Curriculum Vitae

Viktor L. Ginzburg

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Education

- University of California, Berkeley 1988–1990
  - Ph.D. Mathematics, May 1990
  - *Thesis title:* On closed characteristics of two forms
  - *Thesis advisor:* Alan Weinstein
- Moscow Institute of Steel and Alloys 1980–1986
  - M.Sc. Mathematics, March 1986

Employment

- University of California, Santa Cruz
  - Professor of Mathematics 2004–present
  - Associate Professor of Mathematics 2000–2004
  - Assistant Professor of Mathematics 1996–2000
- NSF Fellowship, Postdoctoral Fellow
  - University of California, Berkeley (Postdoctoral advisor: A. Weinstein) 1995–1996
  - Stanford University (Postdoctoral advisor: J. Milgram) 1993–1994
  - Institute for Advanced Study (Postdoctoral advisor: T. Spencer) 1993
- Stanford University, Szegö Assistant Professor 1991–1993
- Mathematical Sciences Research Institute, Postdoctoral Fellow 1990–1991
- University of California, Berkeley
  - Teaching Assistant 1989–1990
  - Research Assistant 1988–1989
- National Research Institute for Automation of Metallurgical Industry, Software Engineer 1986–1988

Visiting Positions

- Severo Ochoa Distinguished Professor, ICMAT — Springs and Summers 2016–2019
- Severo Ochoa Laboratory, ICMAT, Chair — Springs and Summers 2013–2015
- ETH, Zürich, Switzerland — April 2012
- IAS, Princeton, NJ — March 2012
- NCTS (South), Tainan, Taiwan — January–February 2012
- MSRI, Berkeley; Research Professor — Spring 2010
- IST, Lisbon, Portugal — Summer 2002
- EPFL, Lausanne, Switzerland — July 2000
- Université Paris-Sud (XI), Orsay, France — Summer 1998
- ETH, Zürich, Switzerland — March 1998
- ETH, Zürich, Switzerland — Summer 1996
- Tel Aviv University, Tel Aviv, Israel — December 1996
- Isaac Newton Institute for Mathematical Sciences, University of Cambridge, England — Summer 1994
- Université Louis Pasteur, Strasbourg, France — Summer 1990

Grants, Awards & Fellowships

- Simons Collaboration Grant — 2018-2023
- *Concours Annuel Prize*, Académie Royale de Belgique — 2016
- "Viktor Ginzburg's Lab" ICMAT, Madrid, Spain — 2013–2015
- NSF Grant — 2013–2016
- NSF Grant — 2010–2013
- NSF Grant — 2007–2010
- NSF Grant — 2003–2006
- NSF Grant — 2000–2003
- Binational Science Foundation Grant (US–Israel) — 1997–2000
  - joint with V. Guillemin (MIT), Y. Karshon (University of Toronto) and S. Tolman (University of Illinois, Urbana-Champaign)
- NSF Grant, joint with R. Montgomery (UCSC) — 1997–2000
- General Non-Tenured Faculty Development Awards, UCSC — 1997–1999
- Academic Senate Committee on Research Grants, UCSC — 1996–2012
- NSF Postdoctoral Fellowship — 1993–1996

Publications: Books

- *Moment maps, Cobordisms, and Hamiltonian group actions*, co-authors V. Guillemin and Y. Karshon; Mathematical Surveys and Monographs, vol. 98; American Mathematical Society, 2002, 350 pp.

Publications: Journals and Proceedings

64. On the filtered symplectic homology of prequantization bundles, co-author: J. Shon; *Internat. J. Math.*, (2018) DOI: 10.1142/S0129167X18500714.

63. Hamiltonian pseudo-rotations of projective spaces, co-author: B. Gurel; *Invent. Math.*, (2018) DOI: 10.1007/s00222-018-0818-9.

62. Multiplicity of closed Reeb orbits on prequantization bundles, co-authors: B. Gurel, L. Macarini; *Israel J. Math.*, (2018) DOI: 10.1007/s11856-018-1769-y.

61. Conley conjecture revisited, co-author: B. Gurel; *Int. Math. Res. Notices IMRN*, (2017), https://doi.org/10.1093/imrn/rnx137.

60. Random chain complexes, co-author: D. Pasechnik; *Arnold Math. J.*, **3** (2017), 197–204.

59. Higher Maslov indices, co-authors: R. Casals and F. Presas; *Journal of Geometry and Physics*, **115** (2017), 167–177.

58. Non-contractible periodic orbits in Hamiltonian dynamics on closed symplectic manifolds, co-author B.Z. Gürel; *Compositio Mathematica*, **152** (2016), 1777–1799.

57. A remark on unique ergodicity and the contact type condition, co-author: C. Niche; *Archiv der Mathematik*, **105** (2015), 585–592.

56. The Conley conjecture and beyond, co-author B.Z. Gürel; *Arnold Math. J.*, **1** (2015), 299–337.

55. Fragility and persistence of leafwise intersections, co-author: B.Z. Gürel; *Math. Z.*, **280** (2015), 989–1004, doi 10.1007/s00209-015-1459-y.

54. On the Conley conjecture for Reeb flows, co-authors: B.Z. Gürel, L. Macarini; *Internat. J. Math.*, **26** (2015), 1550047 (22 pages); doi: 10.1142/S0129167X15500470.

53. Iterated index and the mean Euler characteristic, co-author: Y. Gören; *J. Topol. Anal.*, **7** (2015), 453–481.

52. Hyperbolic fixed points and periodic orbits of Hamiltonian diffeomorphisms, co-author: B.Z. Gürel; *Duke Math. J.*, **163** (2014), 565–590.

51. Closed Reeb orbits on the sphere and symplectically degenerate maxima, co-authors: D. Hein, U.L. Hryniewicz, L. Macarini; *Acta Math. Vietnam.*, **38** (2013), 55–78.

50. Action-index relations for perfect Hamiltonian diffeomorphisms, co-authors: M. Chance and B.Z. Gürel; *J. Sympl. Geom.*, **11** (2013), 449–474.

49. Arnold conjecture for Clifford symplectic pencils, co-author: D. Hein; *Israel J. Math.*, **196** (2013), 95–112.

48. Hyperkähler Arnold conjecture and its generalizations, co-author: D. Hein; *Internat. J. Math.*, **23** (2012), no. 8, 125077 (15 pages).

47. Conley conjecture for negative monotone symplectic manifolds, co-author B.Z. Gürel; *Int. Math. Res. Not. IMRN*, 2011, doi: 10.1093/imrn/rnr081.

46. On the Maslov class rigidity for coisotropic submanifolds, *Pacific J. Math.*, **250** (2011), 139–161.

45. The Conley conjecture, *Ann. of Math.*, **172** (2010), 1127–1180.

44. Local Floer homology and the action gap, co-author: B.Z. Gürel; *J. Sympl. Geom.*, **8** (2010), 323–357.

43. Homological resonances for Hamiltonian diffeomorphisms and Reeb flows, co-author: E. Kerman, *Int. Math. Res. Not. IMRN*, 2010, no. 1 , 53–68.

42. On the generic existence of periodic orbits in Hamiltonian dynamics, co-author: B.Z. Gürel; *J. Mod. Dyn.*, **3** (2009), 595–610.

41. Action and index spectra and periodic orbits in Hamiltonian dynamics, co-author: B.Z. Gürel, *Geom. Topol.*, **13** (2009), 2745–2805.

40. Periodic orbits of twisted geodesic flows and the Weinstein-Moser theorem, co-author: B.Z. Gürel, *Comment. Math. Helv.*, **84** (2009), 865–907.

39. The generalized Weinstein–Moser theorem, co-author: B.Z. Gürel, *ERA-MS*, **14** (2007), 20–29.

38. Coisotropic intersections, *Duke Math. J.*, **140** (2007), 111–163.

37. Energy capacity inequalities via an action selector, co-authors: U. Frauenfelder and F. Schlenk, in *Geometry, Spectral Theory, and Dynamics; Proceedings in Memory of Robert Brooks*, Eds.: M. Entov et al, Contemporary Mathematics, vol. 387, AMS, 2005; pp. 129–152.

36. The Weinstein conjecture and the theorems of nearby and almost existence, in *The Breadth of Symplectic and Poisson Geometry*, Progr. Math., 232, Birkäuser Boston, 2005, pp. 139–172.

35. Existence of relative periodic orbits near relative equilibria, co-author: E. Lerman, *Math. Res. Lett.*, **11** (2004), 397–412.

34. Symplectic homology and periodic orbits near symplectic submanifolds, co-authors: K. Cieliebak and E. Kerman, *Comment. Math. Helv.*, **79** (2004), 554–581.

33. Relative Hofer–Zehnder capacity and periodic orbits in twisted cotangent bundles, co-author: B.Z. Gürel, *Duke Math. J.*, **123** (2004), 1–47.

32. Comments to some of Arnold's problems (1981-9 and related problems and 1994-13), in *Arnold's problems*, Ed.: V.I. Arnold, Springer–Verlag and Phasis, 2004; pp. 395–401, 557–558.

31. A C^2-smooth counterexample to the Hamiltonian Seifert conjecture in $\mathbb{R}^4$, co-author: B.Z. Gürel, *Ann. of Math.*, **158** (2003), 953–976.

30. On the construction of a C^2-counterexample to the Hamiltonian Seifert conjecture in $\mathbb{R}^4$, co-author B.Z. Gürel, *Electron. Res. Announc. Amer. Math. Soc.*, **8** (2002), 11–19 (electronic).

29. Periodic orbits of Hamiltonian flows near symplectic extrema, co-author E. Kerman, *Pacific J. Math.*, **206** (2002), 69–91.

28. Grothendieck groups of Poisson vector bundles, *J. Sympl. Geom.*, **1** (2001), 121–169.

27. The Hamiltonian Seifert conjecture: examples and open problems, *Proceedings of the Third European Congress of Mathematicians Barcelona, 2000*, Vol. II, 547–555, Progr. Math., 202, Birkhäuser, Basel, 2001.

26. Holonomy on Poisson manifolds and the modular class, co-author: A. Golubev, *Israel J. Math.*, **122** (2001), 221–242.

25. Geometric quantization and no go theorems, co-author: R. Montgomery, *Banach Center Publications*, **51** (2000), 69–77.

24. Assignments and abstract moment maps, co-authors: V. Guillemin and Y. Karshon, *J. Differential Geom.*, **52** (1999), 259–301.

23. Periodic orbits in magnetic fields in dimensions greater than two, co-author: E. Kerman, in *Geometry and Topology in Dynamics*, Ed.: M. Barge and K. Kuperberg; Publ. of AMS, Cont. Math. Series., **246** (1999), 113–121.

22. Hamiltonian dynamical systems without periodic orbits, in *Proceedings of the Northern California Symplectic Geometry Seminar*; Ed.: Y. Eliashberg et al; Amer. Math. Soc. Transl. (2), **196** (1999), 35–48.

21. Equivariant Poisson cohomology and a spectral sequence associated with a moment map, *Int. J. Math.*, **10** (1999), 977–1010.

20. The relation between compact and non-compact equivariant cobordisms, co-authors: V. Guillemin and Y. Karshon, in *Proceedings of the International Workshop on Topology*, Ed.: M. Farber, W. Lueck, S. Weinberger; Publ. of AMS, Cont. Math. Series, vol. 231, (1999) 99–112.

19. A smooth counterexample to the Hamiltonian Seifert conjecture in $\mathbb{R}^6$, *Int. Math. Res. Not. IMRN*, 1997, no. 13, 642–650.

18. On the existence and non-existence of closed trajectories for some Hamiltonian flows, *Math. Z.*, **223** (1996), 397–409.

17. Accessible points and closed trajectories of mechanical systems. Appendix to *Global Analysis in Mathematical Physics. Geometric and Stochastic Methods* by Yu. Gliklikh, Springer–Verlag, New York, 1996.

16. On closed trajectories of a charge in a magnetic field. An application of symplectic geometry, In: *Contact and Symplectic Geometry*, C.B. Thomas (ed.), INI Publications, Cambridge University Press, Cambridge, 1996, pp. 131–148.

15. Cobordism theory and localization formula for Hamiltonian group actions, co-authors: V. Guillemin and Y. Karshon, *Int. Math. Res. Not. IMRN*, 1996, no. 5, 222–234.

14. Momentum mappings and Poisson cohomology, *Int. J. Math.*, **7** (1996), 329–358.

13. An embedding $S^{2n-1} \to \mathbb{R}^{2n}$, $2n-1 \geq 7$, whose Hamiltonian flow has no periodic trajectories, *Int. Math. Res. Not. IMRN*, 1995, no. 2, 83–98.

12. Steady fluid flows and symplectic geometry, co-author: B. Khesin, *J. Geom. Phys.*, **14** (1994), 195–210.

11. Calculation of contact and symplectic cobordism groups, *Topology*, **31** (1992), 767-773.

10. Poisson cohomology of Morita equivalent Poisson manifolds, co-author: J.-H. Lu, *Int. Math. Res. Not. IMRN*, **10** (1992), 199–205.

9. Review of the book *The topology of torus actions on symplectic manifolds* by M. Audin, *Bull. Amer. Math. Soc.* (new series), **27** (1992), 315–320.

8. Topology of steady fluid flows, co-author: B. Khesin, in *Topological Aspects of the Dynamics of Fluids and Plasmas,* H.K. Moffat et al. (eds.), 1992, Kluwer Academic Publishers, 265–272.

7. Some remarks on symplectic actions of compact groups, *Math. Z.*, **210** (1992), 625–640.

6. Lie-Poisson structure on some Poisson Lie groups, co-author: A. Weinstein, *J. Amer. Math. Soc.*, **5** (1992), 445–453.
5. On closed characteristics of 2-forms, *Ph.D. Thesis*, UC Berkeley, 1990.
4. Cobordisms of contact and symplectic manifolds, *Funct. Anal. Appl.*, **23** (1989), no. 2, 106–110.
3. On closed characteristics of 2-form, *Russ. Math. Surveys*, **43** (1988), no. 5, 225–226.
2. New generalizations of Poincare's geometric theorem, *Funct. Anal. Appl.*, **21** (1987), no. 2, 100–106.
1. On the number of inverse images of a point for continuous maps, *Russ. Math. Survey* , **41** (1986), no. 2, 195–196.

Publications: Accepted

1. Approximate identities and Lagrangian Poincare recurrence, co-author: B. Gurel; Preprint arXiv:1812.00299; to appear in *Arnold Math. J.*

Publications: Preprints

4. On the iterated Hamiltonian Floer homology, co-author: E. Cineli; Preprint arXiv:1902.06369.
3. Pseudo-rotations vs. rotations, co-author: B. Gurel; Preprint arXiv:1812.05782.
2. Lusternik-Schnirelmann theory and closed Reeb orbits, co-author: B. Gurel; Preprint arXiv:1601.03092. Recommended for publication in *Math. Z.*
1. My contact homology shopping list, Preprint arXiv:1412.7999; not intended for publication in a math journal.

Invited Presentations

More than a hundred talks, lectures and minicourses since 1996. A complete list is available upon request.

Service: To Profession

Workshops, Conferences, and Seminars Co-Organized

- *Symplectic Geometry and Mechanics Seminar*, UCSC 2000–2002
- Workshop *New Applications and Generalizations of Floer Theory*, BIRS, Alberta, Canada May 2007
- Workshop *Symplectic Techniques in Conservative Dynamics*, Lorentz Center, Leiden, Netherlands August 2010
- Workshop *Geometrical Methods in Dynamics and Topology*, Hanoi, Vietnam April 2011
- Workshop *GESTA 2011: New Trends in Symplectic and Contact Topology*, CIEM, Castro Urdiales, Spain June 2011
- Workshop *From Conservative Dynamics to Symplectic and Contact Topology*, Lorentz Center, Leiden, Netherlands August 2012

- Workshop *Symplectic Techniques in Dynamical Systems*,
  ICMAT, Madrid, Spain — November 2013
- Workshop *GESTA 2014*,
  ICMAT, Madrid, Spain — June 2014
- Workshop *Rigidity and flexibility in symplectic topology and dynamics*,
  Lorentz Center, Leiden, Netherlands — July 2014
- Workshop *Symplectic Techniques in Hamiltonian Dynamics*,
  ICMAT, Madrid, Spain — June 2016
- Workshop *Hamiltonian and Reeb Dynamics: New Methods and Applications*,
  Lorentz Center, Leiden, Netherlands — July 2017
- AMS Special Session *Symplectic and Contact Topology and Dynamics*
  UCF, Orlando, Fl — September 2017
- *Northern California Symplectic Geometry Seminar*, Berkeley and Stanford — 2000–present

Editorial Boards: Journals and Special Issues

- Journal of Modern Dynamics — January 2015–present
- *Proceedings of the conference on Geometrical Methods in Dynamics and Topology, Hanoi, 2011*,
  Special Issue, Acta Mathematica Vietnamica, vol. 38, no. 1, 2013 — 2013
- *Proceedings of GESTA 2011: New Trends in Symplectic and Contact Topology*,
  Special Issue, Geometriae Dedicata, vol. 165, no. 1, 2013 — 2013

Service: Campus, Division and Department

Campus and Division

- DCAP — 2005–2007
- GARP steering committee — 2006/07

Department

- Chair — 2017–present
- Graduate Vice Chair — 2005–2009, 2012–2015
- Hiring Committee — 2007/08(Chair), 2013/14, 2015/16, 2017/18
- Postdoctoral Hiring Committee — 2016/17
- Science Library Committee — 1998–2007
- Graduate Admission Committee — 1998–2000, 2003–2009, 2016–present
- Graduate Curriculum Committee — 1999–2001

- Temporary Faculty Recruitment Committee 1997–1999
- Putnam Mathematical Competition Committee 1997–1998
- Analysis and/or Geometry Prelim Exam Committee 1996–2000, 2007–2017

Graduate Advising

Graduate Students

- Alexander Golubev; co-advised with R. Montgomery Ph.D. 1998
- Cesar Castilho; co-advised with R. Montgomery Ph.D. 1998
- Junko Hoshi Ph.D. 1999
- Ely Kerman Ph.D. 2000
- Başak Gürel Ph.D. 2003
- Cesar Niche Ph.D. 2006
- Jacqui Espina Ph.D. 2011
- Doris Hein Ph.D. 2012
- Marta Batoreo Ph.D. 2013
- Yusuf Goren Ph.D. 2015
- Jeongmin Shon Ph.D. 2018
- Current graduate students: Mita Banik, Erman Cineli, Matthew Grace and Elijah Fender

Ph.D. Thesis and Oral Exam Committees

Chair or a member of more than thirty Ph.D. thesis committees at UCSC, in the US or abroad, and of about twenty oral exam committees.

Teaching

Courses ranging from lower division undergraduate to advanced graduate or topics courses; details available on http://ginzburg.math.ucsc.edu or upon request.