# CURRICULUM VITAE

# DIETRICH BELITZ

**Affiliation and Address:** Dept. of Physics, Univ. of Oregon, Eugene, OR 97403

**Date and Place of Birth:** Sept. 26, 1955 in Berlin, Germany

**Education:** 1982 Dr. rer. nat. (Physics), Technical University Munich (W. Götze, advisor)
1980 Diploma (Physics), Technical University Munich (W. Götze, advisor)

**Career/Employment:**

2004–present: Associate Dean for Natural Sciences, University of Oregon, Eugene, OR

1998–2004: Department Head, Physics, University of Oregon, Eugene, OR

1997–present: Professor of Physics, University of Oregon, Eugene, OR

1991–1997: Associate Professor of Physics, University of Oregon, Eugene, OR

1989–present: Member, Institute of Theoretical Science, University of Oregon, Eugene, OR

1987–present: Member, Materials Science Institute, University of Oregon, Eugene, OR

1987–1991: Assistant Professor of Physics, University of Oregon, Eugene, OR

1985–1987: Research Associate, Dept. of Physics & Astronomy, University of Maryland, College Park, MD

1982–1985: Research Associate, Department of Physics, Technical University Munich, Munich, FRG

1980–1982: Scientific Staff Member (part time), Technical University Munich, Munich, FRG

**Visiting Positions:**

Dec 2007: Visiting Member, Institute for Theoretical Physics, University of California, Santa Barbara, CA

Jan/Feb 2005: Visiting Member, Institute for Theoretical Physics, University of California, Santa Barbara, CA

Nov/Dec 1998: Visiting Member, Institute for Theoretical Physics, University of California, Santa Barbara, CA

Feb–Apr 1992: Visiting Member, Institute for Theoretical Physics, University of California, Santa Barbara, CA

Summer 1989: Consultant, Department of Physics, University of Maryland, College Park, MD

**Memberships:**

American Physical Society

Deutsche Physikalische Gesellschaft

# RESEARCH ACTIVITIES

## External Research Funding:

- NSF DMR-0529966 Collaborative Research: Topics in Many-Body Theory, $ 315,000, Dec 1, 2005 - May 31, 2009
- NSF DMR-0132555 Collaborative Research: Topics in Many-Body Theory, $ 246,000, Jan 1, 2002 - Dec 31, 2005
- NSF DMR-9870597 Topics in Many-Body Theory, $ 198,500, Jul 15, 2008 - Jun 30, 2001
- NSF DMR-9510185 Theory of Electronic Transport in Disordered Materials, $ 168,000, Aug 1, 1995 - Jul 31, 1998
- NATO CRG-941250 (travel grant, with B. Kramer and A. MacKinnon) Universality Classes for the Anderson Transition, $ 12,640, 1995-1996
- NSF DMR-9209879 Theory of Electronic Transport in Disordered Materials, $ 153,000, Aug 1, 1992 - Jan 31, 1996
- NSF DMR-8819302 Theory of Electronic Transport in Disordered Materials, $ 108,900, Aug 1, 1989 - Jan 31, 1993
- ACS PRF-G Starter Grant, $ 40,000, 1988 - 1989

## Major Addresses:

- Invited Speaker, Workshop on Quantum Criticality, Fields Institute, University of Toronto, Toronto, CA, September 25-27, 2008.
- Invited Speaker, Workshop on Unconventional Phases and Phase Transitions in Strongly Correlated Electron Systems, Max Planck Institute for Physics of Complex Systems, Dresden, Germany, June 14-27, 2008.
- Invited Speaker, TRIUMF Workshop for Correlated Electron Studies, Vancouver, BC, June 16-17, 2007.
- Invited Speaker, March Meeting of the American Physical Society, Denver, CO, March 5-9, 2007.
- Invited Speaker, International Workshop on Quantum Criticality, Lorentz Center, Leiden, Holland, August 7-19, 2006.
- Invited Speaker, International Conference on Quantum Phase Transitions, Kavli Institute for Theoretical Physics, UCSB, Santa Barbara, CA, January 18-21, 2005.
- Invited Speaker, WE-Heraeus-Seminar on Quantum Phase Transitions, Bad Honnef, Germany, October 11-14, 2004.
- Invited Speaker, Brookhaven National Laboratory International Workshop on Frustrated Magnetism, Montauk, NY, September 13-17, 2004
- Invited Speaker, Lorentz Center Workshop on Non-Fermi Liquid Behavior and Quantum Phase Transitions, Leiden, Holland, May 12-23, 2003.
- Invited Speaker, ICAM Workshop on Quantum Criticality, Columbia University, March 20-23, 2003.
- Invited Speaker, March Meeting of the American Physical Society, Austin, TX, March 3-7, 2003.

- Invited Speaker, International Workshop on the Theme of 'Quantum Magnetism: Microscopic Techniques For Novel States Of Matter', Bad Honnef, Germany, November 4-6, 2002.
- Invited Speaker, SPHINX Workshop on Unconventional Critical Behavior and Phase Transitions, Prague, Czech Republic, September 18-21, 2002.
- Invited Speaker, Workshop on Disordered Interacting Electrons in Two Dimensions, University of Leiden, The Netherlands, June 5 - 9, 2000
- Invited Speaker, Localization 1999, An International Conference on Quantum Transport in Disordered Systems, July 30 - August 2, 1999, Hamburg, Germany
- Invited Speaker, First Meeting of the Northwest Section of the American Physical Society, May 21-22, 1999, Vancouver, BC, Canada
- Invited Lecturer, Advanced School on Quantum Transport, Mesoscopic Physics, and Single Electronics, January 4-10, 1999, National Chiao Tung University, Taiwan
- Invited Lecturer, NATO Advanced Study Institute on Dynamics: Models and kinetic methods for nonequilibrium many-body systems, July 27 - August 7, 1998, Leiden, The Netherlands
- Invited Speaker, Conference on Strongly Correlated Fermion Systems, July 21-26, 1996, Pisa, Italy
- Invited Speaker, Workshop on Strong Electron Correlations, July 1-19, 1996, International Center for Theoretical Physics, Trieste, Italy
- Invited Speaker, Conference on Non-Fermi Liquid Physics in Metals, June 17-21, 1996, Institute for Theoretical Physics, Santa Barbara, CA
- Invited Speaker, Workshop on Electronic Properties of Disordered Systems, August 21-27, 1993, Argonne Natl. Lab., Argonne, IL
- Invited Speaker, Third E.E.C. Workshop on Localization and Transport Fluctuations in Microstructures, September 5-10, 1993, Chantilly, France
- Invited Speaker, Indo-American Workshop on 'Ordering Disorder', December 27, 1992 - January 5, 1993, Hyderabad, India
- Invited Speaker, Gordon Conference on Condensed Matter Physics, August 1992, Wolfeboro, NH
- Invited Speaker, Aspen Winter Conference, January 13-19, 1991, Aspen, CO
- Invited Speaker, WE-Heraeus-Seminar on Electronic Transport in Thin Metallic Films, October 9-12, 1990, Bad Honnef, FRG
- Invited Speaker, International Conference on Localization, August 13-15, 1990, Imperial College, London, UK
- Invited Speaker, 1990 March Meeting of the American Physical Society, March 12-16, 1990, Anaheim, CA
- Invited Speaker, International Workshop on Anderson Transition and Mesoscopic Fluctuations, January 8-12, 1990, Braunschweig, FRG
- Invited Speaker, Materials Science Symposium, April 23, 1988, Corvallis, OR
- Invited Speaker, Second DFG Workshop on the Quantum Hall Effect, April 9-12, 1985, Schleching, FRG
- Invited Speaker, NORDITA Symposium on Disordered Systems, September 10-14, 1984, Copenhagen, DK
- Invited Speaker, International Seminar on Localization in Disordered Systems, December 5-9, 1983, Johnsbach, GDR
- Invited Speaker, DFG Workshop on the Quantum Hall Effect, April 5-8, 1983, Schleching, FRG
- Invited Speaker, DFG Workshop on Weak Localization, March 1982, Schleching, FRG

## Publications:

### A. Major Review Articles

2. D. Belitz, T. R. Kirkpatrick, and T. Vojta, "How Generic Scale Invariance Influences Classical and Quantum Phase Transitions", Rev. Mod. Phys. **77**, 579 (2005).

1. D. Belitz and T. R. Kirkpatrick, "The Anderson-Mott Transition", Rev. Mod. Phys. **66**, 261 (1994).

### B. Original Publications in Refereed Journals

103. Q. Li, D. Belitz, and John Toner, "Fluctuation-induced first-order transition in $p$-wave superconductors", arXiv:0808.3821 (submitted to Phys. Rev. B).

102. T.R. Kirkpatrick, D. Belitz, and Ronojoy Saha, "Theory of Helimagnons in Itinerant Quantum Systems IV: Transport in the Weak-Disorder Regime", Phys. Rev. B **78**, 094408 (2008).

101. T.R. Kirkpatrick, D. Belitz, and Ronojoy Saha, "Theory of Helimagnons in Itinerant Quantum Systems III: Quasiparticle Description", Phys. Rev. B **78**, 094407 (2008).

100. T.R. Kirkpatrick, D. Belitz, and Ronojoy Saha, "Analogy between Three-Dimensional Helimagnetic Metals and Two-Dimensional Nonmagnetic Metals: Transport in the Weak-Disorder Regime", Phys. Rev. B **77**, 180405(R) (2008).

99. Qi Li, John Toner, and D. Belitz, "Skyrmion versus vortex flux lattices in $p$-wave superconductors", arXiv:0711.4154, submitted to Phys. Rev. B.

98. D. Belitz, T.R. Kirkpatrick, and Ronojoy Saha, "Criticality in inhomogeneous magnetic systems: Application to quantum ferromagnets", Phys. Rev. Lett. **99**, 147203 (2007).

97. D. Belitz, T.R. Kirkpatrick, and Ronojoy Saha, "Phase-ordering dynamics in itinerant quantum ferromagnets", Phys. Rev. B **75**, 144418 (2007).

96. Qi Li, John Toner, and D. Belitz, "Elasticity and melting of skyrmion flux lattices in $p$-wave superconductors", Phys. Rev. Lett. **98**, 187002 (2007).

95. T. R. Kirkpatrick and D. Belitz, "Breakdown of Hydrodynamic Transport Theory in the Ordered Phase of Helimagnets", Phys. Rev. Lett. **97**, 267205 (2006).

94. Qi Li, D. Belitz, and T. R. Kirkpatrick, "Nearly ferromagnetic superconductors", Phys. Rev. B **74**, 134505 (2006).

93. D. Belitz, T. R. Kirkpatrick and A. Rosch, "Theory of Helimagnons in Itinerant Quantum Systems II: Non-analytic corrections to Fermi-liquid behavior", Phys. Rev. B **74**, 024409 (2006) [Erratum: Phys. Rev. B **76**, 149902 (2007).]

92. D. Belitz, T. R. Kirkpatrick and A. Rosch, "Theory of Helimagnons in Itinerant Quantum Systems", Phys. Rev. B **73**, 054431 (2006).

91. S. Tewari, D. Belitz, and T. R. Kirkpatrick, "Blue Quantum Fog: Chiral Condensation in Quantum Helimagnets", Phys. Rev. Lett. **96**, 047207 (2006).

90. T. R. Kirkpatrick and D. Belitz, "Nonanalytic Corrections to Fermi-Liquid Behavior in Helimagnets", Phys. Rev. B **72**, 180402 (RC) (2005).

89. D. Belitz, T.R. Kirkpatrick, and J. Rollbühler, "Tricritical behavior in itinerant quantum ferromagnets", Phys. Rev. Lett. **94**, 247205 (2005).

88. S. Tewari, D. Belitz, T. R. Kirkpatrick, and J. Toner, "Spontaneous flux lattices in ferromagnetic spin-triplet superconductors", Phys. Rev. Lett. **93**, 177002 (2004).

87. D. Belitz, T.R. Kirkpatrick, and J. Rollbühler, "Breakdown of the perturbative renormalization group at certain quantum critical points", Phys. Rev. Lett. **93**, 155701 (2004).

86. D. Belitz and T. R. Kirkpatrick, "Split transition in ferromagnetic superconductors", Phys. Rev. B **69**, 184502 (2004).

85. O. Bleibaum and D. Belitz, "Weak localization of electrons in an external electric field", Phys. Rev. B **69**, 075119 (2004).

84. T.R. Kirkpatrick and D. Belitz, "Signatures of pairing mechanism and order parameters in ferromagnetic superconductors", Phys. Rev. Lett. **92**, 037001 (2004).

83. T.R. Kirkpatrick and D. Belitz, "Relevance of many-body interactions for correlated electrons in the strong-coupling limit", Phys. Rev. B **69**, 245122 (2004).

82. S.L. Sessions and D. Belitz, "Quantum critical behavior in disordered itinerant ferromagnets: Instability of the ferromagnetic phase", Phys. Rev. B **68**, 054411 (2003).

81. T.R. Kirkpatrick and D. Belitz, "Nature of the Quantum Phase Transition in Clean, Itinerant Heisenberg Ferromagnets", Phys. Rev. B **67**, 024419 (2003).

80. T.R. Kirkpatrick and D. Belitz, "Coexistence of ferromagnetism and superconductivity", Phys. Rev. B. **67**, 024515 (2003).

79. D. Belitz and T.R. Kirkpatrick, "Fluctuation-Driven Quantum Phase Transitions in Clean Itinerant Ferromagnets", Phys. Rev. Lett. **89**, 247202 (2002).

78. D. Belitz and T.R. Kirkpatrick, "Electrons in an annealed environment: A special case of the interacting electron problem", Phys. Rev. B. **66**, 155101 (2002).

77. T.R. Kirkpatrick and D. Belitz, "Absence of electron dephasing at zero temperature", Phys. Rev. B **65**, 195123 (2002).

76. D. Belitz, T.R. Kirkpatrick, and T. Vojta, "Local versus Nonlocal Order Parameter Field Theories for Quantum Phase Transitions", Phys. Rev. B **65**, 165112 (2002).

75. T.R. Kirkpatrick, D. Belitz, T. Vojta, and R. Narayanan, "Strong Enhancement of Superconducting $T_c$ in Ferromagnetic Phases", Phys. Rev. Lett. **87**, 127003 (2001).

74. D. Belitz, T.R. Kirkpatrick, Maria Teresa Mercaldo, and Sharon L. Sessions, "Quantum Critical Behavior in Disordered Itinerant Ferromagnets: Logarithmic Corrections to Scaling", Phys. Rev. B **63**, 174428 (2001).

73. D. Belitz, T.R. Kirkpatrick, Maria Teresa Mercaldo, and Sharon L. Sessions, "Local Field Theory for Disordered Itinerant Quantum Ferromagnets", Phys. Rev. B **63**, 174427 (2001).

72. D. Belitz, T.R. Kirkpatrick, R. Narayanan, and T. Vojta, "Transport Anomalies and Marginal Fermi-Liquid Effects at a Quantum Critical Point", Phys. Rev. Lett. **85**, 4602 (2000).

71. D. Belitz and T. R. Kirkpatrick, "Anderson-Mott Transition in a Magnetic Field: Corrections to Scaling", Phys. Rev. B **62**, 1655-1659 (2000).

70. T. R. Kirkpatrick and D. Belitz, "Theory of Disordered Itinerant Ferromagnets II: Metal-Insulator Transition", Phys. Rev. B **62**, 966-977 (2000).

69. T. R. Kirkpatrick and D. Belitz, "Theory of Disordered Itinerant Ferromagnets I: Metallic Phase", Phys. Rev. B **62**, 952-965 (2000).

68. D. Belitz, T.R. Kirkpatrick, and T. Vojta, "Annealed disorder, rare regions, and local moments: A novel mechanism for metal-insulator transitions", Phys. Rev. Lett., **84**, 5176-5179 (2000).

67. R. Narayanan, T. Vojta, D. Belitz, and T.R. Kirkpatrick, "Critical behavior of disordered quantum magnets: The relevance of rare regions", Phys. Rev. B **60**, 10150-10163 (1999).

66. R. Narayanan, T. Vojta, D. Belitz, and T.R. Kirkpatrick, "Influence of rare regions on magnetic quantum phase transitions", Phys. Rev. Lett. **82**, 5132-5135 (1999).

65. D. Belitz, T.R. Kirkpatrick, and T. Vojta, "First order transitions and multicritical points in weak itinerant ferromagnets", Phys. Rev. Lett. **82**, 4707-4710 (1999).

64. D. Belitz and T.R. Kirkpatrick, "Properties of spin-triplet, even-parity superconductors", Phys. Rev. B **60**, 3485-3498 (1999).

63. D. Belitz, T.R. Kirkpatrick, A.J. Millis, and T. Vojta, "Nonanalytic magnetization dependence of the magnon effective mass in itinerant quantum ferromagnets", Phys. Rev. B **58**, 14155-14158 (1998).

62. D. Belitz, F. Evers, and T.R. Kirkpatrick, "Theory of many-fermion systems II: The case of Coulomb interactions", Phys. Rev. B **58**, 9710-9720 (1998).

61. D. Belitz and T.R. Kirkpatrick, "Possible triplet superconductivity in MOSFETs", Phys. Rev. B **58**, 8214-8217 (1998).

60. T.R. Kirkpatrick and D. Belitz, "Metal-superconductor transition at zero temperature: A case of unusual scaling", Phys. Rev. Lett. **79**, 3042 - 3045 (1997).

59. D. Belitz and T.R. Kirkpatrick, "Theory of many-fermion systems", Phys. Rev. B **56**, 6513 - 6541 (1997).

58. F. Evers, D. Belitz, and Wansoo Park, "Density expansion for transport coefficients: Long-wavelength versus Fermi surface nonanalyticities ", Phys. Rev. Lett. **78**, 2768 - 2771 (1997).

57. T. Vojta, D. Belitz, R.Narayanan, and T. R. Kirkpatrick, "Quantum ferromagnetic transition in clean itinerant electron systems", Z. Phys. B **103**, 451 - 462 (1997).

56. D. Belitz, T.R. Kirkpatrick, and T. Vojta, "Nonanalytic behavior of the spin susceptibility in clean Fermi systems", Phys. Rev. B **55**, 9452 - 9462 (1997).

55. T. Vojta, D. Belitz, R.Narayanan, and T. R. Kirkpatrick, "Breakdown of Landau-Ginzburg-Wilson theory for certain quantum phase transitions", Europhys. Lett. **36**, 191 - 196 (1996).

54. D. Belitz and T. R. Kirkpatrick, "Quantum ferromagnetic transition in disordered itinerant electron systems", Europhys. Lett. **35**, 201-206 (1996).

53. T. R. Kirkpatrick and D. Belitz, "Quantum critical behavior of disordered itinerant ferromagnets", Phys. Rev. B **53**, 14364-14376 (1996).

52. T. R. Kirkpatrick and D. Belitz, "Long-range order versus random-singlet phases in antiferromagnetic systems with quenched disorder", Phys. Rev. Lett. **76**, 2571-2574 (1996), and **77**, 1197 (1997).

51. T.P.Devereaux and D. Belitz, "Magnetic pair breaking in disordered superconducting films", Phys. Rev. B. **53**, 359-364 (1996).

50. D. Belitz and T. R. Kirkpatrick, "Anderson-Mott transition as a quantum glass problem", Phys. Rev. B **52**, 13922-13935 (1995).

49. K. I. Wysokiński, Wansoo Park, D. Belitz, and T. R. Kirkpatrick, "Density expansion for the mobility for quantum Lorentz model", Phys. Rev. E **52**, 612-622 (1995).

48. D. Belitz and T. R. Kirkpatrick, "Order parameter description of the Anderson-Mott transition", Z. Phys. B **98**, 513-526 (1995).

47. S. Q. Yang and D. Belitz, "Equations of state for nonlinear sigma-models II: Relations between resummation schemes, and crossover phenomena", Nucl. Phys. B **441** [FS], 549-561 (1995).

46. T. R. Kirkpatrick and D. Belitz, "The Anderson-Mott transition as a random field problem", Phys. Rev. Lett. **74**, 1178-1181 (1995).

45. D. Belitz and M.N.Wybourne, "The Eliashberg function of amorphous metals", Phys. Rev. B. **51** (Rapid Commun.), 689-692 (1995).

44. K. I. Wysokiński, Wansoo Park, D. Belitz, and T. R. Kirkpatrick, "Density expansion for the mobility of electrons in Helium gas", Phys. Rev. Lett. **73**, 2571-2574 (1994).

43. T. R. Kirkpatrick and D. Belitz, "A Landau theory for the metal-insulator transition", Phys. Rev. Lett. **73**, 862-865 (1994).

42. T. R. Kirkpatrick and D. Belitz, "Cooperons at the metal-insulator transition revisited: Constraints on the renormalization group, and a conjecture", Phys. Rev. B. **50**, 8272-8287 (1994).

41. D. Belitz and T. R. Kirkpatrick, "Critical behavior of the density of states at the metal-insulator transition", Phys. Rev. B **48**, 14072-14079 (1993)

40. D. Belitz and S. Q. Yang, "Scaling functions and equations of state for nonlinear sigma-models", Nucl. Phys. B **401**, 548-566 (1993)

39. T. R. Kirkpatrick and D. Belitz, "Logarithmic Corrections to Scaling near the Metal-Insulator Transition", Phys. Rev. Lett. **70**, 974-977 (1993)

38. T. R. Kirkpatrick and D. Belitz, "Suppression of Superconductivity by disorder", Phys. Rev. Lett. **68**, 3232-3235 (1992)

37. D. Belitz and T. R. Kirkpatrick, "Even-parity spin-triplet superconductivity in disordered electronic systems", Phys. Rev. B **46**, 8393-8408 (1992)

36. T. R. Kirkpatrick and D. Belitz, "Critical behavior at the pseudo-magnetic phase transition in disordered Fermi liquids", Phys. Rev. B **45**, 3187-3197 (1992)

35. T. R. Kirkpatrick and D. Belitz, "A new universality class for the metal-insulator transition problem", J. Phys. Cond. Matter **4**, L37-L42 (1991)

34. V.Dobrosavljevic, C.Chen, T. R. Kirkpatrick, and D. Belitz, "Critical behavior of the ultrasonic attenuation near interaction-driven metal-insulator transitions", Phys. Rev. B **44**, 5432-5443 (1991)

33. T.P.Devereaux and D. Belitz, "Quasiparticle inelastic lifetimes in disordered superconducting films", Phys. Rev. B **44**, 4587-4600 (1991)

32. D. Belitz and T. R. Kirkpatrick, "New phase of disordered Fermi systems", Phys. Rev. B **44**, 955-968 (1991)

31. T. R. Kirkpatrick and D. Belitz, "Disorder-induced triplet superconductivity Phys. Rev. Lett. **66**, 1533-1536 (1991)

30. T.P.Devereaux and D. Belitz, "Power-law temperature dependence of the inelastic scattering rate in disordered superconductors", Phys. Rev. B **43** (Rapid Commun.) 3736-3739 (1991)

29. T. R. Kirkpatrick and D. Belitz, "The spin freezing transition in the disordered electron problem", J. Phys. Cond. Matt. **2**, 5259-5264 (1990)

28. T. R. Kirkpatrick and D. Belitz, "Approaching the metal-insulator transition", Phys. Rev. B **41**, 11082-11100 (1990)

27. T.P.Devereaux and D. Belitz, "Disorder enhancement of quasiparticle lifetimes in superconductors", J. Low Temp. Phys. **77**, 319-326 (1989)

26. D. Belitz and T. R. Kirkpatrick, "Crossover and scaling phenomena in a disordered Fermi liquid", Phys. Rev. Lett. **63**, 1296-1299 (1989)

25. T. R. Kirkpatrick and D. Belitz, "Existence of a phase transition in Finkelshtein's model for a disordered Fermi liquid", Phys. Rev. B **40** (Rapid Commun.), 5227-5230 (1989).

24. D. Belitz, "Relation between the $T_c$-degradation and the correlation gap in disordered superconductors", Phys. Rev. B **40**, 111-114 (1989).

23. D. Belitz and T. R. Kirkpatrick, "Interacting disordered electrons and the metal-insulator transition: The field theoretic approach reanalyzed", Nucl. Phys. B **316**, 509-525 (1989).

22. D. Belitz, S. De Souza-Machado, T.P.Devereaux, and D.W.Hoard, "Electromagnetic response of disordered superconductors", Phys. Rev. B **39**, 2072-2083 (1989).

21. D. Belitz and K. I. Wysokiński, "Electronic inelastic lifetime near a mobility edge", Phys. Rev. B **36** (Rapid Commun.) 9333-9336 (1987).

20. D. Belitz and S. Das Sarma, "Inelastic phase coherence time in thin metal films", Phys. Rev. B **36** (Rapid Commun.) 7701-7704 (1987).

19. D. Belitz, "Electron-phonon interaction, ultrasonic attenuation, and Eliashberg function $\alpha^2F(\omega)$ in impure metals", Phys. Rev. B **36**, 2513-2518 (1987).

18. D. Belitz, "Theory of disorder-induced increase and degradation of superconducting $T_c$", Phys. Rev. B **36**, 47-53 (1987).

17. D. Belitz,"Theory for dirty superconductors. II. McMillan solution and $T_c$-degradation", Phys. Rev. B **35**, 1651-1658 (1987).

16. D. Belitz, "Theory for dirty superconductors. I. Strong coupling equations", Phys. Rev. B **35**, 1636-1650 (1987).

15. D. Belitz and S. Das Sarma, "Plasmon linewidth in metals and semiconductors: a memory function approach", Phys. Rev. B **34**, 8264-8269 (1986).

14. T. R. Kirkpatrick and D. Belitz, "Critical behavior of transverse sound attenuation at a mobility edge", Phys. Rev. B **34** (Rapid Commun.) 9008-9011 (1986).

13. T. R. Kirkpatrick and D. Belitz, "Nonanalytic behavior of ultrasonic attenuation in disordered electronic systems", Phys. Rev. B **34**, 2168-2175 (1986).

12. D. Belitz and T. R. Kirkpatrick, "Universal coefficients of perturbation expansion for the Anderson localization problem", Phys. Rev. B **33** (Rapid Commun.) 7332-7335 (1986).

11. D. Belitz, "Correlation-induced reentry in impure superconductors", Phys. Rev. Lett. **56**, 1175-1178 (1986).

10. D. Belitz, "Correlation gap mechanism for $T_c$-degradation in high-temperature superconductors", J. Phys. F **15**, 2315-2331 (1985).

9. D. Belitz, "Theory of Anderson localization in weak magnetic fields", Sol. State Commun. **52**, 989-992 (1984).

8. D. Belitz, "Electronic transport in solids: the resolvent method revisited", J. Phys. C **17**, 2735-2744 (1984).

7. D. Belitz and W. Schirmacher, "Transport theory for high-resistivity conductors", J. Non-Cryst. Sol. **61**&**62**, 1073-1078 (1984).

6. D. Belitz and W. Götze, "Some aspects of impurity conduction", Phys. Rev. B **28**, 5445-5453 (1983).

5. D. Belitz, A. Gold, W. Götze, and J. Metzger, "Electronic structure factor in disordered materials", Phys. Rev. B **27**, 4559-4563 (1983).

4. D. Belitz and W. Schirmacher, "Theory of phonon-controlled conductivity in high- resistivity conductors", J. Phys. C **16**, 913-926 (1983).

3. D. Belitz and W. Götze, "Defect-induced tunneling and the conductivity of strongly disordered systems", J. Phys. C **15**, 981-997 (1982).

2. D. Belitz, A. Gold, and W. Götze, "Self-consistent current relaxation theory for the electron localization problem", Z. Phys. B **44**, 273-277 (1981).

1. D. Belitz and W. Götze, "The temperature dependence of the d.c. conductivity near the Anderson transition in three-dimensional systems", Phil. Mag. B **43**, 517-526 (1981).

**C. Review Articles; Invited/Refereed Contributions to Conference Proceedings, Books, etc.**

24. O. Bleibaum and D. Belitz, "Electron localization in an external electric field", phys. stat. sol. (c) **1**, 59-62 (2004) (Proceedings of the Tenth Hopping and Related Phenomena Conference (HRP 10)).

23. S.L. Sessions, D. Belitz, T.R. Kirkpatrick, and M.T. Mercaldo, "Weak Localization Effects at the Quantum Ferromagnetic Transition", J. Phys. Soc. Japan **72**, 171-172 (2003) (Proceedings of the International Conference on Quantum Transport and Quantum Coherence (Localization 2002)).

22. T.R. Kirkpatrick, T. Vojta, D. Belitz, and R. Narayanan, "Superconductivity and Quantum Phase Transitions in Weak Itinerant Ferromagnets", in *Advances in Quantum Many-Body Theory, Vol. 6* (*Proceedings of the 11th International Conference on Recent Progress in Many-Body Physics*), edited by Raymond F. Bishop, Tobias Brandes, Klaus A. Gernoth, Niels R. Walet, and Yang Xian, World Scientific (Singapore 2003), pp. 132-141.

21. T. Vojta, D. Belitz, and T.R. Kirkpatrick, "Annealed Local Magnetic Moments and the Metal-Insulator Transition in Disordered Electronic Systems", phys. stat. sol. (b) **230**, 97-100 (2002) (Proceedings of the 9th International Conference on Hopping and Related Phenomena).

20. D. Belitz, S.L. Sessions, T.R. Kirkpatrick, M.T. Mercaldo, R. Narayanan, and T. Vojta, "Transport Anomalies and Marginal Fermi-Liquid Effects at a Quantum Critical Point", in *Advances in Quantum Many-Body Theory, Vol. 6* (*Proceedings of the 11th International Conference on Recent Progress in Many-Body Physics*), edited by Raymond F. Bishop, Tobias Brandes, Klaus A. Gernoth, Niels R. Walet, and Yang Xian, World Scientific (Singapore 2003), pp. 99-102.

19. T.R. Kirkpatrick, D. Belitz, and J.V. Sengers, "Long-Time Tails, Weak Localization, and Classical and Quantum Critical Behavior", J. Stat. Phys. **109**, 373-405 (2002) (special volume on the occasion of Robert J. Dorfman's 65th birthday).

18. D. Belitz and T.R. Kirkpatrick, "Why Quantum Phase Transitions Are Interesting", J. Low Temp. Phys. **126**, 1107 (2002).

17. T. Vojta, D. Belitz, T.R. Kirkpatrick, and R. Narayanan, "Quantum critical behavior of itinerant ferromagnets", in *Proceedings of the International Conference 'Localization 1999: Disorder and Interaction in Transport Phenomena'*, M. Schreiber (ed.), Ann. Phys. (Leipzig) **8**, 593-602 (1999).

16. R. Narayanan, T. Vojta, D. Belitz, and T.R. Kirkpatrick, "Rare regions and annealed disorder in quantum phase transitions", in *Proceedings of the International Conference 'Localisation 1999: Disorder and Interaction in Transport Phenomena'*, M. Schreiber (ed.), Ann. Phys. (Leipzig) **8**, SI–185-SI–188 (1999).

15. D. Belitz and T.R. Kirkpatrick, "The disordered Fermi-liquid fixed point and its instabilities", in *Proceedings of the International Conference 'Localization 1999: Disorder and Interaction in Transport Phenomena'*, M. Schreiber (ed.), Ann. Phys. (Leipzig) **8**, 765-774 (1999).

14. D. Belitz and T. R. Kirkpatrick, "Quantum Phase Transitions", in *Dynamics: Models and Kinetic Methods for Non-Equilibrium Many Body Systems*, J. Karkheck (ed.), Kluwer (Dordrecht 2000), p. 399-424.

13. T. R. Kirkpatrick and D. Belitz, "Quantum kinetic theory: The disordered electron problem", in *Dynamics: Models and Kinetic Methods for Non-Equilibrium Many Body Systems*, J. Karkheck (ed.), Kluwer (Dordrecht 2000), p. 379-398.

12. T. R. Kirkpatrick and D. Belitz, "Quantum phase transitions in electronic systems", in *Electron Correlation in the Solid State*, Norman H. March (ed.), Imperial College Press (London 1999), p. 297-370.

11. T. R. Kirkpatrick and D. Belitz, "The metal-insulator transition as a quantum glass problem", in M. Rubi and C. Perez-Vicent (eds.), 'Complex Behaviour of Glassy Systems', Lecture Notes in Physics vol. 492 (Springer, Berlin 1997), p. 241.

10. T. R. Kirkpatrick and D. Belitz, "Long-range correlations and generic scale invariance in classical and quantum fluids", J. Stat. Phys. **87**, 1307 (1997).
9. D. Belitz and T. R. Kirkpatrick, "Quantum critical behavior of itinerant ferromagnets", in P. Coleman, B. Maple, and A. Millis (eds.), 'Papers presented at the Institute for Theoretical Physics Conference on Non-Fermi Liquid Behavior in Metals', J. Phys. Cond. Mat. **8**, 9707 (1996).
8. D. Belitz and T. R. Kirkpatrick, "The Anderson-Mott Transition", Rev. Mod. Phys. **66**, 261 (1994).
7. D. Belitz and T. R. Kirkpatrick, "The Disordered Electron problem: From the Metal-Insulator Transition to Disordered Superconductors", in V.Srivastava, A.K.Bhatnagar, and D.G.Naugle (eds.), 'Ordering Disorder: Prospect and Retrospect in Condensed Matter Physics. Proceedings of the Indo-US Workshop', AIP Conference Proceedings, vol. 286, New York (1993).
6. D. Belitz and T. R. Kirkpatrick, "New phases of the disordered Fermi liquid" in K. A. Benedict and J. T. Chalker (eds.), 'Localisation 1990. Proceedings of the International Conference on Localisation 1990', IOP Physics Conf. Series, vol. **108**, London (1991).
5. D. Belitz and T. R. Kirkpatrick, "Magnetic anomalies in disordered electonic systems", Physica A **167**, 259-278 (1990).
4. D. Belitz, "Theory of type-II superconductivity", in J. W. Lynn (ed.) 'High-$T_c$ superconductivity', Springer, New York (1990).
3. D. Belitz, "Anderson localization in narrow bands", in 'Localization in disordered systems', Teubner-Texte zur Physik, vol.3, pp.21-31 ed. by W.Weller and P.Ziesche, B.G.Teubner, Leipzig (1984).
2. D. Belitz, "Influence of a weak magnetic field on electron localization", Proc. Int. Conf. on Localization, Interaction, and Transport Phenomena in Impure Metals, PTB-Bericht PTB-PG-1, pp.294-297, L.Schweitzer and B.Kramer (eds.) (1984)
1. D. Belitz and W. Götze, "Electron diffusion and localization in a narrow band", Proc. Int. Conf. on Localization, Interaction, and Transport Phenomena in Impure Metals, PTB-Bericht PTB-PG-1, pp.227-230, L.Schweitzer and B.Kramer (eds.) (1984)

**D. Other Invited Publications**

1. D. Belitz and T.R. Kirkpatrick, "A watched pot on a quantum stove", Nature Physics **3**, 15 (2007).

**E. Articles Published in Electronic Format Only**

3. T.R. Kirkpatrick and D. Belitz, "Reply to Comment on 'Absence of electron dephasing at zero temperature' ", cond-mat/0112063
2. D. Belitz and T.R. Kirkpatrick, "Comment on 'Specific heat of a Fermi system near ferromagnetic quantum phase transition' by Grosu, Bodea, and Crisan (cond-mat/0101392)", cond-mat/0102090.
1. B. Kramer, D. Belitz, and M. Batsch, "Mean-field limit of the random flux model", cond-mat/9607043.

## Students and Postdocs Supervised

- R. Saha (current postdoc)
- Q. Li (current graduate student, PhD expected 2008)

- S. Tewari (postdoc, 2003 - 2005)
- J. Rollbühler (postdoc, 2003 - 2005)
- O. Bleibaum (postdoc, 2002 - 2003)
- S. Sessions (graduate student, PhD 2002)
- R. Narayanan (graduate student, PhD 1999)
- T. Vojta (postdoc, 1995 - 1997)
- F. Evers (postdoc, 1995 - 1997)
- W. Park (graduate student, PhD 1995)
- S.Q. Yang (graduate student, PhD 1994)
- T.P. Devereaux (graduate student, PhD 1991)
- C. Chen (postdoc, 1989 - 1990)
- S. De Souza-Machado (undergraduate student, Summer 1989)
- D.W. Hoard (undergraduate student, Summer 1989)

# PROFESSIONAL SERVICE

## Conference Organization:

- Organizer
  *Mini-Colloquium on Magnetic Quantum Phase Transitions*
  A Session of the 20th General Conference of the Condensed Matter Division of the European Physical Society
  July 19 - 23, 2004, Prague, Czech Repulic

- Organizer (with T.R. Kirkpatrick and T. Vojta)
  *Workshop on Quantum Phase Transitions*
  June 23 - July 28, 2003, Max Planck Institute for Complex Systems, Dresden, Germany

- Organizer (with T.R. Kirkpatrick)
  *Workshop on Quantum Phase Transitions*
  July 16-28, 1995, Telluride Science Research Center, Telluride, CO

- Chair, Organizing Committee
  *Metal-Insulator Transitions, Localization, and Mesoscopic Systems*
  An LT 20 Satellite Conference
  August 12-14, 1993, University of Oregon

- Member, Organizing Committee
  *XX International Conference on Low Temperature Physics*
  August 1993, Eugene, OR

- Organizer (with H. Jansen)
  *Oregon Materials Science Symposium*
  May 1990, Oregon State University

## Other Professional Activities:

- Associate Editor for Condensed Matter Theory, Reviews of Modern Physics, 2005 - present
- Member, Advisory Board, Annalen der Physik (Leipzig), 1998 - present
- Member, Advisory Board, International Conference LOCALIZATION 1999

## ADMINISTRATIVE EXPERIENCE

As Department Head of Physics (1998 - 2004) I was responsible for the day-to-day operations of a department with roughly 30 faculty, 100 undergraduate majors, and 80 graduate students. The department's annual operating budget was approximately $ 2.2 Million, and research expenses averaged $ 6 Million. I reported to the Associate Dean of Natural Sciences, and worked closely with the Vice President for Research and the Vice President for Academic Affairs on research and personnel matters, respectively.

As Associate Dean for Natural Sciences (since 2004) I report to the Dean of the College of Arts and Sciences, and I am responsible for budgetary, personnel, and curriculum oversight for eight academic departments: Biology, Chemistry, Computer and Information Science, Geological Sciences, Human Physiology, Mathematics, Physics, and Psychology, as well as for the Oregon Institute of Marine Biology, and the following programs and support units: Chemistry Laboratory Service, General Science, Technical Science Administration. I serve as a liaison between the departments and the college's development staff, and I am the college's principle liaison with the following research institutes, which report to the Vice President for Research: Materials Science Institute, Molecular Biology Institute, Neuroscience Institute, Oregon Center for High Energy Physics, Oregon Center for Optics, and Theoretical Science Institute. In addition, I am responsible for space and equipment management for the entire college.

At the university level, I serve on the Leadership Council, the Deans' Working Group, the Policy Group on Conflicts of Interest and Conflicts of Commitment, and I am the college's representative on the university's Space Committee, Planning Committee, and Educational Technology Committee. I work closely with the Vice President for Research, the Vice President for Academic Affairs, the Vice Provost for Diversity, and the Vice Provost for Information Services on various issues affecting the college.