CURRICULUM VITAE

Khalil M. Bitar

Current Position: Professor of Physics
Faculty of Arts and Sciences
American University of Beirut
Beirut, Lebanon

University Address: Physics Department, and
Center for Advanced Mathematical Sciences
Faculty of Arts and Sciences
American University of Beirut
Beirut, Lebanon
Tel: 961-1-737503
Fax: 961-1-744461
USA Address: 3 Dag Hammerskjold Plaza 8th floor
New York, NY 10022-6297
e-mail: kmb@aub.edu.lb

Home Address
American University of Beirut
Beirut, Lebanon
Telephone: 961-1-737503
Cell: 961-3-004674

USA: 3654 Dwight Davis Drive, Tallahassee, FL, 32312.
Telephone: 850-668-1467 / 8

Education: B.S., Physics, American University of Beirut, Beirut, Lebanon, 1963

M.S., Physics, Yale University, 1965

Ph.D., Physics, Yale University, 1967

Prizes: Penrose Award, American University of Beirut, 1963.

Leigh Page Memorial Prize, Yale University, 1964.

Administrative positions:

Associate Director, Super Computer Computations Research Institute (SCRI)
Florida State University, Tallahassee, Florida, February 1994--August 1997.

Dean, Faculty of Arts and Sciences,
The American University of Beirut, Lebanon. August, 1997—August 2009.

Postdoctoral Positions:

Sept. 1967--Sept.1968, Physics Dept., University of
California at Berkeley, and Lawrence Berkeley Laboratory, Berkeley,
California.

Sept. 1968--July 1969, Member, The Institute for Advanced
Study, Princeton, NJ.

Academic Positions:

Oct.1969--Oct.1972: Assistant Professor of Physics,
American University of Beirut, Lebanon.

Sept. 1971--July 1972, Member, The Institute for Advanced
Study, Princeton, NJ.

Oct.1972--Oct.1978: Associate Professor of Physics,
American University of Beirut, Lebanon.

Sept.1976--Sept.1977, Visiting Scientist, Fermilab, Batavia,
Illinois.

Sept. 1977--Aug. 1978, Visiting Assoc. Prof. University
of Illinois, Urbana, Illinois.

Oct.1978--1987: Professor of Physics,
American University of Beirut, Lebanon.

Sept. 1981--Oct. 1982, Visiting Scientist, Fermilab, Batavia,
Illinois.

June.1985—1987, Visiting Scholar/Scientist, SCRI (

Supercomputer Computations Research Institute), Florida State University.

June.1987-- August 1997 Scholar/Scientist, Supercomputer Computations Research Institute (SCRI) , Florida State University.

August 1997 – 2009, Dean, Faculty of Arts and Sciences, Professor of Physics, American University of Beirut, Lebanon.

2009- 2021 Professor of Physics, American University of Beirut.

Visits to Academic Institutes:

June--Sept. 1970, CERN, Geneva, Switzerland.

June--Sept. 1971, ICTP, Trieste, Italy.

Sept. 1971--July 1972, The Institute for Advanced Study, Princeton, New Jersey.

July--Aug. 1973, CERN, Geneva, Switzerland.

June--Sept. 1974, ICTP, Trieste, Italy.

Sept. 1975, ICTP, Trieste, Italy.

Sept. 1976--Sept. 1977, Fermilab, Batavia, Illinois.

Sept. 1977 - Aug. 1978, Visiting Assoc. Prof. University of Illinois, Urbana, Illinois.

January 1978, July 1978 Fermilab, Batavia, Illinois.

August 1978, Brookhaven National Lab., Upton, New York.

July 1979, Fermilab, Batavia, Illinois.

July - Sept. 1980, Fermilab, Batavia, Illinois.

July - Sept. 1981, CERN, Geneva, Switzerland.

Sept. 1981 - Oct. 1982, Fermilab, Batavia, Illinois.

July - Oct. 1983, Max Planck Inst., Munich, Germany.

June 1983, Fermilab, Batavia, Illinois.

July - Sept. 1983, Fermilab, Batavia, Illinois.

July 1985, Fermilab, Batavia, Illinois.

July 1985 - Oct.1987 , Supercomputer Computations Research Institute, Florida State University, Tallahassee, Florida.

August 1986, Fermilab, Batavia, Illinois.

August 1988, The Institute for Advanced Study, Princeton, New Jersey.

November 1989,Max Planck Institute, Munich, Germany.

February-March 1992, American University of Beirut, Lebanon.

August 1995, The Rockefeller University , New York ,NY.

August 2001, CERN, Geneva, Switzerland.

August 2004, Fermilab, Batavia, Illinois.

August 2007, CERN, Geneva Switzerland.

Highlights of Achievements as Dean of the Faculty of Arts and Sciences the American University of Beirut.

Undergraduate programs:

- Introduced new admission criteria and measures for admission to the Faculty that became university wide.
- Reviewed modernized and upgraded all undergraduate programs at the Faculty
- Introduced over twenty five "minor programs" in all degree and non degree programs in the Faculty.
- Separated the program in Computer Science into an independent department.
- Established a new department of Fine Arts and Art History.
- Incorporated the department of Education in the Faculty.
- Established a Center for American Studies and Research.
- Established BA/BS degrees in Applied Mathematics.
- Established a new Diploma in communication.
- Established a program of teaching of Arabic to non-native speakers at the Center for Arab and Middle Eastern Studies and the Department of Arabic.

Graduate Program (Masters level):

- Established Masters Degrees in Computer Science.
- Established Masters Degree in Computational Science.
- Established Masters Degree in Financial Economics.
- Established Masters Degree in Clinical Psychology.
- Established Masters Degree in Environmental Sciences Policy Planning.
- Revitalized all existing Masters Degree programs in all departments.

Graduate Program (PhD level):

- Established PhD Degree program in Physics
- Established PhD Degree program in Biology
- Established PhD Degree program in Arab and Middle Eastern History
- Established PhD Degree program in Arabic Languages and Literature.
- Set the stage for further PhD Degree programs in Chemistry, Mathematics, Computer Science, Economics and other areas.

Faculty Recruitment, Retention and Promotion:

- Establishment of new criteria and procedures at the university, of faculty recruitment, retention, and promotion based on transparent international peer review processes.

- Recruited several hundred faculty member sin all areas to revitalize all seventeen departments and seven Centers at the Faculty.
- Established and recruited for new Chair professorships in History (Howell), American Studies (Edward Said), Mathematics (Sir Michael Atiyah), and recruited for existing Chair professor ships (Wittlesey, Jewett, Sheikh Zayid).

Facilities and Research Centers:

- Built a first class research facility as the Central Research Science Laboratory (Now Kamal Shair Central Research Laboratory).
- Established the Center for Advanced Mathematical Sciences (CAMS)
- Upgraded all departmental Laboratories and renovated several new spaces for research use.
- Made access to the internet a standard for all faculty and students and to classrooms.
- Established several new computer laboratories.
- Established an electronic examination / lecture hall.
- Modernized a large number of classrooms all equipped with electronic media for course delivery.

List of Publications

Khalil M. Bitar

Publications in Theoretical Physics:

1. K. Bitar and F. Gursey, Algebra of spin currents and the relativistic formulation of SU(6), Phys. Rev. v 164, 1805 (1967)

2. K. Bitar, The algebra of spin currents in a simple model, II Nuovo Cimento, v. A54, 589 (1968)

3. K. Bitar and G. L. Tindle, Daughters conspiracies and Lorentz symmetry, Phys. Rev., v. 175, 1835 (1968)

4. K. Bitar and W. Bierter, On interacting local quantum fields describing many masses and spins, II Nuovo Cimento, v. A60, 330 (1969)

5. K. Bitar and W. Bierter, T-products and spectral function sum-rules in a theory of currents, Nuovo Cim. Lett., v 1, 192 (1969)

6. K. Bitar, Daughters conspiracies and Lorentz symmetry II, Phys. Rev., v. 180, 1477 (1969)

7. K. Bitar, Lorentz-pole structure and duality of some crossing symmetric amplitudes with Regge behavior, Phys. Rev., {\v 185}, 2032 (1969)

8. K. Bitar, Construction of crossing-symmetric amplitudes satisfying duality, Phys. Rev., v. 186, 1424 (1969)

9. K. Bitar, Generalization of multiparticle dual amplitudes, Phys. Rev., v. D1, 3319 (1970)

10. K. Bitar, Construction of convergent dual loops, Phys. Rev., v. D2, 2306 (1970)

11. K. Bitar and N.N. Khuri, Bjorken limit and the Jin-Martin lower bound, Phys. Rev., v. D3, 462 (1971)

12. K. Bitar, Nature of operator Schwinger terms, fixed poles and scale-invariance breaking at short distances, Phys. Rev., v. D5, 1498 (1972)

13. K. Bitar, Unified light-cone treatment of scaling and a positivity constraint on short-distance behavior, Phys. Rev., v. D6, 2250 (1972)

14. K. Bitar, Scaling in a gluon model in three dimensions, Phys. Rev., v. D7, 1184 (1973)

15. K. Bitar and P. Sorba, Classification of pseudo particle solutions in gauge theory, Fermilab preprint October (1976), Phys. Rev. v. D16, 431 (1977)

16. K. Bitar Instantons in gauge groups larger than SU(2), Fermilab preprint, THY 77/15 (unpublished)

17. K. Bitar and S. J. Chang, Vacuum tunneling of gauge theory in Minkowski space, Phys. Rev. v. D17, 486 (1978)

18. K. Bitar and S. J. Chang, Vacuum tunneling and fluctuations around a most probable escape path, Phys. Rev. v. D18, 435 (1978)

19. K. Bitar, S. J. Chang, G. Grammer and J.D. Stack, The d-2 nonlinear sigma-model instanton as a tunneling process, Phys. Rev., v. D19, 1214 (1979)

20. K. Bitar, S. J. Chang, G. Grammer and J. D. Stack, A mechanism for destruction of order in the d-2 nonlinear sigma-model, University of Illinois preprint (unpublished)

21. K. Bitar, P. W. Johnson and Wu-ki Tung, QCD asymptotics and kinematic thresholds in deep inelastic scattering, Phys. Lett., v. 83B, 114 (1979)

22. K. Bitar, Composite gauge fields, Fermilab preprint 80/83, THY, Phys. Rev., v. D24, 2654 (1981)

23. K. Bitar, S. Gottlieb and C. K. Zachos, Phase structure and renormalization trajectories of lattice SU(2) gauge theory, Phys. Rev. v. D26, 2853 (1982)

24. K. Bitar, S. Gottlieb, and C. K. Zachos, Renormalization of lattice U(1) gauge actions, Phys. Lett. V. 121B, 163 (1983)

25. K. Bitar, Renormalization flow of lattice gauge actions and

positivity, Max Planck Institute preprint MPI-PAE/PTh. 68/83

26. K. Bitar, D. W. Duke, and M. Jadid, Renormalization flow of SU(3) lattice gauge actions, Phys. Rev., v. D31, 1470 (1985)

27. K. Bitar, Renormalization flow on a lattice and deconfinement, Phys. Rev., v. D32, 2769, (1985)

28. K. Bitar, Determining the action on a lattice from Monte Carlo generated configurations, SCRI preprint FSU-SCRI-85-07, Phys. Lett. v. 168B, (1986) 391.

29. K. Bitar, Monte Carlo renormalization study of su(2) lattice gauge theory, SCRI preprint FSU-SCRI-86-39, Phys. Rev., v. D34, 2462 (1986).

30. K. Bitar, Effective gauge action on a finite size lattice, SCRI preprint FSU-SCRI-86-37, Phys. Rev. v. D35, 691 (1987).

31. K. Bitar, G. Bhanot, R. Salvador, S. Black and P. Carter, The partition function of Z(2) and Z(8) lattice gauge theory in four dimensions, a novel approach to simulations of lattice systems, Phys. Lett. B., v.187, No.3, 4, 381(1987).

32. K. Bitar, G. Bhanot and R. Salvador, On solving 4-dimensional SU(2) gauge theory by numerically finding its partition function . SCRI preprint FSU-SCRI-86-82. Phys.Lett.B v.188, No.2, 246(1987).

33. K. Bitar, Partition function for finite temperature lattice SU(2) gauge theory: A novel investigation of the phase transition. SCRI preprint FSU-SCRI-87-33, Nuclear Physics B300[FS22], 61(1988).

34. K. Bitar, Construction of the partition function for lattice gauge theory ,Nuclear Physics B (proc.Suppl.)4, 26(1988).

35. K. Bitar, A.D.Kennedy, R.Horsley, S.Meyer and P.Rossi, Hybrid Monte Carlo and Quantum Chromodynamics , FSU-SCRI-88-14 Nuclear Physics B313,377(1989).

36. K. Bitar, A.D.Kennedy, R.Horsley, S.Meyer and P.Rossi, The QCD finite temperature transition and hybrid monte carlo, FSU-SCRI-88-54, Nuclear Physics B313, 348(1989).

37. K. Bitar and G. Bhanot, Regularization Dependence of the Lattice Higgs-Boson Mass Bound. Phys. Rev. letters v. 61,798(1988)

38. K. Bitar and G. Bhanot, Lattice Higgs mass bounds and different cutoff schemes, in Lattice Higgs Workshop ,B. Berg et. al. editors ,World

scientific,1988.

39. K. Bitar, A.D. Kennedy, Roger Horsley, Steffen Meyer and Pietro Rossi, Hybrid Monte Carlo and the QCD Funite Temperature Transition., in " Frontiers in non perturbative Field Theory " (edited by Z. Horvath, L. Palla,
and A. Patkos) World Scientific, (1989).

40. K. Bitar, The Beta Function for QCD with Dynamical Wilson Fermions,
FSU-SCRI-88C-130, Nuclear Physics B (proc. Suppl.)9, 469(1989).

41. K. Bitar, A. Kennedy and P. Rossi, The QCD Beta Function with Dynamical Wilson Fermions,
FSU-SCRI-89-73 , Phys. Rev. Letters. 63, 2713 (1989).

42. K. Bitar, A. Kennedy and P. Rossi, The chiral limit and phase
structure of QCD with Wilson fermions. FSU-SCRI-89-101.
Physics Letters B234,333 (1990).

43. K. Bitar, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken
M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint.
Hadronic Spectroscopy with Wilson Valence Quarks. FSU-SCRI-89-120, Nuclear Physics B (proc. Suppl.)17, 400(1990).

44. K. Bitar, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken
M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint.
Hadron Spectrum with Staggered Dynamical Quarks. FSU-SCRI-89-130.
Nuclear Physics B (proc. Suppl.)17, 404 (1990).

45. K. Bitar, A.D. Kennedy, R. Horsley, S. Meyer and P. Rossi,
Determining the nature of the finite temperature transition of QCD
with dynamical fermions. FSU-SCRI-89-140. Nuclear Physics
B337, 245(1990).

46. K. Bitar, G. Bhanot, U. M. Heller and H. Neuberger, phi^4 on
F_4 : Analytical Results. FSU-SCRI-90-02. Nuclear Physics B343, 467(1990).

47. K. Bitar, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut,
R. Renken,M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and
D. Toussaint. "The High Energy Monte Carlo Grand Challenge : Simulating
Quarks and Gluons" . Intl. J. Supercomputer Appl. 4,48-60(1990).

48. K.Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D.Toussaint, Hadron Spectrum in QCD at 6/g^2 =5.6 FSU-SCRI-90-98. Phys. Rev.D42, 3794 (1990).

49. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. Quantum Chromodynamics at 6/g^2 =5.6 FSU-SCRI-90-104,
Phys. Rev. letters v.65,2106 (1990).

50. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. "QCD with Dynamical Staggered Quarks ",IUHET-188 (presented at the American Physical Society Division of particles and fields meeting,Houston, Texas, Jan 3-6, 1990 by S.~Gotlieb).

51. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. " Lattice Spectrum with Dynamical Staggered Quarks at
6/g^2 =5.6. IUHET-193. Nuclear Physics A527(1991)527c-530c.

52. K. Bitar, G. Bhanot, U. M. Heller and H. Neuberger, phi^4 on
F_4 : Numerical Results. FSU-SCRI-90-111. Nuclear Physics B353, 551(1991).

53. K. Bitar, The chiral limit and phase structure of QCD with Wilson
fermions. Invited talk at PANIC XII , MIT , June 1990, FSU-SCRI-c-90-114.
Nuclear Physics A527(1991)535c-538c.

54. K. Bitar and S. Manousakis. The nonlinear sigma model and static holes.
FSU-SCRI-90-116, Phys. Rev B 43,2615(1991).

55. K. Bitar,R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. Hadron thermodynamics with Wilson quarks, FSU-SCRI-90-175. Phys.Rev.D. 43,2396 (1991).

56. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M.Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. On Glueballs and topology in Lattice QCD with two light flavours, FSU-SCRI-91-16 Phys. Rev. D44, 2090(1991).

57. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. Glueballs and Topological Charge in th epresence of Dynamical Quarks. (Talk presented at "Lattice '90 " , Tallahassee).

58. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. " QCD Thermodynamics with Wilson Quarks " , (Talk presented at "Lattice '90 " , Tallahassee).

59. K. Bitar, R. Edwards, U. Heller, A. Kennedy, W. Liu, T. DeGrand, S. Gotlieb, J. Kogut, R. Renken, M. Ogilvie, P. Rossi, D. Sinclair, K. Wang, R. Sugar, M. Teper and D. Toussaint. "Hadronic Spectroscopy at a=1.5 fm ", (Talk presented at "Lattice '90 " , Tallahassee).

60. K. Bitar, N.N. Khuri and H.C. Ren . Path integrals and Voronin's theorem on the universality of the Riemann zeta function. FSU-SCRI-91-21. Annals of Physics v.211 no.1 October 1991.

61. K. Bitar, N.N. Khuri and H.C. Ren . Path integrals and discrete sums. FSU-SCRI-91-49. Physical Review Letters 67,781(1991).

62. K. Bitar and T. DeGrand, R. Edwards, U.M. Heller, A.D. Kennedy, J.B. Kogut, A. Krasnitz, W. Liu, M.C. Ogilvie, R.L. Renken, P. Rossi, D.K. Sinclair, R.L. Sugar, M. Teper, D. Toussaint, K.C. Wang, Lattice Spectrum with Dynamical Staggered Quarks at 6/g^2=5.6, presented at PANIC XII, Particles and Nuclei, Proceedings of the Twelfth International Conference on Particle and Nuclei, Massachusetts Institute of Technology, June 24--29, 1990, edited by J. L. Matthews et al, page 527c.

63. K. Bitar, T. A. DeGrand, R. Edwards, U. Heller, A. D. Kennedy, J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi, D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang, QCD with Dynamical Staggered Quarks, in Proceedings of The Rice Meeting, edited by B. Bonner and H. Miettinen (World Scientific, Singapore, 1990). page 764. presented at the American Physical Society Division of Particles and Fields meeting, Houston, Texas, January 3--6, 1990, to appear in the proceedings.

64. K. Bitar and U. Heller, Lattice field simulations press the limits of computational physics, Computers in Physics V. 6, no. 1 Jan/Feb 1992.

65. K. Bitar with the Teraflop collaboration, Physics Goals of the Teraflop Project. International Journal of Modern Physics C, V 2 No. 4, December 1991.

66. K. Bitar and Pavlos Vranas, Is there a rho in the O(4)lambda phi^4_4 theory? FSU-SCRI-92-54, March 1992. Physics Letters B, 284 (1992) 366-370.

67. K. Bitar, Path Integrals and the universality of the Riemann zeta function. Talk presented at " Lattice '91 " Tsukuba, Japan, Novemeber 1991. FSU-SCRI-92C-05. Nuclear Physics B (Proc. Suppl.) 26(1992)656.

68. K. Bitar, R. Edwards et al ..QCD hadron scpectroscopy with staggered dynamical quarks at beta=5.6. Talk presented at "lattice '91", Tsukuba, Japan, November 1991. FSU-SCRI-92-C-07, Nuclear Physics B (Proc. Suppl.) 26(1992)259.

69. K. Bitar and Paul Beaumont, Optimal Growth under uncertainty: An analytical solution to the Taylor-Uhlig Problem. April 1992.

70. K. Bitar, T. A. DeGrand, R. Edwards, U. Heller, A. D. Kennedy, J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi, D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang, Hadron Spectrum in QCD with Valence Wilson Fermions and Dynamical Staggered Fermions at 6/g^2=5.6 , FSU-SCRI-92-61 Phys. Rev. D 46,2169-2178 (1992)

71. K. Bitar and Pavlos Vranas, The I=1 J=1 Channel of the O(4)lambda phi^4_4 theory, FSU-SCRI-92C-156 Nuclear Physics B (Proc. Suppl.30,91993)693.

72. K. Bitar, R. Edwards, U. Heller and A. Kennedy, On the Dynamics of Light Quarks in QCD. FSU-SCRI-92-C-161 Nuclear Physics B (Proc. Suppl.)30, 249(1993).

73. K. Bitar, T. A. DeGrand, R. Edwards, U. Heller, A. D. Kennedy, J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi, D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang, Hadron spectroscopy with dynamical Wilson fermions at beta=5.3, Nuclear Physics B (Proc. Suppl.) 30 (1993)401.

74. K. Bitar, T. A. DeGrand, R. Edwards, U. Heller, A. D. Kennedy, J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi, D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang, Comparison of Lattice Coulomb Gauge Wave Functions in Quenched Approximation and with Dynamical Fermions, FSU-SCRI-92-139 Phys.Rev. D47,285(1993).

75. K. Bitar with HTMCGC and HEMCGC collaborations , QCD with 2 light Quark Flavours, Thermodynamics on 16^3 by 8 Lattice and Glueballs and Topological Charge on 16^3 by 32 Lattice. FSU-SCRI-92C-168 Nuclear Physics B (proc. Suppl.) 30,315(1993)

76. K. Bitar, T. A. DeGrand, R. Edwards, U. Heller, A. D. Kennedy, J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi, D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang, Simple Hadronic Matrix Elements with Wilson Valence Quarks and Dynamical Staggered Fermions at 6/g^2=5.6 , FSU-SCRI-93-08 Phys. Rev. D48,370(1993).

77. K. Bitar, T. A. DeGrand, R. Edwards, U. Heller, A. D. Kennedy,

J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi,
D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang,
Hadron Spectrum and Matrix Elements in QCD with with Dynamical Wilson
Fermions at 6/g^2=5.3 , FSU-SCRI-93-110 Phys. Rev.D49,3546(1994).

78. K. Bitar and Pavlos Vranas , The Nambu-Jona-Lasinio Model of QCD
on the Lattice , FSU-SCRI-93-127 Physics letters B 327(1994)101.

79. K. Bitar and Pavlos Vranas , A Study of the Nambu-Jona-Lasinio Model on
the Lattice , FSU-SCRI-93-130 Phys.Rev D.50 (3406)1994.

80. A.~D.~Kennedy and K. Bitar , An Exact Local Hybrid Monte Carlo
Algorithm for Gauge Theories. FSU-SCRI-93-137 Nuclear Physics B (Proc.Suppl.)
34(1994)786.

81. K. Bitar, R. Edwards, U. Heller, A. D. Kennedy,
J. B. Kogut, A. Krasnitz, C. Liu, M. C. Ogilvie, R. L. Renken, P. Rossi,
D. K. Sinclair, R. L. Sugar, M. Teper, D. Toussaint and K. C. Wang,
Effects of Spatial Size, Lattice Doubling and Source Operators on the Hadron
Spectrum with Dynamical Staggered Quarks at 6/g^2=5.6 . Phys. Rev. D 49,6026(1994).

82. K. Bitar and Pavlos Vranas, Results from a Study of the
Nambu-Jona-Lasinio Model on the Lattice . FSU-SCRI-93C-138 Nuclear
Physics B (Proc.Suppl.) 34(1994)661

83. U.M.Heller, K. Bitar, R.G.Edwards and A.D.Kennedy, The heavy quark
potential in QCD with two flavors of dynamical quarks. Phys. Letters B335
,71(1994)

84. K. Bitar, U.M.Heller, R.G.Edwards and A.D.Kennedy, Toward the QCD
beta function with dynamical Wilson fermions , FSU-SCRI-94C-114(1994),
Nuclear Physics B (proc.suppl.)42,(1995)796-798.

85. K. Bitar and Pavlos Vranas , Flavor-Parity breaking in the NJL model
with Wilson fermions FSU-SCRI-94C-115 (1994),Nuclear Physics B
(proc.suppl.)42,(1995)746-748.

86. K. Bitar, U.M.Heller, R.G.Edwards and A.D.Kennedy, Cooling in QCD
spectroscopy FSU-SCRI-94C-119 (1994), Nuclear Physics B(proc.suppl.) 42, (1995)328-330.

87. K. Bitar, U.M.Heller, R.G.Edwards and A.D.Kennedy, The QCD beta
function for QCD with two flavours of Wilson fermions , FSU-SCRI-96-07 .
Physical Review D 54,3546--3550 (1996).

88. K. Bitar, Search for parity-flavour breaking phase for QCD with two

flavours of Wilson fermions for $\beta > 5.0 $, Physical Review D56, 2736 (1997).

89. K. Bitar, U.M.Heller, R.G.Edwards and A.D.Kennedy,QCD with Dynamical Wilson Fermions at beta = 5.5. Nuclear Physics B (proc.suppl.) 53 (1997) 225-227.

90. K. Bitar, " On the Parity-Flavor-Breaking Phase in QCD With Two Flavors of Wilson Fermions " Nuclear Physics B (Proc. Suppl.) 63(1998) 829-831.

91. K. Bitar, U.M.Heller and R. Narayanan , "A New Method to Measure the Chiral Condensate in Lattice QCD with Wilson Fermions" . Physics Letters B418 (1998) 167-172.

Books:

K. Bitar, A. Chamseddine and W. Sabra (Editors), "The Mathematical Sciences after the Year 2000", World Scientific, 2000.

Collaborative Publications in Physiology:

1. K. Bitar and A. B. Bikhazi, System approach in cell surface adsorption: adsorption of concanavalin A on human platelets, American University of Beirut preprint - September 1981, Annals of Biomedical Engineering 10,219(1983).

2. K. Bitar, S.~I.~Kreidiyyeh and A.~B.~Bikhazi, System approach to the Transepithelial Transport.. Journal of Pharmaceutical Sciences 79,494(1990).

3. A. Bikhazi et al. and K. Bitar , Adsorption isotherms of ouabain from normal and streptozotocin-induced diabetic rats.FSU-SCRI-92-51 March 1992, updated version FSU-SCRI-94-83 Journal of Pharmaceutical Sciences V83 Number 12 (1758) 1994.

4. A. Bikhazi et al. and K. Bitar, Binding and distribution of three prototype calcium channel blockers in perfused rat liver, FSU-SCRI-95-77, Accepted , Molecular and Cellular Biochemistry, V169, 1-11 (1997).

5. A.B. Bikhazi et.al. and K. Bitar , Binding of I ^125 -Insulin on Capillary Endothelial and Myofiber Cell Membranes in Normal and Streptozotocin-Induced Diabetic Perfused Rat Hearts. FSU-SCRI-96-52 , Comparative Biochemistry and Physiology V117A, 523-530 (1997).

6. A.Bikhazi et. al. and K. Bitar "Endotoxin binding on capillary endothelium and myocyte plasma membranes in perfused rat heart" , Journal of Endotoxin Research V4, 45-51 (1997) .

7. A. B. Bikhazi et. al. and K. Bitar "Insulin-Receptor Binding Characteristics in Perfused SHR and WKY Rat Hearts". Comparative Biochemistry and Physiology, Part C 120, 127-136, 1998.

8. A. B. Bikhazi et. al. and K. Bitar "Angiotensin II Delivery and Binding at the Microvascular Endothelium and Cardiac Myocyte Surfaces in Perfused Rat Hearts". Journal of Pharmaceutical Sciences, 87, 1363-1367, 1998.

9. A.B. Bikhazi et. al. and K. Bitar, "Peptides and their Antagonists in Endothelium of the Coronary Vasculature and Myocites", Emerging Theraputic Targets, 2(1), 65-67, 1998.

10. A.B. Bikhazi et. al. and K. Bitar " Kinetics of IGF-1 Binding on Cardiac Myofibers and Capillary Endothelium During Chronic Eccentric Hypertrophy", FASEB J. 12, A709, 1998.

11. A.B. Bikhazi et. al. And K. Bitar "Angiotensin II-AT1-Subtype Receptor Binding with Antagonist and Potential Activation of AT2-Subtype Receptor", International Forum on Angiotensin II Receptor Antagonism, Abstract 1.1, Page 15, 1999.

12. A.B. Bikhazi et. al. and K. Bitar, "IGF-1 Receptor Kinetics during Regression of Cardiac Hypertrophy following ACE-inhibitor or AT1-antagonist Treatment", FASEB J. ,13, A438, 1999.

13. A.B. Bikhazi et. al. and K. Bitar, " Effects of Diabetes Mellitus in Endothelium Binding on Capillary Endothelium and Cardiac Myocites in Perfused Rat Heart", FASEB J., 13, A767, 1999.

14. A.B. Bikhazi et. al. and K. Bitar, " Alterations in IGF-1 Binding on Cardiac Myofibers and Capillary Endothelium during Chronic Volume-overload-induced Hypertrophy", JBMBB, 3, 65-74, 1999.

15. A. B. Bikhazi et. al. and K. Bitar " Characterization of Insulin-Resistance: Role of Receptor Alteration in Insulin-Dependent Diabetes Mellitus, Essential Hypertension, and Cardiac Hypertrophy". Europ. J. Pharm. Sci., V.11, (4), 299-306, 2000.

16. A.B. Bikhazi et. al. and K. Bitar, "Kinetics of Angiotensin II Binding on Endothelium and Myocites in Myocardial Infarcted Rat Hearts ", FASEB J., 14, A423, 2000.

17. A.B. Bikhazi et. al. And K. Bitar, "Angiotensin II Binding, Fibroblast and Collagen Alterations in Myocardial Infarcted Rat Hearts", jraas, 1, 78, 2000.

18. A.B. Bikhazi et. al. And K. Bitar, "Angiotensin II Binding and Extracellular Matrix Remodeling in a Rat Model of Mycardial Infarction", Journal of the Renin-Angiotensin-Aldosterone System (jraas),1(4),369-378, 2000.

19. A.B. Bikhazi et. al. and K. Bitar, "Effect of AT1-R and AT2-R Antagonists on Angiotensin II Binding at Endothelial and Cardiac Myocytes in Perfused Rat Hearts", Second International Forum on Angiotensin II Receptor Antagonism (2001).

20. A. B. Bikhazi et. al. and K. Bitar, " Kinetics of Lipopolysaccharide (Endotoxin) Clearance by Kupffer and Parenchyma Cells in Perfused Rat Liver", Comp. Biochem, Physiol. 129,339-348 ,2001.

21. A.B. Bikhazi et. al. and K. Bitar, "Endothilium-1 Binding and receptor subtypes localization and Alteration in a Normal and Diabetic Rat Heart Model", FASEB J., 16,A848, 2002.

22. W.A. Jaroudi et. al. and K. Bitar, "Endothelium/Myocyte Cellular Insulin Receptor Alterations in a Rat Model of Mycardial Infarction", Canad. J. Physiol. Pharmacol. 81 (number 3), 1-7, 2003.

23. A.B. Bikhazi et. Al. and K. Bitar, "Endothelin-1 receptor subtypes expression and binding in a perfused rat model of myocardial infarction", Comp. Biochem. Physiol. Part C 134, 35-43, 2003.

24. A.B. Bikhazi et. al. and K. Bitar, " Role of insulin and angiotensin II receptor subtype antagonist on endothilin 1 binding in diabetic rat hearts. FASEB journal, V. 18 (4), A635, 2004 (Abstract).

25. A. Bikhazi et. Al. and K. Bitar, " Role of Insulin, Endothelin-1 and Angiotensin II Subtype-1 Antagonist on Myocardial Remodeling in Insulin-Dependent-Diabetic Rat Hearts". The AAPS Journal. Abstract, Volume 6, Issue S1, October 2004, ISSN 1551-1081/ISBN 0-9711767-1-X.

26. W.A. Jaroudi et. al. and K. Bitar, "Effect of insulin
and angiotensin II receptor subtype-1 antagonist on myocardial
remodeling in rats with insulin-depenedent-diabetes-mellitus".
Journal of Hypertension, Journal of Hypertension, v.23(2), 381-392, 2005.

27. C.N. Karam et. Al., K. Bitar and A. B. Bikhazi, "Effect of Systemic Insulin and Angiotensin II Receptor Subtype-1 Antagonist on Endothelin-1 Receptor Subtype(s) Regulation and Binding in Diabetic Rat Hearts. ENDOTHELIUM, 12(5-6), 225-231, 2005.

28. Anwar B. Bikhazi, Wael M. Maharsy, Lina N. Kadi, Nahla G. Issa, Ghinwa M. Barakat, George K. Karam, Omar A. Batal, Nuha Nuwayri-Salti and Khalil M. Bitar. Effect of Insulin and Lsartan on Modulation of Insuilin-Like-Growth Factor 1 Receptor at Heart Level in Diabetic Rats. *The Open Drug Delivery Journal*, Volume 1, pages 1-6, 2007.

29. Roy Abrahamian, and Anwar B. Bikhazi. Cross-talk related to Insulin and Angiotensin II binding on myoca29. Wael M. Maharsy, Lina N. Kadi, Nahla G. Issa, Khalil M. Bitar, Asdghig H. Der-Boghossian, rdial remodeling in diabetic rat hearts. Journal of Renin-Angiotensin-Aldosterone System. Volume 8, pages 59-65, 2007

30. Anwar B. Bikhazi, Wael M. Maharsy, Lina N. Kadi, Nahla G. Issa, Ghinwa M. Barakat, George K. Karam, Omar A. Batal, and Khalil M.Bitar. "Effect of Insulin and Lsartan on Modulation of Insulin-Like-Growth Factor 1 Receptor at Heart Level in Diabetic Rats". The Open Drug Delivery Journal, Volume 1, pages 1-6, 2007

31. Christine M. Hantouche, Khalil M. Bitar, Georges M. Nemer, Mounir Y. Obeid, Lina N. Kadi, Asdghig H. Der-Boghossian, and Anwar B. Bikhazi.: "Role of Glucagon-Like Peptide-1 (GLP-1) analogues on insulin receptor regulation in diabetic rat hearts".
Canadian Journal of Physiology and Pharmacology V88 No. 1, pages 54-63, 2010.

32. Ghinwa M. Barakat, Nuha-Nuwayri-Salti, Lina N. Kadi, Khalil M. Bitar, Wael Al-Jaroudi, and Anwar B. Bikhazi. Role of Glucagon-Like-Peptde-1 and its agonists on rly prevention of cardiac remodeling in type 1 diabetic rat hearts. General Physiology and Biophysics. 30, 34-44, 2011.

33. Shushan Artinian, Sawsan Al Lafi, Suzan Boutary, Khalil Bitar, Nadine Zwainy, and Anwar Bikhazi. Assessment of Glucagon-Like Peptide-1 Analogue and Renin Inhibitor on the Binding and Regulation of GLP-1 Receptor in Type-1 Diabetic Rat Hearts. Experimental Diabetes Research. . vol. 2011, Article ID 489708, 7 pages, 2011. doi:10.1155/2011/489708.