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Education

August 2005, Purdue University, West Lafayette, IN.

Ph.D., Mathematics

Thesis Advisor: Jerry Kaminker

Thesis Title: *K-exact group C^* -algebras.*

May 2000, Purdue University, West Lafayette, IN.

M.S., Mathematics

Thesis Advisor: (The Late) Yuri Abramovich

Thesis Title: *Hilbert Space Problem.*

June 1998, Middle East Technical University (METU), Ankara, Turkey.

M.S. Program, Mathematics

Thesis Advisors: Safak Alpay and Zafer Ercan

Thesis Title: *Compact Friendly Operators and Hilbert Space Problem.*

June 1995, Bilkent University, Ankara, Turkey.

B.S., Mathematics

Thesis Advisor: Simon Thomas

Thesis Title: *Symmetric Groups.*

Research Interest

Noncommutative Geometry: K -Theory of Operator Algebras; Applications of Operator Algebras to Geometry and Topology; Dynamical Systems and Mathematical Physics; Online Mathematics Education.

Honors and Awards

Fall 2009, Weinberg College Course Enhancement Grant, Northwestern University, IL

Spring 2007, Research Grant for Bioinformatics Project at VAI, Grand Valley State University, MI.

Spring 2006, Young Scientist Grant, Turkish American Scientists and Scholars Association (TASSA).

Spring 2003, Purdue School of Science, Outstanding Graduate Student Award, IUPUI, Indianapolis.

Spring 2001, Purdue School of Science, Outstanding Graduate Student Award, IUPUI, Indianapolis.

1999-2000, School of Science Dean Research Fellowship, IUPUI.

1998-2001, The Council of Higher Education of the Republic of Turkey Fellowship.

1996-1998, Research Assistantship Award, Middle East Technical University, Ankara.

1991-1995, Full Undergraduate Scholarship, Bilkent University, Ankara.

Professional Experience

08/2010-present, Visiting Assist. Professor of Mathematics, Indiana University, Bloomington, IN.

I am teaching undergraduate level courses and collaborate with professors.

08/2007-08/2010, Visiting Assist. Professor of Mathematics, Northwestern University, Evanston, IL.

I taught undergraduate level courses and mentored undergraduate female students.

08/2006-05/2007, Visiting Assist. Professor of Mathematics, Grand Valley State U., Allendale, MI.

These visiting positions are intended for individuals interested in gaining teaching experience.

Regular (once a week) meetings with teaching mentors and participation in teaching and research seminars held by the Faculty Teaching Learning Center (FTLC) at GVSU and by the professors in the department are common activities.

02/2007-08/2007, Adjunct Professor of Mathematics for Online Classes, Troy University, Troy, AL.

08/2004-08/2006, Post-doctoral Position, Dept. of Math., University of Mississippi, Oxford, MS.

Prof. Alan Paterson, and I organized Noncommutative Geometry Seminars.

08/1999-06/2004, Research Assist., Dept. of Mathematical Sciences, IUPUI, Indianapolis, IN.

01/2001-05/2003, Mathematics Instructor at Chinese School, IUPUI, Indianapolis, IN.

01/1996-08/1998, Research Assistant, Dept. of Mathematics, METU, Ankara.

Teaching Experience

[Note: **MML**=MyMathLab, **BB**=BlackBoard, **WW**=WebWork,
OC=OnCourse, **WA**=WebAssign, **GW**=Group Work]

Indiana University

Lecturer for Linear Algebra; Calculus I; Brief Survey Of Calculus 1 (WW, OC);

Northwestern University

Lecturer for Probability and Stochastic Processes I and II; Statistics;
Foundations of Higher Mathematics; Multiple Integration and Vector Calculus;
Differential Calculus of Multivariable Functions (GW; WA);
Integral Calculus; Finite Mathematics; Linear Algebra I and II;

Troy University

Lecturer for Finite Mathematics and Pre-Calculus Algebra (Online Classes; MML; BB)

Grand Valley State University

Lecturer for Calculus I and II (GW; Maple Lab projects; Graphing Calc. emphasis; BB);
Lecturer for Trigonometry (GW; Graphing Calc. emphasis; BB);
Lecturer for Intermediate Algebra (GW; Graphing Calc. emphasis; BB).

University of Mississippi

Lecturer for Calculus I (GW; Mathematica lab projects; MML; BB);
Lecturer for Calculus for Business, Economy, and Acc. I & II (Online Classes; MML; BB).

Indiana University-Purdue University Indianapolis

Lecturer for Calculus for Technology I and II (GW; OC);
Lecturer for Algebra and Trigonometry; Finite Mathematics; Fundamentals of Algebra.

Middle East Technical University

Co-lecturer for Multivariate Calculus; Recitation Instructor for Calculus I and II.

Recent Talks and Posters Presented

13 April 2010, University of Chicago, Special Seminar. Invited speaker

Talk Title: “*Gap Labeling Theorems and Recent Improvements*”.

10-11 April 2010, AMS-MAA Sectional Mathematics Meetings, St.Paul, MN.

Talk Title: “*Calculus Students: Learn from Others’ Mistakes*”.

26-28 March 2010, AMS-MAA Sectional Mathematics Meetings, Lexington, KY. Invited speaker
to the Special Session on *Spectral and Transport Properties of Schrödinger*

Operators Talk Title: “*Gap Labeling Theorems*”.

13-16 January 2010, AMS - MAA The Joint Mathematics Meetings, San Francisco, CA.

Talk-1 : “*Common Innovative Uses of Online Homework on Webassign, MyMathLab, and WebWork*”

Talk-2 : *“Tiling spaces and the Baum Connes Conjecture”*

3-4 October 2009, Wabash Modern Analysis Seminar, IUPUI, Indianapolis,
“Tiling Spaces and the Baum-Connes Conjecture”

8 July 2009, Pacific Rim Mathematical Association (PRIMA) Congress the University of New South
Wales, Sydney, Australia, July 6-10, 2009, *“Modified Bellissard Algebra”*

29 March 2009, AMS Meetings, University of Illinois, Urbana Champaign Urbana, IL, Invited talk.
“Modified Bellissard Algebra”

13 November 2007, University of Rochester, Rochester, NY, Invited talk.
“K-exact Group C^ -algebras and Coarsely Embeddable Groups”*

22 February 2007, Grand Valley State University, Grand Rapids, 2007 Math In Action Conference.
Presenter in *“The Greatest Ideas for Teaching”* session.

5 - 8 January 2007, AMS - MAA The Joint Mathematics Meetings, New Orleans, LA.
“The Online Experience in Mathematics at the University of Mississippi”.

10 November 2006, Algebra Seminar, Grand Valley State U. *“Group C^* -algebras and K-exactness”*.

29 June-7 July 2006, 3rd International Conference on the Teaching of Mathematics,
(ICTM3), Istanbul, Turkey.
“The Online-Class Experience in Mathematics at the University of Mississippi”.

25 April 2006, Geometry Seminar, U. of Arizona, Tucson, AR, *“K-exactness of group C^* -algebras”*.

25-26 March 2006, Turkish American Scientists and Scholars Association (TASSA) 2006 Annual
Meeting, Drexel U., Philadelphia, PA. Poster Title: *“Coarse Embeddability”*.

9 December 2005, Algebra Seminar, Bilgi University, Istanbul. *“K-exact group C^* -algebras”*.

02 July 2005, Seminar at METU, Organized through Visiting Scholars Program by TASSA.
“K-exact C^ -algebras”*.

Recent Conferences Attended

25 March 2010, Northwestern University, Evanston, IL
“Turningpoint Workshop on Student Response Systems (SRS)”

29 January 2010, Loyola University Chicago, Chicago, IL *“Twelfth Annual Chicago Symposium
Series on Excellence in Teaching Mathematics and Science: Research and Practice”*.

16-21 November 2009, Workshop on Computational Differential Geometry, Topology, and Dynamics
Fields Institute, Toronto, Ontario, Canada

22-24 May 2009, “Perspectives in Mathematics and Physics” in celebration of Prof. Is Singer’s 85th
Birthday, MIT, Harvard and the National Academy of Sciences, Boston, MA

22-24 March 2009, University of Chicago, Chicago, IL *“Geometric Topology”*.

6 March 2009, Loyola University Chicago, Chicago, IL *“Eleventh Annual Chicago Symposium
Series on Excellence in Teaching Mathematics and Science: Research and Practice”*.

5-8 January 2009, Washington, D.C. *“AMS - MAA The Joint Mathematics Meetings”*.

5-14 May 2008, Vanderbilt University, Nashville, TN. *“The Sixth Annual Spring Institute on
Noncommutative Geometry and Operator Algebras, Topics: KK-Theory of
Operator Algebras and Noncommutative Geometry”*.

12-13 April 2008, MIT, Boston, MA *MIT Women in Mathematics: A Celebration*.

11-13 April 2008, Harvard University, Boston, MA *TASSA 2008 Annual Conference*.

6-9 January 2008, AMS - MAA The Joint Mathematics Meetings, San Diego, CA.

8-9 September 2007, IUPUI, Indianapolis, Wabash *Extramural Modern Analysis* Miniconference.

18-24 May 2007, Northwestern University, Evanston, *“Trends in Noncommutative Geometry”*.

24-25 March 2007, Yale U., New Haven, CT. “TASSA 2007 Annual Meeting”.

22 February 2007, Grand Valley State University, Grand Rapids, 2007 Math In Action Conference.
“Mathematical Literacy for All Adapting to Changing Expectations”.

5-8 January 2007, AMS - MAA The Joint Mathematics Meetings, New Orleans, LA.

8-17 May 2006, Vanderbilt University, Nashville, TN. “The Fourth Annual Spring Institute on
Noncommutative Geometry and Operator Algebras, Topics: Noncommutative
Geometry, Quantum Field Theory and Motives”.

12-15 January 2006, San Antonio, TX. “AMS - MAA The Joint Mathematics Meetings”.

Other Professional Activities and Services

Reviewer for Journal for Research in Mathematics Education since May 2008.

Mentor for Ms. Kendra Davis, Undergraduate student at Northwestern University (Fall 2010).

Mentor for Ms. Anita Dani, Ph.D. candidate, University Of Wollongong,
Wollongong, Australia, in Computer Science (May 2008-2009).

Judge for the Abstracts at the MAA Undergraduate Poster Session, New Orleans, LA, 7 Jan. 2007.

Scientific Committee Member, III. International Symposium on Non Governmental Organizations,
9-10 December 2006, Çanakkale, Turkey.

Blackboard Proficiency Training Certificate for Teaching Mathematics Online, 7 Nov. 2006,
Troy University, Troy, AL.

Mentor for Graduate Students in Statistics at IUPUI (2003-2004)

Societies

Member, American Mathematical Society, (AMS).

Member, Turkish-American Scientists and Scholars Association, (TASSA).

Grants

⑤ It will be a fully paid (by a research grant of Prof. Baake) visit to the research group led by Prof. Baake at the University of Bielefeld for up to 3 months in Spring 2011.

⑤ \$3500 is awarded as NSF Grant to visit India for the ICM 2010 meetings
(I had to skip the conference for medical reasons.)

⑤ \$600 is awarded by the mathematics department at Vanderbilt University to attend to the Eighth Annual NCGOA Spring Institute to be held at Vanderbilt University
Topics: “Von Neumann algebras” in Nashville, TN, on May 10-19 2010

⑤ \$500 is awarded by the mathematics department at Northwestern University to go to AMS Sectional Meetings in St. Paul, MN, on April 9-11 2010

⑤ \$500 is awarded by the mathematics department at Northwestern University to go to AMS Sectional Meetings in Lexington, KY, on march 26-28 2010

⑤ \$1320 is awarded as AWM-NSF Grant to visit 2010 AMS-MAA meetings
in San Francisco, USA.

⑤ \$CAD 1500 is awarded by the Fields Institute, Toronto, Ontario, Canada to attend a workshop
on 16-21 November 2009

⑤ \$1500 is awarded by MIT, Math Department to visit MIT, Boston, MA, on 22-24 May 2009,

⑤ \$2300 is awarded as NSF grant to visit New South Wales University, Australia, in July 2009
for the First Prima Conference

Prints, Preprints, Books and Book Reviews

- ++ *Tiling Spaces on a Riemannian Manifold with Bounded Geometry*. Work in progress, (with Prof. Jean Bellissard, Georgia Institute of Technology and Prof. Shmuel Weinberger, University of Chicago).
- ++ *Examples of Tilings with no Finite Local Complexity*. Work in progress, (with Prof. Jean Bellissard, Georgia Institute of Technology and Prof. Shmuel Weinberger, University of Chicago).
- ++ *Aperiodic Tilings, and the Modified Bellissard Algebra*. To be submitted to the **Groups, Geometry, and Dynamics**, (with Prof. Shmuel Weinberger, University of Chicago).
- ++ *The Baum-Connes Conjecture and the Aperiodic Tilings*. To be submitted to the **Journal of the European Mathematical Society**.
- ++ *Computations on the crossed product algebra of the tiling spaces residing on trees and hyperbolic spaces*. Work in progress.
- ++ *K-theory and Exactness*. Book to be published by the **VDM Publishing House**.
- ++ *K-exact Groups and Coarsely Embeddable Groups*. Published in the **Proceedings of American Mathematical Society, Volume 137, Number 7, July 2009, pages 2393-2402**
- ++ *On relatively round numbers*. Submitted to the **American Mathematical Monthly**, (with Prof. William Staton, University of Mississippi and Benton Tyler, University of Montevallo).
- ++ *Analysis and Optimization of On-Chip Thermoelectric Cooling Systems*. Submitted to **IEEE Transactions on COMPUTER-AIDED DESIGN of Integrated Circuits and Systems**, (with Prof. Seda Ogrenci Memik, Northwestern University and Ph.D. Candidate Jieyi Long, Northwestern University).
- ++ *The Online-Class Experience in Mathematics at the University of Mississippi*. Published in the **Proceedings of the 3rd International Conference on the teaching of Mathematics at the Undergraduate Level, July 2006**, (with Dr. Robert Hunt, University of Mississippi)
- ++ *Fair and Efficient Grading in Common Midterms and Common Finals for Calculus Classes*. To be Submitted to the **International Journal of Science and Mathematics Education**.
- ++ *Innovative Uses of Online Homework Systems Webassign, MyMathLab, and WebWork*. To be submitted to **Journal for Research in Mathematics Education**.
- ++ *Can "Question-Solution Pair" improve Calculus Instruction and Learning?*. Submitted to **Canadian Journal of Science, Mathematics and Technology Education**.
- ++ Review of the Book: *Calculus*, by Kunze. (Publisher: Pearson)

References for Semail ÜLGEN YILDIRIM

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Prof. Jerry Kaminker (Currently visiting University of California, Davis.)

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Prof. Shmuel Weinberger

Department of Mathematics, University of Chicago, 5734 S. University Avenue, Chicago, IL 60637-1514
Phone: (773) 702-7349, Email: shmuel@math.uchicago.edu

Prof. Jean Bellissard

Georgia Institute of Technology, School of Mathematics, 686 Cherry street, Atlanta, GA 30332-0160
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Dr. Martina Bode, Charles Deering McCormick University Distinguished Lecturer of Mathematics

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