CURRICULUM VITA

Bernd A. Berg, Dirac Professor of Physics

(February 20, 2010)

I) *Personal Data*

1) Birth date and place: August 23, 1949, Delmenhorst, Niedersachsen, Germany.
2) Parents: Max Berg (1902-1973), journalist and Irmgard Berg (maiden name Tetzlaff, 1912-2002), police officer.
3) Married since March 26, 1975 with Ursula Berg (maiden name Schröder), high school teacher for biology and mathematics. One child, Felix Berg, born 1980.
4) US and German Citizenship.

II) *Work Address*:

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III) *Education and Academic Background*:

1) Abitur: July, 1968, Willms Gymnasium, Delmenhorst, Germany.
2) Diplom in Physics: April, 1974, Freie Universität Berlin, Germany, (Advisor: Prof. Bert Schroer).
3) Dr. rer. nat. in Physics: June, 1977, Freie Universität Berlin, Germany, (Advisor: Prof. Bert Schroer).
4) Habilitation and Privatdozent for Physics: April, 1980, Universität Hamburg, Germany (Committee chairman: Prof. Harry Lehmann).
5) Tenure by the Florida State University: August, 1988.

IV) *Research and Teaching Positions*:

1) October 1969 - March 1974, Student Teaching Assistant, Department of Physics, Freie Universität Berlin, Germany.
2) August 1974 - September 1977, Scientific Teaching Assistant (5/6 BAT A2), Department of Physics , Freie Universität, Berlin, Germany.
3) October 1977 - March 1978, Visiting Assistant Professor (C2), Department of Physics, Universität Hamburg, Germany.
4) April 1978 - November 1978, Postdoctoral position (5/6 BAT A2), Department of Physics , Freie Universität Berlin, Germany.
5) December 1978 - September 1980, Junior Faculty Position (C1), Department of Physics, Universität Hamburg, Germany.
6) October 1980 - September 1982, Fellow, European Organization for Nuclear Research (CERN), Geneva, Switzerland.

7) October 1982 - September 1983, Junior Faculty Position (C1), Department of Physics, Universität Hamburg, Germany.
8) October 1983 - September 1985, Assistant Professor (C2), Department of Physics, Universität Hamburg, Germany.
9) October 1985 - August 1988, Associate Professor, Department of Physics, Florida State University, Tallahassee, Florida 32306, USA.
10) August 1988 - present, Tenured Professor, Department of Physics, Florida State University, Tallahassee, Florida 32306-4350, USA.
11) October 1985 - January 2000, Adjunct Appointment with the Supercomputer Computations Research Institute (SCRI), Florida State University, Tallahassee, Florida 32306, USA.
12) May 1990 - July 1991, Visiting Professor (C4), Department of Physics, Universität Bielefeld, Germany.
13) September 1992 - June 1993, Fellow at the Institute for Advanced Study (Wissenschaftkolleg) Berlin, Germany (on sabbatical from the Florida State University).
14) May 1994 - July 1994, Gastwissenschaftler am Institut für Physik der Johannes-Gutenberg Universität Mainz, Germany.
15) May 1995 - July 1995, Visiting Professor, Department of Physics, Technical University Vienna, Vienna, Austria.
16) January 1997 - June 1997, Fellow at the Zentrum für Interdisziplinäre Forschung, Universität Bielefeld, Germany (on leave of absence from the Florida State University).
17) June 1999 - July 1999, Visiting Professor at the International Physics Studies Program (IPSP), Leipzig University, Germany.
18) May 2001 - June 2001 and January 2002 - February 2002, Visiting Scientist at the Service Physique Théorique, Saclay, France.
19) September 2001 - December 2001, Visiting Professor at the John von Neumann Institute for Computing (NIC), Forschungszentrum Jülich, Jülich, Germany.
20) March 2002 - June 2002, Visiting Professor at the Okazaki National Institutes, Okazaki, Japan.
21) May 2004 - May 2008, Appointment with the School of Computational Science (SCS), Florida State University, Tallahassee, Florida 32306–4120, USA.
22) May 2005 - August 2005, 21. Leibniz Professor of Leipzig University, Germany.
23) June 2006 - August 2006, JSPS Fellow, Nagoya University, Japan.

Research:

– See the Publication list.

Teaching:

– Freie Universität Berlin (1969-1977): Recitations sessions in Freshman Physics, Undergraduate Lab, Mechanics, Electrodynamics, Quantum Mechanics and Quantum Field Theory.

- Hamburg University (1978-1980 and 1982-1985): Recitation sessions in Mechanics, Electrodynamics, Quantum Mechanics and Statistical mechanics. In 1985 I taught two graduate courses: Quantum Electrodynamics and a special topics course: Monte Carlo Simulations of Quantum Field Theories.
- **Florida State University (1985-present):** Undergraduate courses Intermediate Mechanics and Advanced Mechanics, Astronomy Lab. Lecturs, Recitations and Labs for Physics for Scientists and Engineers. Graduate courses Mechanics, Statistical Mechanics, Electrodynamics, Advanced Numerical Applications. Developed in 2007 new course on Markov Chain Monte Carlo Simulations for the Ph.D. program of SCS. Special Topics courses taught: (i) Introduction to Lattice Gauge Theory, (ii) Statistics for Physicists and Introduction to Computer Simulations.
- Bielefeld University (1990-1991): Graduate courses Quantum Mechanics I and II.
- Technical University Vienna (1995): Introduction to Monte Carlo Simulations and Their Statistical Analysis.
- Leipzig University (2005): Leibniz Lecture *The Computer Revolution and Computer Simulations*. Course and seminar on Markov Chain Monte Carlo Simulations.

*Graduate Students***:** (All Physics with exception of Santosh Dubey)

- Bernd Baumann (Dr.rer.nat. Hamburg University 1987), Claus Vohwinkel (Diplom Hamburg University 1986, Ph.D. FSU 1989), Ramon Villanova (Ph.D. FSU 1991), Balasubramanian Krishnan (Ph.D. FSU 1993), Steve Weaver (Master FSU 1996), Alexander Velytsky (Ph.D. FSU 2004), Robin Robin (Master FSU 2006). Alexei Bazavov (Master FSU 2004, Ph.D., FSU 2007), Santosh Dubey (Master with SCS, FSU 2008). Presently Hao Wu (FSU).

*Service***:**

- As a student representative: participation in faculty meetings and various committees, including search committees for faculty positions, at the Freie Universität Berlin (1970–1972).
- Since fall 1985 service on various committees at the Florida State University, including the following physics department committees: comprehensive examination, graduate student affairs, information and resources, graduate student examinations, faculty search committees of the physics department and at SCRI.
- Member of international advisory committees for the Annual International Lattice Gauge Theory Conference. Co-Organizer of the following international conferences at FSU: 1988 Lattice Higgs workshop, 1990 Lattice Gauge Theory Conference, 1998 workshop on *Monte Carlo and Structure Optimization Methods in Biology, Chemistry and Physics*.
- April 1998 - January 2000, Acting Associate Director of SCRI.
- From 2000 – 2007, Chair of the Future Development Committee of the FSU Physics Department (the committee is charged with integrating the departmental retirement plan with opportunities of expansion).
- Academic year 2005/2006: Chair, SCS search committee for a position in Bio-

Chemical Engineering. Member, SCS curriculum and SCS academic affairs committees.

- Academic year 2006/2007: Chair, SCS Curriculum Committee (SCS Ph. D. program was approved by the Board of Regents), Chair, SCS search committee for a position in Astrophysics / Cosmology.
- Academic year 2007/2008: Member (elected), SCS Faculty General Committee, Member Physics Department Qualifying Exam Committee.
- 2009 Elected Secretary-Treasurer of the Division of Computational Physics (DCOMP) of the American Physical Scociety (APS) for a three year term.

Refereeing:

- Referee reports for the following journals: Computer Physics Communications, Journal of Computational Chemistry, Journal of Physics A, Nature, New Journal of Physics (U.K.), Nuclear Physics B, Physica A, Physical Review B, D and E, Physical Review Letters, Physics Letters A and B, and Zeitschrift für Physic C.
- Panels: NSF Computer Science, Canada Foundation for Innovation (CFI).
- Proposal reviews for: US Department of Energy (DOE), US National Science Foundation (NSF), German Humboldt Foundation, Austrian *Fonds zur Förderung der Wissenschaftlichen Forschung*, United Kingdom *Welcome Trust*, US Petroleum Research Fund (American Chemical Society), US Research Corporation (Tucson, Arizona), Academic Research Program of the Canadian Department of National Defense, U.S. Civilian Research and Development Foundation (CRDF).
- Other: Various US universities solicited my opinion about promotions, tenure and for evaluations of candidates for faculty positions. The Nobel prize committee invited me 1987, 1993, 1997, 2005 and 2009 to nominate candidates for the Nobel prize in physics.

Honors and Awards:

- 1988: Developing Scholar Award by the Florida State University.
- 1992: Council on Research and Creativity Award by the Florida State University.
- 1992: Fellow, Institute for Advanced Study Berlin.
- 2004: Fellow, American Physical Society (APS).
- 2005: Leibniz Professor of Leipzig University.
- 2006: Dirac Professor of Physics at the Florida State University.
- 2006: Fellowship by the Japanese Society for the Promotion of Science (JSPS).
- 2007: Humboldt Research Award.
- 2008: PAI (Professional Analysis Incorporation) Award for Excellence in Teaching and Research.

Grants:

- 1985–1992: Computer time awards by the DOE and FSU for large scale lattice gauge theory simulations.
- 1987–1997: Task B of the FSU High Energy Physics Grant with the US Department of Energy (annual funding from $30,000 up to $50,000).

– 1990–1991: Computer time award by the HLRZ, Jülich, Germany.
– 1990–1991: NSF $15,000.– grant for *US – Federal Republic of Germany Cooperative Research: Lattice Gauge Theory Simulations.*
– 1991: Florida High Technology Council $12,000.– grant for lattice gauge theory simulations and statistical physics.
– 1994: MK industries $4,700.– grant for simulations of complex systems.
– 1998: NSF $12,000.– grant for workshop *Monte Carlo and Structure Optimization Methods for Biology, Chemistry and Physics* (with Meirovitch, Novotny and Rikvold).
– 1998–2001: Computer time award by the NIC, Jülich, Germany (with Billoire and Janke).
– 2002–2005: Computer time award by NIC, Jülich, Germany for "Monte Carlo Protein Folding" (with Grassberger and collaborators).
– 2008–present: Computer time awards by NERSC (National Energy Research through Scientific Computing, U.S.).
– **1998 - present: Co-PI of the FSU High Energy Physics Grant with the US Department of Energy (about ten Co-PIs with a typical annual funding at about $1,000,000).**

Professional Memberships:

– Wissenschaftkolleg Berlin Alumni (since 1994).
– American Physical Society (since 2004).
– Japanese Society for the Promotion of Science (JSPS) Alumni (since 2007).