4th Joint Medical Symposium

UNIVERSITÄT DUISBURG ESSEN

Open-Minded

University Hospital, Medical Faculty, University of Duisburg-Essen

and

Union Hospital, Tongji Medical College, Huazhong University of Science and Technology

Programme

Topic: Proton Therapy

Monday, 9th November 2020, 9:30h – 13:30h

Venue: University Hospital Essen, Proton Therapy Center WPE, meeting room 1st Floor
Wuhan Union Hospital, Telemedicine Center

Online via ZOOM
Meeting ID 1322585040

University Medicine Essen
University Hospital Essen
Clinic for Particle Therapy

wpe Westdeutsches Protonentherapiezentrum Essen gGmbH

华中科技大学同济医学院附属协和医院
UNION HOSPITAL TONGJI MEDICAL COLLEGE HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Jointly organized by: China Cooperation of the Medical Faculty, UDE and Wuhan Union Hospital, international Exchange Office

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Participants Essen / China Cooperation / University Hospital:

- Prof. Jan Buer,
  Dean of Medical Faculty
- Prof. Ulf Dittmer,
  China Representative of Medical Faculty
- Prof. Mengji Lu,
  Deputy China Representative
- Ursula Schrammel,
  Coordinator and Administrator for China Cooperation

Participants Essen / Clinic for Particle Therapy WPE:

- Prof. Beate Timmermann,
  Director of Clinic for Particle Therapy, Medical Head of WPE
- Prof. Cläre von Neubeck,
  Radiobiologist
- Dr. Yi-Lan Lin,
  Senior Radiation Oncologist
- PD Dr. Christian Bäumer,
  Medical Physicist Expert
- Kai Züger,
  Authorized Officer of Administration

Participants HUST:

- Prof. CHEN Jianguo,
  Vice President of HUST/ Dean of Tongji Medical College
- Prof. SHU Xiaogang,
  Vice Dean of Tongji Medical College
- Ms. HU Ruimin,
  Vice-Director of Office of International Affairs
- Ms. WANG Haikun,
  Office Manager at TMC,
  Office of International Affairs
- Ms. ZHANG Yingjie,
  Office of International Affairs

Participants Wuhan Union Hospital

- Prof. HU Yu, President
- Prof. HUANG Kai, Vice President
- Prof. YANG Dongliang,
  Director of Institute of Infectious Diseases and Immunology
- Assoc. Prof. LIU Jia, Department of Infectious Diseases
- Dr. GAO Feng, Director of International Exchange Office
- Ms. DAI Danyun, International Exchange Office
- Ms. HOU Siliang, International Exchange Office

Participants Wuhan Union Hospital, Cancer Center:

- Prof. ZHANG Tao, Director of Cancer Center
- Prof. YANG Kunyu, Director of Department of Oncology
- Assoc. Prof. MENG Rui,
  Deputy Director of Department of Oncology
- Dr. ZHANG Sheng,
  Deputy Director and Associate Chief Physician of Department of Radiation Therapy
- Dr. YU Dandan,
  Attending Physician of Department of Oncology
- YANG Zhiyong, Physicist
- LIU Gang, Physicist

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Programme

Time Germany	Topic	Speaker
09:30-09:45	Welcome address by dean of Medical Faculty, University Duisburg-Essen	Prof. Jan Buer
09:35-09:40	Welcome address by China representative of Medical Faculty, University Duisburg-Essen	Prof. Ulf Dittmer
09:40-09:42	Introduction of participants of HUST and Wuhan Union Hospital by vice dean of HUST Tongji Medical College	Prof. SHU Xiaogang
09:42-09:46	Welcome address by vice president of HUST	Prof. CHEN Jianguo
09:46-09:50	Welcome address by president of Wuhan Union Hospital	Prof. HU Yu
09:50-09:55	Welcome address by director of Wuhan Union Hospital Cancer Center	Prof. ZHANG Tao
09:55-10:05	Welcome address by director of WPE, presentation of the agenda and introduction of the speakers	Prof. Beate Timmermann
10:05-10:35	Technical history and developments of proton therapy	PD Dr. Christian Bäumer
10:35-11:05	Medical use of proton therapy and clinical experiences	Dr. Yi-Lan Lin
11:05-11:35	Radiobiology of protons	Prof. Dr. Cläre von Neubeck
11:35-11:45	Break	
11:45-12:15	Training and education at WPE - research focus	Prof. Dr. Beate Timmermann
12:15-12:45	Project planning & organizational structure and process organization at WPE	Kai Züger
12:45-13:15	Introduction of the Cancer Center and Proton Therapy Center of Wuhan Union Hospital	Prof. YANG Kunyu
13:15-13:30	Outlook and future perspectives for cooperation, questions and joint discussion, closing remarks	All

Participants Essen / Clinic for Particle Therapy WPE

Professor Dr. med. Beate Timmermann

beate.timmermann@uk-essen.de
Date & place of birth: May 19th, 1967; Mannheim, Germany

Periods of academic training and academic degrees

1986-1993	Medical school, University of Hamburg, Germany
1994-1995	Residency, Department of Pathology, Asklepios Clinic Barmbek, Hamburg,Germany
1995-2002	Specialty training in Radiation Oncology, University of Tübingen, Germany
2000	Obtaining MD degree, Faculty of Medicine, University of Tübingen, Germany,supervisor: Prof. M. Bamberg
2002	Completing specialization in Radiation Oncology
2007	"Habilitation" in Radiation Oncology (Prof. Dr. N. Willich) / adjunct Professor,Medical Faculty,University of Münster, Germany
2009	"Fachkunde Protonentherapie" (German authority approval to supervise proton beam therapy)
2012	Call for full Professorship, Radiation Oncology, Particle Therapy, University of Duisburg-Essen, Germany
Since 2013	Full Professor for Radiation Oncology, Particle Therapy, Medical Director of the Clinic for Particle Therapy, Essen University Hospital

Periods of previous scientific work

1995-2000	Scientific medical staff member, Department of Radiation Therapy and Radiation Oncology (Prof. Dr. M. Bamberg), University of Tübingen, Germany
2000-2002	Postdoctoral Medical fellow, Department of Radiation Therapy and Radiation Oncology (Prof. Dr. M. Bamberg), University of Tübingen, Germany
2002-2005	Senior Radiation Oncologist, Head of the Pediatric Program, Center for Proton Beam Therapy (ZPT), Paul Scherrer Institute (PSI), Villigen, Switzerland
2005-2009	Vice Medical Director of the ZPT, PSI, Villigen, Switzerland
2007-2013	Associate Professor, Department of Radiation Oncology, University of Münster, Germany
2009-2011	Vice Medical Director of the West German Proton Therapy Centre Essen (WPE), Essen, Germany
2011-2013	Operative Medical Director, WPE, Essen, Germany
Since 2014	Full Professor for Radiation Oncology, Particle Therapy, Medical Director of the Clinic for Particle Therapy, Essen University Hospital

Awards

2015	Health Media Award (Health Angel) in the category "medical products"

Main areas of Research:

- Radiation therapy in CNS tumours, soft tissue/osseous sarcomas, pediatric malignancies
- Modern conformal radiation techniques and proton beam therapy
- Radiation techniques of the craniospinal axis
- Clinical quality assurance of radiation therapy
- Quality of life evaluation
- Developing treatment guidelines for childhood malignancies

Special activities

- Head of the National Advisory Center "Particle Therapy in Pediatric Oncology in Germany
- Speaker of the consortium for reference radiotherapy in the German Pediatric Brain Tumor Study Group (HIT-Network)
- Reference radiation therapist of various interdisciplinary studies (CWS, osteosarcomas, EUROEwing 2008, brain tumor studies of the GPOH, neuroblastoma study, retinoblastoma registry)
- Director of the ESTRO course "Pediatric Radiation Oncology
- Course director of the course "Radiotherapy of childhood cancer" of GPOH and DEGRO
- Member of faculty of the ESTRO course "Particle Therapy"
- Member of the Scientific Review Committee of national and international congresses (PTCOG, ESTRO, SIOP, DEGRO)
- Member of the Steering Committee and mentor in the MediMent program for the promotion of young women scientists in medicine
- Examiner for the qualification "proton therapy" of the Bavarian State Medical Association
- Member of the Certification Commission Module Pediatric Oncology of the German Cancer Society
- Member of the Board of the Cancer Society NRW e.V.
- Chairwoman of the Advisory Board "Stiftung Universitätsmedizin Essen" (elect)
- Member of the Editorial Board of the International Journal of Particle Therapy
- Member of the Editorial Board "Radiation Oncology"

Membership of professional associations

- German Society of Radiation Oncology (DEGRO)
- German Pediatric Radiation Oncology Group (APRO)
- German Society for Pediatric Oncology and Hematology (GPOH)
- European Society for Therapeutic Radiology and Oncology (ESTRO)
- Particle Therapy Co-Operative Group (PTCOG)
- German Cancer foundation (DKG)
- German Cancer foundation NRW
- International Society of Pediatric Oncology (SIOP)
- International Society of Pediatric Oncology Europe (SIOP E)
- International Society of Paediatric Oncology Europe Neuroblastoma Group (SIOPEN)
- International Society of Pediatric Radiation Oncology (PROS)

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Prof. Dr. rer. nat. Cläre von Neubeck

claere.vonneubeck@uk-essen.de

Professional experience

Juniorprofessor for Translational Particle Therapy (since August 2019),
University of Duisburg-Essen
University Hospital Essen, Department of Particle Therapy, Essen Germany
Senior PostDoc, Project Manager (2012-2019)
German Cancer Consortium (DKTK), Partner site Dresden, Dept. Translational Radiooncology
OncoRay-National Center for Radiation Research in Oncology, Dresden, Germany
German Cancer Research Center (DKFZ), Heidelberg, Germany
Postdoctoral Researcher (2010-2012)
Pacific Northwest National Laboratory, Richland, WA, USA
Biological Science Division, Dept. Health Impacts and Exposure Science

Dissertation

Radiobiological experiments for carbon ion prostate cancer therapy: Interplay of normal & tumor cells in co-culture & measurement of the oxygen enhancement ratio (2006-2009)
Dept. of Biophysics, GSI Helmholtz Center for Heavy Ion Research
Dr. rer. nat., magna cum laude

University

PhD Program (Technische Universität Darmstadt, Germany) 2006-2007
Biology: Neurobiology & Physiology
Study Biotechnology (Hochschule Darmstadt, Germany) 2001-2006
Diploma Engineer

Research Focus

- Particle Radiation (investigating the relative biological effectiveness (RBE) in mono/ co-cultures, organotypic models, organ slice cultures and animal models)
- Experimental radiotherapy (investigating in established and primary tumor models in vivo/ ex vivo, biomarkers for radiosensitivity, tumor micromilieu, and combined radio-oncological therapy modalities)

Scientific Awards

- Selected by the Japanese foreign ministry for the Junior Experts Exchange Program with Japan (2019)

- Diploma thesis was awarded with the Christoph Schmelzer Award, Verein zur Förderung der Tumortherapie mit schweren Ionen e. V., Darmstadt, Germany (2006)
- Poster Award German Society for Medical Physics „Predicting clinical relative biological effectiveness (RBE) in proton therapy based on (pre-) clinical response data“, A Lühr, C von Neubeck, C Hahn, et al., 2017
- Poster Award German Society for Biological Radiation Research „Experimentelle Untersuchung von γH2AX Foci als potentiell prädiktiver Biomarker für die Strahlensensibilität von humanen Tumoren“, C von Neubeck, A Menegakis, U Koch, et al., 2013
- “Best-Paper-of-the-Year Award” German Society for Biological Radiation Research, section medical article: A Menegakis, C von Neubeck et al., Radiother Oncol, 2015
  “Hot” research article and back cover-artwork: C von Neubeck et. al. Integrative Biology (Camb) (2013); 10:1229-43
- Nominated “Student and New Investigator Best Paper Award”: C von Neubeck et. al. Environ. Mol. Mut. (2012); 53(4):247-59 (2012)
- Travel Award Radiation Research Society, New Orleans, USA (2013)
- Travel Award NASA Human Research Program Investigators’ Workshop, NASA Johnson Space Centre & Universities Space Research Association, Houston, USA
- (2012)
  Travel Award Heavy Ion Symposium. NASA Johnson Space Centre & der Universities
- Space Research Association, Köln, Germany (2009)
  Travel Award 72. Annual Meeting German Physic Association, Wilhelm und Else-
- Heraeus Stiftung, Berlin, Germany (2008)
  Travel Award 47. Annual Meeting Particle Therapy Co-Operative Group, Particle
- Therapy Co-Operative Group Travel Fellowship Committee, Jacksonville, USA (2008)
  Travel Award 10. Annual Meeting German Society for Biological Radiation Research, Mainz, Germany (2007)

Memberships in professional Societies & Committees

- German Commission on Radiological Protection:
  Committee A1 "Radiation Risk" (since 2020)
  Working Group "Glossary” (since 2020)
- German Society for Radiation Oncology (since 2019)
  Spokesperson of the proton and heavy ion network (since 2019)
- German Society of Biological Radiation Research (since 2006)
  Member of the board representing young investigators (2012-2016)
  Concept, Organization, and Chairing the Young Investigator Session (2013-2016)
  Scientific Committee (since 2013)
- Fellow of the School of Oncology, German Cancer Consortium (2012-2018)
- Radiation Research Society (since 2013)
- European Radiation Research Society (since 2013)

Publications

33 publications in peer-reviewed journals, 13 as first or last author
Summarized Impact factor (IF) = 138,514 (2018/19); IF as first or last author = 47,688
H-Index: 15

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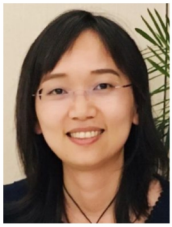

Dr. Yi-Lan Lin

Education

2001-2007 Medical school education at Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen, Germany

Certification and license

11/2007 Medical license, Germany
7/2013 Board certification in Radiation Oncology with expertise in Radiation Protection, Germany
9/2014 Certification of expertise in Proton Therapy, Germany

Medical training

2006-2007 Internship: Internal Medicine, Surgery and Radiation Oncology; Maria Hilf Clinics Mönchengladbach, Academic Teaching Hospital of RWTH Aachen
2008-2013 Residency: Radiation Oncology; Maria Hilf Clinics Mönchengladbach

Professional Experience

7-12 2013 Attending Physician for Radiation Oncology, Maria Hilf Clinics Mönchengladbach,
1/2014-4 2017 Staff Radiation Oncologist at Rinecker Proton Therapy Center Munich
5/2017-12/2019 Head of Radiation Oncology Clinic II at Rinecker Proton Therapy Center
4/2020-present Senior Physician at West German Proton Therapy Center

Foreign Experience Exchanges

5/6 2014 China: Beijing Cancer Hospital, Shanghai Oriental Hospital and Fudan University Affiliated Cancer Hospital and Guangzhou Sun Yat-sen University Affiliated Cancer Hospital
1/2016 Taiwan: Proton and Radiation Therapy Center at Linkou Chang Gung Memorial Hospital
7/2019 China: Xijing Hospital (First Affiliated Hospital of Chinese Air Force Medical University) Xi'an

Publications

- Lin YL. Proton beam therapy in apneic oxygenation treatment of an unresectable hepatocellular carcinoma: A case report and review of literature. World J Hepatol 2018; 10(10): 772-779.
- Lin YL. Reirradiation of recurrent breast cancer with proton beam therapy: A case report and literature review. World J Clin Oncol 2019; 10(7): 256-268.
- Lin YL. Proton beam therapy of periorbital sinonasal squamous cell carcinoma: Two case reports and review of literature. World J Clin Oncol 2020; 11(8): 655-672.

Dr. rer. nat. Christian Bäumer

christian.baeumer@uk-essen.de
Date & place of birth:May 27, 1975, Rheine, Germany

Positions and Professional Experience

09/2014-today	Lecturer at Hamm-Lippstadt University of Applied Sciences and TU Dortmund University (faculty member since 11/2019)
06/2009-today	Medical Physicist at the Westgerman Proton Therapy Centre WPE. Since 08/2012 radiation protection officer. Since 08/2020 research lead medical physics
12/2004-05/2009	Research Scientist at Philips Research Europe (Aachen/Germany) in the group X-ray Imaging Systems
01/2001-11/2004	Graduate Teaching and Research Assistant, University Münster/Germany
07/1998-08/1998	Placement student at Siemens Research and Development München/Germany

Educational Record

11/2020	Habilitation at TU Dortmund University. Awarded the venia legendi
07/2012	Certification as Medical Physicist (external beam therapy, proton and ion therapy)
07/2004	Dr. rer. nat. (Ph.D., science) in the field of nuclear physics. Grade: magna cum laude.
11/2000	Diploma (M.Sc. degree) in physics

Kai Züger

kai.zueger@uk-essen.de
Date & place of birth: September 5th, 1978, Essen, Germany

Positions and Professional Experience

2013-today	Legal representative of Westdeutsches Protonentherapiezentrum Essen gGmbH
07/2007-2013	Project Leader of the Development of the West German Proton Therapy Center Essen
09/2005-07/2007	Department of Business development and Controlling, University Hospital of Essen

Educational Record

06/2005	Diploma in Economics at Ruhr-University of Bochum
08/1998–07/2000	Education as qualified banker at Deutsche Bank Essen

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Participants Wuhan Union Hospital, Cancer Center

Professor Dr. med. Tao Zhang

Professor, Chief Physician, Supervisor,
Director and Communist Party secretary of Cancer Center,
Union Hospital, Tongji Medical College, Huazhong University of Science and Technology

Education/Training

1998-2002	Universität Heidelberg, Germany	Dr. med	Hematological Oncology
1984-1989	Tongji Medical University, China	M. D	Clinical Medicine

Career History

2020/5- current	Executive director and Communist Party secretary, Professor and Chief Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2018/11-2020/5	Vice executive director and Communist Party secretary, Professor and Chief Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2014/11-2018/10	Vice executive director and Party branch secretary, Professor and Chief Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2009/11-2014/10	Associate Professor and Chief Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2003/7-2009/10	Associate Professor and Associate Chief Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
1996/7-2003/6	Attending Physician, Oncology Department, Union Hospital, Tongji Medical University
1989/7-1996/6	Resident, Oncology Department, Union Hospital, Tongji Medical University

Positions and Honors

1. Chinese Medical Doctor Association Cancer Committee, Standing committee
2. Chinese Society of Clinical Oncology (CSCO), Director
3. Chinese Society of Clinical Oncology (CSCO) Committee of Experts for Pancreatic Cancer, Vice chairman
4. Chinese Society of Clinical Oncology (CSCO) Committee of Experts for Gastric Cancer, Standing committee
5. Hubei Medical Doctor Association Cancer Committee, Vice chairman

6. Hubei Medical Association Cancer Committee, Vice chairman
7. Hubei Committee of Targeted Therapy for Cancer, Chairman
8. Hubei Society of Clinical Oncology, Executive Director and Deputy Secretary-General
9. Journal Review: J Huazhong Univ Sci Technolog Med Sci, World J Gastroentero

Selected Research Support

1. National Key R&D Program of China, Sub-project, No.2018YFC1313302, 2018, Early stage clinical research of immune checkpoint inhibitors in gastric cancer
2. National Natural Science Foundation of China, No.81874061, 2018, CEMIP promotes metastasis of colon cancer through negatively regulating the stability of GRAF1
3. National Natural Science Foundation of China, No.81172152, 2011, T Cell Adoptive Immunotherapy Targeting CD133 for Advanced Colorectal Cancer.
4. National Natural Science Foundation of China, No.30872942, 2008, Modes And Mechanisms of the First Cell Division for Single CD133+ Human Glioma Cancer Stem Cells.
5. Natural Science Foundation of Hubei Province, No.2003ABA142, 2003, The Role of Notch1 Gene in the Early Division of Cells.
6. Natural Science Foundation of Hubei Province, No.2008CDB393, 2008, CD133/prominin-1, a Surface Marker of Colorectal Cancer Stem Cells, Acts as a New Target for Tumor Therapy.
7. Wuhan Science and Technology Bureau, No.2014060101010047, 2014, An Asymmetric Bispecific Antibody Targeting CD133 for advanced Colorectal Cancer

Scientific Focus Areas

- **Cancer stem cells (CSC) and immunotherapy:** clarified that CD133/prominin-1 was one of the surface markers of colorectal cancer stem cells, developed a novel bispecific antibody targeting CD133 to eliminate CSC and inhibit tumorigenesis in colorectal cancer; demonstrated that miR-128 attenuated CSC properties by targeting critical molecules such as BMI-1 and other CSC regulators
- **The mechanism of tumor metastasis and related therapeutics:** focus on screening differentially expressed genes between CSC from primary and metastatic colon cancer tissues, elucidating the roles of these genes in CSC-related tumor metastasis, and exploring the involved mechanisms; discovered that KIAA1199, a cell-migration inducing protein, promotes metastasis of colorectal cancer cells via microtubule destabilization regulated by a PP2A-stathmin pathway
- **Optimization within the field of early screening, diagnosis and standardized treatment in gastrointestinal tumors:** demonstrated that Circulating tumor microemboli (CTM) and vimentin+ circulating tumor cells (CTCs) detected by a size-based platform predict worse prognosis in advanced colorectal cancer patients during chemotherapy; developed and validated a prognostic nomogram to guide decision-making for high-grade digestive neuroendocrine neoplasms

Selected Publications

1. Lin Z#, Wang H#, Zhang Y#, Li G, Pi G, Yu X, Chen Y, Jin K, Chen L, Yang S, Zhu Y,Wu G, Chen J*, Zhang T*. Development and Validation of a Prognostic Nomogram to Guide Decision-Making for High-Grade Digestive Neuroendocrine Neoplasms. The Oncologist, 2019: the oncologist. 2019-0566.
2. Zhao L, Zhang DJ, Shen Q, Jin M, Lin ZY, Ma H, Huang SY, Zhou PF, Wu G, and Zhang T*. KIAA1199 promotes metastasis of colorectal cancer cells via microtubule destabilization regulated by a PP2A/stathmin pathway. Oncogene. 2019 (38):935-949.
3. Ye Z#, Zhang T#, He W, Jin H, Liu C, Yang Z, Ren J. Methotrexate-Loaded Extracellular Vesicles Functionalized with Therapeutic and Targeted Peptides for the Treatment of Glioblastoma Multiforme. ACS Appl Mater Interfaces. 2018 Apr 18;10(15):12341-12350.
4. Zhang D, Zhao L, Shen Q, Lv Q, Jin M, Ma H, Nie X, Zheng X, Huang S, Zhou P, Wu G, Zhang T*. Down-regulation of KIAA1199/CEMIP by miR-216a suppresses tumor invasion and metastasis in colorectal cancer. Int J Cancer. 2017 May 15;140(10):2298-2309.
5. Lei Zhao, Yudan Yang, Pengfei Zhou, Hong Ma, Xiaolai Zhao, Xin He, Tao Wang, Jing Zhang, Yang Liu, Tao Zhang*. Targeting CD133high Colorectal Cancer Cells In Vitro and In Vivo With an Asymmetric Bispecific Antibody. J Immunother, 2015, 38(6): 217-228.
6. Jin M#, Zhang T#, Liu C, Badeaux MA, Liu B, Liu R, Jeter C, Chen X, Vlassov AV, Tang DG. miRNA-128 suppresses prostate cancer by inhibiting BMI-1 to inhibit tumor-initiating cells. Cancer Res. 2014 Aug 1;74(15):4183-95.

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Professor Dr. med. Kunyu Yang

yangkunyu1@hotmail.com
Date of birth: Sep. 2nd, 1971

Specialty: chemotherapy and radiation therapy for Head and neck squamous cell carcinoma and CNS tumors
Position: vice chief of Union Hospital Cancer Center, chief of Department of Oncology
Address: Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology

Education

1989.9-1994.7	Wannan Medical College, Bachlor in Medicine
1994.9-1997.7	Tongji Medical College, Huazhong University of Science and Technology, Master in Medicine
2003.6-2004.12	Department of Radiation Oncology, Saarland University Hospital, MD

Work experiences

1997.7-2000.10	Resident, Department of Clinical Oncology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2000.11-2007.10	Attending Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2007.11-2012.10	Associate Professor, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2008.6-2008.11	Department of Radiation Oncology, M. D. Anderson Cancer Center
2012.11-present	Professor, Department of Oncology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2014.6-2014.7	Department of Radiation Oncology, Memorial Sloan Kettering Cancer Center, New York
2020.6-present	Chief of the Department of Oncology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology

Research grants

1. Enhanced radiation sensitivity of nasopharyngeal cancer with EBV targeted intracellular hyperthermia, National Natural Science Foundation of China, 2012.1-2014.12
2. Modulation of LMP2A expression by Epstein-Barr virus-encoded microRNA miR-BART22 increases ionizing radiosensitivity of cancer stem cells in human nasopharyngeal carcinoma, National Natural Science Foundation of China, 2014.1-2017.12
3. LZTS2 regulates radioresistance by negatively modulating PI3K/AKT signaling pathway in nasopharyngeal carcinoma, National Natural Science Foundation of China, 2017.1-2020.12

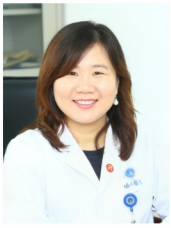
4. Combining targeted clearance of senescent nasopharyngeal carcinoma cells with LMP peptide vaccine to prevent recurrence of nasopharyngeal carcinoma after definitive radiation therapy, National Natural Science Foundation of China, 2019.1-2022.12

Representative Publications

1. Dai X[#], Lu L[#], Deng S[#], Meng J, Wan C, Huang J, Sun Y, Hu Y, Wu B, Wu G, Lovell JF, Honglin Jin*, Kunyu Yang*. USP7 targeting modulates anti-tumor immune response by reprogramming Tumor-associated Macrophages in Lung Cancer. Theranostics. 2020 Jul 23;10(20):9332-9347
2. Kunyu Yang[#], Sheng Y[#], Huang C[#], Jin Y[#], Xiong N[#], Jiang K[#], Lu H[#], Liu J, Yang J, Dong Y, Pan D, Shu C, Li J, Wei J, Huang Y, Peng L, Wu M, Zhang R, Wu B, Li Y, Cai L, Li G, Zhang T, Wu G. Clinical characteristics, outcomes, and risk factors for mortality in patients with cancer and COVID-19 in Hubei, China: a multicentre, retrospective, cohort study. Lancet Oncol. 2020 Jul;21(7):904-913
3. Chao Wan#, Yajie Sun#, Yu Tian#, Lisen Lu, Xiaomeng Dai, Jingshu Meng, Jing Huang, Qianyuan He, Bian Wu, Zhanjie Zhang, Ke Jiang, Desheng Hu, Gang Wu, Jonathan F. Lovell, Honglin Jin*, Kunyu Yang*(co-corresponding author). Irradiated tumor cell-derived microparticles mediate tumor eradication via cell killing and immune reprogramming. Science Advances, 2020; 6: eaay9789.
4. Xiaomeng Dai#, Jingshu Meng#, Suke Deng#, Lingling Zhang, Chao Wan, Lisen Lu, Jing Huang, Yan Hu, Zhanjie Zhang, Yan Li, Jonathan F. Lovell, Gang Wu, Kunyu Yang* (co-corresponding author), Honglin Jin*. Targeting CAMKII to reprogram tumor-associated macrophages and inhibit tumor cells for cancer immunotherapy with an injectable hybrid peptide hydrogel. Theranostics, 2020; 10 (7): 3049-3063.
5. Jing Huang#, You Qin#, Chensu Yang, Chao Wan, Xiaomeng Dai, Yajie Sun, Jingshu Meng, Yanwei Lu, Yan Li, Zhanjie Zhang, Bian Wu, Shuangbing Xu, Honglin Jin, Kunyu Yang*. Downregulation of ABI2 expression by EBV-miR-BART13-3p induces epithelial-mesenchymal transition of nasopharyngeal carcinoma cells through upregulation of c-JUN/SLUG signaling. Aging (Albany NY), 2020; 12 (1): 340-358.
6. Zhang, Y[#]; Chen, L.[#]; Hu, G. Q.[#]; Zhang, N. [#]; Zhu, X. D.[#]; Kunyu Yang [#](co-first author); Jin, F. #; Shi, M. #; Chen, Y. P. #; Hu, W. H.; Cheng, Z. B.; Wang, S. Y.; Li, Y. Q.; Chua, M. L. K. *; Xie, F. Y. *; Sun, Y. *; Ma, J. *. Gemcitabine and Cisplatin Induction Chemotherapy in Nasopharyngeal Carcinoma. The New England Journal of Medicine 2019, 381 (12), 1124-1135.
7. Haojie Liu[#], Yan Hu[#], Yajie Sun[#], Chao Wan, Zhanjie Zhang, Xiaomeng Dai, Zihan Lin, Qianyuan He, Jinguo Cao, Xu Chen, Qi Chen, Jonathan F. Lovell, Zushun Xu*, Honglin Jin*, Kunyu Yang*(co-corresponding author). Co-delivery of Bee Venom Melittin and a Photosensitizer with an Organic-Inorganic Hybrid Nanocarrier for Photodynamic Therapy and Immunotherapy. ACS Nano, 2019; 13 (11): 12638-12652.
8. Honglin Jin[#], Chao Wan[#], Zhenwei Zou[#], Guifang Zhao, Lingling Zhang, Yuanyuan Geng, Tong Chen, Ai Huang, Fagang Jiang, Jue-Ping Feng, Jonathan F. Lovell, Jing Chen*, Gang Wu*, Kunyu Yang* (co-corresponding author). Tumor Ablation and Therapeutic Immunity Induction by an Injectable Peptide Hydrogel. ACS Nano, 2018; 12 (4): 3295-3310.
9. Shuangbing Xu[#], Yan Li[#], Yanwei Lu, Jing Huang, Jinghua Ren, Sheng Zhang, Zhongyuan Yin, Kai Huang, Gang Wu, Kunyu Yang*(corresponding author). LZTS2 inhibits PI3K/AKT

activation and radioresistance in nasopharyngeal carcinoma by interacting with p85. Cancer Letters, 2018;420:38-48.

10. Yanwei Lu, Jia Ma, Yan Li, Jing Huang, Sheng Zhang, Zhongyuan Yin, Jinghua Ren, Kai Huang, Gang Wu, Kunyu Yang*(co-corresponding author), Shuangbing Xu*. CDP138 silencing inhibits TGF-β/Smad signaling to impair radioresistance and metastasis via GDF15 in lung cancer. Cell Death and Disease, 2017; 8 (9): e3036.
11. Wang, Q#; Ma, J#; Lu, Y; Zhang, S; Huang, J; Chen, J; Bei, J; Kunyu Yang*(co-corresponding author); Wu, G; Huang, K; Chen, J; Xu, S*. CDK20 interacts with KEAP1 to activate NRF2 and promotes radiochemoresistance in lung cancer cells. Oncogene, 2017, 36 (37), 5321-5330
12. Kunyu Yang(first author), Zheng Y, Peng J, Chen J, Feng H, Yu K, Chen Y, Luo W, Yang P, Yang Y, Wu B. Incidence of Death From Unintentional Injury Among Patients With Cancer in the United States. JAMA Netw Open. 2020 Feb 5;3(2):e1921647.
13. Wang H, Wei X, Wu B, Su J, Tan W, Kunyu Yang*(corresponding author). Tumor-educated platelet miR-34c-3p and miR-18a-5p as potential liquid biopsy biomarkers for nasopharyngeal carcinoma diagnosis. Cancer Manag Res. 2019 Apr 17;11:3351-3360.
14. Zhang H#, Wan C#, Huang J, Yang C, Qin Y, Lu Y, Ma J, Wu B, Xu S, Wu G, Kunyu Yang*(corresponding author). In Vitro Radiobiological Advantages of Hypofractionation Compared with Conventional Fractionation: Early-Passage NSCLC Cells are Less Aggressive after Hypofractionation. Radiat Res. 2018 Dec;190(6):584-595.
15. Famitinib enhances nasopharyngeal cancer cell radiosensitivity by attenuating radiation-induced phosphorylation of platelet-derived growth factor receptor and c-kit and inhibiting microvessel formation. Mu X, Ma J, Zhang Z, Zhou H, Xu S, Qin Y, Huang J, Kunyu Yang*(corresponding author), Wu G. International Journal of Radiation Biology. 2015;91(9):771-6.
16. Huang F, Wu G*, Kunyu Yang* (co-corresponding author). Oligometastasis and oligo-recurrence: more than a mirage. Radiation Oncology. 2014 Oct 31;9(1):230
17. Zhou H, Mu X, Chen J, Liu H, Shi W, Xing E, Kunyu Yang*(corresponding author), Wu G. RNAi silencing targeting RNF8 enhances radiosensitivity of a non-small cell lung cancer cell line A549..International Journal of Radiation Biology. 2013 Sep;89(9):708-15
18. Chen J, Dassarath M, Yin Z, Liu H, Kunyu Yang*(corresponding author), Wu G. Radiation induced temporal lobe necrosis in patients with nasopharyngeal carcinoma: a review of new avenues in its management. Radiation Oncology. 2011 Sep 30;6:128.
19. Kunyu Yang, Zhang T, Chen J, Fan L, Yin Z, Hu Y, Wu G. Immune thrombocytopenia as a paraneoplastic syndrome in patients with nasopharyngeal cancer. Head Neck. 2010 Jul 27.
20. Kunyu Yang, Palm J, König J, et al. Matrix-Metallo-Proteinases and their tissue inhibitors in radiation-induced lung injury. International Journal of Radiation Biology,2007;83(10):665-676.



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Date of birth: August 09, 1967

Education

12.2010-09.2007	Ph.D (Dr.rer. nat.),Saarland University, Germany Subject: Medical Biochemistry and Molecularbiology Supervisor:Prof. Dr. Matthias Montenarh
07.2010-09.2007	Doctor of Medicine,Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Subject: Oncology Supervisor:Prof. Dr. Gang Wu
07.2007-09.2004	Master of Medicine,Union Hospital, Tongji Medical College, Huazhong University of Science and Technology Subject: Oncology Supervisor:Prof. Dr. Gang Wu
07.2004-09.1999	Bachelor of Clinical Medicine, Medical College, Xi'an Jiaotong University Subject: Clinical Medicine

Work Experience

Now-07.2019	Deputy Director of Oncology Department, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
Now-11.2018	Deputy Director of Thoracic Oncology Department, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
Now-11.2017	Associate Chief Physician & Associate Professor, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
10.2017-10.2010	Resident & Attending Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology

Project/Research Experience/ Thesis

01.2012-12.2014	Responsible for the Project of National Natural Science Foundation of China for Young Scolar(NO.:81101690)Title: The Relationship between Protein inase CK2 and the Radiosensitivity of Lung Cancer
01.2014-12.2015	Responsible for the Applied Basic Research Foundation of Wuhan Science and Technology Committe(NO.:2014060101010034)Title: The Effect of Au-CK2 Gold nanoparticle on the Radiosensitivity of Lung Cancer
01.2014-12.2015	Take part in the Natural Science Foundation of Hubei Province of China(NO. 2014cfb403) Title: Research on the Properties of Gold Nanoparticles in Different Biosamples.

Now-10.2010	Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology. Rearch Direction: The relation of protein kinase CK2 and radiosensitivity of lung cancer
12.2010-09.2007	Saarland University, Germany, PhD(Doctor of Philosphy). Rearch Direction: The crosstalk between protein kinase CK2 and its substracts and binding partners

The Selected Publications

First Author

1. Meng R(#), Al-Quobaili F, Müller I, Götz C, Thiel G, Montenarh M(*). CK2 phosphorylation of Pdx-1 regulates its transcription factor activity, Cell Mol Life Sci. 2010, 67(14): 2481-9.
2. Meng R(#), Götz C, Montenarh M(*). The role of protein kinase CK2 in the regulation of the insulin production of pancreatic islets. Biochem Biophys Res Commun, 2010, 401(2): 203-6.
3. Meng R(#), Li K, Chen Z,Shi C(*).Multilayer coating of tetrandrine loaded PLGA nanoparticles: effect of surface charges on cellular uptake rate and drug release prifile. J Huazhong Univ Sci Technolog Med Sci., 2016,36(1):14-20.
4. Pan X(#), Meng R(#), Yu Z, Mou J, Liu S, Sun Z, Zou Z, Wu G, Peng G*, Quinalizarin enhances radiosensitivity of nasopharyngeal carcinoma cells partially by suppressing SHP-1 expression. Int J Oncol,2016,48(3):1073-1084.
5. Sun Y(#) ; Meng R(#) ; Cheng ZY; Fan C; Wei XM; Yang Y; Wu G; Kristinasen K*; Xue J*, Characterization of genomic clones using circulating tumor DNA in patients with hepatocarcinoma., Translational Cancer Research, 2018.3.17, 7(2): 321~329

Corresponding Author

1. Li QW(#)，Li K, Yang TY, Zhang S, Zhou Y, Li ZY, Xiong JR, Zhou FZ, Zhou XS, Liu L, Meng R(*)，Wu G(*). Association of protein kinase CK2 inhibition with cellular radiosensitivity of non-small cell lung cancer. Sci Rep, 2017,7(1):16134.
2. Li Q, Zong Y, Li K, Jie X, Hong J, Zhou X, Wu B, Li Z, Zhang S, Wu G, Meng R(*). Involvement of endothelial CK2 in the radiation induced perivascular resistant niche (PVRN) and the induction of radioresistance for non-small cell lung cancer (NSCLC) cells. Biol Res. 2019;52(1):22.
3. Li K(#), Zhou F(#), Zhou Y, Zhang S, Li Q, Li Z, Liu L, Wu G, Meng R(*). Quinalizarin, a specific CK2 inhibitor, can reduce icotinib resistance in human lung adenocarcinoma cell lines. Int J Mol Med. 2019 May 30. doi: 10.3892/ijmm.2019.4220. [Epub ahead of print]
4. Li Q, Zong Y, Li K, Zhang S, Wu G, Meng R(*).The effect of ionizing radiation on the subcellular localization and kinase activity of protein kinase CK2 in human non-small cell lung cancer cells. Int J Radiat Biol. 2019 Jul 10:1-23.
5. Zhou Y(#),Li K(#), Zhang S, Li Q, Li Z, Zhou F, Dong X,Liu L,Wu G, Meng R(*). Quinalizarin, a specific CK2 inhibitor, reduces cell viability and suppresses migration and accelerates apoptosis in different human lung cancer cell lines. Indian J Cancer, 2015, 52 Suppl 2: e119-124.

Dr. Med. Sheng Zhang

Education/Training

2008-2010	Universität des Saarlandes Germany	Ph.D.	Radiation oncology
1993-1999	Tongji Medical University, China	M. D	Clinical Medicine

Career History

2014/10- current	Associate Chief Physician, Vice Director of the Radiotherapy Department, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2007/5-2014/10	Attending Physician, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2002/5-2007/5	Resident, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology
2000/10-2002/5	Refresher Doctor, Department of Radiotherapy, Cancer Hospital Chinese Academy of Medical Sciences
1999/9-2000/9	Refresher Doctor, Department of Radiotherapy and Chemotherapy, Zhongnan Hospital of Wuhan University

Positions and Honors

1. Chinese Medical Association, Radiation Oncology Branch, Stereotactic Radiation Therapy Group, Committee member
2. China Anti-Cancer Association, Lung Cancer Professional Committee, Radiotherapy Group, Committee member
3. China Anti-Cancer Association, Radiotherapy Professional Committee, Lung Cancer Group, Committee member
4. Chinese Medical Doctor Association, Radiotherapy Professional Committee, Esophageal Cancer Group, Committee member
5. Chinese Medical Doctor Association, Radiotherapy Professional Committee, Stereotactic Radiotherapy Group, Committee member
6. Chinese Southwest Oncology Group (CSWOG), Lung Cancer Professional Committee, Standing committee
7. Radiotherapy Branch of Wuhan Medical Association, Vice chairman

Selected Research Support

1. National Key R&D Program of China, Sub-project, No. 2016YFC0106700, 2016, Construction and Application of Evaluation System for Stereotactic Radiotherapy Equipments
2. Preside or participate in National Natural Science Foundation of China, Natural Science Foundation of Hubei Province and Wuhan Science and Technology Bureau, 6 projects in total

Scientific Focus Areas

- **Radiosensitization and the involved mechanism in Lung Caner:**
  MiR-200c increases the radiosensitivity of Non-Small-Cell Lung Cancer cell line A549 by targeting VEGF/VEGFR2 pathway, thus inhibit the downstream pro-survival signaling transduction and angiogenesis, and serves as a potential target for radiosensitizition research
  S6K1 phosphorylation-dependent degradation of Mxi1 by β-Trcp ubiquitin ligase promotes Myc activation and radioresistance in lung cancer, these findings not only establish a crosstalk between the mTOR/S6K1 signaling pathway and Myc activation, but also suggest that targeting S6K1/Mxi1 pathway is a promising therapeutic strategy for the treatment of lung cancer
  β-Trcp ubiquitin ligase and RSK2 kinase-mediated degradation of FOXN2 promotes tumorigenesis and radioresistance in lung cancer, suggested that FOXN2 may be a potential therapeutic and radiosensitization target for lung cancer
- **Anticancer activity of SAHA:** demonstrated that Suberoylanilide hydroxamic acid (SAHA), a potent pan-histone deacetylase (HDAC) inhibitor, exert a strong antitumor effects in human large-cell lung carcinoma cells in vitro and in vivo.

Selected Publications

1. Zhao Y[#], Yu D[#], Wu H, Liu H, Zhou H, Gu R, Zhang R, Zhang S*. Anticancer activity of SAHA, a potent histone deacetylase inhibitor, in NCI-H460 human large-cell lung carcinoma cells in vitro and in vivo. Int J Oncol. 2014 Feb;44(2):451-458.
2. Shi L[#], Zhang S[#], Wu H, Zhang L, Dai X, Hu J, Xue J, Liu T, Liang Y, Wu G*. MiR-200c Increases the Radiosensitivity of Non-Small-Cell Lung Cancer Cell Line A549 by Targeting VEGF/VEGFR2 Pathway. PLoS One. 2013 Oct 30;8(10): e78344.
3. Zhang S, Cai Q, Fan L, Zhang R, Zhao Y, Wu G, Dong X*. Primary Intracranial Small Cell Carcinoma: A Case Report and Review of the Literature. Onkoloqie. 2013;36(7-8):428-431.
4. Huang Y[#], Hu K[#], Zhang S[#], Dong X, Yin Z, Meng R, Zhao Y, Dai X, Zhang T, Yang K, Liu L, Huang K, Shi S, Zhang Y, Chen J, Wu G*, Xu S*. S6K1 phosphorylation-dependent degradation of Mxi1 by β-Trcp ubiquitin ligase promotes Myc activation and radioresistance in lung cancer. Theranostics. 2018 Feb 2;8(5):1286-1300.
5. Ma J[#], Lu Y[#], Zhang S[#], Li Y, Huang J, Yin Z, Ren J, Huang K, Liu L, Yang K, Wu G, Xu S*. β-Trcp ubiquitin ligase and RSK2 kinase-mediated degradation of FOXN2 promotes tumorigenesis and radioresistance in lung cancer. Cell Death Differ. 2018 Aug;25(8):1473-1485.

Dr. med. Dandan Yu

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Education

2008/06-2013/06 M. D., Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology,
2003/09-2008/06 Bachelor of medicine, Cancer Center, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology

Current position

Attending Physician, Cancer Center, Union hospital, Tongji medical College, Huazhong University of Science and Technology, Wuhan, China

Working Experience

Attending doctor, 2014/06-present, Cancer Center, Union hospital, Tongji medical College, Huazhong University of Science and Technology;
Recident, 2013/06-2014/06, Cancer Center, Union hospital, Tongji medical College, Huazhong University of Science and Technology

Research Experience

2013/06-present, Department of oncology, Tongji medical College
The Study on the prognostic values of hematological parameters for survival in patients with metastatic gastric cancer
Endothelial progenitor cells contribute to neovascularization of cancer via HDAC7 mediated cytoskeleton regulation and angiogenic genes transcription
Antitumor effects of histone deacetylase inhibitor SAHA in EGFR-mutant non-small-cell lung cancer lines in vitro and in vivo
2008/06-2013/06, Department of oncology, Tongji medical College
VEGF-PKD1-HDAC7 signaling promotes endothelial progenitor cells migration and tube formation
Antitumor effects of Endostar on non-Hodgkin's lymphoma by regulating endothelial progenitor cells through protein kinase B-dependent pathway
Correlation between increased circulating endothelial progenitor cells and stage of non-Hodgkin lymphoma

Funding

Project 1: National Natural Science Fundation of China, HDAC7's role and mechanism in endothelial progenitor cell-mediated angiogenesis and immunosuppression, project No: 81872429, 2019.01-2022.12, In research
Project 2: National Natural Science Youth Fundation of China, HDAC inhibitor SAHA regulates angiogenesis of lung cancer through endothelial progenitor cell HDAC7 signaling pathway. project No: 81402491, 2015.01-2017.12, completed

Project 3: Fundamental Research Funds for the Central Universities of Huazhong University of Science and Technology, HDAC7 Signal Mediated Endothelial Progenitor Cells Involving in Angiogenesis of Lung Cancer, project No. 2014QN054, 2014.04-2015.12, completed

Publications

1. Zhou D, Wu Y, Zhu Y, Lin Z, Yu Dandan(Equal corresponding author)*, Zhang T*. The Prognostic Value of Neutrophil-to-lymphocyte Ratio and Monocyte-to-lymphocyte Ratio in Metastatic Gastric Cancer Treated with Systemic Chemotherapy. J Cancer, 2020, 11(14):4205-4212
2. Zhu Y, Fang X, Wang L, Zhang T*, Yu Dandan(Equal corresponding author)*. A Predictive Nomogram for Early Death of Metastatic Gastric Cancer: A Retrospective Study in The SEER Database and China. J Cancer, 2020, 11(18):5527-5535
3. Wei Y, Zhou F, Zhou H, Huang J, Yu Dandan (Equal corresponding author)*, Wu G*, Endothelial progenitor cells contribute to neovascularization of non-small cell lung cancer via HDAC7 mediated cytoskeleton regulation and angiogenic genes transcription, Int J Cancer, 2018, 143(3):657-667
4. Wei Y#, Zhou F#, Lin Z, Shi L, Huang A, Liu T, Yu Dandan(Equal corresponding author)*, Wu G*. Antitumor effects of histone deacetylase inhibitor suberoylanilide hydroxamic acid in epidermal growth factor receptor-mutant non-small-cell lung cancer lines in vitro and in vivo, Anticancer Drugs, 2018, 29(3):262-270
5. Zhou D, Wu Y, Lin Z, Shi L, Zhao L, Liu T, Yu Dandan(Equal corresponding author)*, Zhang T*, Prognostic Value of combination of pretreatment red cell distribution width and neutrophil-to-lymphocyte ratio in patients with gastric cancer, Gastroenterology Research and Practice, 2018, 2018:8042838
6. Yu Dandan, Chen W, Ren J, Zhang T, Yang K, Wu G, Liu H*. VEGF-PKD1-HDAC7 signaling promotes endothelial progenitor cells migration and tube formation. Microvasc Res, 2014, 91, 66-72,
7. Yu Dandan, Wu H, Yang B, Yang K, Liu H*, Wu G. Antitumor effects of Endostar on non-Hodgkin's lymphoma by regulating endothelial progenitor cells through protein kinase B-dependent pathway. Acta Biochim Biophys Sin (Shanghai), 2013, 45(9), 742-748
8. Zhao Y#, Yu Dandan(Equal contributors)#, Wu H, Liu H, Zhou H, Gu R, Zhang R, Zhang S*, Wu G. Anticancer activity of SAHA, a potent histone deacetylase inhibitor, in NCI-H460 human large-cell lung carcinoma cells in vitro and in vivo. Int J Oncol, 2014, 44(2), 451-458
9. Yu Dandan(Equal contributors) #, Liu H#, Bai Y, Wu B, Chen W, Ren J, Zhang T, Yang K, Wu G*. Correlation between increased circulating endothelial progenitor cells and stage of non-Hodgkin lymphoma. J Huazhong Univ Sci Technolog Med Sci, 2013, 33(2), 284-287
10. Wang J, Wang Y, Han J, Mei H, Yu Dandan(Participant), Ding Q, Zhang T, Wu G, Peng G, Lin Z. Metformin Attenuates Radiation-Induced Pulmonary Fibrosis in a Murine Model. Radiat Res. 2017, 188(1):105-113
11. Zheng X, Fan L, Zhou P, Ma H, Huang S, Yu Dandan(Participant), Zhao L, Yang S, Liu J, Huang A, Cai C, Dai X, Zhang T. Detection of Circulating Tumor Cells and Circulating Tumor Microemboli in Gastric Cancer. Transl Oncol. 2017, 10(3):431-441.
12. Yang B, Yu Dandan(Participant), Liu J, Yang K, Wu G, Liu H. Antitumor activity of SAHA, a novel histone deacetylase inhibitor, against murine B cell lymphoma A20 cells in vitro and in vivo. Tumour Biol. 2015, 36(7):5051-61
13. Liu T , Xie C , Ma H , Zhang S, Liang Y, Shi L, Yu Dandan(Participant), Feng Y, Zhang T, Wu G. Gr-1+CD11b+ cells facilitate Lewis lung cancer recurrence by enhancing neovasculature after local irradiation. Scientific Reports, 2014, 29, 4:4833

Dr. Zhiyong Yang

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Education

09/2005-06/2009	Bachelor Degree, Physics, School of Physics and Technology, Wuhan University, Wuhan, PR China
09/2009-06/2012	Master Degree, Medical Physics, Joint training in Medical Physics Laboratory of Wuhan University and Huaxi MR Research Center of West China hospital
09/2013-06/2016	Doctor of Philosophy, Condensed Matter Physics, School of Physics and Technology, Wuhan University, Wuhan, PR China

Career

12/2009-07/2011	Student & Research Assistant, Huaxi MR Research Center, West China hospital of Sichuan University, Chengdu, China
08/2011-12/2011	Intern, Department of MR Pulse Sequence Design, GE Healthcare, GE China Co. Ltd., Beijing, China
07/2013-present	Medical Physicist, Cancer Center, Wuhan Union Hospital, Huazhong University of Science and Technology, Wuhan, China
07/2017-08/2018	Visiting Scholar, MD Anderson Proton Center, The University of Texas MD Anderson Cancer Center, Houston, Texas 77030, USA

Professional Memberships

2018-present	Member, Medical Physics Group, Chinese Society of Biomedical Engineering
2019-present	Member, Artificial Intelligence and Big Data Group, Radiation Oncology Branch of the Chinese Physicians Association
2017-present	Youth Member, Medical Physics Group, Precision Radiotherapy Branch of the Chinese Society of Biomedical Engineering

Grants & Publications

Grant:

1. Title:Dynamic dose calculation algorithm of Cyberknife VSI System
   Funding Source:NSFC for Young Scholars
   Role:Project Leader
2. Title:Multi-CT optimization in PBS proton treatment plan
   Funding Source: Fundamental Research Funds for the Central Universities
   Role:Project Leader

Publications:

1. Xiao-Yun Zhang†, Zhi-Yong Yang†, Qi-Yong Gong, et al. Longitudinal 1H-MRS assessment of the thalamus in a Coriaria lactone-induced rhesus monkey status epilepticus model, NMR in Biomedicine, 2012; 25(10): 1196-1201. doi: 10.1002/nbm.2789.
2. Zhi-Yong Yang, Qiang Yue, Qi-Yong Gong, et al. A quantitative analysis of 1H MR spectroscopy at 3.0T of three brain regions from childhood to middle-age. British Journal of Radiology, 2015; 88: 20140693. doi: 10.1259/bjr.20140693.
3. Zhi-Yong Yang, Hong Quan, Zhi-Jie Tan, et al. 1H-MRS Revealed Differences in the Glx/Cr Ratio of the Anterior Cingulate Cortex between Healthy and Pediatric PTSD Patients Diagnosed after 2008 Wenchuan Earthquake. Psychiatry and Clinical Neurosciences, 2015, 69(12):782-790. doi: 10.1111/pcn.12332.
4. Zhi-Yong Yang, Yu Chang, Hong-Yuan Liu, Gang Liu, Qin Li. Target margin design for real-time lung tumor tracking stereotactic body radiation therapy using CyberKnife Xsight Lung Tracking System. Sci Rep. 2017 Sep 7;7(1):10826
5. Yu Chang, Zhi-Yong Yang, Qin Li, Gang Wu, et al. Correlations between radiation dose in bone marrow and hematological toxicity in patients with cervical cancer: a comparison of 3DCRT, IMRT, and RapidARC. International Journal of Gynecological Cancer. 2016 May; 26(4): 770-776. doi: 10.1097/IGC.0000000000000660
6. Yu Chang, Hong-Yuan Liu, Zhi-Wen Liang, Xin Nie, Jing Yang, Gang Liu, Qin Li, Zhi-Yong Yang#. Dosimetric Effect of Intrafraction Tumor Motion in Lung Stereotactic Body Radiotherapy Using CyberKnife Static Tracking System. Technology in cancer research & treatment, 2019, 18: 1533033819859448
7. Zhiyong Yang, Heng Li, Yupeng Li, Yuting Li, Yu Chang, Qin Li, Kunyu Yang, Gang Wu, Narayan Sahoo, Falk Poenisch, Michael Gillin, X. Ronald Zhu & Xiaodong Zhang. Statistical evaluation of worst-case robust optimization intensity-modulated proton therapy plans using an exhaustive sampling approach. Radiation Oncology, 2019, 14(1): 129.
8. Yang Zhiyong, Chang Y, Brock KK, Cazoulat G, Koay EJ, Koong AC, Herman JM, Park PC, Poenisch F, Li Q, Yang K, Wu G, Anderson B, Ohrt AN, Li Y, Zhu XR, Zhang X, Li H. Effect of setup and inter-fraction anatomical changes on the accumulated dose in CT-guided breath-hold intensity modulated proton therapy of liver malignancies. Radiother Oncol. 2019 May;134:101-109.
9. Zhiyong Yang, Xiaodong Zhang, Xianliang Wang, X. Ronald Zhu, Heng Li, et al. Multiple-CT optimization: An adaptive optimization method to account for anatomical changes in intensity-modulated proton therapy for head and neck cancers. Radiother Oncol. 2020 Jan;142:124-132

TRAININGS

January 2010	The training on MR pulse sequences design platform, Chengdu, China.
May-July 2015	The training of “China-UW Medical Physics Program” hosted by the National Health and Family Planning Commission of P.R.China and University of Wisconsin-Madison School at Tianjing.
2018	The training of proton therapy at MD Anderson Proton Center.

4th Joint Medical Symposium

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Dr. Gang Liu

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Education:

Sep.2016-Jun.2019	Wuhan University, School of Physics and Technology, Ph.D. Major: Particle Physics and Nuclear Physics
Sep.2012-Jul.2016	Wuhan University, School of Physics and Technology, Master of science, Major: Particle Physics and Nuclear Physics
Sep.2002-Jul.2006	South Central University For Nationalities, School of Computer Science, Bachelor of science, Major: Mathematics and Applied Mathematics

Work Experience:

Jun. 2019-Jun.2020	Radiation Oncology, William Beaumont Hospital, Beaumont Health System, Position: Post-doc Researcher Project: Development of a novel proton arc therapy technique: Spot-scanning Proton Arc therapy incorporated machanical parameter optimization.
May. 2018-May. 2019	Radiation Oncology, William Beaumont Hospital, Beaumont Health System, Position: exchange student Project: Explore the clinical benefit of a novel proton arc therapy technique: Spot-scanning Proton Arc therapy.
Jul.2016-Apr. 2018	Cancer center, Union Hospital, Huazhong University of Science and Technology Position: Clinical Physicist Perform quality work for Elekta and Varian Linac Design 3DCRT, IMRT and VMAT planning Develop procedures, methods and tools for test.

Awards & Honors:

Jun.2019	The Young Investigator Award of the 58th Particle Therapy Co-Operative Group

Selected PEER-REVIEWED JOURNAL PUBLICATIONS:

[1] Gang Liu, Xiaoqiang Li, Lewei Zhao, Weili Zheng, An Qin, Sheng Zhang, Craig Stevens, Di Yan, Peyman Kabolizadeh, and Xuanfeng Ding. 2020. A novel energy sequence optimization algorithm for efficient spot-scanning proton arc (SPArc) treatment delivery. Acta Oncologica (May 2020), 1–8. DOI:https://doi.org/10.1080/0284186X.2020.1765415

[2] Gang Liu, Xiaoqiang Li, An Qin, Weili Zheng, Di Yan, Sheng Zhang, Craig Stevens, Peyman Kabolizadeh, and Xuanfeng Ding. 2020. Improve the dosimetric outcome in bilateral head and neck cancer (HNC) treatment using spot-scanning proton arc (SPArc)

therapy: a feasibility study. Radiat Oncol 15, 1 (January 2020), 21. DOI:https://doi.org/10.1186/s13014-020-1476-9

[3] Sheng Chang, Gang Liu, Lewei Zhao, Joshua Dilworth, Weili Zheng, Saada Jawad, Di Yan, Peter Chen, Craig Stevens, Peyman Kabolizadeh, Xiaoqiang Li and Xuanfeng Ding.2020.Feasibility study: Spot-scanning Proton Arc therapy (SPArc) for left-sided whole breast radiotherapy, Radiat Oncol 15, 1 (Oct 2020). DOI:https:// doi.org /10.21203/rs.3.rs-38925/v2

[4] Gang Liu, Fala Hu, Xuanfeng Ding, Xiaoqiang Li, Qihong Shao, Yuenan Wang, Jing Yang, and Hong Quan. 2019. Simulation of dosimetry impact of 4DCT uncertainty in 4D dose calculation for lung SBRT. Radiation Oncology 14, 1 (December 2019). DOI:https://doi.org/10.1186/s13014-018-1191-y

[5] Gang Liu, Jing Yang, Xin Nie, Xiaohui Zhu, Xiaoqiang Li, Jun zhou, Peyman Kabolizadeh, Qin Li, Hong Quan, and Xuanfeng Ding. 2019. A Patients-Based Statistical Model of Radiotherapy Dose Distribution in Nasopharyngeal Cancer. Dose-Response 17, 4 (October 2019), 1559325819892359. DOI:https://doi.org/10.1177/1559325819892359

[6] Xiaoqiang Li, Gang Liu, Guillaume Janssens, Olivier De Wilde, Vincent Bossier, Xavier Lerot, Antoine Pouppez, Di Yan, Craig Stevens, Peyman Kabolizadeh, and Xuanfeng Ding. 2019. The first prototype of spot-scanning proton arc treatment delivery. Radiotherapy and Oncology 137, (August 2019), 130–136. DOI:https://doi.org/10.1016/j.radonc.2019.04.032

Selected CONFERENCE ABSTRACTS:

1. Gang Liu, Xiaoqiang Li, An Qin, Inga Grills, Craig Stevens, Di Yan, Peyman Kabolizadeh, Xuanfeng Ding, Lung Stereotactic Body Radiotherapy (SBRT) Using Spot-Scanning Proton Arc (SPArc) Therapy: A Feasibility Study. The 58th PTCOG, Manchester, UK, 2019.
2. Gang Liu, Xiaoqiang Li, An Qin, Inga Grills, Craig Stevens, Di Yan, Peyman Kabolizadeh, Xuanfeng Ding, Effectiveness of using Spot-scanning Proton Arc (SPArc) therapy to mitigate the motion interplay effect in lung stereotactic body radiotherapy (SBRT): A quantitative comparison study between IMPT vs SPArc based a digital phantom, AAPM, San Antonio, Texas,USA, 2019.
3. Gang Liu, Xiaoqiang Li, An Qin, Inga Grills, Craig Stevens, Di Yan, Peyman Kabolizadeh, Xuanfeng Ding,Effectiveness of Motion Interplay Effect Mitigation Using Spot-Scanning Proton Arc(SPArc) Therapy in Lung Stereotactic Body Radiotherapy (SBRT): A Quantitative Comparison Study Based on a Digital Phantom,PTCOG-NA, Miami,FL,USA,2019
4. Gang Liu, Xiaoqiang Li, An Qin, Inga Grills, Craig Stevens, Di Yan, Peyman Kabolizadeh, Xuanfeng Ding. Improve the dosimetric outcome in bilateral head and neck cancer (HNC) treatment using Spot-scanning Proton Arc (SPArc) therapy: A feasibility study. AAPM Spring Clinical Meeting , Orlando, FL,USA, 2019.

RESEARCH GRANTS:

1. The National Natural Science Foundation of China, No.12005072, Topic:Study on adaptive radiotherapy strategy of parotid gland protection for nasopharyngeal cancer based on machine learning. PI: Gang Liu.
2. The Natural Science Foundation of Union Hospital, Tongji Medical College, Huazhong University of Science and Technology (No.02.03.2017-289), Topic: The application of deep learning for nasopharyngeal cancer. PI: Gang Liu.