



TEXAS A&M UNIVERSITY

COMMERCE

**Curriculum Vita
August 2024**

Instructor: Mehmet Celik
Academic Department: Mathematics

University Address: Department of Mathematics
Binnion Hall room 323,
PO Box 3011
Texas A&M University-Commerce
Commerce, TX 75429-3011

Office Phone: 903-886-5944
University Email Address: Mehmet.Celik@tamuc.edu

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.

WORK EXPERIENCE

08/2024 – Professor of Mathematics, Texas A&M University
-Commerce, TX

08/2018 – 08/2024 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

08/2008 – 08/2010 Assistant Professor of Mathematics, Un. of Arkansas
at Fort Smith, AR

06/2008 – 08/2008 Assistant Research Scientist, Texas A&M University,
College Station, TX

PUBLICATIONS

1. (with Luke Duane-Tessier, Ashley Marcial Rodriguez, Daniel Rodriguez, and Aden Shaw) (2024). Area Differences under Analytic Maps and Operators. *Czechoslovak Math. J.* (Published on June 25, 2024. Doi: 10.21136/CMJ.2024.0023-24).
2. Dibbs, R. A., & Celik, M. (2024). Investigating students' worldviews of complex multiplication and derivatives. [In P. Drijvers, C. Csapodi, H. Palmér, K. Gosztonyi, & E. Kónya \(Eds.\), *Proceedings of the Thirteenth Congress of the European Society for Research in Mathematics Education \(CERME13\)*. Alfréd Rényi Institute of Mathematics and ERME.](#)
3. (with Sahutoglu, S. & Straube, E. J.) (2023) A Sufficient Condition for Compactness of Hankel Operator, *J. OPERATOR THEORY*, 89:1, 101–111; doi: 10.7900/jot.2021apr04.2334

4. Wang, T. & Çelik, M. & Webster, P.. (2023). Use Longitudinal Data and Moving Average to Illustrate Effectiveness of Supplemental Instruction. *PRIMUS*. 33. 1. doi: 10.1080/10511970.2023.2214930.

5. (with Bambico, H., Gross, S. & Hall, F.) (2022) Generalization of the Excess Area and its Geometric Interpretation, *New York Journal of Mathematics*, 28, 1230-1255.

6. (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.

7. (with Sahutoglu, S. & Straube, E. J.) (2020). Convex Domains, Hankel operators, and Maximal Estimates, *Proc. Amer. Math. Soc.* 148, no. 2, 751-764.

8. (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.

9. Çelik, M. & 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.

- 10.(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.

- 11.(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.

- 12.(with Zeytuncu, Y. E.) (2016). Obstructions for Compactness of Hankel Operators: Compactness Multipliers, *Illinois Journal of Mathematics*. 60, no. 2, 563–585.
- 13.(with Zeytuncu, Y. E.) (2016). Nilpotent Toeplitz Operators on Reinhardt Domains, *Rocky Mountain Journal of Mathematics*, Volume 46, Number 5, 1395-1404.
- 14.(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.
- 15.(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.
16. Shaqlaih, A. & Çelik, M. (2013). Student's Preferences in Mathematics Lab. *American Journal of Educational Studies*, 6 (2), 17-35.
17. (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.
18. (with Straube, E. J.) (2009). Observations Regarding Compactness in the $\bar{\partial}$ -Neumann Problem. *Complex Variables and Elliptic Equations*, 54 (3-4), 173–186.
19. (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 NOTABLES

- 2023 [Paul W. Barrus Distinguished Faculty Award for Teaching](#) from the A&M-Commerce Faculty Senate

- National Science Foundation, REU Site: Theoretical and Application-Driven Mathematics ([DMS-2243991](#)), 2023 – 2026, \$385,387, (Role: Co-PI).
- [MAA Texas Section Representative to the MAA Congress](#) (July 2022 - June 2025.)
- [Texas Section of the Mathematical Association of America's Distinguished College and University Teaching of Mathematics Award](#) (Spring 2022)
- 2020 A trophy from the *College of Innovation & Design* at A&M-Commerce 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) (2018 & 2019, total of \$54,500)
- 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 Mentored (Undergraduate/Graduate)

- Mentor during the Summer [2023](#) (4 students) & [2024](#) (3 students) TADM-REU Program at Texas A&M-Commerce
- Mentor during the Summers of 2022 (alongside Kamryn Spinelli and Yunus Zeytuncu) & 2023 (with Kamryn Spinelli, Yunus Zeytuncu, and Zhenghui Huo) at [Polymath Jr.](#) Program
- Jonathan Enright (*undergraduate Honor's thesis*) expected graduation in May 2025; Nicholas Arsenault (*undergraduate Honor's thesis*) graduated in May 2020, currently a Ph.D. candidate in Mathematics at the University of Kentucky.

- *Master Students at TAMUC: Rebecca Wilburn (graduated in August 2024), Blair Elliott (graduated in 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) (currently a Master student candidate in both Physics and Mathematics at TAMU-Commerce);*

Presentations

(2024). Student perceptions of a flipped complex analysis class and complex variables, presented at *the Themed Contributed Paper Session sponsored by the SIGMAA for Research on Undergraduate Mathematics Education* at the (National) Mathematical Association of America (MAA) MathFest Conference, Indianapolis, IN, USA.

(2023). On compactness property of Hankel operators *AMS Special Session on Partial Differential Equations and Complex Variables*, 2023 Joint Mathematics Meetings, Boston, Massachusetts, USA.

(2023). A Lecture presentation *at the Annual Meeting of the Texas Section of the Mathematical Association of America (MAA)*, Tarleton State University, Stephenville, Texas, TX, USA.

(2023). Investigating students' worldviews of complex multiplication and derivatives in a flipped classroom, presented at *the Themed Contributed Paper Session sponsored by the SIGMAA for Research on Undergraduate Mathematics Education* at the (National) Mathematical Association of America (MAA) MathFest Conference, Tampa, Florida, USA.

- (2023). Complex Numbers in Daily Life, Science, and Mathematics, *Math Department Colloquium*, Texas A&M University-Commerce, Commerce, Texas, USA.
- (2022). Generalization of the excess area and its geometric interpretation, *Math Department Colloquium*, Texas A&M University-Commerce, Commerce, Texas, USA.
- (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, USA.
- (2017). Obstructions for Compactness of Hankel Operators: Compactness Multipliers. *American Mathematical Society Special Session: Several Complex Variables*, University of California, Riverside, California, USA.
- (2017). Jack of All Trades, *Math Club at Department of Mathematics*, Texas A&M University-Commerce, Commerce, Texas, USA.
- (2017). Complex Analysis and a Research Problem for students, *Math Department Colloquium*, Texas A&M University-Commerce, Commerce, Texas, USA.
- (2016). Cauchy-Riemann Equations. *Millican Colloquium at University of North Texas*, Denton, Texas, USA.
- (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, USA.

(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, Texas, USA.*

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

(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, USA.*

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

(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, USA.*

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

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

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

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

(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, USA.

(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, USA.*

(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, USA.

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

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

(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.

(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.

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

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

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

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

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

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

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

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