Francesco Ria, DMP

202 Cloverdale Drive, Durham, NC 27703

EDUCATION

Doctor of Medical Physics

2010-2014

University of Milan, Milan, Italy

Doctor of Marketing and Management in Pharmaceutical and Medical Devices

2008-2009

ISTUD Foundation, Milan, Italy

Master of Physics 2000-2007

University of Salento (University of Lecce), Lecce, Italy

AREAS OF EXPERTISE AND EXPERIENCE

- Computed Tomography (CT): Optimization; Radiation dose reduction; Dose monitoring;
 Image Quality quantitative evaluation
- Medical Imaging: X-ray based imaging modalities; Nuclear medicine; Optimization;
 Radiation dose reduction; Dose monitoring
- Medical Physics: Radiation dose measurements; Imaging protocol optimization;
 Acceptance testing, image quality and image performance evaluation of medical imaging devices
- Radiotherapy: Treatment planning system, Quality assurance, Risk assessment
- Radiopharmaceuticals: Cyclotron management, Quality assurance, Regulatory affairs

PROFESSIONAL EXPERIENCE

Clinical Imaging Physics Group, Radiology Department, Duke University Durham, NC Research Scholar September 2015-Present

- Research in Radiology and Medical Physics
- Study of image quality and radiation dose relationship across a clinical population
- Study of sources of variability in patient dose
- Image Quality Diagnostic Reference Level strategy in Radiology

CDI spa, Gruppo BRACCO spa

Milan, Italy

Medical Physics Expert

June 2014-November 2016

- SBRT treatment plans with Cyberknife[©]
- Quality assurance in Radiosurgery and Radiology

- Dosimetric evaluation in Radiosurgery and Radiology
- Dose monitoring and imaging protocol optimization in CT and Medical Imaging

Medical Physics Intern

August 2012-May 2014

- SBRT treatment plans with Cyberknife[©]
- Quality assurance in Radiosurgery and Radiology
- Dosimetric evaluation in Radiosurgery and Radiology
- Dose monitoring and imaging protocol optimization in CT and Medical Imaging

Quality Assurance Manager

June 2011-November 2016

- Quality assurance in Radiopharmaceutical
- Management of the quality system and risk assessment

IL TACCO D'ITALIA, Idea dinamica

Journalist

Casarano, Italy June 2004-Present

Write articles for magazine and website

POLICLINICO MAGGIORE HOSPITAL

Medical Physics Intern

Milan, Italy September 2010-July 2012

- Nuclear Medicine Imaging
- Metabolic Radiotherapy Treatment Planning

ACOM Milano srl, ACOM Group spa

Quality Assurance Manager

Milan, Italy

December 2009-July 2012

- Management of the quality system and risk assessment
- Drafting and revision of standards operative procedures
- Management of Deviations, Non-Conformity, Out of Specification and Internal Audit
- Management of the relationships with the regulatory institutions

Cyclotron Manager

June 2009-July 2012

- Radioisotopes production for radiopharmaceutical solutions synthesis in classified cleanrooms
- Management and maintenance of GE PETtrace cyclotron (16.8 MeV of energy)

SPARKLE srl, ACOM Group spa

Cyclotron Operator

Montecosaro, Italy March 2009-June 2009

Radioisotopes production for radiopharmaceutical solutions synthesis

- Management and maintenance of IBA CYCLONE 18/9 cyclotron (18 MeV of energy)
- Drafting and revision of standards operative procedures

SORIN Biomedica Cardio srl, SORIN GROUP spa

Regulatory Affairs Intern

Saluggia, Italy January 2009-March 2009

- CE certification of medical devices according to directive 93/42 EEC

Scuola Superiore ISUFI, University of Salento

Research Assistant

Cavallino, Italy May 2008-September 2008

- Support of planning activities and development of a website prototype for the electronic management of environmental heritage information
- Management of e-learning platform, web-conference

TEACHING EXPERIENCE

ISTUD Foundation Milan, Italy

Quality assurance in pharmaceuticals 2011, 2012, 2013, 2014

University of Milan Milan, Italy

Doctor of Medical Physics tutorship 2014, 2015

GRANTS AND AWARDS

DiventeròProject – **Bracco Foundation Research Grant in Medical Physics 2015-2016**, "Action and strategies to reduce radiation dose during CT examinations with and without the administration of contrast media" Milan ITALY and Durham (NC) USA

Quality Improvement in Healthcare 2014 Award, Regione Lombardia ITALY, Gold Project "Radiation dose monitoring"

Diventerò Project – Bracco Foundation Grant in Medical Physics 2013, Milan ITALY

PROFESSIONAL AFFILIATIONS

_	American Association of Physicists in Medicine (AAPM) member	2016-Present
_	Italian Association of Medical Physics (AIFM) member	2012-Present
	 Task group Dose monitoring in diagnostic imaging member 	2014-Present
	 Quality Assurance group member 	2013-2017
	 Task group Digital Radiology 	2016-Present
	 Task group The Future of Medical Physics and the need to 	
	Reinforce its Scientific Role	2017-Present
_	International Society for Optics and Photonics (SPIE)	2017-Present
_	Italian Pharmaceutical Industry Association (AFI) member	2012-Present

Task group Radiopharmaceuticals
 Italian National Journalists Register (certificate n. 108587)
 European Association of Nuclear Medicine (EANM) member
 2012-Present
 2005-Present
 2014-2015

OTHER WORK EXPERIENCE

Duke Recreation & Physical Education, Duke University *Soccer official*

Durham, NC September 2016-Present

Officiate Duke Intramural soccer games

North Carolina High School Athletic Association Soccer official

Chapel Hill, NC June 2017-Present

- Officiate competitive high school and middle school soccer games

PUBLICATIONS AND PRESENTATIONS

Peer Reviewed Journal Publications

- 1. **F. Ria**, A. Bergantin, A. Vai et al., "Awareness of medical radiation exposure among patients: a patient survey as a first step for effective communication of ionizing radiation risks", Physica Medica 43:57-62, 2017.
- 2. **F. Ria**, J.M. Wilson, Y. Zhang, E. Samei, "Image noise and dose performance across a clinical population: patient size adaptation as a metric of CT performance", Medical physics 2017, 44(6):2141-2147.
- 3. **F. Ria**, and A. Bergantin, "Implementation of a dosimetric registration and monitoring software in digital radiology", Physica in medicina 2014; 4:46-54.
- 4. **Ria, F.**, Albini, G., Battista, S., Salvatore, V., Messere, R., Bergantin, A., Redaelli, I., Bonfanti, P., Martinotti, A.S., Gandolfo,P. and Papa,S "Study to Define Frequency in Routine Analytical Controls in the Radiolabelling Process" Open Access Library Journal, 4, e3602. (2017) doi: http://dx.doi.org/10.4236/oalib.1103602.
- 5. G. Chittò, E. Di Domenico, P. Gandolfo, **F. Ria**(*), C. Tafuri, S. Papa, "Risk assessment and economic impact analysis of the implementation of new European legislation on radiopharmaceuticals in Italy: the case of the new monograph chapter Compounding of Radiopharmaceuticals (PHARMEUROPA, Vol.23, No.4, October 2011)," Current Radiopharmaceutical 2013; 6 (4):208-14. (*): corresponding author

Conference Abstracts and Papers (Selected)

1. J. T. Davis, **F. Ria**, E. Samei, J. B. Solomon, D. P. Frush, "Quantifying quality: correlation phantom and clinical scan CT noise levels to construct a Quality Reference Level", CIII RSNA Annual Meeting 2017, Chicago (IL) USA

- 2. F. Zanca, X. Lopez-Rendon, P. Guntzer, M. Bedez, **F. Ria**, et al., "Organ Dose estimation in CT through voxelized phantoms and Monte Carlo methods: impact of wrong patient-phantom matching", CIII RSNA Annual Meeting 2017, Chicago (IL) USA
- 3. S. Delle Canne, L. Bianchi, **F. Ria**, B. Italiano, M. Stasi, "A new social role for medical physicists" the Italian Association of Medicla Physics (AIFM) free web section"ilfisicomedicorisponde" to convey cleare and scientific information to public", LIX Annual meeting AAPM 2017, Denver CO USA
- 4. P. Bonfanti, A. Bergantin, **F. Ria**, et al., "Dose Manager: new solution for old issues", LIX Annual meeting AAPM 2017, Denver CO USA
- 5. **F. Ria**, J. T. Davis, J. B. Solomon, J. M. Wilson, D. P. Frush, E. Samei, "From DRL to NRL: a first step toward Quality-based Reference Level", LIX Annual meeting AAPM 2017, Denver CO USA
- 6. T. Smith, E. Abadi, A. Ding, **F. Ria**, E. Samei, "Image quality monitoring: variability in contrast enhancement across a clinical population", LIX Annual meeting AAPM 2017, Denver CO USA
- 7. J. Hoye, Y. Zhang, W. Fu, E. Abadi, **F. Ria**, A. Kapadia, P. Segars, E. Samei, "Organ Dose estimation for CT localizer images", LIX Annual meeting AAPM 2017, Denver CO USA
- 8. A. Ding, T. Smith, E. Abadi, **F. Ria**, J. M Wilson, E. Samei, "Robustness and accuracy of an automated solution for measuring image noise, spatial resolution, contrast, and dose in clinical CT images: efforts towards patient-specific quantifications of CT image quality and radiation dose", LIX Annual meeting AAPM 2017, Denver CO USA
- 9. **F. Ria**, J.M Wilson, Y. Zhang, E. Samei, "Adaptability index: quantifying CT tube current modulation performance from dose and quality informatics", Proc. SPIE, Medical Imaging 2017: Physics of Medical Imaging, 103222N (March 9, 2017)
- 10. A. Vai, P. Bonfanti, M. Invernizzi, A. Martinotti, I. Redaelli, **F. Ria**, G. Beltramo, L.C. Bianchi, I. Bossi Zanetti, A. Bergantin, "GTV-based prescription and Monte Carlo treatment planning in Cyberknife treatments for lung lesions", XXXV European Society for radiotherapy and Oncology Meeting 2016, Turin ITALY
- 11. **F. Ria**, J.M. Wilson, P. Guntzer, F. Zanca, E. Samei, "Variability in CT scanning overrange across clinical operation", LVIII Annual meeting AAPM 2016, Washington DC USA
- 12. P. Bonfanti, M. Invernizzi, A.S. Martinotti, I Redaelli, **F. Ria**, A. Vai, A. Bergantin, "Application of the EUREF protocol for acceptance test of three digital breast tomosynthesis systems," IX Congress of Italian Association of Medical Physics 2016, Perugia ITALY
- 13. A. Vai, P. Bonfanti, I. Redaelli, A.S. Martinotti, **F. Ria**, A. Bergantin, "Monte Carlocorrected GTV dose prescription on lung tumors treated with Cyberknife: a possible recipe," IX Congress of Italian Association of Medical Physics 2016, Perugia ITALY
- 14. **F. Ria**, A. Bergantin, I. Redaelli, P. Bonfanti, A.S. Martinotti, M. Invernizzi, A. Vai, D. Fazzini, G. Gozzi, S. Papa, "CT scan dosimetric parameters routine monitoring: first results of radiation dose optimization strategies promptly provided by a mustidisciplinary team", CI RSNA Annual Meeting 2015, Chicago (IL) USA
- 15. I. Bossi Zanetti, **F. Ria**, A. Bergantin, A.S. Martinotti, I. Redaelli, M. Invernizzi, A. Vai, L.C. Bianchi, G. Beltramo, "Role of [11C] choline PET/CT as an image method for

- target delineation in patients with oligometastatic prostate cancer", European Multidisciplinary Meeting Urological Cancers 2015, Barcelona SPAIN
- 16. I. Bossi Zanetti, **F. Ria**, A. Bergantin, A.S. Martinotti, I. Redaelli, M. Invernizzi, A. Vai, L.C. Bianchi, G. Beltramo, "Impact of [11C] choline PET/CT in the clinical management and radiation treeatment planning of recurrent prostate cancer following EBRT", European Multidisciplinary Meeting Urological Cancers 2015, Barcelona SPAIN
- 17. P. Gandolfo, **F. Ria**, A. Bergantin, A.S. Martinotti, I. Redaelli, M. Invernizzi, A. Vai, L.C. Bianchi, I. Bossi Zanetti, G. Beltramo, "Role of [11C] choline PET/CT in tailored Cyberknife stereotactic therapy in patients with prostate recurrent isolated lymph node", Annual Congress of the European Association of Nuclear Medicine 2015, Hamburg GERMANY
- 18. G. Beltramo, A. Bergantin, A.S. Martinotti, **F. Ria**, M. Invernizzi, A. Vai, L.C. Bianchi, "Impact of [11C] choline PET/CT in the clinical management and radiation treratment planning of recurrent prostate cancer following EBRT", XXV Congress of Italian Society of Oncological Urology 2015, Roma ITALY
- 19. G. Beltramo, V. Matei, G. Longo, C. Locatelli, A. Bergantin, A.S. Martinotti, **F. Ria**, M. Invernizzi, A. Vai, L.C. Bianchi, M. Maggioni, G. Dormia, "Image-guided robotic radiosurgery treatment as salvage therapy for locally recurrent prostate cancer", XXV Congress of Italian Society of Oncological Urology 2015, Roma ITALY
- 20. G. Beltramo, G. Longo, C. Locatelli, A. Bergantin, A.S. Martinotti, **F. Ria**, M. Invernizzi, A. Vai, L.C. Bianchi, M. Maggioni, G. Dormia, "Stereotactic doby radiotherapy for prostate cancer", XXV Congress of Italian Society of Oncological Urology 2015, Roma ITALY
- 21. G. Beltramo, V. Matei, G. Longo, C. Locatelli, A. Bergantin, A.S. Martinotti, **F. Ria**, M. Invernizzi, A.Vai, L.C. Bianchi, M. Maggioni, G. Dormia, "Robotic Image-guided stereotactic radiotherapy for isolated Lymph node prostate metastases", XXV Congress of Italian Society of Oncological Urology 2015, Roma ITALY
- 22. **F. Ria**, G. Albini, S. Battista, V. Salvatore, R. Messere, P. Gandolfo, R. Armonino, S. Papa, "Study for defining frequency in routine analytical control in radiolabelling process", XII Congress of Italian Association of Nuclear Medicine and Molecular Imaging 2015, Rimini ITALY
- 23. **F. Ria**, G. Albini, S. Battista, V. Salvatore, R. Messere, P. Gandolfo, R. Armonino, S. Papa, "Study for defining frequency in routine analytical control in radiolabelling process", Annual Congress of the European Association of Nuclear Medicine 2014, Goteborg SWEDEN
- 24. **F. Ria**, A. Bergantin, A.S. Martinotti, C. Vite, M. Invernizzi, S. Papa "Utilizzo di un software per la valutazione dosimetrica in radiologia digitale: confronto con gli LDR, calcolo della dose efficace e gestione delle irradiazioni anomale", XLVI Congress of Italian Madical Radiology Society 2014, Firenze ITALY
- 25. **F. Ria**, A. Bergantin, A.S. Martinotti, C. Vite, M. Invernizzi, S. Papa, "Spftware per il monitoraggio di parametri di qualita' non dosimetrici in radiologia: valutazione e validazione iniziale", XLVI Congress of Italian Madical Radiology Society 2014, Firenze ITALY
- 26. M. Invernizzi, A.S. Martinotti, A. Bergantin, C. Vite, **F. Ria**, L.C. Bianchi, G. Beltramo, "Critical points and potentiality of a commercial software for the comparison of dose

- distribution with radiochromic films: preliminary results", SRS/SBRT Scientific Meeting 2014, Minneapolis (MN) USA
- 27. M. Invernizzi, A.S. Martinotti, A. Bergantin, C. Vite, **F. Ria**, L.C. Bianchi, G. Beltramo, "Implementation of quality assurance with radiochromic films for a robotic radiosurgery device", SRS/SBRT Scientific Meeting 2014, Minneapolis (MN) USA
- 28. **F. Ria**, A. Bergantin, A.S. Martinotti, C. Vite, I. Redaelli, M. Invernizzi, S. Papa, "Using a software for dosimetric evaluation in digital radiography: comparison with DRL, calculation on effective dose and management of anomalous radiation" VIII Congress of Italian Association of Medical Physics 2013, Torino ITALY
- 29. **F. Ria**, A. Bergantin, A.S. Martinotti, C. Vite, I. Redaelli, M. Invernizzi, S. Papa, "Software for monitoring non dosimetric quality parameters in radiology: evaluation and initial validation" VIII Congress of Italian Association of Medical Physics 2013, Torino ITALY
- 30. A.S. Martinotti, C. Vite, M. Invernizzi, A. Bergantin, **F. Ria**, I Redaelli, L.C. Bianchi, G. Beltramo, "Patient specific quality assurance based on radiochromic film for Cyberknife treatments" VIII Congress of Italian Association of Medical Physics 2013, Torino ITALY
- 31. **F. Ria**, G. Chitto', E. Di Domenico, P. Gandolfo, G. Pedrinelli, C. Tafuri, S. Papa "Risl assessment and economic impact evaluation of the application of the Compounding of Radiopharmaceutical (PHARMEUROPA Vol. 23, No. 4, October 2011)", Annual Congress of the European Association of Nuclear Medicine 2013, Lyon FRANCE
- 32. G. Chitto', E. Di Domenico, P. Gandolfo, G. Pedrinelli, **F. Ria**, C. Tafuri, S. Papa, "Laws versus quality scheme: an opportunity to improve", Annual Congress of the European Association of Nuclear Medicine 2013, Lyon FRANCE
- 33. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Early experienced with Cyberknife stereotactic radiation therapy for chordoma", International Stereotactic Radiosurgery Society, 2013 Toronto CANADA
- 34. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Cyberknife sterotactic radiosurgery for organ confined prostate cancer", International Stereotactic Radiosurgery Society, 2013 Toronto CANADA
- 35. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Effectiveness of Cyberknife stereotactic body radiotherapy for oligometastatic lung tumors", International Stereotactic Radiosurgery Society, 2013 Toronto CANADA
- 36. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Sterotactic body ablative radiotherapy for early stage medically inoperable non small cell lung cancer", International Stereotactic Radiosurgery Society, 2013 Toronto CANADA
- 37. A.S. Martinotti, C. Vite, M. Invernizzi, A. Bergantin, **F. Ria**, G. Beltramo, L.C. Bianchi, "Implementation of a patient specific plan QA method with radiochromic films for Cyberknife treatments: preliminary results", International Stereotactic Radiosurgery Society, 2013 Toronto (CANADA)
- 38. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Stereotactic Body Radiation Therapy with real-time tracking for localized prostate cancer" < Global Congress on Prostate Cancer 2013, Marseille FRANCE
- 39. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Robotic radiorurgery for inoperable patients with Stage IA-IB non small cell lung

- cancer" European multidisciplinary conference in thoracic oncology 2013, Lugano SWITZERLAND
- 40. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Long term follow up of patients treated with Cyberknife Stereotactic Body Radiotherapy for oligometastatic lung tumors" European multidisciplinary conference in thoracic oncology 2013, Lugano SWITZERLAND
- 41. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Stereotactic Radiation Therapy with real-time tracking for localized prostate cancer",II ESTRO Forum 2013, Geneve SWITZERLAND
- 42. C. Vite, A.S. Martinotti, A. Bergantin, **F. Ria**, L.C. Bianchi, G. Beltramo "Output factors with radiochromic films for small fields on a Cyberknife unit", II ESTRO Forum 2013, Geneve SWITZERLAND
- 43. **F. Ria**, E. Di Domenico, C. Tafuri, G. Pedrinelli, G. Chitto', P. Gandolfo, S. Papa, "Economic impact evaluation of the application of the Good Radiopharmaceutical Preparation Practice", XI Congress of Italian Association of Nuclear Medicine and Molecular Imaging 2013, Torino ITALY
- 44. G. Chitto', E. Di Domenico, C. Tafuri, G. Pedrinelli, **F. Ria**, P Gandolfo, S. Papa, "Laws, rules and patterns quality: encirclement, opportunity or condition sine qua non", XI Congress of Italian Association of Nuclear Medicine and Molecular Imaging 2013, Torino ITALY
- 45. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Cyberknife stereotactic radiosurgery for chordoma: preliminary results", SRS/SBRT Scientific Meeting, 2013 Carlsbad (CA) USA
- 46. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Hypofractionated Stereotactic Body Radiotherapy for organ confined prostate cancer", SRS/SBRT Scientific Meeting, 2013 Carlsbad (CA) USA
- 47. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Stereotactic body ablative radiotherapy for early stage non small cell lung carcinoma", SRS/SBRT Scientific Meeting, 2013 Carlsbad (CA) USA
- 48. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Cyberknife Stereotactic Body Radiotherapy for oligometastatic lung tumors", SRS/SBRT Scientific Meeting, 2013 Carlsbad (CA) USA
- 49. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, **F. Ria**, M. Invernizzi, L.C. Bianchi, "Long-term outcomus of Hypofractionated Stereotactic Body Radiotherapy for localized prostate cancer", Advancing Radiation Oncology: A collaborative forum 2012 Dallas (TX) USA
- 50. G. Beltramo, A. Bergantin, A.S. Martinotti, C. Vite, L.C. Bianchi, **F. Ria**, M. Invernizzi, P. Romanelli, "Cyberknife Stereotactic Radiosurgery for Chordoma: preliminary results", Advancing Radiation Oncology: A collaborative forum 2012 Dallas (TX) USA
- 51. C. Vite, A.S. Martinotti, M. Invernizzi, A. Bergantin, **F. Ria**, L.C. Bianchi, G. Beltramo "Implementation of a patient specific plan QA method with radiochromic films for Cyberknife treatments", Advancing Radiation Oncology: A collaborative forum 2012 Dallas (TX) USA

Invited Talks

- 1. F. Ria, E. Samei, "Medical Physics 3.0: Re-Envisioning the Role of Medical Physics in Modern Medicine", X Italian Medical Physics Association national meeting, Bari (ITALY), April 12-15 2018.
- 2. F. Ria, "New regulations and first experiences in patient radiation exposure communication," ISSNAF Medical Imaging Science Chapter, Chicago IL, November, 30th 2015
- 3. F. Ria, "NBP Good practice in radiopharmaceuticals," XV Congress Federazione Nazionale Collegi Professionali Tecnici Sanitari di Radiologia Medica, Riccione, ITALY April, 19-21 2013
- 4. F. Ria, "GMP Good Manufacturing Practice," Course of Italian Association of Medical Physics "Radionuclides production for medical use 2nd Edition", Napoli, ITALY December, 17th 2012
- 5. F. Ria, "GMP Good Manufacturing Practice," Course of Italian Association of Medical Physics "Radionuclides production for medical use", Bologna, ITALY June, 6th 2011
- 6. F. Ria, "Process and nonconformity management," XIV Congress Federazione Nazionale Collegi Professionali Tecnici di Radiologia Medica, Riccione, ITALY April, 6-10 2011

Durham, 04/30/2018

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