Dr. Chen Dubi, PhD

January 2019

CURRICULUM VITAE

- **Personal Details**

Chen Dubi (חן דובי)

Born 4 April 1973

Home address: Atad 40 Beer sheva, 84844, Israel, Tel. 050-6226552

Marital Status: Married + 5

Work Address: Physics Department, Nuclear Research Center Negev (NRCN), P.O.B 9001, Beer Sheva, Israel. Tel. 08-6568159

- **Education**

B. Sc.- 1995-1998, Department of mathematics and computer science, Ben-Gurion university (BGU).

M. Sc. - 1998-2000, Department of mathematics, Ben-Gurion University.

Name of advisor: Prof. Itzhak Rubinstein

Title of thesis: "Limiting Current in Electro-diffusion"

Ph.D - 2000-2004

Name of advisor: Prof. Daniel Alpay

Thesis title: "Reproducing kernel Hilbert spaces: interpolation, realization and related topics"

- **Employment History**

2017-2018: Sabbatical period (starting Sep. 2017) at the Veterbi Faculty of Electrical Engineering, Technion, Haifa.

2017-current: Adjunct senior lecturer, Dep. of mathematics, Ben-Gurion University of the Negev.

2009-current: Research position at the Nuclear Research Center Negev (NRCN), Department of Physics.

2005-2008: Lecturer (research position) at the Shamoon College of Engineering (SCE), mathematics unit.

2004-2005: Post-doctoral position at the Weismann institute, Dep. Of mathematics. Host: Prof. Harry Dym.

- **Professional activities**

Membership in professional\scientific societies:

2011-current: member of the Institute of Nuclear Material Management (INMM).

2015-current: Member of the Israeli Nuclear Society

- **Educational activities- Lecturer at the following courses**

- Partial differential equations (BGU, Dep. Of mathematics)
- Introduction to probability theory (BGU, For Electrical Engineering students)
- Numerical methods in engineering (BGU, Dep. Of civil engineering)
- Calculus1 and 2 (SCE, For Electrical Engineering students)
- Introduction to differential equations (SCE, For Electrical Engineering students)
- Complex functions (SCE, For Electrical Engineering students)
- Linear Algebra 1 (SCE, For Electrical Engineering students)
- Vector analysis (SCE, For Electrical Engineering students)

- **Research students**

1. Tal Malinevitch, M.Sc, 2016. Ben-Gurion university, Dep. Of Mathematics.
2. Guy Heger, M.Sc, 2017 (co instructor: Dr. Erez Gilad, BGU, Dep. Of nuclear Engineering). Title: Mathematical methods for detecting neutron shielding in Neutron Multiplicity Counting.
3. Yael Neiymair. M.Sc, 2017: (co instructor: Dr. Erez Gilad, BGU, Dep. Of nuclear Engineering). Title: Dead Time corrections on high moments of the neutron count distribution ant the Feynman-Y plot using the BEX method.
4. Guy Stein. Title: The stabilization effect of non-linear feedback on the Stochastic Point Reactor Kinetic Equation (Due date: 2019)

- **Award and honors**

2002 Deans Award for Ph.D students (single recipient).

2011-2017 Katzir scholarship (Ministry of Defense)

- **Scientific publications**

(a) H-index (ISI): 6
(b) Total number of citations (ISI): 107
(c) Total number of citations without self-citations (ISI): 65
1.

- **Additional Academic activities**

Invited talks

1. ANS Mathematic & Computation (M&C) 2017, 16-20 May 2017, Jeju, South Korea

Conferences (organizing committee, Session Chairman)

1. Session Chairman at the ANS Mathematic & Computation (M&C) 2017, 16-20 May 2017, Jeju, South Korea

2. Session Chairman at the 2017 IPS (Israeli Physics Society) conference, Decembner 2017, Technion
3. Organizing committee of the 2017 INS (Israeli Nuclear Society) conference, May 2017, Herzlia

Peer reviews

Active reviewer for the following journals: Nuclear Instrument and methods, Nuclear Science & Engineering, Annals of Nuclear energy, International Journal of Energy Research (See attached PUBLONS report)

Jan 2019

Dr. Chen Dubi, PhD

List of publications: Dr. C. Dubi, Nuclear Research Center Negev (NRCN)

(a) H-index (ISI): 6
(b) Total number of citations (ISI): 107
(c) Total number of citations without self-citations (ISI): 65

Number of journal papers since last promotion (Jan 2013):

Journal papers

1. D. Alpay[PI], **C. Dubi[S]**, 2002, *Boundary interpolation in the ball.* Linear Algebra and its Applications, 340 (citations: 10; IF 0.65, 21/41, Q2)
2. D. Alpay[PI], **C. Dubi[S]**, 2003, *Carathe'odory-Feje'r interpolation in the ball.* Linear Algebra Appl. 359 (citations: 3; IF 0.738, 32/41, Q3)
3. D. Alpay[PI], **C. Dubi[S]**, 2003, *A realization theorem for rational functions of several complex variables*, Systems Control Letters, 49, (citations: 19; IF 3.055, 6/138, Q1)
4. D. Alpay[PI], **C. Dubi[S]**, 2003, *Backward shift operator and finite dimensional de Branges Rovnyak spaces in the ball.* Linear Algebra and its Applications, 371, (citations: 7; IF 0.738, 32/41, Q3)
5. **C. Dubi[S]**, 2003, *Limiting current singularities in electro diffusion.* Quarterly of Applied Mathematics, 61, (citations: 0; IF 0.907, 24/258, Q3),
6. D. Alpay[PI], **C. Dubi[S]**, 2004, *Carathe'odory-Feje'r interpolation in the ball with mixed derivatives*, Linear Algebra and its Applications, 382, (citations: 3; IF 0.667, 30/41, Q3)
7. D. Alpay[PI], **C. Dubi[S]**, 2005, *On commuting operators solving Gleason's problem*, 2005, Proceedings of the AMS, 133, (citations: 7; IF 0.963, 59/228, Q2)
8. D. Alpay[PI], **C. Dubi[S]**, 2006, *Some remarks on the smoothing problem in reproducing kernel Hilbert spaces.* Journal of Analysis and Applications, 4 , (citations: 0, Q4)
9. **C. Dubi[PD]**, H. Dym[PI], 2007, *Riccati inequality and reproducing kernel Hilbert spaces*, Linear Algebra and applications, 420, (citations: 1; IF 0.729, 24/41, Q3)
10. S. Dubi[PI], **C. Dubi[PI]**, Y. Dubi[PI]: *A two phase harmonic model for left ventricular function*, Medical Engineering & Physics, 29 (citations: 0; IF 0.649, 44/103, Q2)

11. C. Dubi, 2007, *Weak simultaneous triangularization - A determinant condition*, Operators and Matrices, 1 (citations: 1; not ranked, Q4)
12. C. Dubi, 2008, *Triangular realization of rational functions of N complex variables*, multidimensional systems and signal processing , 19 (citations: 5; IF 0.31, 234/321, Q3)
13. D. Alpay[PI], **C. Dubi[PI]**: *Cascade representation and minimal factorization of multidimensional systems*, System and control letters, 57, (citatations: 0, IF: 0.728, 31/58, Q3)
14. C. Dubi, 2009, *An algorithmic approach to simultaneous triangularization*, Linear algebra and applications. (citatations: 8, IF: 4.77, 4/166, Q1)
15. C. Dubi, 2009, *Triangular representation of Fornasini-Marchesini system*, Multidimensional systems and signal processing, 20 (citations: 2; IF 0.31, 234/321, Q3)
16. **C. Dubi[PI]**, I. Ya'ar[PI], S. Mark[PI], 2012, *Two independent approaches used for estimating 2d contamination distribution on the ground level- based on air monitoring information*, Mathematics in engineering, Science and Aerospace, 3 (citations: 0, not ranked)
17. **C. Dubi[PI]**, T. Ridnik[C], I. Israelashvilli[C], J. Bagi[C], J. Hustzi[C], 2012, *A Method for the estimation of Fissile mass by measuring the Number of neutron signals within a specific time interval*, Nuclear Instruments and Methods- A, 673 (citations: 10; IF: 0.715, 27/60, Q2)

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18. **C. Dubi[PI]**, I. Israelashvili[C], T. Ridnik[C], B. Pedersen[C], 2013, *A novel method for active fissile mass estimation with pulsed neutron source*, Nuclear Instruments and Methods- A, 715 (citations: 2; IF: 0.873, 22/61, Q2).
19. **C. Dubi[PI]**, T. Ridnik[C], I. Israelashvili[C], 2014, *Analytic model for dead time effect in neutron multiplicity counting*, Nuclear science and engineering, 176, (citations: 2; IF: 0.708, 17/52, Q2)
20. T. Ridnik[PI], **C. Dubi[C]**, I. Israelshvili[C], J. Bagi[C], J. Hutzi[C], 2014, *LIST- mode applications in neutron multiplicity counting*, Nuclear Instruments and Methods- A, 735, (citations: 3; IF: 0.843, 24/60, Q2)
21. T. Malinevich[S], C. **Dubi[PI]**, 2015, *A Multi region mulita energy formalism for the Feynman-alpha formula*, Annals of Nuclear Energy, 76 (citations: 2; IF: 0.986, 11/52, Q1 (journal ranking and IF for 2014))
22. I. Isrealshvili[PI], **C. Dubi[PI]**, H. Ettedgui[T], A. Ocherashvili[pi], B. Pededrsen[C], A. Beck[C], E. Roesgen[C], J.M. Crochmore[C], T. Ridnic[C], I. Yaar[C], 2015, *Fissile mass estimation by pulsed source*

interrogation, Nuclear Instruments and Methods- A, 715 (citations: 2; IF: 0.84, 22/61, Q2 (journal ranking and IF for 2014))

23. **C. Dubi**[PI], A. Ocherashvili[C], H. Ettegui[T], B. Pedersen[C], 2015, *Variance estimation in neutron multiplicity counting using the bootstrap method*, Nuclear Instruments and Methods- A, 794, (citations: 4; IF: 0.84, 22/61, Q2 (journal ranking and IF for 2014))
24. **C. Dubi**[PI], A. Kolin[S], 2016, *Analytic derivation of the statistical error in the Feynman-alpha method*, Annals of Nuclear Energy, 88, (citations: 5; IF: 0.986, 11/52, Q1 (journal ranking and IF for 2014))
25. E.Gilad[PI], B. Geslot[PI], P. Blaise[C], **C. Dubi**[C],2017, *Sensitivity of power spectral density techniques to numerical parameters in analyzing neutron noise experiments*, Progress in Nuclear Energy, 101, Nov. 2017. (citations: 2)
26. **C. Dubi**[PI], A. Kolin[C], P. Blaise[C], B. Geslot[C], E. Gilad[C], 2017, *Experimental validation of analytic formulas for the statistical uncertainty in the Feynman-α method*, Annals of Nuclear Energy, 106, Dec. 2107 (citations: 1).
27. E. Gilad[PI], **C. Dubi**[PI], B. Geslot[C], P. Blaise[C], A. Kolin[C],2017, *Dead Time Corrections using the Backward Extrapolation Method*. Nuclear Instruments and Methods A, Vol. 854. (Citations: 6)
28. E. Gilad[PI], Y. Neumeier[S], **C. Dubi**[PI], *Dead Time Corrections on the Feynman-Y Curve Using the Backward Extrapolation Method*. J. Nuclear Science and Technology, Oc. 2017 (citations: 1)
29. **C. Dubi**[PI], S. Croft[PI], A. Favalli[C], A. Ocherashvili[C], B. Pedersen[C], *Estimating the Mass Variance in Neutron Multiplicity Counting- A Comparison of Approaches*. Nuclear Instruments and Methods, 875, Dec. 2017 (citations: 1)
30. **C. Dubi**[PI], R. Atar[PI], *Modeling Neutron Count Distribution in a Sub-Critical Core by Stochastic Differential Equations*, Annals of Nuclear Energy, 111, 2018
31. **C. Dubi**[PI], G. Heger[S], A. Ocherashvilli[C], B. Pedersen[C], *Mass uncertainty in neutron multiplicity counting associated with the uncertainty on the fission multiplicity factorial moments*, NIMA, 902, 2018
32. G. Heger[S], **C. Dubi**[PI], B. Peresen[C], E. Gilad[PI], *Identifying Neutron Shielding in Neutron Multiplicity Counting*, NIMA, 901, 2018.

- **Papers in preparation\submission**

  Submitted:

  1. C. Dubi, R. Atar: *A stochastic differential equation for neutron count with detector dead time and applications to the Feynman-alpha formula*, submitted to "Annals of nuclear energy"

2. C. Dubi, R. Atar: *High rate diffusion-scale approximation for counters with extendable dead time* submitted to "Nuclear Science and Technology"

In preparation

1. C. Dubi, R. Atar, Reactor noise analysis for rod vibrations with thermal feedback through stochastic differential equations

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