

Amit Kashi: Curriculum Vitae

Contact information:

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Main research interests: Stellar evolution of very massive stars, binary interaction, optical transient eruptions and SN Impostors, accretion and feedback processes, astrophysical fluid dynamics, numerical simulations.

Employment:

1. Senior Lecturer (equivalent to assistant professor in the US), Ariel University, Ariel, Israel (2016 - present)
2. Research associate, Technion - Israel institute of Technology, Haifa, Israel (2016)
3. Research associate, University of Minnesota, Twin Cities (2013-2015)
4. Postdoctoral researcher, University of Nevada, Las Vegas (2011-2013)
5. Research officer, IDF (2003-2009)

Education:

1. Ph.D. in Physics. Technion - Israel Institute of Technology (2011)
Dissertation title: "*The Periastron Passage of the Binary Star Eta Carinae*"
2. B.A. in Physics, Technion - Israel Institute of Technology (2003)

Teaching Experience:

1. Ariel University - (since 2016)
Physics 1 and 2, computational physics 1, 3 and 3,
Astrophysics and Cosmology
2. University of Minnesota, Twin Cities: Lecturer, AST1001,
"Exploring the Universe" (2015)
3. Technion - Israel Institute of Technology: TA, Physics (2009-2011)

Prizes and Awards:

1. Institutional Equipment (HPC Cluster) - Planning and Budgeting Committee, \$1,300,000
2. PRACE award, 250,000 core-hours, \$9,000 (2019)
3. XSEDE award, 650,000 SUs, \$20,000 (2017)

4. Cy-Tera award, 200,000 SUs, \$7,000 (2017)
5. Minnesota Supercomputing Institute award, 2.25 million core-hours, \$86,000 (2016)
6. Minnesota Supercomputing Institute award 890,000 core-hours, \$30,000 (2015)
7. XSEDE award, 942,000 SUs, \$31,763 (2015)
8. Irwin and Loan Jacobs Prize Fellowship (2011)
9. Colman-Cohen Prize Fellowship (2010)

Participation in Schools: 1. Numerical Astrophysics and its Role in Star Formation, 2009, Cardiff University, UK.

2. Astrometry and Imaging with the Very Large Telescope Interferometer (VLTI), 2008, Keszthely, Hungary.

Computer Skills:

1. OS: Windows and Linux. Programming Languages: C, C++ Fortran, Python, Matlab

2. Astrophysical numerical codes: GADGET-3 (SPH), FLASH 4 (radiation transfer+hydrodynamics), MESA (stellar evolution)

List of Publications:

39 refereed papers (**h-index=18**), **860 citations**
+ 2 refereed conference proceedings papers

Journals impact factors: ApJ: 5.9 (8 papers), ApJL: 5.6 (2 papers), MNRAS: 5.2 (17 papers), Nature: 38 (1 paper), NewA: 1.2 (8 papers), RAA: 1.3 (1 paper)

1. **Kashi, A.** ,2019, MNRAS,486, 926
Simulating the response of the secondary star of Eta Carinae to mass accretion at periastron passage
2. Gilkis, A. Soker, N and **Kashi, A.** 2018, MNRAS, 482, 4233
Common envelope jets supernova (CEJSN) impostors resulting from a neutron star companion
3. **Kashi, A.** 2018, Galaxies, 6, 82
Simulations and Modeling of Intermediate Luminosity Optical Transients and Supernova Impostors
4. Michaelis, A., **Kashi, A.** & Kochiasvili, N., 2018, NewA, 65, 29
Periodicity in the light curve of P Cygni-Indication for a binary companion?
5. **Kashi, A.** & Soker, N., 2018 ApJ, 858, 117
The Orientation of Eta Carinae and the Powering Mechanism of Intermediate Luminosity Optical Transients (ILOTs)
6. **Kashi, A.** & Soker, N., 2017, MNRAS, 468, 4938
An intermediate-luminosity-optical-transient (ILOT) model for the young stellar object ASASSN-15qi
7. **Kashi, A.**, & Soker, N., 2017, MNRAS, 467, 3299
Type II intermediate-luminosity optical transients (ILOTs)
8. Shiber, S., **Kashi, A.**, & Soker, N., 2017, MNRAS, 465,54
Simulating the Onset of Grazing Envelope Evolution
9. **Kashi, A.**, 2017, MNRAS, 464, 775
Accretion at the Periastron Passage of Eta Carinae
10. Soker, N., **Kashi, A.**, 2016, MNRAS, 462, 217
Explaining Two Recent Intermediate Luminosity Optical Transients (ILOTs) by a Binary Interaction and Jets

11. Waters, T., **Kashi, A.**, Proga, D., Eracleous, M., Barth, A. J., & Greene, J. 2016, ApJ, 827, 53
Reverberation Mapping of the Broad Line Region: application to a hydrodynamical line-driven disk wind solution
12. **Kashi, A.** & Soker, N., 2016, RAA, 16, 14
Operation of the jet feedback mechanism (JFM) in intermediate luminosity optical transients (ILOTs)
13. **Kashi, A.** & Soker, N., 2016, ApJ, 825, 105
Orbital Parameters for the 250 Msun Eta Carinae Binary System
14. **Kashi, A.**, Davidson, K. & Humphreys, R. M., 2016, ApJ, 817, 66
Recovery from Giant Eruptions in Very Massive Stars
15. Aznar-Siguan, G., Garcia-Berro, E., Loren-Aguilar P., Soker, N. & **Kashi, A.** , 2015, MNRAS, 450, 2948
Smoothed Particle Hydrodynamics simulations of the core-degenerate scenario for Type Ia supernovae
16. **Kashi, A.**, Soker, N. & Moskovitz, N., 2013, MNRAS, 436, 2484
Powering the Second 2012 Outburst of SN 2009ip by Repeating Binary Interaction
17. **Kashi, A.**, Proga, D., Nagamine, K., Barth, A. J. & Greene, J., 2013, ApJ, 778, 50
On the Virialization of Disk Winds: Implications for the Black Hole Mass Estimates in AGN
18. Soker, N., **Kashi, A.**, Garcia-Berro, E., Torres, S. & Camacho, J., 2013, MNRAS, 431, 1531
Explaining the Type Ia Supernova PTF 11kx with the Core Degenerate Scenario
19. Soker, N., **Kashi, A.**, 2013, ApJL, 764, L6
Explaining the Supernova Impostor SN 2009ip as a Mergerburst
20. Soker, N. & **Kashi, A.**, 2012c, ApJ., 746, 100
Formation of Bipolar Planetary Nebulae by Intermediate-luminosity Optical Transients
21. Soker, N. & **Kashi, A.**, 2012b, NewA, 17, 616
The Interaction of the Eta Carinae Primary Wind with a Century Old Slow Equatorial Ejecta
22. Soker, N. & **Kashi, A.**, 2012, Nature, 482, 317
Astrophysics: Echoes from an Old Outburst (News and Views)
23. Akashi, M., **Kashi, A.** & Soker, N. 2012, NewA, 18, 23
Accretion of Dense Clumps in the Periastron Passage of Eta Carinae
24. **Kashi, A.** & Soker, N. 2011b, MNRAS, 417, 1466
A Circumbinary Disc in the Final Stages of Common Envelope and the Core-Degenerate Scenario for Type Ia Supernovae
25. Beer, E., **Kashi, A.** & Soker, N. 2011, MNRAS, 416, 1965
Mergerburst Transients of Brown Dwarfs with Exoplanets
26. **Kashi, A.**, Soker, N. & Akashi, M. 2011, MNRAS, 413, 2658
Explaining the Transient Fast Blue Absorption Lines in the Massive Binary System Eta Carinae
27. **Kashi, A.** & Soker, N. 2011a, NewA, 16, 27
The Outcome of the Protoplanetary Disk of Very Massive Stars
28. **Kashi, A.** 2010, MNRAS, 405, 1924
An Indication for the Binarity of P Cygni from its Seventeenth Century Eruption
29. **Kashi, A.** & Soker, N. 2010, ApJ, 723, 602
Periastron Passage Triggering of the 19th Century Eruptions of Eta Carinae
30. **Kashi, A.**, Frankowski, A. & Soker, N. 2010, ApJL, 709, L11
NGC 300 OT2008-1 as a Scaled-Down Version of the Eta Carinae Great Eruption
31. Soker, N., Frankowski, A. & **Kashi, A.** 2010, NewA, 15, 189
Galactic vs. Extragalactic Origin of the Peculiar Transient SCP 06F6
32. **Kashi, A.** & Soker, N. 2009d, ApJL, 701, L59

Explaining the Early Exit of Eta Carinae from its 2009 X-Ray Minimum with the Accretion Model

33. **Kashi, A.** & Soker, N. 2009c, MNRAS, 397, 1426
Using X-Ray Observations to Explore the Binary Interaction in Eta Carinae
34. **Kashi, A.** & Soker, N. 2009b, MNRAS, 394, 923
Prediction for the He I 10830Å Absorption Wing in the Coming Event of Eta Carinae
35. **Kashi, A.** & Soker, N. 2009a, NewA, 14, 11
Possible Implications of Mass Accretion in Eta Carinae
36. **Kashi, A.** & Soker, N. 2008b, MNRAS, 390, 1751
The Orientation of the Eta Carinae Binary System
37. **Kashi, A.** & Soker, N. 2008a, NewA, 13, 569
Accretion onto the Companion of Eta Carinae During the Spectroscopic Event. V. The Infrared Decline.
38. **Kashi, A.** & Soker, N. 2007b, NewA, 12, 590
The Source of the Helium Visible Lines in Eta Carinae
39. **Kashi, A.** & Soker, N. 2007a, MNRAS, 378, 1609
Modelling the Radio Light Curve of Eta Carinae

Refereed proceedings:

1. Soker, N. & **Kashi, A.**, Presented at the Intermediate-Luminosity Red Transients meeting, STScI, Baltimore, USA (June 2011)
The energy source of intermediate luminosity optical transients
2. **Kashi, A.**, 2010, Proceedings of the International Conference on Binaries, Mykonos, Greece (June 2010)
Luminous Blue Variables Eruptions Triggered and Powered by Binary Interaction

Selected Research Talks:

(a) Presentation of papers at conferences/meetings (Selected)

1. 2019: "Accretion Simulations of the Colliding Wind System Eta Car and Implications to Massive Binaries": Stars and their Variability, Observed from Space (BRITE), Vienna, Austria
2. 2019: "Accretion Simulations of the Colliding Wind System Eta Car and Implications to Massive Binaries": EWASS, Lyon, France
3. 2017: *Invited Lecture*: "Simulations and Modeling of Intermediate Luminosity optical Transients and Supernova Impostors. Conference": Asymmetric Planetary Nebulae VII, Hong Kong, China
4. 2017: Accretion Simulations of Eta Carinae and the Parameters of the Binary System: ESO, The impact of binaries on stellar evolution, Garching, Germany
5. 2017: "Accretion Simulations of Eta Carinae and the Parameters of the Binary System": Physics of Evolved Stars, Nice, France
6. 2015: "Numerical Simulations of Giant Eruptions from Massive Stars and their Recoveries" AAS 225th meeting, Seattle, WA, US
7. 2013: "A Cold Channel to SMBH feedback in Cosmological Simulations" AAS 221th meeting, Long Beach, CA, US
8. 2011: "Optical Transients As Accretion-Powered Events: from Brown Dwarf-Planet Mergerbursts to LBV Major Eruptions" The Astrophysics of Intermediate-Luminosity Red Transients, Space Telescope, Baltimore, MD, US

9. 2010: "Luminous Blue Variables Eruptions Triggered and Powered by Binary Interaction" The International Conference on Binaries, Mykonos, Greece
10. 2009: "Accretion onto the Companion of Eta Carinae", 2009, IAU XXVII General Assembly, Rio De Janeiro, Brazil
11. 2009: "The Peculiar Transient SCP 06F6", 2009, AsCoS conference, Tel-Aviv University, Israel
12. 2009: Numerical Astrophysics and its Role in Star Formation, Cardiff University, UK.
13. 2008: Astrometry and Imaging with the Very Large Telescope Interferometer (VLTI), Keszthely, Hungary.

(b) Seminar presentations at universities and institutions (selected)

1. "Numerical Simulations of Supernova Impostors: Eruptions in Very Massive Stars" 2016: KAMAG (NRCN), Israel; 2015: University of Minnesota, Minneapolis, MN
2. "Numerical Simulations of Giant Eruptions from Massive Stars and their Recoveries" 2015: Ariel University, Israel
3. "A Cold Channel to SMBH feedback in Cosmological Simulations" 2013: KITP, Santa Barbara, CA; 2012: University of California, Santa Cruz, CA; 2012: Technion, Israel
4. "Accretion onto the Companion of Eta Carinae" 2009: Caltech, CA; 2009: Columbia University, NY; 2009: American Museum of Natural History, NY
5. "Physical Processes during the Periastron Passage of Eta Carinae" 2009: The Hebrew University, Israel; 2008: The Weizmann Institute, Israel; 2008: Tel-Aviv University, Israel; 2008: University of Amsterdam, the Netherlands; 2008: Sterrenkundig Instituut, Utrecht, the Netherlands