

# Curriculum Vitæ – William E. Gryc

## Current Address

Muhlenberg College  
Department of Mathematics and Computer Science  
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## Employment

Fall 2016 – (current) Associate Professor at **Muhlenberg College**  
Fall 2010 – Summer 2016 Assistant Professor at **Muhlenberg College**  
Fall 2007 – Summer 2010 Assistant Professor at **Morehouse College**  
Fall 2006 – Summer 2007 Lecturer at **Georgia State University**

## Education

Fall 2001 – Summer 2006 **Cornell University, PhD** in Mathematics  
**Thesis Title:** *On the Holonomy of the Coulomb Connection over 3-manifolds with Boundary.*  
Fall 2001 – Spring 2004 **Cornell University, MS Special** in Mathematics  
Fall 1997 – Spring 2001 **Amherst College, Summa Cum Laude** with **BA Honors** in Mathematics and **BA** in Computer Science

## Peer-Reviewed Research Articles

- (6) William E. Gryc. *Revenue in first-price auctions with a buy-out price and risk-averse bidders.* Journal of Economics, 2019, DOI 10.1007/s00712-019-00674-8, 40 pp.
- (5) William J. Britt, William E. Gryc, Jamie A. Oliva, Brittney N. Tuff, and Charli E. White. *Strategies for making best offers on eBay.* American Journal of Undergraduate Research, 14:3 (2017), 5–35.
- (4) Lindsey D. Nagy, Don J. Dale, and William E. Gryc. *Refinements to the MLB-NPB posting system: a clear win for Japanese players and loss for Japanese teams.* Journal of Sports Economics, 2015, DOI 10.1177/1527002515609961, 40 pp.
- (3) William E. Gryc and Todd Kemp. *On sharp constants for dual Segal-Bargmann  $L^p$  spaces.* Journal of Mathematical Analysis and Applications 424 (2015), 1198–1222.
- (2) William E. Gryc and Todd Kemp. *Duality in Segal-Bargmann spaces.* Journal of Functional Analysis, 261 (2011), 1591–1623.
- (1) William E. Gryc. *On the Holonomy of the Coulomb Connection over Manifolds with Boundary.* Journal of Mathematical Physics, 49, 062904 (2008) 19 pp.

## Corrigendum and Errata

- (1) William E. Gyc and Todd Kemp. *Corrigendum to “On sharp constants for dual Segal-Bargmann  $L_p$  spaces”* [*J. Math. Anal. Appl.* 424 (2) (2015) 1198–1222], *Journal of Mathematical Analysis and Applications* 475 (2019) 1992–1995.

## Non-Research Publications

- (1) William Gyc. *Applying for a Tenure-Track Job*. *MAA Focus*, Volume 34, No. 4, August/September 2014, pp. 22–23 and 29.

## Grants and Fellowships

- **New Course Development Grant** (Summer 2018)  
8-week grant of \$4,000 to develop a new first-year seminar.
- **Muhlenberg Faculty Summer Grant** of \$4,000 for 8 weeks of research (Summer 2016)
- **CURM Mini-Grant** (Academic Year 2015-16)  
Grant of \$25,550 from the Center for Undergraduate Research in Mathematics (an NSF funded institution) awarded to Byungchul Cha and myself to mentor five students in research during the 2015-16 academic year.
- **Funding from the Muhlenberg Provost’s Office** (Summer 2013)  
8 week grant of \$2,000 awarded to do research in the summer.
- **Funding from the Muhlenberg Provost’s Office** (Summer 2012)  
4 week grant of \$1,500 awarded to do research in the summer.
- **New Course Development Grant** (Summer 2011)  
4 week grant of \$2,000 awarded to develop a new course in Mathematical Economics.

## Academic Talks

- *Revenue in First-Price Auctions with a Buy-Out Price and Risk-Averse Bidders* (Villanova Meeting on Behavioral and Experimental Economics (BEEMA5), Villanova University, Villanova PA, October 5 2019)
- *Strategies for “Buy-It-Now or Make Offer” Auctions on eBay* (MAA Themed Contributed Paper Session on Using Mathematics to Study Problems from the Social Sciences, Joint Mathematics Meetings, San Diego, January 11 2018)
- *Pedagogy for Poets: Guided-Inquiry for Groups in a Course of Mathematics for the Liberal Arts* (MAA Themed Contributed Paper Session on Encouraging Effective Teaching Innovation, MathFest, Chicago, July 27 2017)
- *Auction Theory: What Math Can Tell Us About eBay, Teacup Auctions, and the Winner’s Curse* (Bi-College Math Colloquium, Haverford College, Haverford PA, February 1 2016)
- *Assessing Student Research Progress Through Journaling* (MAA Contributed Paper Session on Assessing Student Learning: Alternative Approaches, Joint Mathematics Meetings, Seattle, January 7 2016)
- *A Sharp Inequality for Taylor Coefficients in Fock Spaces* (AMS Special Session “Inequalities and Quantitative Approximation,” Joint Mathematics Meetings, San Antonio, January 10 2015)
- *The Mathematics of Auctions* (Colloquium at McDaniel College, Westminster MD, October 8 2014)
- *Exploring Auction Theory in Undergraduate Research* (Themed Contributed Paper Session “Undergraduate Research in Mathematics: How, When, Why,” MAA MathFest, Portland OR, August 9 2014)
- *Sharpness Results for Duality in Segal-Bargmann Spaces* (AMS Special Session “Stochastic and Functional Analysis,” Joint Mathematics Meetings, San Diego, January 12 2013)

- *Holomorphic  $L^p$  and the Bergman Projection* (Invited Talk in the AMS Special Session “Stochastic Analysis and Mathematical Physics: A Session in Honor of the 80th Birthday of Len Gross,” Joint Mathematics Meetings, New Orleans, January 8, 2011)
- *On the Holonomy of the Coulomb Connection over Manifolds with Boundary*
  - Contributed Talk in the AMS Special Session “Infinite Dimensional Analysis, Path Integrals and Related Fields,” Joint Mathematics Meetings, Washington, D.C., January 6 2009
  - Invited Talk in the Analysis/PDE Seminar, Massachusetts Institute of Technology, March 12 2008, the Differential Geometry and Analysis Seminar, Emory University, November 14 2006, and the Analysis Seminar, Georgia Tech, October 11 2006

### Conferences Attended

- Villanova Meeting on Behavioral and Experimental Economics (BEEMA5), Villanova University, Villanova PA, October 4-5 2019.
- MAA MathFest, Denver, August 1–4 2018.
- Garden State Undergraduate Mathematics Conference, Rowan College at Burlington County, April 7 2018.
- Joint Mathematics Meetings, San Diego, January 10–13 2018.
- MAA Mathfest, Chicago, July 26–29 2017.
- EPaDel Sectional Meeting of the MAA, Kutztown University, April 1 2017
- SoCal-NeV Sectional Meeting of the MAA, Loyola Marymount University, April 2 2016.
- CURM Student Research Conference, Loyola Marymount University, April 1 2016.
- Joint Mathematics Meetings, Seattle, January 6–9 2016.
- Garden State Undergraduate Mathematics Conference, Monmouth University, April 11 2015.
- Joint Mathematics Meetings, San Antonio, January 10–13 2015.
- MAA MathFest, Portland OR, August 6–9 2014.
- Behavioral and Experimental Economists of the Mid-Atlantic, Haverford College, June 7 2014.
- EPaDel Sectional Meeting of the MAA, University of Scranton, April 26 2014.
- Garden State Undergraduate Mathematics Conference, Felician College, April 13 2013.
- Joint Mathematics Meetings, San Diego, January 9–12 2013.
- Garden State Undergraduate Mathematics Conference, Essex County College, April 2 2011.
- Joint Mathematics Meetings, New Orleans, January 6–9 2011.
- A Conference in Honor of Len Gross: Stochastic Analysis and Mathematical Physics, Cornell University, April 11-13 2010.
- Joint Mathematics Meetings, Washington D.C., January 5–8 2009.

### Workshops Attended

- **AIM Workshop on Problems on holomorphic function spaces and complex dynamics** hosted by the American Institute of Mathematics, San Jose CA, April 8–12, 2019.
- **CURM Faculty Summer Workshop** hosted by Brigham Young University, Provo, UT, May 17–20, 2015.
- **R Learning Community** at Muhlenberg, Spring 2015.
- **MAA PREP Workshop: Implementing Process Oriented Guided Inquiry Learning (POGIL) Activities for Calculus I** at Marymount University, Arlington VA, June 10–13, 2013.
- **MAA PREP Workshop: WeBWorK Problem Authoring** online, June 2013.
- **POGIL Workshop** at Muhlenberg College, Allentown, PA, June 1, 2012.
- **Course Design Workshop** at Muhlenberg College, Allentown, PA, May 17, 2011.

- **MAA PREP Workshop: Mathematical Modeling in Population Biology and Epidemiology** at Texas Tech University, Lubbock, TX, June 4–6, 2010.
- **Faculty Resources Network seminar: Applications of Mathematics in Finance and Economics** at New York University, New York, NY, June 9–13, 2008.

### Teaching Experience

- **Courses Taught at Muhlenberg**

Topics in Mathematics, Statistical Methods, Fundamentals of Mathematics, Statistical Analysis, Calculus I, Calculus II, Calculus III, Linear Algebra, Transition to Abstract Mathematics, Mathematical Analysis, Complex Variables, Mathematical Economics,\* Operations Research, Auction Theory\*, Con Artists Frauds and You (First Year Seminar)\*.

(\* indicates a new course I developed at Muhlenberg)

### Advising of Undergraduate Research at Muhlenberg

- *Best Offer Auctions on eBay*, Gianna Barres, Spring 2018, Garden State Undergraduate Mathematics Conference, Rowan College at Burlington County, April 7 2018.
- *Best Offers on eBay*, William Britt, Spring 2017, EPaDel Sectional Meeting of the MAA, Kutztown University, April 1 2017.
- *Best Offers on eBay*, Jamie Oliva, Brittney Tuff, Charli White, Fall 2015 & Spring 2016, CURM Student Research Conference, Loyola Marymount University, April 1 2016.
- *Mathematics of Neuroscience*, Macauley Breault, Spring 2015, Garden State Undergraduate Mathematics Conference, Monmouth University, April 11 2015.
- *Penny Auctions, Decision Weights, and Revenue*, Jarrett Felix, Spring 2014, EPaDel Sectional Meeting of the MAA, University of Scranton, April 26 2014.
- *Baseball and Loss Aversion*, Courtney Hunsberger, Spring 2013, Garden State Undergraduate Mathematics Conference, Felician College, April 13 2013.
- *Penny Auctions and Prospect Theory*, Melanie Panosian, Spring 2013, Garden State Undergraduate Mathematics Conference, Felician College, April 13 2013.
- *Strategies for Penny Auctions*, Lauren Spirko, Muhlenberg College, Spring 2011, Garden State Undergraduate Mathematics Conference, Essex County College, April 2 2011.

### Awards and Honors

- **The Robert C. Williams Award for Junior Faculty** (2016).  
Awarded each year by Muhlenberg College to a junior faculty member for distinguished scholarship and research or public performance.
- **Bridge Builder Award** (2010, 2011, 2014, 2015, 2018, 2019)  
Awarded by the Academic Resource Center of Muhlenberg College
- **Robert H. Breusch Prize** (2001)  
Awarded by the Amherst College Department of Mathematics for the best honors thesis in mathematics.
- **Phi Beta Kappa Inductee** (2000)

### Professional Memberships

- American Mathematical Society
- Mathematical Association of America

## College Service

- **Academic Advising and Shared Governance**
  - Academic advisor to numerous majors and minors in mathematics.
  - Member of the Faculty Evaluation Committee (Fall 2019–(current))
  - Member of the Writing Committee (Spring 2016–Spring 2019)
  - Member of the Nominating Committee (Fall 2014–Spring 2017)
  - Member of Faculty Development and Scholarship Committee (Fall 2011 – Spring 2014)
- **Campus Citizenship**
  - Written letters of recommendation for 35 different Muhlenberg students.
  - Written teaching certification letters for 3 different Muhlenberg students.
  - Departmental Library Liaison (Fall 2011–Summer 2016)
  - Reasoning Representative to Dean’s Ad Hoc Committee for Exception to Policy for Students with Disabilities (Fall 2015 – (current))
  - Mathematics Representative at Through the Red Doors and Senior Open House (Spring 2011, Fall 2012 and Fall 2014)
  - Faculty Advisor to Hockey Club (Fall 2011–Spring 2014)
  - Mathematics CUE Coordinator (Fall 2012–(current))
  - Member of departmental Outreach Committee (Spring 2019–(current))
  - Member of departmental Calculus Text Book Committee (Fall 2018–Spring 2019)
  - Member of departmental Colloquium Committee (Spring 2011–Spring 2019)
  - Member of departmental Website Committee (Spring 2011–Spring 2012)
  - Member of nine different departmental Search Committees (Spring 2011, Fall 2012, Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015, two in Fall 2019)
  - Member of departmental Learning Outcome Committee (Fall 2013–Spring 2014)
  - June Advisor (June 2011, June 2012, and June 2013)
- **Progression and Leadership**
  - Chair of Tenure-Track Computer Science search committee (Fall 2019)
  - Director of the Analytics minor program (Fall 2016–Spring 2019)
  - Chair of Nominating Committee (Fall 2016 – Spring 2017)
  - Chair of Faculty Development and Scholarship Committee (Fall 2013 – Spring 2014)

## Professional Service

- Reviewer for *Mathematical Reviews* published at <http://www.ams.org/mathscinet>. Reviewed the following papers:
  - Review of Choe, Boo Rim; Nam, Kyesook. *New characterizations for the weighted Fock spaces*. *Complex Anal. Oper. Theory* (2019) 13:2671–2686.
  - Review of Chihara, Hiroyuki. *Holomorphic hermite functions in Segal–Bargmann Spaces*. *Complex Anal. Oper. Theory* (2019) 13:351–374
  - Review of Nguyen, Hoai-Minh; Squassina, Marco *On anisotropic Sobolev spaces*. *Commun. Contemp. Math.* 21 (2019), no. 1, 1850017, 13 pp. 46E35 (35R11 82B10)
  - Review of Barton, Ariel. *Trace and extension theorems relating Besov spaces to weighted averaged Sobolev spaces*. *Mathematical Inequalities & Applications*, 21:3 (2018), 817–870.
  - Review of Cheng, Gouzheng, et al. *The singular integral operator induced by Drury–Arveson kernel*. *Complex Anal. Oper. Theory*, 12 (2018), 917–929.
  - Review of Cianchi, Andrea, et al. *Balls minimize trace constants in BV*. *J. reine angew. Math.* 725 (2017), 41–61.
  - Review of Kwon, Hyun-Kyoung. *Similarity to the backward shift operator on the Dirichlet space*. *J. Operator Theory*, 76:1(2016), 133–140.
  - Review of Martin, R.T.W. *Near invariance and symmetric operators*. *Oper. Matrices* 8 (2014), no. 2, 513–528.

- Review of Popa, Dumitru. *Direct and reverse inclusions for strongly multiple summing operators*. Proc. Indian Acad. Sci. (Math. Sci.), Vol 123, No. 3, August 2013, 415–426.
- Review of Galdames Bravo, O. and Sánchez Pérez, E.A. *Factorizing kernel operators*. Integral Equations Operator Theory 75 (2013), no. 1, 13–29.
- Review of Gibson, P. C., Lamoureux, M. P. and Margrave, G. F. *Outer preserving linear operators*. J. Funct. Anal. 261 (2011), no. 9, 2656–2668.
- Review of Lubinsky, D. S. *An operator associated with de Branges spaces and universality limits*. Complex analysis and dynamical systems IV. Part 1, 213–229, Contemp. Math., 553, Amer. Math. Soc., Providence, RI, 2011.
- Journal referee for:
  - *Communications in Mathematical Physics* (Spring 2008).
  - *Complex Analysis and Operator Theory* (Spring 2015).
  - *Mathematics* (Summer 2015).
  - *Journal of Economics (Zeitschrift für Nationalökonomie)* (Spring 2019).