

**Address**

Department of Physics  
Boston University  
590 Commonwealth Avenue  
Boston, MA 02215, USA.

**Biography:**

Born on July 29, 1974 in Kishenev, Moldova. Immigrated to the United States in 1989; Became a US citizen in 1995.

**Education:**

- 9/92–5/96      Massachusetts Institute of Technology  
B.S. in Physics and Theoretical Mathematics.  
Thesis Adviser: Uwe-Jens Wiese.  
Undergraduate Thesis Title: “Lattice fluid dynamics  
from perfect discretization of continuum flows.”
- 9/96–9/01      Massachusetts Institute of Technology  
PhD in Theoretical Physics.  
Adviser: Lisa Randall.  
Thesis Title: “Brane worlds, brane worlds:  
it’s party time. excellent.”

**Professional Experience:**

- 9/01-8/04      Research Associate at the Particle Theory Group,  
.      University of Washington.
- 8/04-1/05      Research Associate at the Theory Group,  
Stanford Linear Accelerator Center.
- 1/05-9/01      Assistant Professor, Boston University.
- 9/01-present      Associate Professor, Boston University.
- 6/11-6/12      Visiting Professor, Stanford U./SLAC

**Awards:**

NSF CAREER Award, Alfred P. Sloan Fellowship, Simons Collaboration award.

## Conferences and Invited Talks:

- 2009 U. of Chicago (May).  
SLAC (July).  
"CERN theory Workshop",  
Geneva, Switzerland (August).  
Yale U., (October)  
Kavli Frontiers of Science Symposium,  
Irvine, CA (November).
- 2010 Brown U. (Feb)  
"Strong Dynamics Beyond the Standard Model"  
Aspen Center for Physics (June).  
SLAC (July).  
MIT (September).  
Cornell U. (October)  
Princeton U. (November)  
UCSB/KITP (December)  
Rutgers U. (December)
- 2011 UC Berkeley (March)  
U. of Washington (March)  
NYU (April)  
UC Berkeley (October)  
Stanford U. (November)
- 2012 UC Davis (February)  
"Dark Matter 2012", UCLA, (February)  
Colloquium given at SFSU (April)  
"Origin of Mass 2012, Plenary Talk, Nordita (June)  
"Confinement X", TUM, Panel Participant (October)  
Harvard U. (November)
- 2013 Columbia U.(March)  
U of Massachusetts, Boston, Colloquium (March)  
Michigan U. (April)  
Brandeis U. (April)  
MIT, LNS (April)  
MIT, CTP (May)
- 2014 "Non-perturbative QFT" workshop, KITP (January)  
Kadanoff Center, U. of Chicago. (February)  
CERN Theory colloquium, CERN (March)  
Yale U. (April)  
U. of Minnesota (May)

- "Low Energy Challenges for High Energy Physics" conference, Perimeter Institute (May)  
"Back to the Bootstrap 4" workshop, Porto (June)  
Northeastern, Colloquium (October)  
Princeton U. (November)
- 2015 "Modern QFT" conference, Aspen (February)  
NYU (April)  
"Back to the Bootstrap 5" workshop, Weizmann (May)  
"Bootstrap/Amplitudes workshop", Aspen (July)
- 2016 ICTP, Trieste (February)  
"Back to the Bootstrap 6" workshop, Florence (May)  
Simons Collaboration kickoff meeting, Yale U. (October)  
Harvard U. (November)

## GRANTS

Simons Collaboration on the Non-perturbative Bootstrap (Co-PI)

Source: Simons Foundation

Award amount: \$720,000

Award period: 09/01/2016 - 08/31/2021

Topics in Theoretical Particle Physics (Co-PI)

Source: Department of Energy

Award amount: \$1,050,000

Award period: 07/01/2016 - 03/31/2019

Topics in Theoretical Particle Physics (Co-PI)

Source: Department of Energy

Award amount: \$1,710,000

Award period: 05/01/2013 - 06/30/2016

CAREER: Electroweak and Strong Coupling Physics (PI)

Source: National Science Foundation

Award amount: \$400,000

Award period: 01/01/2007 - 12/31/2011

Research in Particle Physics TASK E (Co-PI since 2006)

Source: Department of Energy

Award amount: \$8,316,416.30

Award period: 03/01/1992 - 04/30/2013

## PhD STUDENT

Dr. Yiming Xu (graduated 2014).

## MENTORED POSTDOCTORAL RESEARCHERS

Siavosh Behbahani, Brian Feldstein, Liam Fitzpatrick, Thomas Gregoire,  
Zuhair Khandker, Takemichi Okui, Veronica Sanz, Brock Tweedie, Matthew Walters.

## RESEARCH PAPERS

41 papers written over my career with a total of 6313 citations on SPIRES. Of these, 10 papers were written since tenure (232 total citations on SPIRES). A detailed list of 8 of the 10 papers written since tenure is provided below.

### 8 Recent Research Papers (226 total citations on SPIRES):

THE EFFECTIVE THEORY OF DARK MATTER DIRECT DETECTION  
A.Liam Fitzpatrick, Wick Haxton, Emanuel Katz, Nicholas Lubbers, Yiming Xu.  
**JCAP 1302 (2013) 004** , arXiv:1203.3542 [hep-ph].

A NEW THEORY OF ANYONS  
A.Liam Fitzpatrick, Shamit Kachru, Jared Kaplan, Emanuel Katz, Jay G. Wacker.  
arXiv:1205.6816 [hep-ph].

MODEL INDEPENDENT DIRECT DETECTION ANALYSES  
A.Liam Fitzpatrick, Wick Haxton, Emanuel Katz, Nicholas Lubbers, Yiming Xu.  
arXiv:1211.2818 [hep-ph].

DECOUPLING OF HIGH DIMENSION OPERATORS  
FROM THE LOW ENERGY SPECTRUM IN HOLOGRAPHIC MODELS  
A.Liam Fitzpatrick, Jared Kaplan, Emanuel Katz, Lisa Randall.  
arXiv:1304.3458 [hep-th].

SOLVING 2D QCD WITH AN ADJOINT FERMION ANALYTICALLY  
Emanuel Katz, Gustavo Marques, Yiming Xu.  
**JHEP 1405 (2014) 143**, arXiv:1308.4980 [hep-th].

DYNAMICAL TRAPPING NEAR A QUANTUM CRITICAL POINT  
Michael Kolodrubetz, Emanuel Katz, Anatoli Polkovnikov  
**Phys. Rev. B91 (2015) 5, 054306**, arXiv:1406.2701 [cond-mat.quant-gas].

CONFORMAL FIELD THEORIES AT NONZERO TEMPERATURE:  
OPE EXPANSIONS, MONTE CARLO, AND HOLOGRAPHY  
Emanuel Katz, Subir Sachdev, Erik S. Srensen, William Witczak-Krempa  
**Phys.Rev. B90 (2014) 24, 245109**, arXiv:1409.3841 [cond-mat.str-el].

A CONFORMAL TRUNCATION FRAMEWORK FOR INFINITE-VOLUME DYNAMICS  
Emanuel Katz, Zuhair Khandker and Matthew Walters  
**JHEP 1607, 140 (2016)**, arXiv:1604.01766 [hep-th]