

Yuriy Bulka, Ph.D.

Curriculum Vitae

EDUCATION:

Ph.D. Mathematics, University of Alabama, Tuscaloosa, December 2006.

Dissertation *Multiple Nonlinear Volterra Integral Equations*. Advisor: Dr. S. A. Belbas.

M.A. Mathematics, University of Alabama, Tuscaloosa, December 2001.

M.A. Economics, University of Missouri-Columbia, May 1997.

B.S. in El. Engineering (with Honors), National Aerospace University (*KhAI*), Kharkov, USSR, Feb'91

WORK EXPERIENCE:

Visiting Instructor of Mathematics, University of Alabama at Birmingham, Department of Mathematics, since August 2021.

Assistant Professor of Mathematics & Physics, Oklahoma Panhandle State University, Sep'20-May'21:
Full-time teaching, 15-hrs (17-18 contact hours) per semester, Courses taught in Fall'20: *General Physics-1, Calculus-2, College Geometry, Discrete Mathematics*, in Sp'21: *General Physics-2, Foundations/Proofs, Calculus-1, Calculus-3*.

Visiting Assistant Professor, Department of Mathematics, Coastal Carolina University, Aug'19-May'20:
Full-time teaching, 12-hrs per semester, courses taught: *Precalculus Algebra and Trigonometry, Business Calculus, Trigonometry, Calculus -1*.

Instructor, Dept. of Mathematics, Virginia Tech (Aug'18-Aug'19). Full-time teaching, courses taught *Single-variable Calculus (Calc-2), Intro Multivariable Calculus (Calc-3), Operational Methods(online)*.

Visiting Assistant Professor of Mathematics, Science Division, Spring Hill College, Mobile AL (Aug. 2017-June 2018). Full-time teaching, 12 hrs. per semester. Courses taught: *Calculus 1, Calculus 3, Numerical Methods, Senior Seminar (1 hr), Calculus with Business Applications (online)*.

Lecturer, Dept. of Mathematics, Towson University, Towson MD (Aug. 2015- July 2017). Full-time teaching, avg. 12 contact hrs. per semester. Courses taught: *Numerical Analysis, Complex Analysis, Calculus 1, 2 &3, Elementary Linear Algebra, Differential Equations*, supervised research project of a graduate student in Applied Math Master's program.

Non-tenure-track Assistant Professor, Dept. of Mathematics & Statistics, University of South Alabama, Mobile AL (Aug.2012 – May 2015). Full-time teaching, 12 months/30 credit hrs. per year. Courses taught: *Calculus 1, Calculus 2, Applied Differential Equations, Precalculus Algebra, Finite Mathematics*. Duties included supervising departmental Math&Stats Tutoring Lab.

Limited-Term Assistant Professor, Dept. of Mathematics, Georgia College & State University(Aug. 2010-May 2011). Full-time teaching, 15-credit-hrs. per semester, courses taught: *Probability and Statistics, Mathematical Modeling, Precalculus (Algebra and Trigonometry), Linear Algebra*.

Yuriy Bulka, Ph.D.

Assistant Professor, Dept. of Mathematics, Austin Peay State University (Aug 2007-July 2010)

Full-time Teaching (4 courses/12 hrs+overload per semester), courses taught: *Elements of Statistics, College Algebra, Mathematical Thought and Practice (Math for Liberal Arts), Precalculus Algebra and Trigonometry, Numerical Analysis*. Duties included work on multiple departmental and university committees, participating in advising students and other departmental activities.

Teaching Assistant, Dept. of Mathematics, University of Alabama, half-time appointment-equivalent of 20 hrs. per week: (Spring '98-Spring '99, Fall '00-Spring '01, Fall '02-Spring '03, Fall '04-Summer '06). Taught (lectured) different undergraduate math classes.

Teaching Assistant, Dept. of Mathematics, University of Oklahoma (Fall 1999-Spring 2000): tutored and graded different math classes, mostly Calculus.

Teaching/Research Assistant, Dept. of Economics, University of Missouri-Columbia (Fall 1996-Spring 1997): graded, proctored, developed software for undergraduate instruction in economics.

Engineer, Institute for Radio-Wave Measurements (*N.I.I.R.I.*), Kharkov, Ukraine (May 1991-December 1992): developed mathematical algorithms, software and hardware for digital signal and image processing in applications to trajectory-measurement radar systems.

Research Assistant and Postgraduate (*Aspirant*), Dept. of Radio Systems, National Aerospace University, Kharkov, Ukraine (Fall 1992- Spring 1995): Conducted research in the area of *phase problem*: recovery of data from incomplete or distorted by noise measurements.

Summer Research Intern (funded by USIA-IREX), Dept. of Economics, University of Missouri-Columbia (Summers of 1996 and 1997): conducted research for master's degree; developed software for undergraduate instruction in economics. Unpublished work (M.A. paper): *Optimal Trade and Insurance Taxing Policies under Moral Hazard, when Exclusivity Cannot Be Enforced*

Henry Miller Research Fellowship, Dept. of Mathematics, University of Alabama (Summers of 2004 and 2005): Conducted doctoral research.

AWARDS:

Richard V. Andree Memorial Scholarship: Department of Mathematics, University of Oklahoma, 2000 (one award for achievements in graduate studies is given each year).

Edmund S. Muskie Fellowship (1995-1997), awarded and administered by USIA-IREX.

PUBLICATIONS:

S.A. Belbas, Y. Bulka: Numerical Solution of Multiple Nonlinear Volterra Integral Equations, *Applied Mathematics and Computation*, vol. 217, 9 (2011) 4791-4804.
(link to preprint in ARXIV: <http://arxiv.org/ftp/arxiv/papers/0809/0809.3049.pdf>)

P. Kostenko, Y. Bulka: Phase problem in a class of signals represented by weighted quasipolynomials, *Radiotekhnika*, Moscow, 2, 59-64, (1996), in Russian.

Yuriy Bulka, Ph.D.

P. Kostenko, Y. Bulka, and D. Trikoz: Relationship between amplitude and phase in a signal reconstructed from samples of the signal and its derivative, *Optic*, Stuttgart, 103(1), 34-36, (1996).

CONFERENCE PRESENTATIONS:

Estimate of order of Error of Numerical Solution of Infinite-Dimensional Volterra Integral Equation, presented at MAA-SE conference March 2010.

Local Uniqueness of a Solution of Multiple Volterra Integral Equations with Locally Lipschitz Kernels, presented at annual TAS meet, October 2009.

Analysis of Order of Error for Numerical Solution of Multiple Nonlinear Volterra Integral Equations, presented at MAA-SE annual meet, March 2009.

Multiple Nonlinear Volterra Integral Equations: Some analytical results, presented at annual TAS meeting, November 2008.

PROFESSIONAL EXPERIENCES:

Designed a WebAssign-based online course in Operational Methods at Virginia Tech, Summer'19.

Participated in constructing the Common Final Exam for Intro Multivar Calculus course, VA-Tech, Sp'19

Participated in a Conference on Teaching & Learning, Univ. of South AL, Mobile AL May 7-8, 2018

2016-2017, @Towson Univ.: Supervised a research project of a graduate Master's-level student towards his MA degree in Applied and Industrial Math: the student shared an award for the best research project.

Participated in a regional MAA meeting, Nov 5th, 2016, JHU, Baltimore MD;

Participated in BbWorld Webinar, July 14th 2016;

Attended a Workshop on Multi-Dimensional Proximity Problems, UMD-College Park, Jan.2016;

Serving on a Departmental Applied Mathematics Committee; at her request, submitted to the Director of the Program a list of measures/actions to improve the quality of the Program;

Participated in a Conference on Teaching & Learning, Univ. of South Alabama, May 2013, 2014, 2015

2012-13: Served on a Departmental Curriculum Committee, prepared a proposal of reintroducing the Numerical Analysis course into curriculum; prepared a list of specific learning objectives for DSP Algebra course;

2013, Univ. of South Alabama: Developed a web-based component for Calculus-1 course tested it and shared with Dept. faculty;

Served as the Chair of Mathematics and Computer Science Section of Tennessee Academy of Science (TAS) for the year 2009;

Coached APSU's student team for the Math Jeopardy Contest at 2009 MAA-SE Section annual event (the team won the competition);

Organized and administered Putnam Exam at APSU, 2008 and 2009;

Reviewed 2009 and 2010 Algebra II state exam for the Tennessee Mathematics Teachers' Association;

Judged at student contest during the annual MAA SE 2008meeting;

Judged students' projects in Mathematics at Middle Tennessee Science and Engineering Fair, 2008;

Designed Exam for the Alabama Statewide Mathematics High School Contest (Spring 2005).