

(2019). On Compactness of Hankel Operators: Symbol functions & Compactness Multipliers. *Analysis and Geometry in Several Complex Variables III, Texas A&M University at Qatar, Doha, QATAR.*

(2018). Compactness of Hankel operators with symbols continuous on the closure of pseudoconvex domains *American Mathematical Society Special Session: "Partial Differential Equations in Several Complex Variables"*, University of Arkansas, Fayetteville, Arkansas.

(2017). Obstructions for Compactness of Hankel Operators: Compactness Multipliers. *American Mathematical Society Special Session: Several Complex Variables*, University of California, Riverside, California.

(2017). Jack of All Trades, *Math Club at Department of Mathematics*, Texas A&M University-Commerce, Commerce, Texas.

(2017). Complex Analysis and a Research Problem for students, *Math Department Colloquium*, Texas A&M University-Commerce, Commerce, Texas.

(2016). Cauchy-Riemann Equations. *Millican Colloquium at University of North Texas*, Denton, Texas.

(2016). Hilbert-Schmidt Hankel Operators with Anti-Holomorphic Symbols on Complete Pseudoconvex Reinhardt Domains. *Several Complex Variables Seminar, Department of Mathematics at Texas A&M University*, College Station, Texas.

(2016). A Formula Sheet in Math Exams: Issues and Remarks. *96th Annual Meeting of the Texas Section of the MAA, Stephen F. Austin State University, Nacogdoches, TX.*

(2016). Practical Issues in Fostering Teaching Excellence. *Learning Community organized by Center for Faculty Excellence and Innovation, Texas A&M University-Commerce, Commerce, TX*

(2015). Analysis on the intersection of pseudoconvex domains. *Workshop on 'Several Complex Variables and CR-Geometry' at International Erwin Schrodinger International Institute for Mathematical Physics, Vienna, AUSTRIA.*

(2015). Nilpotent Toeplitz Operators on Reinhardt Domains. *American Mathematical Society Special Session: Complex Analysis in Several Variables and its Applications, Michigan State University, East Lansing, Michigan.*

(2015). Inhomogeneous Cauchy-Riemann Equations in \mathbb{C}^1 and in \mathbb{C}^2 . *Complex Analysis Seminar, University of Toledo, Ohio.*

(with Shaqlaih, A.). (2015). Fostering Students' Preparation and Achievement in Upper Level Math Courses. *18th Annual Legacy of R. L. Moore – Inquiry-Based Learning Conference, Austin, Texas.*

(2015). Imaginary Numbers in Everyday Life. *Math Colloquium at University of Michigan-Dearborn, Michigan.*

(2015). From Biholomorphic Maps to the $\bar{\partial}$ -Neumann Problem and related operators, *The Department of Mathematics, Texas A&M University-Commerce, Commerce, Texas.*

(2014). Using Math to Resolve a Game. *Student/Faculty Math Colloquium at University of North Texas at Dallas, Texas.*

(2014). *Hankel Operators with anti-holomorphic symbols on Complete Pseudoconvex Reinhardt Domains. The 30th Southeastern Analysis Meeting at Clemson University, Clemson, South Carolina.*

(2013). *Compactness of the $\bar{\partial}$ -Neumann Operator and Commutator Operator on forms. Joint Mathematics Meetings AMS Special Session on Several Complex Variables Techniques in Operator Theory, San Diego, California.*

(2012). *Compactness of the $\bar{\partial}$ -Neumann operator and of commutators of the Bergman projection with continuous functions. 'Complex Analysis Seminar', Department of Mathematics and Statistics, University of Toledo, Toledo, Ohio.*

(2012). *Compactness of the $\bar{\partial}$ -Neumann Operator and Commutator Operator on forms. AMS Special Session: Interplay between Geometry and PDEs in Several Complex Variables, Lawrence, Kansas.*

(2011). *Compactness of the $\bar{\partial}$ -Neumann problem and Hankel Operators. 'Complex Analysis Seminar', Department of Mathematics and Statistics, University of Toledo, Toledo, Ohio.*

(2010). *On compactness of the $\bar{\partial}$ -Neumann problem and Hankel operators. Tenth Prairie Analysis Seminar at University of Kansas, Lawrence, Kansas.*

(2010). *Compactness of the $\bar{\partial}$ -Neumann Problem and Hankel Operators. Program on Spectrum of the $\bar{\partial}$ -Neumann Operator and Hankel Operators at CIRM - Centre Internationale de Rencontres Mathematiques, Luminy, Marseille, FRANCE.*

Celik, M. (2009). *Independence of Sub-elliptic Estimates of the $\bar{\partial}$ -Neumann Operator from a Metric. Workshop on $\bar{\partial}$ -Neumann Problem at International Erwin Schrodinger Institute for Mathematical Physics, Vienna, AUSTRIA.*

Celik, M. (2009). *Observations on some properties of the $\bar{\partial}$ -Neumann Operator. Research seminars in Analysis, Department of Mathematical Sciences, University of Arkansas, Fayetteville, Arkansas.*

Celik, M. (2009). *Complex Analysis Beyond One Dimension. Guest speaker at the Mathematics Colloquia, Department of Mathematical Sciences, University of Arkansas, Fayetteville, Arkansas.*

Celik, M. (2008). *Inequalities in Analysis. Student/Faculty Colloquium Series in the Department of Mathematics, UA - Fort Smith, Forth Smith, Arkansas.*

Celik, M. (2007). *Ideal of Compactness Multipliers. 2007 Spring AMS Central Section Meeting No.1025, Oxford, Ohio.*

Celik, M. (2007). *Solving the CR equations through the $\bar{\partial}$ -Neumann Problem. Math Colloquia - Texas A&M University-Commerce, Commerce, Texas.*

Celik, M. (2006). *Ideal of Compactness Multipliers. SCV Seminar, Department of Mathematics at Texas A&M University, College Station, Texas.*

Celik, M. (2006). *Invariance of compactness and sub-elliptic estimates for smooth metrics. SCV Seminar, Department of Mathematics at Texas A&M University, College Station, Texas.*

Celik, M. (2006). *The Hopf Lemma. SCV Seminar, Department of Mathematics at Texas A&M University, College Station, Texas.*