

Curriculum Vitae: Georg A. Weidlich, Ph.D., phone 650-387-0896
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Professional Experience:

- Founder and President, National Medical Physics and Dosimetry Company, Inc., in Palo Alto, California, from 1995 to date
- Consulting Physicist and Radiation Safety Officer at ZAP Surgical Systems, Inc., San Carlos, CA, development of novel dedicated Radiosurgery device, January 2016 to date
- Director of Radiological Physics at Valley Regional Cancer Center in Modesto, California, from December 1992 to December 1999
- Consulting Professor at Stanford University, Department of Neurosurgery, Palo Alto, CA, 2003 to 2008
- Adjunct Professor at California State University, Fresno, Physics Department November 2015 to date
- Consulting Physicist at Siemens in the development of several major Linear Accelerator projects, beam line design, industrial applications, and shielding.
- Consulting Radiological Physicist at Sierra View Medical Center, Roger S. Good Cancer Treatment Center, Porterville, California, September 1995 to date
- Consulting Radiological Physicist at Sonora Regional Medical Center, Sonora, California, July 1992 to date
- Reviewing Medical Physicist for Cureus Journal – Cardiac Radiosurgery, March 2016 to date
- Consulting Radiological Physicist at Florence Wheeler Cancer Center, Mercy Hospital, Bakersfield, California, August 1999 to May 2003
- Consulting Radiological Physicist and RSO at California Cancer Center, Fresno, California, June 2000 to April 2017, one of California's largest Radiation Oncology Centers
- Consulting Medical Physicist at CyberHeart, Inc., a silicon-valley start-up company developing a novel radiation based cardiac ablation method with the CyberKnife, 2005 to 2018
- Consulting Radiological Physicist at Scripps Clinic, San Diego, California, June 2000 to August 2000, in the field of Radiation Shielding design
- Consulting Health Physicist at University Medical Center, Radiation Oncology Department, Fresno, California, from September 1995 to December 1997
- Consulting Medical Physicist in collaboration with University of California, Davis, Medical Center, in the feasibility study, evaluation, and clinical implementation of an amorphous silicon based Electronic Portal imaging detector for Radiotherapy 1998
- Reviewing Medical Physicist for Medical Review Institute of America, Inc., Salt Lake City, UT, in the medical necessity assessment of Radiological procedures from 1998 to 2003
- Expert witness and medical-legal reviewer for Radiation injury and court litigation cases for American Medical Forensic Specialists, Berkeley, CA, ongoing
- Consulting Medical Physicist at Mobile Technology, Inc., throughout the Northern California region in the provision of mobile HDR Services to their network of clinical clients from 1996 to 1998
- Consulting Medical Physicist at Ben Schaeffer Cancer Institute, Lodi, California, from 1996 to 1998
- Consulting Medical Physicist at Red Bluff Cancer Center, Red Bluff, California, from September 1997 to date
- Consulting Medical Physicist and Radiation Safety Officer at GammaMed USA, the world's largest manufacturer of transportable High Dose Rate Remote Afterloading Brachytherapy machines, Ann Arbor, Michigan, 1998.
- Radiation Safety Officer, Valley Regional Cancer Center, Modesto, California, 1993 to 2001

- Medical Physics Consultant for Nucletron Corporation, Holland, in the development of Wide Area Networks (WAN's) for Radiotherapy Treatment Planning systems, 1999 to 2001
- Medical Physics Consultant for Wellhofer Dosimetrie, Germany, in the development of novel two-dimensional dosimetry detectors, 1993 to 1994
- Medical Physics Consultant for Sandstrom Trade and Technology, Canada, in the integration of a headframe for fractionated stereotactic radiosurgery, 1993 to 1998
- Employment at Siemens Medical Laboratories, Concord, California, as Physicist from January 1990 to December 1992
- Research Assistant at the Advanced Radiation Research Laboratory of Oregon State University, Corvallis, Oregon from August 1987 to December 1989 in the field of Radiation Research.

Education:

- University of Kaiserslautern, Germany: Doctoral studies in Medical Physics and Electric Engineering, Doctor of Philosophy (Ph.D.) in Medical Physics/Electrical Engineering, 1994
- Oregon State University in Corvallis, Oregon: graduate studies in Physics from 1987 to 1989
Master of Science in Physics received December, 1989
- University of Tuebingen, Germany: undergraduate studies in Physics from 1984 to 1987
Bachelor of Science in Physics received September 1986
- Texas A&M: MBA studies, in progress, 2016-2017

Patents:

- US Patent #5,216,255, "Beam Profile Generator for Photon Radiation", granted June 1, 1993
- US Patent #5,332,908, "Method for Dynamic Collimator Motion to Generate Dose Distributions", granted July 26, 1994
- "Self-Shielded Image-Guided Radiation Oncology System", Patent applied for, Feb 2016

Publications:

- Weidlich V, Lechuga L, Dore D, et al. (June 11, 2019) Concept for a Fan-beam Computed Tomography Image-guided Radiotherapy Device. **Cureus** 11(6):e4882. doi:10.7759/cureus.4882
- Weidlich G A., Bodduluri M, Achkire Y, et al. (March 19, 2019) Characterization of a Novel 3 Megavolt Linear Accelerator for Dedicated Intracranial Stereotactic Radiosurgery. **Cureus** 11(3): e4275. doi:10.7759/cureus.4275
- Weidlich G A., Hacker F, Bellezza D, et al. (October 12, 2018) Ventricular Tachycardia: A Treatment Comparison Study of the CyberKnife with Conventional Linear Accelerators. **Cureus** 10(10): e3445. doi:10.7759/cureus.3445
- Weidlich V, Weidlich G A. (April 13, 2018) "Artificial Intelligence in Medicine and Radiation Oncology". **Cureus** 10(4): e2475. doi:10.7759/cureus.2475
- Weidlich G A., Schneider M, Adler J R. (February 02, 2018) "Characterization of a Novel Revolving Radiation Collimator". **Cureus** 10(2): e2146. doi:10.7759/cureus.2146
- "Self-Shielding Analysis of the Zap-X System", G. Weidlich, B. Schneider, J. Adler, **Cureus Online Medical Journal**, December 2017
- Jenkins C H, Kahn R, Weidlich G A., et al. (November 29, 2017) "Radiosurgical Treatment Verification Using Removable Megavoltage Radiation Detectors". **Cureus** 9(11): e1889. doi:10.7759/cureus.1889
- "Analysis of Dose Distribution in the Heart for Radiosurgical Ablation of Atrial Fibrillation", E. Gardner, G. Weidlich, **Cureus Online Medical Science Journal**, July 2016
- "Image Quality Comparison: Cone Beam CT vs. Fan Beam CT", L. Lechuga, G. Weidlich, **Cureus Online Medical Science Journal**, August 2016

- “Remineralization in a Case of Spinal Metastasis Following Radiation Treatment with CyberKnife Stereotactic Radiosurgery”, G. Weidlich, B. Clague, S. Hysell, E. Jones, **Cureus Online Medical Science Journal**, March 2014
- “A Method for Online Dose Guided Radiotherapy”, G. Weidlich and U Swamy, **Cureus Online Medical Science Journal**, Feb 2014
- “Non-Invasive Stereotactic Radiosurgery for the Creation of Ablation Lesions in the Atrium”, P. Maguire, A. Sharma, D. Wong, G. Weidlich, T. Fogarty, A. Jack, T Sumanaweera, , **Journal of Heart Rhythm Society**, March 2010
- “Clinical Commissioning of Laitinen Stereoadapter for Fractionated Stereotactic Radiotherapy”, Georg Weidlich et al., **Medical Dosimetry**, Vol 23, No. 4, pp. 302-306, 1998
- “Added Aluminum Shielding to Attenuate Back Scatter Electrons from Intra-Oral Lead Shields”, Georg Weidlich et al., **Medical Dosimetry**, Vol 21, No. 3, pp. 165-167, 1996
- “Development of Methods for Dynamic Radiation Therapy with specified Dose Distributions”, Georg Weidlich et al., **Medical Dosimetry**, Vol 21, No. 2, pp. 87-95, 1996
- "Dynamic wedge Simulation by Combining Collimator Motion and Beam Intensity Variations", C. Yu, G. Weidlich, P. Hernandez, Proceedings of the 1991 Annual Meeting of the International Medical Society, Kyoto, Japan
- "Development of Methods for Dynamic Radiation Therapy with Specified Dose Distributions", G. Weidlich, Doctoral Thesis, University of Kaiserslautern, Germany
- "Structural and electronic Properties of Indium-doped $\text{YBa}_2\text{Cu}_3\text{O}_d$ ", G. Weidlich et al., **Journal of Mater. Res.**, Vol. 6, No.3, Mar 1991
- "Radiation Measurements and Effects on the electronic properties of Indium-doped $\text{YBa}_2\text{Cu}_3\text{O}_d$ ", G. Weidlich et al., Proceedings of the 1990 March Meeting of the American Physical Society, Anaheim, California
- "Structural and Electronic Properties of High Temperature Superconductors", Master's Thesis, Corvallis, Oregon, 1989.

Presentations:

- “Small Field Dosimetry: Detector Dependency On Output Factor and Off-Axis-Ratio Measurements for a Novel Radiosurgery System”, D Pinnaduwa, S Srivastava, X Yan, S Jani, C Jenkins, G Weidlich, M Bodduluri, S , AAPM 2019
- “On TMR Measurement of a New Self-Shielded Stereotactic Radiosurgery (SRS) System”, X Yan, D Pinnaduwa, S Jani, S Srivastava, M Bodduluri, G Weidlich, S Sorensen, AAPM 2019
- “Zap-X Gyroscopic Radiosurgery”, Korean Society for Medical Physics, invited April 2019, Seoul
- “CyberKnife Radiosurgical Ablation of the Myocardium: Pre Clinical Confirmation of Blocked Electrical Conductivity in the Right Atrium”, D. Wong, G. Weidlich, A. Sharma, J. Adler, T.J. Fogarty, P. Maguire, A. Jack, Accuray Annual User’s Meeting January 2008, Scottsdale, Arizona
- “CyberKnife Robotic Radiosurgery System”, AAPM summer SF Bay area chapter meeting, July, 2007, San Francisco, CA.
- “Early Experience with the latest Cyberknife Innovation”, Douglas Wong and Georg Weidlich, presented at the 2nd Annual Robotic Radiosurgery workshop, Chicago, April 2006.
- “MLC based IMRT for Prostate and Head and Neck Cancer”, Presentation given to the Oncure Medical Advisory Board, San Francisco, July 2005
- “Solid State Portal Imaging Detector for Radiotherapy Field Imaging”, Lecture held at the Grand Chart Rounds of Los Angeles Children’s Hospital, Los Angeles, November 1995

- "Introduction to Radiation Therapy: Physics and Functional Aspects", Lecture held at Department of Energy (DOE) Summer School in Nuclear Physics, San Jose State University, San Jose, CA, July 1995 and July 1996
- "Amorphous Silicon and its Applications as Photoconductor in Real-time Portal Imaging of Radiotherapy", held at Philips Medical Systems, Crawley, U.K., January 1994
- "Amorphous Silicon and its Applications as Detector in the Dosimetry of Radiotherapy", held at Wellhoefer Dosimetrie, Schwarzenbruck, Germany, May 1993
- "Introduction to Linear Accelerator Physics and General Radiation Safety", Radiation Safety Seminar regularly taught to Radiotherapy Technologists, 1992 to present
- "Radiation Detectors and their Applications in Radiotherapy", Lecture held at Siemens Medical Laboratories, Concord, CA, April 1991
- "Structural and Electronic Properties of High Temperature Superconductors", Seminar held at Oregon State University, Physics Department, Corvallis, Oregon, October 1989

Professional Activities:

a) Technical/Scientific:

- Directed and managed the planning and building of thirteen independently operating Radiation Therapy facilities with one Linear Accelerator, one superficial unit and one Simulator each
- Directed a staff of two physicist, three dosimetrists, one Biomedical Engineer, three Mold room specialists.
- Co-invented dose modulation algorithms for virtual wedge in Radiation Oncology, laying the foundation for Intensity Modulated Radiation Therapy (IMRT).
- Implemented six Stereotactic Radiosurgery Programs: Valley Regional Cancer Center, California Cancer Center, Modesto Memorial Hospital, and Turlock Regional Cancer Center, Sonora Cancer Center, Sierra View Medical Center
- Developed computer applications for use in Stereotactic Radiosurgery localization and CT image processing
- Conducted shielding calculations, collaboration with architects and supervision of construction work
- Acceptance tested and commissioned 52 linear accelerators, simulators and superficial units
- Developed the Quality Assurance program for treatment, simulation and testing
- Directed, implemented and maintained the clinical and radiation safety programs at Valley Regional Cancer Center for personnel monitoring and patient safety
- Directed the Medical Physics Department at the Valley Regional Cancer Center, supervision of dosimetry, treatment planning, chart checks, radiation safety officer
- Treatment planning of external beam, brachytherapy, stereotactic radiosurgery, seed implants on CMS computer
- Development and implementation of new radiation therapy treatment modalities such as tissue compensator program, stereotactic radiosurgery, ultrasound-guided prostate implant techniques, 3-D treatment planning, Sr-89 palliative treatment of metastatic bone pain, virtual simulation by computerized CT image rendering, fractionated stereotactic radiotherapy
- Accelerator quality assurance, calibration
- Developed real-time solid state portal imaging detector for Siemens linear accelerator made of amorphous silicon, including electronics with Heimann, Germany, including image acquisition and processing routines
- Developed transmission dose chamber for electron and photon radiation in radiotherapy
- Conducted independent research and development in the field of dynamic radiotherapy, intra-

- operative radiotherapy, and solid state detector design
- Participated in the complete sequence of the M.D. Anderson Courses on Clinical Medical Physics and Dosimetry
- Neutron head leakage measurements with the gold foil activation method by Richard McCall
- Conducted radiation transport calculation on the computer for design of beam line components in the Medical linear accelerator
- Specified and bought several complete electron and photon dosimetry systems (Wellhoefer, Capintek, PTW)
- Collaboration with Wellhoefer Dosimetry on new detector developments and their dosimetric applications as well as Sandstrom Trade and Technology on new head frames for fractionated stereotactic radiotherapy.
- Specified, recommended and purchased several linear accelerators, simulators, and dosimetry equipment
- Involvement in the development of dynamic radiotherapy, intra-operative radiotherapy, and solid state detector design

b) Business-related:

- Founded, developed and maintained National Medical Physics and Dosimetry Company, Inc., 1995 to present.
- Founded and developed SimpleXRT, in 2015, a Medical Device start-up company developing self-shielded IGRT systems utilizing diagnostic quality image guidance.
- Negotiated nation-wide purchase agreement for Radiotherapy Linear Accelerators at 38% discount from list price for 19 units. A cost savings of 10.25 Million dollars.
- Negotiated nation-wide purchase agreement for Radiotherapy Treatment planning computer systems at 51 % discount from list price for 15 units. A cost savings of 1.15 Million dollars.
- Served on numerous Board of Directors and Advisory Boards of start-up companies and professional organizations.

c) Clinical:

- Evaluated the Radiosurgery program at Stanford University Medical Center and help restructuring.
- Reviewer for American College of Radiation Oncology Accreditation. Site visits to Radiation Oncology Departments.

Membership in Professional Societies:

- Member of the American Board of Medical Specialties since 1997
- CA state approved Physicist, qualified for calibration of linear accelerators and radiation protection surveys
- Active Member of the American College of Radiation Oncology (ACRO)
- Active Member of the American College of Radiology (ACR)
- Active Member of the American Society for Therapeutic Radiology and Oncology (ASTRO)
- Active Member of the American Association of Physicists in Medicine (AAPM)
- Active Member of the Health Physics Society (HPS)
- Member of the American Physical Society (APS)
- Member of the Bay Area Chapter of the AAPM
- Lifetime member of the Radiosurgery Society (RSS)

Certifications and Awards:

- Fellow of the American College for Radiation Oncology since 2012
- Member of the Editorial Advisory Board, European Journal of Sciences 2018 to present

- AAPM Committee member and chair for committees in General Medical Physics and European liason
- American Board of Radiology Certified in Therapeutic Radiological Physics 1996
- American Board of Medical Physics – Certified in Radiation Oncology Physics 1997
- American Board of Radiology Certified in Diagnostic Radiological Physics 1997
- Life-time member of American Mensa since September 2009

Corporate Board Governance related Activities:

- Chairman, Board of Directors, National Medical Physics and Dosimetry, Palo Alto, CA, 1994 to date
- Advisory Function to the Board of Directors at US Cancer Care, Inc., Oakdale, CA
- Chair of the Radiation Safety Committee of Gammamed Inc, Ann Arbor, Michigan, 1998
- Member, Research Board of Advisors, The American Biographical Institute

Skills:

- Commercial Pilot with Instrument Rating since 2013.
- Computer languages: Basic, Turbo Pascal, Fortran77, C
- foreign languages: German, Spanish
- working knowledge of numerous applications in Radiation transport simulations on the PC
- machine shop experience at mill and leigh

Civic activities:

- Vice President of Board of Directors at the Camelia Homeowner's Association, 1991-1993
- Military Service with the German Mountain Troops 1983