

COLLEGE OF MEDICINE CURRICULUM VITAE

FIorenza IANZINI

August 2009

<http://lsdcas.engineering.uiowa.edu/>

I. Educational and Professional History:

A. Institutions Attended

- a. 1976 Diploma di Maturita' Scientifica, Rome, Liceo Scientifico Giovan Battista Morgagni.
- b. 1980 Doctoral Degree in Biology (magna cum laude), University of Rome "La Sapienza", Experimental thesis: "Electron Paramagnetic Resonance Study on Iron, Ceruloplasmin and Transferrin". Prepared at the Physics Laboratory of the Istituto Superiore di Sanita' (National Institute of Health) in Rome.
- c. 1984-1986 Post Doctoral Fellow: Wisconsin Clinical Cancer Center, Department of Human Oncology, Radiobiology Laboratory, University of Wisconsin – Madison, USA, studying effect of hyperthermia on bacterial cells and biological membranes.

B. Professional and Academic Positions

- 1981-1983 Research Fellow, Istituto Superiore di Sanita', Rome, Italy. ESR, fluorescence and photometric studies of biological systems.
- 1981-present Associated Senior Scientist, Istituto Nazionale di Fisica Nucleare-Laboratori Nazionali di Legnaro, Padova, Italy.
- 1983 Visiting Scientist, Laboratory for Endocrinology and Metabolism, Faculty of General Medicine, Charles University, Prague, Czechoslovakia. Studying assays for the extraction and purification of ceruloplasmin from human serum.

B. Professional and Academic Positions (continuation)

- 1983-1984 CNR-ISS Research Fellow, Istituto Superiore di Sanita', Rome, Italy. ESR, fluorescence and photometric studies of biological systems.
- 1984-1986 Post Doctoral Research Associate, Wisconsin Clinical Cancer Center, University of Wisconsin - Madison, USA
- 1986 Visiting Scientist, NMR Spectroscopy Laboratory of the Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest, Hungary. NMR studies of tumoral and normal cells and their membrane lipid extracts; NMR of multilamellar liposomes under different physical conditions.
- 1986-1988 CNR-ISS Research Fellow, Istituto Superiore di Sanita', Rome, Italy. NMR and Spectrofluorimetric studies on normal and Tumoral cells exposed to the action of lipophilic vitamins and drug carrier liposomes.
- 1988-1996 Research Scientist, Laboratorio di Fisica, Biophysics Department, Istituto Superiore di Sanita', Rome, Italy.
- 1989 Visiting Scientist, Medical Research Council, Radiobiology Unit, Chilton, Didcot, England. Studying the direct comparison of the biological effectiveness of protons and alpha-particles with the same LET.
- 1993 Visiting Scientist: Department of Therapeutic Radiology, Yale University, School of Medicine, Boyer Center for Molecular Medicine, New Haven, Connecticut, USA. Studying molecular assays for DNA misrepair.
- 1996-2000 Assistant Professor, Mallinckrodt Institute of Radiology, Washington University, St. Louis, MO, USA.
- 1996-2000 Member of the Washington University School of Medicine Cancer Center, St. Louis, MO.

B. Professional and Academic Positions (continuation)

- 2000-2005 Research Scientist, Department of Radiology, College of Medicine, University of Iowa, Iowa City, IA, USA.
- 2000-present Director of the Large Scale Digital Cell Analysis System (LSDCAS) Core Facility, Holden Comprehensive Cancer Center, Medical Education and Research Facility (MERF), University of Iowa, Iowa City.
<http://www.uihealthcare.com/depts/cancercenter/research/digitalanalysiscore.html>
- 2000-present Member of the Holden Comprehensive Cancer Center at the University of Iowa, Iowa City, IA.
- 2000-present Faculty member in the Free Radical and Radiation Biology Program, Graduate School, University of Iowa, Iowa City, IA, USA.
- 2000-2004 Member of the Molecular Mechanisms of Metastasis Program at the Holden Comprehensive Cancer Center at the University of Iowa, Iowa City, IA.
- 2001-2005 Adjunct Associate Professor, Department of Biomedical Engineering, College of Engineering, University of Iowa, Iowa City, IA, USA.
- 2001-2005 Adjunct Associate Professor, Department of Radiation Oncology, College of Medicine, University of Iowa, Iowa City, IA, USA.
- 2003-present Faculty member in the Biosciences Program, Graduate School, University of Iowa, Iowa City, IA, USA.
- 2004-present Member Cancer Genetics and Computational Biology Program at the Holden Comprehensive Cancer Center at the University of Iowa, Iowa City, IA, USA.
- 2005-present Assistant Professor of Pathology, Biomedical Engineering and Radiation Oncology, University of Iowa, Iowa City, IA, USA.

B. Professional and Academic Positions (continuation)

- 2005 Visiting Professor, Laboratory of Tumor Cell Biology, Biomedicine Research and Studies Centre, University of Latvia, Riga, Latvia. Studying clonogenic survival capacity and its origin and implication for radiation treatment in tumor cells undergoing mitotic catastrophe.
- 2006-present Visiting Professor lecturing for the Radiation Biology Course at Loma Linda University, Loma Linda, California.
- 2007-present Member of the Iowa Institute of Biomedical Imaging (IIBI).

C. Honors, Awards and Press Mentions

- 1980 Graduated from the University of Rome with *Magna cum Laude*.
- 1982 NATO-ASI School: "Coordination Chemistry of Metalloenzymes in Hydrolytic and Oxidative Processes". San Miniato, Pisa, Italy (Acceptance was competitive and included financial support).
- 1982 NATO-ASI School: "Physical Methods on Biological Membranes". Altavilla Milicia, Palermo, Italy (Acceptance was competitive and included financial support).
- 1983 Fellowship from the Czechoslovakian Academy of Science for studying assays for the extraction and purification of ceruloplasmin from human serum. Laboratory for Endocrinology and Metabolism, Faculty of General Medicine, Charles University, Prague.
- 1986 Fellowship from the Hungarian Academy of Science for NMR studies of tumoral and normal cells and their membrane lipid extracts and for NMR studies of multilamellar liposomes under different physical conditions. NMR Spectroscopy Laboratory of the Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest.
- 1987 "8th International Congress of Radiation Research". Edinburgh, UK, (Acceptance was competitive and included financial support).

C. Honors, Awards and Press Mentions (continuation)

- 1987 NATO-ASI School: "New Perspectives in the Dynamics of Assembly of Biomembranes". Cargese, Corsica, (Acceptance was competitive and included financial support).
- 1987 "IV National Congress of the Italian Society for Radiation Research". Santa Teresa, Italy, (Acceptance was competitive and included financial support).
- 1988 "XIII International Conference on Magnetic Resonance in Biological Systems". Madison, WI, USA, (Acceptance was competitive and included financial support).
- 2001 Mention in the "Who's Who in the World", 18th Edition.
- 2002 "Radiation Research Society Meeting Students' Award" awarded to Lacey E. Bresnahan (grad student in my lab) for her work entitled: "Tracking Aggressive Tumoral Cells: Analysis of Cell Motility in Irradiated U87-MG Glioblastoma Cells Using the Large-Scale Digital Cell Analysis System".
- 2004 Red Ribbon and Diploma Award and Honorary Mention in the SPIE Medical Imaging, Image Processing Conference, for the paper: "Segmentation and Quantitative Analysis of the Living Tumor Cells Using Large Scale Digital Cell Analysis System" by F. Yang, G. Gallardo, M. A. Mackey, F. Ianzini, M. Sonka.
- 2005 "American Association for Dental Research's Table Clinic Award" awarded to Chris De La Mater for his work entitled: "Large Scale Digital Cell Analysis of Dendritic Cell-Carcinoma Interactions", by C. De La Mater, M. A. Mackey, S. Krenz, F. Ianzini and Z.B. Kurago, presented at the local chapter of the AADR, University of Iowa, Iowa City, IA.
- 2005 Selection for Oral Presentation at the "41st Annual American Dental Association, Dental Students Conference on Research, National Institute for Dental and Cranio-Facial Research (NIDCR)", Bethesda, MD. Chris De La Mater, paper entitled: "Large Scale Digital Cell Analysis of Dendritic Cell-Carcinoma Interactions", by C. De La Mater, M. A. Mackey, S. Krenz, F. Ianzini and Z.B. Kurago.

C. Honors, Awards and Press Mentions (continuation)

- 2005 Poster entitled: "Tumor Cell Trajectory Analysis in Large Scale Digital Cell Analysis System (LSDCAS)" by F. Yang, M. A. Mackey, F. Ianzini, G. Gallardo, M. Sonka, was awarded the first place at the "7th Annual Student Interdisciplinary Health Research Poster Session", University of Iowa, Iowa City, IA.
- 2006 Poster entitled: "Carcinoma Nest Expansion and Interaction with Dendritic Cells *in vitro*" by D. Whitney, M. A. Mackey, F. Ianzini, J. Cavanaugh, C. De La Mater, Z. B. Kurago, was awarded the "Procter and Gamble Poster Presentation Award – Predoctoral Award" at the Annual Meeting of the American Association for Dental Research, Local Chapter. University of Iowa, Iowa City, IA.
- 2006 Won Second Place in the Procter and Gamble Poster Competition, Iowa Chapter: "Carcinoma Nest Expansion and Interaction with Dendritic Cells *In Vitro*". D. Whitney, M. Mackey, F. Ianzini, J. Cavanaugh, C. De La Mater, Z.B. Kurago. AADR 35th Annual Meeting in Orlando, Florida.
- 2007 Travel Award: "Effects of Dendritic Cells on the Expansion of Carcinoma Nests in the Presence of Lipopolysaccharide (LPS) *In Vitro*". D. Whitney, M. Mackey, F. Ianzini, J. Cavanaugh, Z.B. Kurago. American Academy of Oral and Maxillofacial Pathology Annual Meeting, Kansas City.
- 2007 Predoctoral Max Smith competition: "Effects of Dendritic Cells on Carcinoma Nest Expansion *In Vitro*". D. Whitney, M. Mackey, F. Ianzini, J. Cavanaugh, and Z.B. Kurago. Iowa Section of the AADR, UI College of Dentistry, University of Iowa.
- 2007 Selected for Student Oral Presentation: "Effects of Dendritic Cells on Carcinoma Nest Expansion *In Vitro*". D. Whitney, M. Mackey, F. Ianzini, J. Cavanaugh, and Z.B. Kurago IADR/AADR, New Orleans LA,
- 2009 NASA Space Radiation Program – Newsletter. Spotlight on Fiorenza Ianzini to be found at the following link
<http://spaceradiation.usra.edu/newsletter/archive/2009/spring/index.shtml#ianzini>

II. Teaching at the University of Iowa

A. Teaching Assignment

2001-Present	Radiation Biology (course # 77:103). Free Radicals and Radiation Biology Program, Department of Radiation Oncology, University of Iowa, Iowa City, Iowa.
2001-present	Free Radical and Radiation Biology Graduate Program Seminars and Small Group Discussion, Department of Radiation Oncology, University of Iowa, Iowa City, Iowa.
2002-2004	Radiology Residents (Radiation Biology Lectures). Department of Radiology, University of Iowa, Iowa City, Iowa.
2002-2004	Radiation Safety and Radiation Biology (course # 74:102) Department of Radiology, University of Iowa, Iowa City, Iowa.
2002-present	Foundations of Clinical Practice (course # 050:162), Small Group Teaching in the Medical Curriculum, Case-Based Learning I. College of Medicine, University of Iowa, Iowa City, Iowa.
2002-present	Principles in Molecular and Cell Biology (grad course # 156:201), Bioscience Program, Small Discussion Groups, University of Iowa, Iowa City, Iowa.
2003-2004	Radiation Biology Board Review for Radiology Residents. Department of Radiology, University of Iowa, Iowa City, Iowa.
2004	Introduction to Radiology (Radiation Biology Lectures). Department of Radiology, University of Iowa, Iowa City, Iowa.

A. Teaching Assignment (continuation)

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| 2006-present | Visiting Professor lecturing for the Radiation Biology Course, Department of Radiation Medicine, School of Medicine, Loma Linda University, Loma Linda, California. |
| 2007-present | Pathogenesis of Major Human Diseases (grad course # 069:270), Life Science Program, Department of Pathology, University of Iowa, Iowa City, Iowa. |
| 2007-present | Advanced Toxicology (grad course # 175:265), Human Toxicology Graduate Program. University of Iowa, Iowa City, Iowa. |

B. Post Doctoral Research Scholars Supervised

- 2003-2004 Alessandro Bertoldo, post doctoral in Biomedical Engineering, University of Iowa, Iowa City, IA.
PROJECT: basic mechanisms of radiation-induced genomic instability.
- 2007-present Eleonora Napoli, post doctoral in Pathology, University of Iowa, Iowa City, IA.
PROJECTS: role of meiotic events in promoting survival of tumor cells undergoing radiation-induced mitotic catastrophe; high-LET radiation-induced mitotic catastrophe in normal human cell lines.

C. Graduate Students Supervised

- 2001–2002 Lacey E. Bresnahan, Master’s Student in Biomedical Engineering.
University of Iowa. Iowa City, IA.
OBJECTIVE: studies designed to determine the effect of radiation, mild heat treatment and drug exposure on normal and tumoral cell lines. Application of mathematical models of cell motility to study how these stress effectors are affecting cell motility.
Graduated July 22, 2002.
Thesis: “Using the Large Scale Digital Cell Analysis System to Quantify Changes in Cell Motility.”

C. Graduate Students Supervised (continuation)

- 2003–2005 Cristina Pippa, Master in Fine Arts (MFA) Program, University of Iowa, Iowa City, IA. Graduated May 14, 2005. Advisor, Playwrights Workshop and Thesis. Play by Cristina Pippa entitled “Cell Cycle”; the play describes the scientific work and world in a way that the not content audience can understand and relate to. Produced by the University of Iowa Department of Theatre Arts and presented at the New Work 2005, Iowa New Play Festival, May 2-7, 2005.
- 2005 Yuansheng Sun, PhD candidate in Biomedical Engineering, University of Iowa, Iowa City, IA. 2004-2005 Short training: cell culture, cell growth and cell survival techniques.

D. In-Training Grad Students Supervised

- 2003-present Advisor- Elizabeth A. Kosmacek, PhD candidate in Biomedical Engineering, University of Iowa, Iowa City, IA. “Live Cell Imaging: A Tool for Studying Cancer Cell Cultures”.
- 2007-present Daniel Whitney, Dental Student Research Honor, College of Dentistry, University of Iowa, Iowa City, IA. OBJECTIVE: LSDCAS study of carcinoma-dendritic cell interactions.

E. Undergraduate Students Supervised

- 2001–2003 Elizabeth A. Kosmacek, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.

E. Undergraduate Students Supervised (continuation)

- 2001–2002 Nicki K. Baman, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2001–2002 Andrew R. Walters, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2002 Joshua W. Sappenfield, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2002–2003 Teri Duffie, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2003–2005 Thuy Nguyen, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2003–2004 Amanda Gesie, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2004–2005 Lynette M. Kenjar, Biomedical Engineering College Student. University of Iowa, Iowa City, IA. OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.

E. Undergraduate Students Supervised (continuation)

- 2004-2005 Paul J. Davis, Electrical and Computer Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: quantitative analysis of cell death.
- 2005-2007 Jennifer M. Symonds, Biomedical Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2006-2008 Samuel A. Davis, Biomedical Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: studies of radiation- and drug-induced mitotic catastrophe and cell-cycle perturbation.
- 2007-present Melissa Szyperski, Biomedical Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: studies of high-LET radiation-induced mitotic catastrophe.
- 2007-2008 Kendall Keck, Biomedical Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: studies of high-LET radiation-induced mitotic catastrophe.
- 2008-present Adam Schwertner, Biomedical Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: studies of high-LET radiation-induced mitotic catastrophe.
- 2008 Angela M. Bryant, Biomedical Engineering College Student
University of Iowa, Iowa City, IA.
OBJECTIVE: studies of high-LET radiation-induced mitotic catastrophe.

E. Undergraduate Students Supervised (continuation)

2009-present

Elizabeth Colwell, Microbiology College
Student

University of Iowa, Iowa City, IA.

OBJECTIVE: studies of high-LET radiation-
induced mitotic catastrophe.

III. Scholarship

A. Publications

a: Peer-Reviewed Papers:

- 1 S. Cannistraro, F. Ianzini, P.L. Indovina.
"Electron Spin Resonance Study on the Molecular Interaction Between Human Ceruloplasmin, Iron and Transferrin".
Studia Biophysica 1981, **86**, 163-175.
- 2 F. Ianzini, L. Guidoni, P. L. Indovina, V. Viti, G. Erriu, S. Onnis, P. Randaccio.
"Gamma-Irradiation Effects on Phosphatidylcholine Multilayer Liposomes: Calorimetric, NMR and Spectrofluorimetric Studies".
Rad. Res. 1984, **98**, 154-166.
- 3 L. Guidoni, F. Ianzini, P.L. Indovina, V. Viti.
"¹H and ²H NMR Studies of Water in Gamma-Irradiated Phosphatidylcholine Multilamellar Liposomes".
Int. J. Radiat. Biol. 1985, **48**, 117-125.
- 4 G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"X-Ray Diffractometry and Calorimetry Studies of Structural Modifications Induced by Gamma-Irradiation in Phosphatidylcholine Multilamellar Liposomes".
Int. J. Radiat. Biol. 1985, **48**, 785-796.
- 5 G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"Structural and Thermodynamical Effects of Gamma-Radiation on Phosphatidylcholine Multilamellar Liposomes".
J. Int.. Fed. Med. Biol. Eng. 1985, **23**, supplement part 2, 1088.
- 6 C.M. Cutrera, F. Ianzini, G. Erriu, P.L. Indovina.
"Effect of Gamma-Rays on Water Structure in Water-Membrane Models: ESR and Calorimetric Studies".
in: Physics in Environmental and Biomedical Research (edited by S. Onori and E. Tabet), World Scientific Publishing Co., Japan, 1986, 573-577.
- 7 A. Cantafora, M. Ceccarini, L. Guidoni, F. Ianzini, M. Minetti, V. Viti.
"Effects of Gamma-Irradiation on the Erythrocyte Membrane: ESR, NMR and Biochemical Studies".
Int. J. Radiat. Biol. 1987, **51**, 59-69.

a: Peer-Reviewed Papers (continuation):

- 8 F. Ianzini, L. Guidoni, M. T. Santini, G. Simone, V. Viti, M. B. Yatvin.
"Hyperthermia and pH Variation Effects on Extracted Lipids and Membranes from *E. Coli* K-1060: A ^{31}P NMR Study".
Int. J. Radiat. Biol. 1987, **51**, 935.
- 9 F. Ianzini, M. B. Yatvin.
"Ferrous Ion-Ascorbate and X-Ray Irradiation Effects on Multilamellar Liposomes of Phosphatidylglycerols".
Int. J. Radiat. Biol. 1987, **51**, 936.
- 10 G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, R. Masella, F. Rustichelli, V. Viti.
"Studies of Structural Modifications Induced by γ -Irradiation on Distearoylphosphatidylcholine Liposomes".
Int. J. Radiat. Biol. 1987, **52**, 145-156.
- 11 F. Ianzini, M. B. Yatvin.
"A Comparison of X-Irradiation and Ferrous Ion-Ascorbate on Oxidation of Phosphatidylglycerols in Multilamellar Liposomes".
Radiat. Environ. Biophys. 1987, **26**, 37-46.
- 12 L. Guidoni, F. Ianzini, A. Rosi, V. Viti.
"Spectroscopic Studies on the Membrane Lipids of Mammalian Cells".
Annali Istituto Superiore di Sanita' 1988, **24**, 45-54.
- 13 F. Ianzini, L. Guidoni, G. Simone, V. Viti, M. B. Yatvin.
" Effects of Decreased pH on Membrane Structural Organization of *E. Coli* Grown in Different Fatty Acids Supplemented Media: a ^{31}P NMR Study".
Arch. Biochem. Biophys. 1990, **278**, 1-10.
- 14 M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Saporà, G. Simone, M. A. Tabocchini, P. Tiveron.
"RBE-LET Relationships for V79 Cells Irradiated with Low-Energy Protons".
Radiat. Prot. Dos. 1990, **31**, 309-310.
- 15 M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Saporà, G. Simone, M. A. Tabocchini, P. Tiveron.
"Mutation Induction and RBE-LET Relationship of Low Energy Protons in V79 Cells".
Int. J. Radiat. Biol. 1991, **59**, 459-465.

a: Peer-Reviewed Papers (continuation):

- 16** M. Belli, D. T. Goodhead, F. Ianzini, T. J. Jenner, G. Simone, M. A. Tabocchini.
"The Use of DNA Precipitation Assay for Evaluating dsb Induced by High and Low LET Radiations: Comparison with Sedimentation Results".
in: The Early Effects of Radiation on DNA (edited by E. M. Fielden and P. O'Neill), NATO ASI Series, Springer Verlag. Series H: Cell Biology 1991, **54**, 309-310.
- 17** F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, G. Simone.
"Radiobiological Research with Charged Particles at the Laboratori Nazionali di Legnaro (Italy)".
GSI-91-29 REPORT 1991, ISSN **0171-4546**, K2.
- 18** M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.
"RBE-LET Relationship for Survival and Mutation Induction of V79 Cells Irradiated with Low-Energy Protons: Re-evaluation of the LET Values at the LNL Facility".
Int. J. Radiat. Biol. 1992, **61**, 145-146.
- 19** M. Belli, F. Cera, R. Cherubini, D. T. Goodhead, F. Ianzini, T. J. Jenner, G. Moschini, O. Sapora, G. Simone, D. L. Stevens, A. Stretch, M. A. Tabocchini, P. Tiveron.
"Relevance of Experiments with Different Charged Particles Having the Same LET for Biophysical Modelling of Radiation Effects".
in: Biophysical Modelling of Radiation Effects (edited by K.H. Chadwick, G. Moschini and M. N. Warma), Bristol, Adam Hilger 1992, 285-292.
- 20** D. T. Goodhead, M. Belli, A. J. Mills, D. A. Bance, L. A. Allen, S. C. Hall, F. Ianzini, G. Simone, D. L. Stevens, A. Stretch, M. A. Tabocchini, R. E. Wilkinson.
"Direct Comparison Between Protons and Alpha-Particles of the Same LET: I. Irradiation Methods and Inactivation of Asynchronous V79, HeLa and C3H 10T1/2 Cells".
Int. J. Radiat. Biol. 1992, **61**, 611-624.
- 21** M. Belli, D. T. Goodhead, F. Ianzini, G. Simone, M. A. Tabocchini.
"Direct Comparison Between Protons and Alpha-Particles of the Same LET: II. Mutation Induction at the HPRT Locus in V79 Cells".
Int. J. Radiat. Biol. 1992, **61**, 625-629.

a: Peer-Reviewed Papers (continuation):

- 22** T. J. Jenner, M. Belli, D. T. Goodhead, F. Ianzini, G. Simone, M. A. Tabocchini.
"Direct Comparison Between Protons and Alpha-Particles of the Same LET: III. Initial Yield of DNA Double-Strand Breaks in V79 Cells".
Int. J. Radiat. Biol. 1992, **61**, 631-637.
- 23** M. Belli, F. Cera, R. Cherubini, D. T. Goodhead, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.
"The Importance of the Track Structure of Different Charged Particles Having the Same LET for Biophysical Modelling".
in: "Low Dose Irradiation and Biological Defense Mechanisms", (T. Sugahara, L. A. Sagan, T. Aoyama eds.) Elsevier Science Publishers B. V., Amsterdam, The Netherlands, 1992, 445-448.
- 24** M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.
"Comparison Between Cross Section of Deuterons and Protons for Cell Inactivation and Mutation Induction".
In: "Biological Applications of Relativistic Nuclei" (J.P. Alard and J.C. Montret eds.), Laboratoire de Physique Corpusculaire, Universite Blaise Pascal. 1992, IN2P3 CNRS PCCP RI **9308**, 60-61.
- 25** M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.
"Inactivation and Mutation Induction in V79 Cells by Low Energy Protons: Re-evaluation of the Results at the LNL Facility".
Int. J. Radiat. Biol. 1993, **63**, 331-337.
- 26** F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, G. Simone.
"Radiobiology and Radiotherapy Projects with Accelerated Charged Particles at the INFN-Laboratori Nazionali di Legnaro: Present Status and Future Perspectives".
Physica Medica 1993, **9**, suppl. 1, 161-165.
- 27** M. Belli, F. Cera, R. Cherubini, D. T. Goodhead, A. M. I. Haque, F. Ianzini, G. Moschini, H. Nikjoo, O. Sapora, G. Simone, D. L. Stevens, M. A. Tabocchini, P. Tiveron.
"Inactivation Induced by Deuterons of Various LET in V79 Cells".
Radiat. Prot. Dos. 1994, **52**, 305-310.
- 28** M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.
"Inactivation Induced by Low Energy Deuterons in V79 Cells".
Physica Medica **10**, suppl. 1994, 1, 75-76.

a: Peer-Reviewed Papers (continuation):

- 29** M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Saporà, G. Simone, M. A. Tabocchini, P. Tiveron.
"DNA Double Strand Breaks Induced by Low Energy Protons in V79 Cells".
Int. J. Radiat. Biol. 1994, **65**, 529-536.
- 30** M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Saporà, G. Simone, M. A. Tabocchini, P. Tiveron.
"The RBE of Protons for Cell Inactivation: The Experience with V79 Cells".
In: "Hadrontherapy in Oncology", Excerpta Medica, International Congress Series 1077. Elsevier Science B. V. (U. Amaldi and B. Larsson eds.) 1994, 702-705.
- 31** M. Belli, D. Bettega, R. Cherubini, F. Ianzini, G. Kraft, G. Simone, M. A. Tabocchini.
"Physical and Radiobiological Properties of Hadron Beams".
In: "The TERA Project and the Centre for Oncological Hadrontherapy", the TERA Collaboration, (U. Amaldi and M. Silari eds.), INFN - LNF - Divisione Ricerca Publishing, 1994, **1**, 185-203.
- 32** R. Cherubini, F. Cera, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone.
"Biological Effectiveness of Light Ions for Cell Inactivation and Mutation Induction on V79 Cells".
GSI-Report 95-10, 1995, ISSN **0171-4546**, 73-76.
- 33** G. Simone, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron.
"Light Ions Induction and Rejoining of DNA dsb in V79 Cells".
Radiation Research 1895 - 1995 Volume 2: Congress Lectures, Proceedings of the 10th International Congress of Radiation Research, Wurzburg, Germany 1995 (U. Hagen, D. Harder, H. Jung e C. Streffer, eds.), 140-143.
- 34** M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron.
"DNA Double Strand Breaks Production and Rejoining in V79 Cells Irradiated with Light Ions".
Adv. Space Res. 1996, **18**, (1/2)73 - (1/2)82.

a: Peer-Reviewed Papers (continuation):

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- 27** M. Belli, F. Ianzini, O. Saporà, E. Sorrentino, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, S. Favaretto, A. M. I. Haque, G. Moschini, P. Tiveron, A. Ascaticno, D. Bettega, P. Calzolari, A. Piazzolla, L. Tallone, R. Marchesini.
"Biological Effectiveness of Low Energy Protons in Human Cells Representative of Tumors and Normal Tissue".
Proceedings of the National Joint Congress of the Society for Radiation Research and GIR, (edited by Giuseppe Spadaro) Palermo 1996, 149-152.
- 28** F. Cera, R. Cherubini, M. Dalla Vecchia, S. Favaretto, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone.
"Relative biological Effectiveness of Light Ions in Mammalian Cells".
Proceedings of the National Joint Congress of the Society for Radiation Research and GIR, (edited by Giuseppe Spadaro) Palermo 1996, 388-391.

c: Invited Publications:

- 29** M. Belli, F. Ianzini, L. Levati, O. Sapora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron.
“Biological Effectiveness of Light Ions in Mammalian Cells: DNA dsb Production and Rejoining”.
Proceedings of the National Joint Congress of the Society for Radiation Research and GIR, (edited by Giuseppe Spadaro) Palermo 1996, 392-395.
- 30** M. Belli, F. Cera, R. Cherubini, M. Dalla Vecchia, F. Ianzini, L. Levati, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.
“Influence of Radiation Quality on the Rejoining of DNA dsb as Observed by CFGE in V79 Chinese hamster Cells”.
Istituto Nazionale di Fisica Nucleare-LNL-Annual Report 1996, **118/97**,129-130.
- 31** M. Belli, D. Bettega, P. Calzolari, F. Cera, R. Cherubini, M. Dalla Vecchia, S. Favaretto, F. Ianzini, R. Marchesini, G. Moschini, A. Piazzolla, O. Sapora, G. Simone, E. Sorrentino, M. A. Tabocchini, L. Tallone, P. Tiveron.
“Relative Biological effectiveness for Inactivation of Human Cell Lines Irradiated with Low Energy Protons”.
Istituto Nazionale di Fisica Nucleare-LNL-Annual Report 1996, **118/97**,131-132.

d: Abstracts:

1) "EPR Study on the Interaction Between Iron, Ceruloplasmin and Transferrin".

F. Ianzini, S. Cannistraro, P. L. Indovina, L. Sportelli.

"9th International Congress on Magnetic Resonance in Biological Systems".

Bendor, France, September 1-6 1980.

2) "Spettroscopia ESR dell'Interazione Molecolare tra Ceruloplasmina, Ferro e Transferrina". ("ESR Spectroscopy of Ceruloplasmin-Iron-Transferrin System").

S. Cannistraro, F. Ianzini, P. L. Indovina.

"5th Meeting of the Society of Pure and Applied Biophysics. 6th National Congress of Cybernetics and Biophysics".

Perugia, Italy, October 12-16 1981.

3) "Electron Spin Resonance of Ceruloplasmin and Iron Transferrin: A Useful Tool in the Early Diagnosis of Myocardial Infarction".

F. Ianzini, F. Ascani, S. Cannistraro, P. L. Indovina, P. Solinas.

"World Congress on Medical Physics and Biomedical Engineering".

Hamburg, Germany, September 5-11 1982.

4) "Structural Modifications of Phosphatidylcholine Multilayer Liposomes Induced by Co-60 Gamma-Rays: Differential Scanning Calorimetry, NMR and Fluorescence Spectroscopy Studies".

F. Ianzini, P. L. Indovina, V. Viti, G. Erriu, G. Meleddu.

"68th National Congress of the Italian Society of Physics".

Perugia, Italy, October 14-19 1982.

5) "Risonanza Paramagnetica Elettronica di Ceruloplasmina e Transferrina nella Ischemia del Miocardio". ("ESR Study of Ceruloplasmin and Transferrin in Myocardium Ischemia").

F. Ianzini, P.L. Indovina, S. Cannistraro.

"68th National Congress of the Italian Society of Physics".

Perugia, Italy, October 14-19 1982.

6) "Structural Modifications of Phosphatidylcholine Multilayers Induced by Co-60 Gamma-Rays".

L. Guidoni, F. Ianzini, P. L. Indovina, V. Viti, G. Erriu, M. Ladu, P. Randaccio.

"7th International Congress of Radiation Research".

Amsterdam, Holland, July 3-8 1983.

d: Abstracts (continuation):

7) "Paramagnetic Copper-Containing Human Ceruloplasmin: A Spin Label Study".

F. Ianzini, P.L. Indovina, S. Cannistraro.

"8th Meeting of the International Society of Magnetic Resonance".

Chicago, Illinois, USA, August 22-26 1983.

8) "Modificazioni Strutturali Indotte da Irraggiamento in Liposomi Lamellari di Lecitine Sintetiche". ("Gamma-Ray Effects on Synthetic Lecithins").

F. Ianzini, L. Guidoni, P. L. Indovina, V. Viti, G. Erriu, M. Ladu, P. Randaccio.

"7th National Congress of Cybernetics and Biophysics. 6th Meeting of the Society of Pure and Applied Biophysics".

Camogli, Italy, October 6-8 1983.

9) "NMR and Spectrofluorimetric Studies of Gamma-Irradiated Model and Natural Membranes".

F. Ianzini, L. Guidoni, P. L. Indovina, V. Viti.

"8th International Biophysics Congress".

Bristol, England, 29 July-3 August 1984.

10) "Diffractometry and Calorimetry Studies of Structural Modifications Induced by Gamma-Ray Irradiation on Phosphatidylcholine Multilamellar Liposomes".

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.

"8th International Biophysics Congress".

Bristol, England, 29 July-3 August 1984.

11) "Studi Spettroscopici di Membrane Naturali e Modelli Sotto Azione dell'Irraggiamento". ("Spectroscopic Studies in Irradiated Natural and Model Membranes").

L. Guidoni, F. Ianzini, V. Viti, M. Ceccarini, M. Minetti.

"2nd Annual Meeting of the Italian Society for Radiation Research".

Fermo, Italy, September 5-7 1984.

12) "Diffractometry and Calorimetry Study of Structural Modifications Induced by Gamma-Ray Radiation on Phosphatidylcholine Multilamellar Liposomes".

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.

"International School-Colloquium on Lyotropics and Biomembranes".

Varna, Bulgaria, 23 September-2 October 1984.

13) "Studio Mediante Diffrazione X e Calorimetria delle Modifiche Strutturali Indotte da Irraggiamento Gamma su Liposomi Multilamellari di Dipalmitoilfosfatidilcolina (DPPC)". ("Structural Modifications Induced by Gamma Irradiation of Multilamellar Liposomes (DPPC): X-ray Diffractometry and Calorimetry Studies").

G. Albertini, P. Mariani, F. Rustichelli, E. Fanelli, L. Guidoni, F. Ianzini, V. Viti.

"70th National Congress of the Italian Society of Physics".

Genova, Italy, October 4-9 1984.

d: Abstracts (continuation):

14) "Structural and Thermodynamical Effects of Gamma-Radiation on Phosphatidylcholine Multilamellar Liposomes".

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"14th International Conference on Medical and Biological Engineering and 7th International Conference on Medicine in Physics".
Espoo, Finland, August 11-16 1985.

15) "Structural and Thermodynamical Effects of Gamma-Radiation on Phosphatidylcholine Multilamellar Liposomes".

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"International School of Biomembrane and Receptor Mechanisms".
Catania, Italy, 23 September-4 October 1985.

16) " Effetti dell'Irraggiamento Gamma sulle Proprieta' Strutturali e Termodinamiche di Liposomi multilamellari di Distearoil-Lecitine (DPPC)". ("Gamma-Irradiation Effects on Structural and Thermodynamical Properties of Multilamellar Liposomes of Distearoyl-Lecithin").

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"71st National Congress of the Italian Society of Physics".
Trieste, Italy, October 3-8 1985.

17) " Effetti della Radiazione Gamma sulle Proprieta' Strutturali e Termodinamiche di Liposomi Multilamellari di Fosfatidilcoline". ("Structural and Thermodynamical Effects of Gamma-Ray Irradiation on Multilamellar Liposomes of Phosphatidylcholine").

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"3rd National Congress of the Italian Society of Biomedical Physics".
Torino, Italy, October 15-18 1985.

18) "Effetti della Radiazione Gamma sulle Proprieta' Strutturali e Termodinamiche di Liposomi Multilamellari di Fosfatidilcoline". ("Structural Modification Induced by γ -Radiation on Phosphatidylcholine Liposomes").

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"8th National Congress of Cybernetics and Biophysics. 7th Meeting of the Society of Pure and Applied Biophysics".
Lipari, Italy, October 28-31 1985.

19) "Effects of Gamma-Rays on Water Structure in Water-Membrane Models: ESR and Calorimetric Studies".

C. M. Cutrera, F. Ianzini, P. L. Indovina, G. Erriu.
"Physics in Environmental and Biomedical Research".
Rome, Italy, November 26-29 1985.

d: Abstracts (continuation):

20) "Effetti della Radiazione Gamma sulle Proprieta' Strutturali e Termodinamiche di Liposomi Multilamellari di Fosfatidilcoline". ("Gamma-Irradiation Effects on Structural and Thermodynamical Properties of Multilamellar Liposomes of Phosphatidylcholine").

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"Physics in Environmental and Biomedical Research".
Rome, Italy, November 26-29 1985.

21) "Effetti dell'Irraggiamento Gamma sulle Proprieta' Strutturali e Termodinamiche di Liposomi Multilamellari di Distearoil Lecitine (DSPC)". ("Gamma-Irradiation Effects on Structural and Thermodynamical Properties of Multilamellar Liposomes of Distearoyl Lecithins").

G. Albertini, P. Mariani, F. Rustichelli, E. Fanelli, L. Guidoni, F. Ianzini, V. Viti.
"Emulsions, Colloids and Interphases: Properties and Applications in the Industry".
Belgirate, Italy, June 9-13 1986.

22) "X-Ray and Calorimetric Studies on the Effect of Gamma Radiation on Lecithin Liposomes".

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.
"International Liquid Crystal Conference".
Berkeley, California, USA, 30 June-4 July 1986.

23) "Gamma-Irradiation Effects on the Erythrocyte Membranes: ESR, NMR and Biochemical Studies".

A. Cantafora, M. Ceccarini, L. Guidoni, F. Ianzini, M. Minetti, V. Viti.
"XII International Conference on Magnetic Resonance in Biological Systems".
Todtmoos, Germany, September 8-12 1986.

24) "ESR and Calorimetric Studies on Irradiated Multilamellar Liposomes Membranes: A Water Structure Analysis".

F. Ianzini, G. Erriu, P.L. Indovina.
"XII International Conference on Magnetic Resonance in Biological Systems".
Todtmoos, Germany, September 8-12 1986.

25) "Hyperthermia and pH Variation Effects on Extracted Lipids and Membranes from *E. Coli* K1060: A ³¹P NMR Study".

F. Ianzini, L. Guidoni, M. T. Santini, V. Viti, M. B. Yatvin.
"20th Annual Meeting of the European Society for Radiation Biology".
Pisa, Italy, September 15-19 1986.

26) "Ferrous Ion-Ascorbate and X-Ray Irradiation Effects on Multilamellar Liposomes of Phosphatidylglycerols".

F. Ianzini, M. B. Yatvin.
"20th Annual Meeting of the European Society for Radiation Biology".
Pisa, Italy, September 15-19 1986.

d: Abstracts (continuation):

27) "Effetti dell'Irraggiamento Gamma su Membrane di Eritrociti Analizzate con Tecniche di ESR, NMR e Biochimiche". ("Effects of Gamma-Irradiation on Erythrocyte Membranes Studied by ESR, NMR and Biochemical Techniques").

F. Ianzini, A. Cantafora, M. Ceccarini, L. Guidoni, M. Minetti, V. Viti.
"XX Meeting of the Discussion Group for Magnetic Resonance".
Torino, Italy, November 3-5 1986.

28) "Effetto dell'Irraggiamento Gamma sulla Struttura dell'Acqua in Liposomi Multilamellari Studiati con Spettroscopia ESR e Calorimetria". ("Gamma-Irradiation Effects on Water Structure in Multilamellar Liposomes as Studied by ESR and Calorimetry").

F. Ianzini, C. M. Cutrera, G. Erriu, P.L. Indovina.
"XX Meeting of the Discussion Group for Magnetic Resonance".
Torino, Italy, November 3-5 1986.

29) "Studies of Structural Modifications Induced by γ Irradiation on Distearoylphosphatidyl-choline Liposomes".

G. Albertini, P. Mariani, F. Rustichelli, E. Fanelli, L. Guidoni, F. Ianzini, V. Viti, E. Masella.
"7th General Conference of the Condensed Matter Division".
Pisa, Italy, April 7-10 1987.

30) "Internal Water Structure in Gamma-Irradiated Multilamellar Liposomes: an ESR Study".

F. Ianzini, C. M. Cutrera, G. Erriu, P.L. Indovina.
"I Meeting of the Italian Group of Electron Spin Resonance".
Bressanone, Italy, May 21-22 1987.

31) "Modifiche Termodinamiche e Strutturali Indotte dalla Radiazione Gamma su Liposomi di Distearoil Lecitina". ("Thermodynamical and Structural Modifications Induced by Gamma Rays on Distearoyl Lecithins").

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, E. Masella, F. Rustichelli, V. Viti.
"Liquid Crystals - Meeting 1987".
Catania, Italy, May 27-29 1987.

32) " ^{31}P NMR Study of Polymorphic Phase Behaviour of *E. Coli* K1060 Membrane as a Function of pH and Unsaturated Fatty Acids".

F. Ianzini, L. Guidoni, V. Viti, M. B. Yatvin.
"2nd Chianti Workshop on Magnetic Resonance - Nuclear and Electron Relaxation in Biological and Model Systems".
San Miniato, Italy, June 15-20 1987.

d: Abstracts (continuation):

33) "ESR Study of Internal Water Structure in Gamma-Irradiated DPPC Liposomes".

F. Ianzini, C. M. Cutrera, G. Erriu, P.L. Indovina.

"2nd Chianti Workshop on Magnetic Resonance - Nuclear and Electron Relaxation in Biological and Model Systems".

San Miniato, Italy, June 15-20 1987.

34) "³¹P NMR Studies of *E. Coli* K1060 Membranes and Extracted Lipids: A Correlation Among Hyperthermia, pH Variation and Surviving Fraction".

F. Ianzini, L. Guidoni, G. Simone, V. Viti, M. B. Yatvin.

"8th International Congress of Radiation Research".

Edinburg, Scotland, July 19-24 1987.

35) "Studies of Structural Modifications Induced by γ -Irradiation on Distearoylphosphatidyl-choline Liposomes".

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, F. Rustichelli, V. Viti.

"XIV International Congress and General Assembly of the International Union of Crystallography".

Perth, Australia, August 12-20 1987.

36) "Polymorphic Phase Behaviour of *E. Coli* K1060 Membranes as a Function of pH and Unsaturated Fatty Acids: a ³¹P NMR Study".

F. Ianzini, L. Guidoni, V. Viti, M. B. Yatvin.

"NATO Advanced Study Institute - New Perspectives in the Dynamics of Assembly of Biomembranes".

Cargese, Corsica, 24 August-4 September 1987.

37) "Studio ESR della Struttura dell'Acqua Interna in Liposomi Multilamellari di Difosfatidilcolina Irraggiati con Raggi Gamma". ("ESR Study of the Internal Water Structure in Irradiated Multilamellar Liposomes").

F. Ianzini, C. M. Cutrera, G. Erriu, P.L. Indovina.

"IV National Meeting of the Italian Society for Radiation Research".

S. Teresa, Italy, September 15-16 1987.

38) "Variazione di Fase Polimorfica della Membrane di *E. Coli* K1060 in Funzione del pH e di Acidi Grassi Insaturi: uno Studio di NMR ³¹P". ("Variation of the Polymorphic Phase of *E. Coli* K1060 Membrane as a Function of pH and Unsaturated Fatty Acids: a ³¹P NMR Study").

F. Ianzini, L. Guidoni, V. Viti, M. B. Yatvin.

"IV National Congress of the Italian Association of Biomedical Physics".

Rome, Italy, September 16-18 1987.

d: Abstracts (continuation):

39) "Modifiche Termodinamiche e Strutturali Indotte dalla Radiazione Gamma su Liposomi di Distearoil Lecitina". ("Thermodynamical and Structural Modifications Induced by Gamma Rays on Distearoyl Lecithins").

G. Albertini, E. Fanelli, L. Guidoni, F. Ianzini, P. Mariani, R. Masella, F. Rustichelli, V. Viti.

"IV National Congress of the Italian Association of Biomedical Physics".
Rome, Italy, September 16-18 1987.

40) "Studi ESR della Struttura dell'Acqua Interna a Liposomi Multilamellari Irraggiati". ("ESR Study of the Internal Water Structure in Irradiated Liposomes").

G. Erriu, F. Ianzini, P.L. Indovina.

"73rd National Congress of the Italian Society of Physics".
Napoli, Italy, October 12-17 1987.

41) "³¹P NMR Spectroscopy Study on *E. Coli* K1060 and K12 Bacteria".

L. Guidoni, F. Ianzini, G. Simone, V. Viti, M. B. Yatvin.

"XIII International Conference on Magnetic Resonance in Biological Systems".
Madison, Wisconsin, USA, August 14-19 1988.

42) "RBE-LET Relationships for V79 Cells Irradiated with Low-Energy Protons".

M. Belli, F. Cera, R. Cherubini, S. Finotto, F. Ianzini, G. Moschini, O. Sapura, G. Simone, M. A. Tabocchini.

"10th Symposium on Microdosymetry".
Rome, May 21-26 1989.

43) "Correlation Between Mutation Induction and Survival in V79 Cells Irradiated with Low Energy Protons".

M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Sapura, G. Simone, M. A. Tabocchini, P. Tiveron.

"22nd Annual Meeting of the European Society for Radiation Biology".
Brussels, Belgium, September 11-16 1989.

44) "Comparison of Biological Effectiveness of Protons and Alpha Particles with the same LET".

M. Belli, A. N. Ganesh, D. T. Goodhead, F. Ianzini, G. Simone, D. L. Stevens, A. Stretch, M. A. Tabocchini, R. E. Wilkinson.

"22nd Annual Meeting of the European Society for Radiation Biology".
Brussels, Belgium, September 11-16 1989.

45) "Biological Effectiveness of Protons and Alpha Particles on the Mutation Induction at the HGPRT Locus in V79 Chinese Hamster Cells".

M. Belli, D. T. Goodhead, F. Ianzini, G. Simone, M. A. Tabocchini.

"Association for Radiation Research, Autumn Meeting".
Bristol, England, September 19-22 1989.

d: Abstracts (continuation):

46) "Inactivation of V79 Cells by Alpha Particles and Protons of the same LET".

D.L. Stevens, D. Bance, M. Belli, A. N. Ganesh, D. T. Goodhead, F. Ianzini, G. Simone, A. Stretch, M. A. Tabocchini, R. E. Wilkinson.

"Association for Radiation Research, Autumn Meeting".

Bristol, England, September 19-22 1989.

47) "Comparison of DNA Double Strand Breaks Produced by Protons and Alpha Particles of the same LET".

T. J. Jenner, M. Belli, F. Ianzini, G. Simone, M. A. Tabocchini.

"Association for Radiation Research, Autumn Meeting".

Bristol, England, September 19-22 1989.

48) "Confronto dell'Effecacia Biologica di Protoni e Particelle Alfa in Cellule V79: I. Sopravvivenza". ("Biological Effectiveness of Protons and Alpha Particles in V79 Cells: I. Cell Inactivation").

M. Belli, A. N. Ganesh, D. T. Goodhead, F. Ianzini, G. Simone, D. L. Stevens, A. Stretch, M. A. Tabocchini, R. E. Wilkinson.

"V National Meeting of the Italian Society for Radiation Research".

Rome, Italy, October 12-14 1989.

49) "Confronto dell'Effecacia Biologica di Protoni e Particelle Alfa in Cellule V79: II. Mutazione". ("Biological Effectiveness of Protons and Alpha Particles in V79 Cells: II. Mutation Induction").

M. Belli, D. T. Goodhead, F. Ianzini, G. Simone, M. A. Tabocchini.

"V National Meeting of the Italian Society for Radiation Research".

Rome, Italy, October 12-14 1989.

50) "Influenza del LET sull'Effetto Letale e su quello Mutageno di Fasci di Protoni di Bassa Energia in Cellule di Hamster Cinese". ("LET Effect on Cell Inactivation and Mutation Induction in V79 Cells Irradiated with Low Energy Protons").

M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Sabora, G. Simone, M. A. Tabocchini, P. Tiveron.

"V National Meeting of the Italian Society for Radiation Research".

Rome, Italy, October 12-14 1989.

51) "Analisi delle dsb Radioindotte sul DNA Cellulare Mediante la Tecnica di Precipitazione in Presenza di K-SDS". ("An Analysis of the DNA-dsb Induced by Irradiation Using the K-SDS DNA Precipitation Assay").

M. Belli, F. Ianzini, M. A. Tabocchini.

"V National Meeting of the Italian Society for Radiation Research".

Rome, Italy, October 12-14 1989.

d: Abstracts (continuation):

52) "Inactivation, Mutation Induction and DNA dsb in V79 Cells Irradiated with Protons and Alpha Particles of the same LET".

M. Belli, A. N. Ganesh, D. T. Goodhead, F. Ianzini, T. J. Jenner, G. Simone, D. L. Stevens, A. Stretch, M. A. Tabocchini, R. E. Wilkinson.

"38th Annual Meeting of the Radiation Research Society , 10th Annual Meeting of the North American Hyperthermia Group".

New Orleans, Louisiana, USA, April 7-12 1990.

53) "LET Dependence for Cell Inactivation, Mutation Induction and DNA dsb on V79 Cells Irradiated with High LET Protons".

M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"38th Annual Meeting of the Radiation Research Society , 10th Annual Meeting of the North American Hyperthermia Group".

New Orleans, Louisiana, USA, April 7-12 1990.

54) "The Use of DNA Precipitation Assay for Evaluating dsb Induced by High and Low LET Radiations: Comparison with Sedimentation Results".

M. Belli, D. T. Goodhead, F. Ianzini, T. J. Jenner, G. Simone, M. A. Tabocchini.

"NATO-ARW - Early Effects of Radiation on DNA".

San Miniato, Italy, May 7-11 1990.

55) "Initial Yield of DNA dsb in V79 Cells Irradiated with Low Energy Protons and X-Rays".

F. Barone, M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"23rd Annual Meeting of the European Society for Radiation Biology".

Dublin, Ireland, September 23-26 1990.

56) "Radiation Induced Double Strand Breaks in V79 Cells: Comparison Between Sedimentation and Precipitation Assays".

M. Belli, D. T. Goodhead, F. Ianzini, T. J. Jenner, G. Simone, M. A. Tabocchini.

"23rd Annual Meeting of the European Society for Radiation Biology".

Dublin, Ireland, September 23-26 1990.

57) "Influence of DNA-Protein Cross-Links on the Radiation Induced DNA dsb Measured by the DNA Precipitation Assay".

F. Ianzini, M. Belli, M. A. Tabocchini, E. Pagani.

"9th International Congress of Radiation Research".

Toronto, Ontario, Canada, July 7-12 1991.

58) "Lethal and Mutagenic Effects of 7.6 keV/μm Protons on V79 Cells".

G. Simone, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, F. Cera, R. Cherubini, P. Tiveron, G. Moschini.

"9th International Congress of Radiation Research".

Toronto, Ontario, Canada, July 7-12 1991.

d: Abstracts (continuation):

59) "A Direct Comparison of the Biological Effectiveness of Protons and Alpha-Particles with the same Stopping Power".

D. L. Stevens, D. T. Goodhead, D. Bance, A. Stretch, R. E. Wilkinson, T. J. Jenner, A. J. Mill, L. A. Allen, S. C. Hall, M. Belli, F. Ianzini, M. A. Tabocchini, G. Simone.

"9th International Congress of Radiation Research".

Toronto, Ontario, Canada, July 7-12 1991.

60) "The Biological Effectiveness of Deuterons: Description of the Facility at LNL and Preliminary Results on V79 Cells".

R. Cherubini, F. Cera, A. M. I. Haque, P. Tiveron, G. Moschini, G. Galeazzi, G. Simone, M. Belli, F. Ianzini, O. Sabora, M. A. Tabocchini.

"9th International Congress of Radiation Research".

Toronto, Ontario, Canada, July 7-12 1991.

61) "Relevance of Experiments with Different Charged Particles Having the same LET for Biophysical Modelling of Radiation Effects".

M. Belli, F. Cera, R. Cherubini, D. T. Goodhead, F. Ianzini, T. J. Jenner, G. Moschini, H. Nikjoo, O. Sabora, G. Simone, D. L. Stevens, A. Stretch, M. A. Tabocchini, P. Tiveron.

"Workshop on Biophysical Modelling of Radiation Effects".

Padova, Italy, September 2-5 1991.

62) "Radiobiological Research with Charged Particles at the Laboratori Nazionali di Legnaro (Italy)".

F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sabora, M. A. Tabocchini, G. Simone.

"4th Workshop on Heavy Charged Particles in Biology and Medicine".

Darmstadt, Germany, September 23-25 1991.

63) "Relazione RBE-LET per Particelle ad Alto LET". ("RBE-LET Relationship for High LET Particles").

M. Belli, F. Ianzini, M. A. Tabocchini, F. Cera, R. Cherubini, P. Tiveron, G. Moschini, O. Sabora, G. Simone.

"LXXVII National Congress of the Italian Society of Physics".

L'Aquila, Italy, 30 September-5 October 1991.

64) "Programma di Radiobiologia e Radioterapia con Particelle Cariche Presso i Laboratori Nazionali di Legnaro: Presente e Futuro". ("Radiobiology and Radiotherapy Projects with Accelerated Charged Particles at the INFN-Laboratori Nazionali di Legnaro: Present Status and Future Perspectives").

F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sabora, M. A. Tabocchini, G. Simone.

"Physics for Human Health - VII National Congress of the Italian Society of Biomedical Physics".

Ancona, Italy, June 8-12 1992.

d: Abstracts (continuation):

65) "The Importance of the Track Structure of Different Charged Particles Having the same LET for Biophysical Modelling".

M. Belli, F. Cera, R. Cherubini, D. T. Goodhead, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"The International Conference on Low Dose Irradiation and Biological Defense Mechanisms".

Kyoto, Japan, July 12-16 1992.

66) "Inactivation Induced by Deuterons of Various LET in V79 Cells".

M. Belli, F. Cera, R. Cherubini, D. T. Goodhead, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, D. L. Stevens, M. A. Tabocchini, P. Tiveron.

"11th Symposium on Microdosimetry".

Gatlinburg, Tennessee, USA, September 13-18 1992.

67) "Cell Inactivation Induced by Light Ions in V79 Cells: RBE-LET Relationship for Low Energy Deuterons".

M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"24th Annual Meeting of the European Society for Radiation Biology".

Erfurt, Germany, October 4-8 1992.

68) "Comparison Between Cross Section of Deuterons and Protons for Cell Inactivation and Mutation Induction".

M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"Biological Applications of Relativistic Nuclei".

Clermont-Ferrand, France, October 14-16 1992.

69) "Inattivazione di Cellule V79 da Parte di Deutoni di Bassa Energia". ("Inactivation of V79 Cells by Low Energy Deuterons").

M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"VI National Meeting of the Italian Society for Radiation Research".

Capri, Italy, October 19-22 1992.

70) "Mutation Induction of Low Energy Deuterons in V79 Cells".

R. Cherubini, F. Cera, A.M.I. Haque, P. Tiveron, G. Moschini, G. Simone, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini.

" Radiation Research Society - 41st Annual Meeting, North American Hyperthermia Society - 13th Annual Meeting".

Dallas, Texas, USA, March 19-25 1993.

d: Abstracts (continuation):

71) "Comparison Between Protons and Deuterons with the same LET in Inducing Mutation in V79 Cells".

M. Belli, F. Cera, R. Cherubini, A.M.I. Haque, F. Ianzini, G. Moschini, O. Saporà, G. Simone, M. A. Tabocchini, P. Tiveron.

"25th Annual Meeting of the European Society for Radiation Biology".
Stockholm, Sweden, June 10-14 1993.

72) "The RBE of Protons for Cell Inactivation: the Experience with V79 Cells".

M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A.M.I. Haque, P. Tiveron, G. Moschini.

"International Symposium on Hadron Therapy".
Como, Italy, October 18-21 1993.

73) "Initial Production of DNA dsb does not Parallel Inactivation and Mutation Induction in V79 Cells Irradiated with Low Energy Protons".

M. Belli, F. Cera, R. Cherubini, F. Ianzini, G. Moschini, O. Saporà, G. Simone, M. A. Tabocchini, P. Tiveron.

" 18th L. H. Gray Conference on: 'Radiation Damage in DNA: Physics, Chemistry and Molecular Biology' ".
Bath, England, April 10-14 1994.

74) "Biological Effectiveness of Low-Energy Accelerated Light Ions".

R. Cherubini, F. Cera, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone.

"5th Annual Space Radiation Health Investigators' Workshop".
Houston, Texas, USA, April 26-28 1994.

75) "Direct Comparison of RBE of Low-Energy Accelerated Light Ions".

R. Cherubini, F. Cera, A.M.I. Haque, P. Tiveron, M. Dalla Vecchia, G. Moschini, G. Simone, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini.

" Radiation Research Society - 42nd Annual Meeting, North American Hyperthermia Society - 14th Annual Meeting".
Nashville, Tennessee, USA, April 29-May 4 1994.

76) "Effectiveness of Deuterons and Helium-3 Ions with LET Ranging from 40 to 60 keV/μm in Inducing Lethality in V79 Cells".

M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron.

"European Society for Radiation Biology and European Society for Hyperthermic Oncology Joint Meeting".
Amsterdam, The Netherlands, June 1-4 1994.

d: Abstracts (continuation):

77) "Light Ion Radiobiological Facility at the Laboratori Nazionali di Legnaro: Irradiation Protocols and Inactivation Induced by Low Energy Protons in V79 cells".

F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sabora, M. A. Tabocchini, G. Simone.

"30th COSPAR Scientific Assembly".

Hamburg, Germany, July 11-21 1994.

78) "Mutation Induced by Low Energy Protons in V79 Cells".

M. Belli, F. Ianzini, E. Pagani, O. Sabora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron.

"30th COSPAR Scientific Assembly".

Hamburg, Germany, July 11-21 1994.

79) "DNA Double Strand Breaks Production and Repair in V79 Cells Irradiated with Light Ions".

M. Belli, F. Ianzini, O. Sabora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron.

"30th COSPAR Scientific Assembly".

Hamburg, Germany, July 11-21 1994.

80) "Realizzazione, Caratterizzazione e Applicazione di una Sorgente di Raggi X Molli Mediante Plasmi Prodotti da Laser ad Eccimeri". ("Realization, Characterization and Application of a Plasma Laser Ultra Soft X-Ray Source").

S. Bollanti, P. Di Lazzaro, F. Flora, T. Letardi, G. Schina, M. Belli, F. Ianzini, A. Scafati, M. A. Tabocchini, D. Batani, A. Mauri, L. Filippi, L. Palladino, A. Reale, G. Taglieri, A. Grilli, A. Y. Taenov, T. Pikuz, R.A. Cotton.

"80th National Congress of the Italian Society of Physics".

Lecce, Italy, September 26-October 1, 1994.

81) "Inattivazione di Cellule V79 Indotta da Ioni Elio di Alto LET". ("Inactivation in V79 Cells Induced by High LET Helium Ions").

F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, P. Tiveron, G. Moschini, M. Belli, F. Ianzini, M. A. Tabocchini, O. Sabora, G. Simone.

"VII National Meeting of the Italian Society for Radiation Research and IX National Meeting of Research Activities in Radiochemistry, Chemistry of Radiation, Nuclear Chemistry and of the Radioelements".

Pisa, Italy, November 24-26, 1994.

d: Abstracts (continuation):

82) "Produzione Iniziale di Doppie Rotture sul DNA di Cellule V79 e Cinetica di "Rejoining" dopo Irraggiamento con Protoni di Bassa Energia". ("Induction of DNA dsb and Rejoining in V79 Cells Exposed to Low Energy Protons").

M. Belli, F. Ianzini, M. A. Tabocchini, O. Sapora, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron, G. Simone.

"VII National Meeting of the Italian Society for Radiation Research and IX National Meeting of Research Activities in Radiochemistry, Chemistry of Radiation, Nuclear Chemistry and of the Radioelements".

Pisa, Italy, November 24-26, 1994.

83) "DNA Double Strand Breaks Production and Rejoining in V79 Cells after Irradiation with Low Energy Protons".

F. Ianzini, M. Belli, O. Sapora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron.

"1995 Keystone Symposia - Repair and Processing of DNA Damage".

Taos, New Mexico, USA, March 23-29, 1995.

84) "DNA Double Strand Breaks Production and Rejoining in V79 Cells after Irradiation with Low Energy Protons".

F. Ianzini, M. Belli, O. Sapora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, P. Tiveron.

"43rd Annual Scientific Meeting of the radiation Research Society and 15th Annual Meeting of the North American Hyperthermia Society".

San Jose, California, USA, April 1-6, 1995.

85) "Biological Effectiveness of Low Energy Protons: DNA dsb Production and Rejoining in V79 cells".

M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"Association for Radiation Research Meeting - DNA Damage, Recognition and Control, Genetic Instability, Mechanisms of Oncogenesis".

St. Andrews, Scotland, UK, April 5-8, 1995.

86) "Biological Effectiveness of Light Ions for Cell Inactivation and Mutation Induction on V79 Cells".

R. Cherubini, F. Cera, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, G. Simone.

"5th Workshop on Heavy Charged Particles in Biology and Medicine".

Darmstadt, Germany, August 23-25, 73-76, 1995.

87) "Inactivation and Mutation Induction in V79 Cells Irradiated with Helium-3 and Helium-4 Ions".

F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, G. Simone.

"10th International Congress of Radiation Research".

Wurzburg, Germany, August 27-September 1, 1995.

d: Abstracts (continuation):

- 88) "Light Ions Induction and Rejoining of DNA dsb in V79 Cells".
G.Simone, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron.
"10th International Congress of Radiation Research".
Wurzburg, Germany, August 27-September 1, 1995.
- 89) "Radiobiologia Con Raggi X Molli Prodotti da una Sorgente Plasma-Laser ad Eccimeri". ("Radiobiology with Ultra Soft X-Ray Source").
F. Flora, R.A. Cotton, N. Lisi, M. Belli, F. Ianzini, E. Sorrentino, M. A. Tabocchini, L. Reale, L. Palladino.
"81st National Congress of the Italian Society of Physics".
Perugia, Italy, October 2-7, 1995.
- 90) "DNA dsb Production and Rejoining in V79 Cells: Comparison Between Protons and Deuterons".
G.Simone, M. Belli, F. Ianzini, O. Sapora, M. A. Tabocchini, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, S. Favaretto, P. Tiveron.
"44th Annual Meeting of the Radiation Research Society".
Chicago, IL, USA, April 14-17, 1996.
- 91) "Soft X-Ray Microscopy and Radiobiology by Using a Soft X-rays Plasma Source Pumped by an Excimer Laser".
D. Batani, A. Conti, M. Moret, , M. Belli, F. Ianzini, A. Scafati, M. A. Tabocchini, L. Reale, P. Albertano, L. Palladino, A. Reale, R. Cotton, P. Di Lazzaro, F. Flora, T. Letardi, A. Grilli.
"24th ECLIM Conference".
Madrid, Spain, June 3-7, 1996.
- 92) "Mutation and DNA Damage: Comparison of the Biological Effectiveness of Light Ions".
M. Belli, F. Ianzini, L. Levati, O. Sapora, M. A. Tabocchini, G.Simone, F. Cera, R. Cherubini, M. Dalla Vecchia, S. Favaretto, A. M. I. Haque, G. Moschini, , P. Tiveron.
"31st COSPAR Scientific Assembly".
Birmingham, England, UK, July 14-21, 1996.
- 93) "X-ray Microscopy and Radiobiology by Using an Excimer Laser Plasma Source".
R. Cotton, P. Di Lazzaro, F. Flora, T. Letardi, A. Nottola, K. VigliPapadaki, M. Belli, F. Ianzini, A. Scafati, M. A. Tabocchini, P. Albertano, L. Reale, L. Palladino, A. Reale, D. Batani, A. Conti, M. Moret, A. Grilli.
"International Conference XRM96, Wurzburg, Germany, August 19-23, 1996.

d: Abstracts (continuation):

94) "RBE for Cell Inactivation of Tumor and Normal Cell Lines of Human Origin Irradiated with Low Energy Protons".

M. Belli, F. Ianzini, O. Saporà, E. Sorrentino, G. Simone, F. Cera, R. Cherubini, S. Favaretto, A. M. I. Haque, G. Moschini, P. Tiveron, A. Ascagnino, D. Bettega, P. Calzolari, A. Piazzolla, L. Tallone, M. Durante, G. Gialanella, G. Grossi, M. G. Pugliese, P. Scamporrì, M. A. Tabocchini.

"XXV PTCOG - Second International Symposium on Hadron Therapy".

Villigen and Geneva, Switzerland, September 9-13, p. 26, 1996.

95) "Biological Effectiveness of Low Energy Protons in Human Cells Representative of Tumors and Normal Tissue".

M. Belli, F. Ianzini, O. Saporà, E. Sorrentino, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, S. Favaretto, A. M. I. Haque, G. Moschini, P. Tiveron, A. Ascagnino, D. Bettega, P. Calzolari, A. Piazzolla, L. Tallone, R. Marchesini.

"VIII National Meeting of the Italian Society for Radiation Research and X National Meeting of Research Activities in Radiochemistry, Chemistry of Radiation, Nuclear Chemistry and of the Radioelements".

Palermo, Italy, September 11-14, 1996.

96) "Relative biological Effectiveness of Light Ions in Mammalian Cells".

F. Cera, R. Cherubini, M. Dalla Vecchia, S. Favaretto, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone.

"VIII National Meeting of the Italian Society for Radiation Research and X National Meeting of Research Activities in Radiochemistry, Chemistry of Radiation, Nuclear Chemistry and of the Radioelements".

Palermo, Italy, September 11-14, 1996.

97) "Biological Effectiveness of Light Ions in Mammalian Cells: DNA dsb Production and Rejoining".

M. Belli, F. Ianzini, L. Levati, O. Saporà, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, P. Tiveron.

"VIII National Meeting of the Italian Society for Radiation Research and X National Meeting of Research Activities in Radiochemistry, Chemistry of Radiation, Nuclear Chemistry and of the Radioelements".

Palermo, Italy, September 11-14, 1996.

98) "Efficacia Biologica Relativa di Ioni Leggeri in Cellule di Mammifero".

F. Cera, R. Cherubini, M. Dalla Vecchia, S. Favaretto, A. M. I. Haque, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, O. Saporà, M. A. Tabocchini, G. Simone.

"LXXIX National Congress of the Italian Society of Physics".

Verona, Italy, September 23-28, 1996.

d: Abstracts (continuation):

99) "Cell Inactivation, Mutation Induction and DNA Damage Induced by Light Ions: Dependence on Radiation Quality".

F. Cera, R. Cherubini, M. Dalla Vecchia, S. Favaretto, G. Moschini, P. Tiveron, M. Belli, F. Ianzini, L. Levati, O. Sabora, M. A. Tabocchini, G. Simone.

"12th Symposium on Microdosimetry".

Oxford, UK, September 29-October 4, 1996.

100) "DNA Double Strand Break Production and Rejoining, and Mutation Induction in V79 Chinese Hamster Cells Irradiated with Low Energy Protons".

F. Ianzini, M. Belli, F. Cera, R. Cherubini, A. M. I. Haque, G. Moschini, O. Sabora, G. Simone, M. A. Tabocchini, P. Tiveron.

"12th MIR-ROC Radiation and Biological Sciences Symposium".

St. Louis, Missouri, USA, November 8-10, 1996.

101) "Loss of G2 Checkpoint Function Following Irradiation of HeLa S3 Cells Is Mediated by an Overaccumulation of Cyclin B1 During Cell-Cycle Delays in Late S and G2 Phases".

M. A. Mackey, F. Ianzini.

"12th MIR-ROC Radiation and Biological Sciences Symposium".

St. Louis, Missouri, USA, November 8-10, 1996.

102) "Treatment of HeLa S3 Cells with Moderate Hyperthermia Prior to Irradiation Leads to A Synergistic Accumulation of cyclin B1 and results in an Enhanced Loss of G2 Checkpoint Function".

F. Ianzini, X. F. Zhang, M. A. Mackey.

"12th MIR-ROC Radiation and Biological Sciences Symposium".

St. Louis, Missouri, USA, November 8-10, 1996.

103) "Delayed Induction of DNA Strand Breaks Following Mitotic Catastrophe Occurring as a Result of Irradiation G2 Checkpoint Abrogation".

F. Ianzini, M. A. Mackey.

"5th International Workshop on Radiation Damage to DNA, Techniques, Quantitation and Mechanisms".

Bowness-on-Windermere, Lake District, UK, April 19-24, 1997.

104) "Rejoining of DNA dsb Induced by Light Ions: What Can it Tell Us?"

M. Belli, F. Ianzini, L. Levati, O. Sabora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, M. Dalla Vecchia, G. Moschini, S. Favaretto, P. Tiveron.

Bowness-on-Windermere, Lake District, UK, April 19-24, 1997.

105) "Cell-Cycle Delays in Late S and G2 Phases with Overaccumulation of Cyclin B1 and Loss of G2 Checkpoint in Irradiated HeLa S3 Cells".

M. A. Mackey, F. Ianzini.

"45th Annual Meeting of the Radiation Research Society and 16th North American Hyperthermia Society".

Providence, Rhode Island, USA, May 3-7, 1997.

d: Abstracts (continuation):

106) "Accumulation of Cyclin B1 and Enhanced Loss of G2 Checkpoint Function in HeLa S3 Cells Treated with a Combination of Moderate Hyperthermia and Ionizing Radiation".

F. Ianzini, M. A. Mackey.

"45th Annual Meeting of the Radiation Research Society and 16th North American Hyperthermia Society".

Providence, Rhode Island, USA, May 3-7, 1997.

107) "Relationship Between Molecular Damage and Cellular Effects as a Function of Radiation Quality".

M. Belli, F. Ianzini, L. Levati, O. Sabora, M. A. Tabocchini, G. Simone, F. Cera, R. Cherubini, M. Dalla Vecchia, A. M. I. Haque, G. Moschini, S. Favaretto, P. Tiveron.

"45th Annual Meeting of the Radiation Research Society and 16th North American Hyperthermia Society".

Providence, Rhode Island, USA, May 3-7, 1997.

108) "The Biological Effectiveness of Low Energy Protons in Inactivating Normal and Tumoral Human Cell Lines".

L. Tallone, A. Ascagnino, M. Belli, D. Bettega, P. Calzolari, F. Cera, R. Cherubini, M. Dalla Vecchia, M. Durante, S. Favaretto, G. Gialanella, G. Grossi, A. M. I. Haque, F. Ianzini, R. Marchesini, G. Moschini, A. Piazzolla, M. G. Pugliese, O. Sabora, P. Scampoli, G. Simone, E. Sorrentino, M. A. Tabocchini, P. Tiveron.

"45th Annual Meeting of the Radiation Research Society and 16th North American Hyperthermia Society".

Providence, Rhode Island, USA, May 3-7, 1997.

109) "Overaccumulation of Cyclin B1 in Late S and G2 Phases and Loss of G2 Checkpoint Function Following Irradiation of HeLa S3 Cells".

F. Ianzini, M. A. Mackey.

Gordon Conference: "Molecular Concepts in Radiation Oncology".

Plymouth, New Hampshire, USA, June 29-July 4, 1997.

110) "Radiation-Induced Abrogation of G2/M Cell-Cycle Checkpoint Leads to delayed DNA Damage in HeLa S3 Cells".

F. Ianzini, M. A. Mackey.

"13th MIR-ROC Radiation and Biological Sciences Symposium".

St. Louis, Missouri, USA, November 7-9, 1997.

111) "Spontaneous Premature Chromosome Condensation: Checkpoints Gone Awry".

M. A. Mackey, F. Ianzini.

"13th MIR-ROC Radiation and Biological Sciences Symposium".

St. Louis, Missouri, USA, November 7-9, 1997.

d: Abstracts (continuation):

112) "Differences Between Radiation-Induced Mitotic catastrophe and Apoptosis".

M. A. Mackey, F. Ianzini.

"46th Annual Meeting of the Radiation Research Society and 17th North American Hyperthermia Society".

Louisville, Kentucky, USA, April 25-29, 1998.

113) "Mitotic Catastrophe Induced by Low Energy Proton Irradiation of V79 Cells".

F. Ianzini, R. Cherubini, M. A. Mackey.

"46th Annual Meeting of the Radiation Research Society and 17th North American Hyperthermia Society".

Louisville, Kentucky, USA, April 25-29, 1998.

114) "Radiation induced mitotic catastrophe occurs to a reduced extent in U87-MG human glioblastoma cells with functional p53".

F. Ianzini and M. A. Mackey.

"9th p53 Workshop".

Crete, Greece, May 7-15, 1998.

115) "Inactivation, mutation and DNA dsb induction in V79 cells exposed to light ions".

M. Belli, F. Cera, R. Cherubini., M. Dalla Vecchia, S. Favaretto, F. Ianzini, G. Moschini, O. Sapora, G. Simone, M. A. Tabocchini, P. Tiveron.

"32nd COSPAR Scientific Assembly, 40th Anniversary".

Nagoya, Japan, July 12-19, 1998.

116) "Radiation-Induced Mitotic Catastrophe Occurs to a Reduced Extent in Cells with Functional p53: Implications for Genomic Instability".

F. Ianzini, M. A. Mackey.

"Workshop on Dose Response Relationships Involved in the Development of Radiation Induced Genomic Instability and the Implications for Radiation Protection".

Capri, Italy, October 2-4, 1998.

117) "Kinetics and magnitude of mitotic catastrophe produced by exposure of V79 Chinese hamster cells to high LET radiation".

F. Ianzini, R. Cherubini, M. A. Mackey.

"29th Meeting of the European Society for Radiation Biology and 9th Meeting of the Italian Society for radiation Research".

Capri, Italy, October 3-7, 1998.

118) "Mitotic Catastrophe Induced by Light Ions: Kinetics and Magnitude".

F. Ianzini, R. Cherubini, M. A. Mackey.

"14th MIR-ROC Radiation and Biological Sciences Symposium".

St. Louis, Missouri, USA, November 7-9, 1998.

d: Abstracts (continuation):

- 119) "Reduced Induction of Mitotic Catastrophe in Cells with Functional p53 Exposed to Ionizing Radiations: Implications for Genomic Instability".
M. A. Mackey, F. Ianzini.
"14th MIR-ROC Radiation and Biological Sciences Symposium".
St. Louis, Missouri, USA, November 7-9, 1998.
- 120) "Delayed DNA Damage Associated with Mitotic Catastrophe: Implications for Genomic Instability".
F. Ianzini, M. A. Mackey.
"6th International Workshop – Radiation Damage to DNA – Lesions, Mechanisms, and Consequences".
Chapel Hill, North Carolina, USA, April 17-22, 1999.
- 121) "Reduced Mitotic Catastrophe in Irradiated Wild-Type p53 Cells".
F. Ianzini, M. A. Mackey.
"11th International Congress of Radiation Research".
Dublin, Ireland, July 18-23, 1999.
- 122) "Is Genomic Instability Related to Mitotic Catastrophe and Delayed DNA Damage?"
F. Ianzini, M. A. Mackey.
"11th International Congress of Radiation Research".
Dublin, Ireland, July 18-23, 1999.
- 123) "Time-Lapse Digital Video Analysis of Irradiated Mammalian Cells".
M. A. Mackey, F. Ianzini.
"11th International Congress of Radiation Research".
Dublin, Ireland, July 18-23, 1999.
- 124) "Time-Lapse Digital Cinematography: The Tool of the Future".
M. A. Mackey, F. Ianzini.
"15th MIR-ROC Radiation and Biological Sciences Symposium".
St. Louis, Missouri, USA, November 5-7, 1999.
- 125) "Cell-Cycle Delays and Mitotic Catastrophe in V79 Cells Irradiated with Low Energy Protons".
F. Ianzini, R. Cherubini, M. A. Mackey.
"47th Annual Meeting of the Radiation Research Society".
Albuquerque, NM, USA, April 29-May 3, 2000.
- 126) "Time-Lapse Digital Cinematography-Based Study of Cells Undergoing Mitotic Catastrophe".
M. A. Mackey, F. Ianzini.
"47th Annual Meeting of the Radiation Research Society".
Albuquerque, NM, USA, April 29-May 3, 2000.

d: Abstracts (continuation):

127) "Determination of the Fate of Cells Undergoing Mitotic Catastrophe Using LSDCAS".

M. A. Mackey, F. Ianzini.

"48th Annual Meeting of the Radiation Research Society and 19th North American Hyperthermia Society".

San Juan, Puerto Rico, April 21-25, 2001.

128) "Time-Lapse Digital Cinematography: A New Tool for Analyzing Mammalian Cells".

M. A. Mackey, F. Ianzini.

"13th Symposium on Microdosimetry"

Stresa, Italy, May 27-June 1, 2001.

129) "The Large Scale Digital Cell Analysis System (LSDCAS) and its Use in the Quantitative Analysis of Cell Population".

M. A. Mackey, F. Ianzini.

"2001 Fall Meeting of the Iowa Microscopy Society".

Iowa City, USA, September 21, 2001.

130) "Radiation-Induced Mitotic Catastrophe is p53 Dependent".

F. Ianzini, N. K. Baman, L. E. Bresnahan, E. A. Kosmacek, A. R. Walters, M. A. Mackey.

"8th Annual Meeting of the Oxygen Society". Research Triangle Park, North Carolina, USA, November 15-19, 2001.

131) "Tracking Aggressive Tumoral Cells: Analysis of Cell Motility in Irradiated U87-MG Glioblastoma Cells Using the Large-Scale Digital Cell Analysis System".

L. E. Bresnahan, M. Squire, F. Ianzini, M. A. Mackey.

"49th Annual Meeting of the Radiation Research Society and 20th North American Hyperthermia Society". Reno, Nevada, April 20-24, 2002.

132) "p53 is Involved in Radiation-Induced Mitotic Catastrophe".

F. Ianzini, N. K. Baman, Lacey E. Bresnahan, Elizabeth A. Kosmacek, Andrew R. Walters, Michael A. Mackey.

"49th Annual Meeting of the Radiation Research Society and 20th North American Hyperthermia Society". Reno, Nevada, April 20-24, 2002.

133) "The Large Scale Digital Cell Analysis System (LSDCAS) and its Use in the Quantitative Analysis of Cell Populations".

M. A. Mackey, F. Ianzini.

"IEEE-EMBS – Special Topic Conference on Microtechnologies in Medicine and Biology". Madison, WI, USA.

d: Abstracts (continuation):

- 134) "Transient S/G2 Delay in Adriamycin-Treated PC-3 Human Prostate Cancer Cells is Followed by Overaccumulation of Cyclin B1 Protein and Induction of Mitotic Catastrophe".
F. Ianzini, T. Duffie, E. A. Kosmacek, M. A. Mackey.
"9th Annual Meeting of the Oxygen Society". San Antonio, TX, November 20-24, 2002.
- 135) "Statistical Approaches to Improved Cell Segmentation for the Large Scale Digital Cell Analysis System".
C. Haider, E. A. Kosmacek, L. Bresnahan, K. Andersen, M. Sonka, F. Ianzini, M. A. Mackey.
"Engineering Research Week" University of Iowa, Iowa City, April 21-25, 2003.
- 136) "Intracellular Measurement of Pro-Oxidant Species Using the Large Scale Digital Cell Analysis System".
E. A. Kosmacek, M. Coleman, F. Ianzini, M. A. Mackey.
"Engineering Research Week" University of Iowa, Iowa City, April 21-25, 2003.
- 137) "The Large Scale Digital Cell Analysis System: A Unique Tool for the Study of Molecular and Cellular Phenomena in Living Cell Populations".
M. A. Mackey, K. R. Anderson, L. E. Bresnahan, F. E. Domann, G. Gallardo, F. Ianzini, E. A. Kosmacek, Y. Li, M. Sonka, D. R. Spitz, Y. Sun, L. Wang, F. Yang.
"Second Annual Meeting of The Society for Molecular Imaging". San Francisco, CA, August 15-18, 2003.
- 138) "Analysis of Cell Motility in Human Brain Tumor Cells using the Large Scale Digital Cell Analysis System".
M. A. Mackey, K. R. Anderson, L. E. Bresnahan, F. Ianzini, Y. Li, M. Sonka, L. Wang.
"Second Annual Meeting of The Society for Molecular Imaging". San Francisco, CA, August 15-18, 2003.
- 139) "Detection and Quantification of Reactive Oxygen Species in Living Cells Using the Large Scale Digital Cell Analysis System".
M. A. Mackey, M. Coleman, F. Ianzini, E. A. Kosmacek, D. R. Spitz.
"Second Annual Meeting of The Society for Molecular Imaging". San Francisco, CA, August 15-18, 2003.
- 140) "Use of the Large Scale Digital Cell Analysis System in the Study of Phenotypic Changes in an Adenovirus Gene Expression System".
M. A. Mackey, F. E. Domann, F. Ianzini, B. A. Keller, E. A. Kosmacek.
"Second Annual Meeting of The Society for Molecular Imaging". San Francisco, CA, August 15-18, 2003.

d: Abstracts (continuation):

141) "The Large Scale Digital Cell Analysis System: A Unique Tool for the Study of Molecular and Cellular Phenomena in Living Cell Populations.

M. A. Mackey, K. R. Anderson, L. E. Bresnahan, F. E. Domann, G. Gallardo, F. Ianzini, E. A. Kosmacek, Y. Li, M. Sonka, D. R. Spitz, Y. Sung, L. Wang, F. Yang.

"Biomedical Computing - Digital Biology: The Emerging Paradigm". NIH, Bethesda, November 6-7, 2003.

142) "The Large Scale Digital Cell Analysis System: A Unique Tool for the Study of Molecular and Cellular Phenomena in Living Cell Populations".

M. A. Mackey and F. Ianzini.

"Supercomputing 2003", Phoenix, Arizona, November 15-21, 2003.

143) "Detection and Quantification of Reactive Oxygen Species in Living Cells Using the Large Scale Digital Cell Analysis System".

F. Ianzini, M. Coleman, E. A. Kosmacek, M. A. Mackey, D. R. Spitz.

"10th Annual Meeting of the Society for Free Radical Biology and Medicine". Seattle, WA, November 20-24, 2003.

144) "Segmentation and Quantitative Analysis of the Living Tumor Cells Using Large Scale Digital Cell Analysis System".

F. Yang, G. Gallardo, M. A. Mackey, F. Ianzini, M. Sonka.

"SPIE International Symposium-Medical Imaging 2004". San Diego, CA, February 14-19, 2004.

145) "Mitotic Cell Recognition with Hidden Markov Models".

G. Gallardo, F. Ianzini, M. A. Mackey, M. Sonka, F. Yang.

SPIE "SPIE Medical Imaging - Visualization, Image Guided Procedures, and Display". February, 2004.

146) "Adriamycin Induces Mitotic catastrophe in PC-3 Human Prostate Cancer Cells".

F. Ianzini, A. Bertoldo, A. Gesie, E. A. Kosmacek, T. Nguyen, M. A. Mackey.

"51st Annual Meeting of the Radiation Research Society". St. Louis, MO, April 24-27, 2004.

147) "Continued Cell Division in Cells which have Undergone Mitotic Catastrophe".

M. A. Mackey, B. A. Keller, P. Davis, F. Ianzini.

"51st Annual Meeting of the Radiation Research Society". St. Louis, MO, April 24-27, 2004.

148) "Large Scale Digital Cell Analysis System Studies of Cell Motility in Human Brain Tumor Cells".

L. Wang, E. A. Kosmacek, Y. Li, K. R. Anderson, L. E. Bresnahan, M. Sonka, F. Ianzini, M. A. Mackey.

"Engineering Research Week". University of Iowa, Iowa City, IA, April 28-30, 2004.

d: Abstracts (continuation):

- 149) "Evidence of Mitotic Catastrophe in Adriamycin-Treated PC-3 Human Prostate Cancer Cells".
E. A. Kosmacek, A. Bertoldo, A. Gesie, L. Kenjar, T. Nguyen, F. Ianzini, M. A. Mackey.
"Engineering Research Week". University of Iowa, Iowa City, IA, April 28-30, 2004.
- 150) "Mitotic Cell Recognition with Hidden Markov Models".
G. Gallardo, F. Yang, F. Ianzini, M. A. Mackey, M. Sonka.
"Engineering's Research Open House". Iowa City, IA, April 29-30, 2004.
- 151) "Segmentation and Quantitative Analysis of the Living Tumor Cells Using Large Scale Digital Cell Analysis System".
F. Yang, G. Gallardo, M. A. Mackey, F. Ianzini, M. Sonka.
"Engineering's Research Open House". Iowa City, IA, April 29-30, 2004.
- 152) "Increased Cellular Retention of F-18 Fluorothymidine (FLT) as a Function of Thymidylate Synthetase Inhibition".
T. J. Tewson, F. E. Domann, A. Paulsen, F. Ianzini, L. L. Ponto, K. Dornfeld.
"51st Annual Meeting of the Society of Nuclear Medicine".
Philadelphia, PA, June 19-23, 2004.
- 153) "Mitotic Catastrophe Events in Adriamycin-Treated Human Prostate Cancer Cells".
L. Kenjar, T. Nguyen, E. A. Kosmacek, A. Bertoldo, F. Ianzini, M. A. Mackey.
"Biosciences Program: Undergraduate Scientific Poster Competition".
University of Iowa, Iowa City, September 1, 2004.
- 154) "Cells that Undergo Radiation-Induced Mitotic Catastrophe Have a Potential to Survive for Many Generations Post-Treatment: A LSDCAS Study".
F. Ianzini, B.A. Keller, P.J. Davis, M. A. Mackey.
"11th Annual Meeting of the Society for Free Radical Biology and Medicine".
St. Thomas, Virgin Islands, November 17-21, 2004.
- 155) "Large Scale Digital Cell Analysis of Dendritic Cell-Carcinoma Interactions".
C. De La Mater, M. A. Mackey, S. Krenz, F. Ianzini, Z. B. Kurago.
"International Association for Dental Research".
Baltimore MD, March 9-12, 2005.
- 156) "Large Scale Digital Cell Analysis of Dendritic Cell-Carcinoma Interactions".
C. De La Mater, M. A. Mackey, S. Krenz, F. Ianzini and Z.B. Kurago.
"American Association for Dental Research (AADR)".
Iowa City, IA, February 15, 2005.

d: Abstracts (continuation):

157) "Large Scale Digital Cell Analysis of Dendritic Cell-Carcinoma Interactions".

C. De La Mater, M. A. Mackey, S. Krenz, F. Ianzini and Z.B. Kurago.
"41st Annual American Dental Association (ADA), Dental Students Conference on Research, National Institute for Dental and Cranio-Facial Research (NIDCR)".
Bethesda, MD, April 9-12, 2005.

158) "Tumor Cell Trajectory Analysis in Large Scale Digital Cell Analysis System (LSDCAS)".

F. Yang, M. A. Mackey, F. Ianzini, G. Gallardo, M. Sonka.
"7th Annual Student Interdisciplinary Health Research Poster Session".
University of Iowa, Iowa City, IA, USA, April 21, 2005.

159) "Cells that Undergo Radiation-Induced Mitotic Catastrophe Have the Potential to Survive for Many Generations Post-Treatment: A LSDCAS Study".

F. Ianzini, B.A. Keller, P.J. Davis, M. A. Mackey.
"Riga Meeting on Comprehensive Cell Biology". Riga, Latvia, June 2-4, 2005.

160) "Cytological Mechanisms of Genomes Maintenance and Segregation in Giant Tumor Cells".

Je. Erenpreisa, M. Kalejs, F. Ianzini, E. A. Kosmacek, M. A. Mackey, D. Emzinsh, T. M. Illidge.
"Riga Meeting on Comprehensive Cell Biology". Riga, Latvia, June 2-4, 2005.

161) "Radiation-Induced Mitotic Catastrophe in Human Glioblastoma U87MG Cells Transduced with a Dominant Negative p53 Adenovirus Construct".

F. Ianzini, F. E. Domann, E. A. Kosmacek, M. A. Mackey.
"52nd Annual Meeting of the Radiation Research Society". Denver, CO, USA, October 16-19, 2005.

162) "Cell Segmentation, Tracking, and Mitosis Detection Using Temporal Context".

F. Yang, M. A. Mackey, F. Ianzini, G. Gallardo, M. Sonka.
"MICCAI 2005 - Medical Image Computing and Computer Assisted Intervention". Palm Spring, CA, USA, October 26-29, 2005.

163) "Carcinoma Nest Expansion and Interaction with Dendritic Cells in vitro".

D. Whitney, M. A. Mackey, F. Ianzini, J. Cavanaugh, C. De La Mater, Z. B. Kurago.
"American Association for Dental Research (AADR)". Iowa City, IA, February 7, 2006.

d: Abstracts (continuation):

164) "Carcinoma Nest Expansion and Interaction with Dendritic Cells *in vitro*".
D. Whitney, M. A. Mackey, F. Ianzini, J. Cavanaugh, C. De La Mater, Z. B. Kurago.

"35th Annual Meeting of the American Association for Dental Research".
Orlando, FL, USA, March 8-11, 2006.

165) "Continued Cell Division in Cells which have Undergone Mitotic Catastrophe".

E.A. Kosmacek, B.A. Keller, P.J. Davis, F. Ianzini, M.A. Mackey.

"Engineering's Research Day". Iowa City, IA, April 20, 2006.

166) "Analysis of Cell Growth Kinetics Under Variable Conditions Using the Large Scale Digital Cell Analysis System and Cell Event Analysis Software".

E.A. Kosmacek, P.J. Davis, F. Ianzini, M.A. Mackey.

"BMES 2006". Chicago, IL, October 11-14, 2006.

167) "Polyploid Mitotic Catastrophe Cells May Escape Death by Undergoing Serial Reduction Divisions: a Mechanism for Tumor Progression?"

F. Ianzini, E.A. Kosmacek, M.A. Mackey.

"53rd Annual Meeting of the Radiation Research Society". Philadelphia, PA, USA, November 6-9, 2006.

168) "Effects of Dendritic Cells on Carcinoma Nest Expansion *in vitro*"

D.C. Whitney, M.A. Mackey, F. Ianzini, J. Cavanaugh, and Z.B. Kurago.

"International Association for Dental Research & American Association for Dental Research". New Orleans, LA, USA, March 21-24, 2007.

169) "A Subpopulation of Cells Undergoing Radiation-Induced Mitotic Catastrophe Escape Death by Initiating Serial Reduction Divisions: A Mechanism for Tumor Resistance, Tumor Progression and Tumor Development?"

F. Ianzini, E. A. Kosmacek, M. A. Mackey.

"NASA Models of Space Radiation Risks Workshop". Dallas, TX, March 6-7, 2007.

170) "Analysis of Cell Growth Kinetics Under Variable Conditions Using the Large Scale Digital Cell Analysis System and Cell Event Analysis Software".

E.A. Kosmacek, P.J. Davis, F. Ianzini, M.A. Mackey.

"Engineering's Research Day". Iowa City, IA, April 19, 2007.

171) "The Large Scale Digital Cell Analysis Facility and its Application in Radiation Biology".

M. A. Mackey, F. Ianzini.

European Community MC RTN Project CELLION: Studies on Cellular Response to Targeted Single Ions Using Nanotechnology, Padova, Italy, April 20-22, 2007.

d: Abstracts (continuation):

172) "Effects of Dendritic Cells on the Expansion of Carcinoma Nests in the Presence of Lipopolysaccharide (LSP) *in vitro*"

D.C. Whitney, M.A Mackey, F. Ianzini, J. Cavanaugh, and Z.B. Kurago. "Annual Meeting of the American Academy of Oral and Maxillofacial Pathology". Kansas City, USA, May 5-9, 2007.

173) "LSDCAS Studies of Cells Undergoing Reductive Division Following Radiation-Induced Mitotic catastrophe".

F. Ianzini, E. A. Kosmacek, J. M. Symonds, P. J. Davis, M. A. Mackey. "13th International Congress of Radiation Research". San Francisco, CA, USA, July 7-12, 2007.

174) "Radiation-Induced Cell Death Is Escaped By a Subpopulation of Cells Undergoing Mitotic catastrophe By Initiating a Program of Reductive Division: A Mechanism for Tumor Resistance, Tumor progression and Tumor Development?"

F. Ianzini, E.A. Kosmacek, M.A. Mackey. "18th Annual NASA Space Radiation Investigators' Workshop". Sonoma, CA, USA, July 13-15, 2007.

175) "Transient Delay of Cells Late in the cell Cycle in ⁵⁶Fe Ion Irradiated Mouse Embryonic Fibroblasts Lacking p53 Function is Accompanied by Enhanced Production of Cyclin B1 Protein and mRNA: The First Step Towards Radiation-Induced Mitotic Catastrophe"

F. Ianzini, E.A Kosmacek, E. Napoli, S.A. David, K.J. Keck, M.R. Szyperski, M.A. Mackey. "NASA Human Research Program Investigators' Workshop". League City, TX, USA, February 4–6, 2008.

176) LSDCAS Studies of Cells Undergoing Reductive Division Following Radiation-Induced Mitotic Catastrophe".

E.A. Kosmacek, F. Ianzini, J.M. Symonds, P.J. Davis, M.A. Mackey. "Engineering's Research Day". Iowa City, IA, April 10, 2008.

177) "Cell Cycle Dysregulation and Mitotic Catastrophe After Exposure of Murine and Human Cell Lines to 1 GeV Iron Ion Irradiation".

E.A. Kosmacek, E. Napoli, M.R. Szyperski, K.J. Keck, A.B. Schwertner, M.A. Mackey, F. Ianzini. "19th Annual NASA Space Radiation Investigator's Workshop". Philadelphia, PA, USA, June 30-July 2, 2008.

178) "The Meiosis-Specific DMC1 Protein is Expressed in Polyploid Cancer Cells Formed *via* Radiation-Induced Mitotic Catastrophe".

F. Ianzini, E.A. Kosmacek, E. Nelson, E. Napoli, M.A. Mackey. "54th Annual Meeting of the Radiation Research Society". Boston, MA, USA, September 21-24, 2008.

d: Abstracts (continuation):

179) "Role of High-LET Radiation-Induced Mitotic Catastrophe in Carcinogenesis".

F. Ianzini, E. A. Kosmacek, E. Napoli, M. R. Szyperski, A. B. Schwertner, A. M. Bryant, M. A. Mackey. "NASA Human Research Program Investigators' Workshop". League City, TX, USA, February 2-4, 2009.

180) "Vector Analysis of Head and Neck Squamous Cell Carcinoma Nest Expansion Following Dendritic Cell Contact".

E. Lamb, D. Whitney, M. Mackey, F. Ianzini, Z. Kurago. "AADR/IADR", Miami FL, April 2009.

181) "Functional Alterations in Neural Stem Cells Following Space Relevant Radiation Exposures".

F. Ianzini, E. Napoli, E. A. Kosmacek, M. A. Mackey, S. Ashwal, E. Snyder, A. Obenaus. "Heavy Ion Symposium and 20th NASA Space Radiation Investigator's Workshop". Cologne, Germany, July 6-10, 2009.

182) "MRC-5 Human Lung Fibroblast Cells Exposed to 1 GeV ⁵⁶Fe Ions Express the Meiosis-Specific Proteins SPO11 and SYCP3 and the Cancer Stem Cell Protein Marker Nestin". F. Ianzini, E. Napoli, E. A. Kosmacek, M. R. Szyperski, A. B. Schwertner, M. A. Mackey. "Heavy Ion Symposium and 20th NASA Space Radiation Investigators Workshop". Cologne, Germany, July 6-10, 2009.

183) "Alterations in Neural Stem Cells Following Ionizing Radiation Exposures: Functional Magnetic Resonance Imaging and Live Cell Imaging Studies"

A. Obenaus, S. Ashwal, E. Snyder, E. Napoli, E. A. Kosmacek, M. A. Mackey, F. Ianzini. "55th Annual Meeting of the Radiation Research Society", Savannah, GA, USA, October 4-7, 2009.

184) "Tumor and Normal Human Cell Lines Exposed to Sparsely and Densely Ionizing Radiation Express Meiotic-Specific Proteins and Cancer Stem Cell Markers."

F. Ianzini, E. A. Kosmacek, E. Napoli, M. R. Szyperski, A. B. Schwertner, M. A. Mackey. "55th Annual Meeting of the Radiation Research Society", Savannah, GA, USA, October 4-7, 2009.

B. Areas of Research Interest, Current Projects Collaborations, Group Meetings and Seminar Series

Research Interest (by periods):

- | | |
|-----------|---|
| 1980-1987 | <p>Biophysical and biochemical studies of metalloenzymes interaction and oxidation using ESR, spectrofluorimetric and spectrophotometric techniques.</p> <p>Magnetic resonance studies of membrane fluidity variations in synthetic multilamellar liposomes and biological membranes.</p> <p>Radiation effects on synthetic and biological membranes.</p> <p>Effect of hyperthermia on bacterial cells and biological membranes.</p> |
| 1988-1996 | <p>Studies of the biological effectiveness of ionizing radiation of different qualities and energies on mammalian cells.</p> <p>Relationship between molecular modifications and cellular effects induced by radiation in mammalian cells.</p> <p>Repair of molecular lesions.</p> <p>Comparison of the effectiveness of high and low dose rate irradiation with charged particles.</p> <p>Biophysical and radiobiological properties of hadrons for radiotherapy.</p> <p>Radiobiological studies with ultrasoft X-rays, development of a X plasma-laser source for application to X microscopy and radiobiology.</p> |

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Research Interest (by periods)

1996-Present: *(continuation)*

Genomic instability induced in human cell lines exposed to densely and sparsely ionizing radiation.

Alteration of the cell-cycle progression induced by long duration moderate hyperthermia, ionizing radiation and anti-cancer drugs.

Early and late effects on cellular DNA after exposure of mammalian cell lines to ionizing radiation.

Molecular mechanisms underlying the induction of mitotic catastrophe in mammalian cells exposed to cytotoxic agents.

Application of the Large Scale Digital Cell Analysis System (LSDCAS) to study various cellular and molecular phenomena such as: characterization of loss of cell-cycle regulation following cell perturbation; quantification of cell motility; determination of the fate of cells overproducing pro-oxidants, cell growth and cell death.

Mechanisms of cancer promotion and progression.

Role of high-LET radiation-induced mitotic catastrophe in mutagenesis and its implication in carcinogenesis.

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Research Interest (continuation)

Description of Current Studies Conducted in my Lab

Molecular Regulators of Cell Cycle Progression and Mechanisms of Cancer Resistance to Treatment and Progression

Our interests focus on the effects of radiation exposure on cell cycle and on phenomena associated with cell cycle dysregulation. We have demonstrated that mitotic catastrophe (MC) occurs in a variety of mammalian cell lines exposed to a broad class of agents that induce a loss of regulation of cell division and it is characterized by the aberrant nuclear morphology observed following premature entry into mitosis and often results in the generation of aneuploid and polyploid cell progeny. Cells undergoing MC present an intact nuclear membrane, and they do not exhibit chromatin margination or extensive vacuolization as cells undergoing apoptosis do. In cells exposed to cytotoxic agents, activation of the pro-mitotic regulator cyclin B1/cdc2 kinase complex, occurring while cells are delayed in S or G2 phases of the cell cycle, has been associated with the onset of nuclear fragmentation (MC), indicating that MC is the result of abrogation of cell cycle regulatory pathways, in particular the G2 checkpoint. Delayed *de novo* DNA damage also occurs at the time of MC induction. Although generally lethal, we and others have reported that a small fraction of cells which undergo radiation-induced MC can survive long enough to establish a growing population of cells. Using the Large Scale Digital Cell Analysis System (LSDCAS) we have also shown a high frequency of surviving clones containing an elevated incidence of MC in irradiated human-hamster hybrid GM10115 cells. Similarly, LSDCAS imaging of α -irradiated HeLa cells has shown that a small fraction of MC cells are still alive 22 days post-irradiation and that some of these polyploid cells were able to successfully divide. These results indicate that a small fraction of cells can survive MC. In recent studies we have found that a small percentage of the polyploid cells formed *via* MC segregates nuclei, and gives rise to viable descendants through cell divisions that present morphological features similar to those characteristic of meiotic prophase. The segregated cells contain only one nucleus and are morphologically indistinguishable from control cells. LSDCAS image data demonstrate that a fraction of the polyploid cells formed *via* radiation-induced MC escape death and gives rise to a progeny of smaller cells through a depolyploidization process. These results indicate that a small fraction of cells with morphology identical to that of control cells originate from polyploid cells formed *via* radiation-induced MC; that is, polyploid tumor cells conserve their original individual genomic integrity and can re-initiate cell division *via* reduction division.

Work in our laboratory has been lately devoted at delving into the activation of meiotic or pseudo-meiotic pathways during depolyploidization of polyploid tumor cells formed *via* radiation-induced MC. Semi-quantitative real-time reverse transcriptase polymerase chain reaction (RT-PCR) and WB of irradiated tumor cells reveal mRNA and protein increases of a spectrum of meiotic genes involved in homologous recombination, sister chromatid

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Research Interest (continuation)

Description of Current Studies Conducted in my Lab (continuation)

cohesion, chromosome pairing and maintenance of the synaptonemal complex structure. These data demonstrate that meiosis-specific genes are expressed in polyploid tumor cells formed *via* radiation-induced MC. This activation occurs in concert with the onset of a depolyploidization process as demonstrated by the LSDCAS imaging data. Thus, enabling the hypothesis that a switch from a pro-mitotic to a pro-meiotic division regimen might be advantageous for the irradiated tumors to escape death. The meiosis-specific genes found expressed in our studies can all be defined as cancer/testis antigens; and these findings suggest that polyploid cells may have regulatory pathways in common with somatic reduction division and meiosis. These data also suggest that a conserved mechanism of ordered genome assembly and disassembly exists in multi-genomic polyploid tumor cells, and that this process may take advantage of the activation of pro-meiotic pathways to initiate depolyploidization. LSDCAS imaging data furnish evidences that polyploid tumor cells formed *via* radiation-induced MC are able to survive for many days post-irradiation and to undergo multipolar divisions (depolyploidization). Some of these divisions are failed divisions and cell fusion occurs, some of these divisions start the process of depolyploidization through reduction division giving rise to small mononucleated daughter cells indistinguishable from the untreated control cells. If these newly formed mononucleated cells are in turn able to form viable colonies, they might be responsible for tumor resistance to treatment and tumor progression. These cells will *de facto* have a disarrayed genomic composition; nevertheless, abnormal chromosome arrangements may endow the tumor cells with properties that not only differentiate them from normal somatic cells, but may give to the tumor cells growth advantages. Thus, these findings are relevant in understanding tumor progression and tumor resistance to treatment. We are now characterizing the molecular mechanisms that allow depolyploidization of radiation-induced polyploid MC cells and the potential for long term survival of the novel generated smaller mononucleated cell progeny. Understanding the specific mechanisms underlying the temporary change from a pro-mitotic to a pro-meiotic division regimen will lend important insights into phenomena occurring during human tumor progression and resistance.

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Research Interest (continuation)

Description of Current Studies Conducted in my Lab (continuation)

Effects of High-LET Radiations in Normal Human Cells

Under the auspices of NASA we are also working at identifying the role of high-LET radiation-induced mitotic catastrophe in mutagenesis and its implication in carcinogenesis. The rationale of these studies is based upon the notion that during space flight astronauts are exposed to various types of radiation and concerns have been raised regarding the genotoxic effects of such exposure. In particular, radiation hazards in the space environment include solar flares (or solar particle events, SPE), geomagnetically trapped radiation, galactic cosmic radiation (GCR), and secondary radiation. Solar storms periodically emit bursts of energetic charged particles. These solar storms normally consist of protons (85 %), α -particles (5-10 %), and heavy charged ions (HZE) (5-10 %). A large SPE could result in exposure to an HZE fluence of 3×10^6 with energies above 20 MeV. GCR consists of protons (85 %), α -particles (14 %), and HZE particles (1-2 %) ranging in energy from 100 MeV to 10 GeV. At geosynchronous orbit, the GCR is essentially isotropic. HZE particles (ions having a charge greater than 2 and an energy exceeding 50 MeV/nucleon) deposit energy as a function of the square of the charge (Z) and the inverse of velocity. Consequently, even though they exist in low abundance, GCR particles with Z greater than 3 are responsible for an increased percentage of dose. As GCR enters the atmosphere, it collides with atmospheric nuclei and breaks into pions and protons. The pions subsequently decay into muons before striking the Earth. GCR traversing the shielding of the spacecraft will also produce secondary radiation consisting of HZE, pions, neutrons and protons. Secondary radiation will also be produced when SPE protons and geomagnetically trapped electrons and protons will interact with the spacecraft. Thus, the resulting dose buildup from the bremsstrahlung radiation may be significant. In fact, in tissue the buildup factor for protons of 500 MeV is greater than 3 at a depth of 20 cm. Moreover, due to the unpredictability of SPE, it is possible that acute radiation exposures in excess of 2 Gy may occur to the skin of occupants of orbiting space satellites or during distant flights and explorations. Our studies are aimed at determine if iron and proton ions of varying energies induce mutations in exposed human cells *via* processes occurring in cells that undergo mitotic catastrophe. In particular, we will be testing the hypotheses that a) high-LET radiation leads to an enhanced incidence of mitotic catastrophe; b) a small portion of irradiated cells undergoing mitotic catastrophe escapes death and form viable colonies and c) mutations and DNA damage are persistent in survivors of mitotic catastrophe cells thus making these cells prone to cell transformation.

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Research Interest (continuation)

Description of Current Studies Conducted in my Lab (continuation)

Brief Description of the Large Scale Digital Cell Analysis System (LSDCAS) a Core Facility of the Holden Comprehensive Cancer Center at the University of Iowa

<http://www.uihealthcare.com/depts/cancercenter/research/digitalanalysiscore.html>

We have now a state of the art system for quantitative cell analysis. LSDCAS is an automated cell imaging microscope and image analysis system capable of analyzing thousands of living cells for a period of few days up to weeks in a single experiment. LSDCAS is designed to allow quantitative study of cell populations grown under conditions identical to those used in routine biochemical/molecular investigations of a variety of phenomena. The software for LSDCAS has been designed and programmed entirely in house, and it is thus extremely flexible. LSDCAS has now several analytical capabilities, including cell death analysis, fluorescence-based gene expression and pro-oxidant detection capabilities, and the direct measurement of cell motility in virtually any adherent cell line. Digital motion pictures (MPEG clips) can be produced and archived to CD-ROM for later analysis and display. In LSDCAS, microscope field location and image focus are under computer control. Automated analysis can be provided at different levels; particular analysis solutions can be provided through the construction of custom software. Analysis can be made using up to 1000 individual microscope fields, and experiments can last for time intervals on the order of weeks. The large number of cells that can be analyzed provides for robust statistical analysis of the data produced. LSDCAS is currently composed of two automated microscope systems housed in a dark room located in the College of Medicine (MERF building). One, an Olympus IX-70 inverted phase microscope, is equipped with a custom-built Plexiglas stage incubator. The other system, based upon an Olympus IX-71 microscope, uses an OkoLab CO₂, temperature, and humidity chamber that supports the use of multi-well culture plates, thus allowing multiple experimental samples to be analyzed in a single experiment. Both systems support phase-contrast (bright-field) and fluorescence (dark-field) image acquisition and analysis. Computer control of stage X-, Y-, and Z-coordinates is accomplished using a serial-port I/O interface to a controller unit (stage and controller from Ludl Corp.). In a similar manner, control of specimen illumination is provided through an electronic shutter (also from Ludl Corp). For phase-contrast imaging, the software supports IEEE 1394-compliant CCD cameras. For both microscope systems, phase-contrast images are focused using software auto-focus routines developed in-house. To switch from phase contrast to fluorescence acquisition, three computer-controlled filter wheels equipped with shutters are used. This procedure allows for automated switching of the microscope light source and optics such that multi-color fluorescence images can be rapidly interleaved with phase-contrast images.

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Collaborations:

Project Leader Cell-Cycle Perturbation Project (CCP). Legnaro National Laboratory, Istituto Nazionale di Fisica Nucleare, Legnaro (Padova), Italy.

Co-Project Leader Low Dose Effects (LODE) in Mammalian Cells. Experiment of single-event effect using protons, alpha particles and heavy ions. Legnaro National Laboratory, Istituto Nazionale di Fisica Nucleare, Legnaro (Padova), Italy.

Member of the Holden Comprehensive Cancer Center at The University of Iowa, Iowa City, IA.

Douglas R. Spitz's group: Determination of the fate of cells overproducing pro-oxidants using LSDCAS. University of Iowa, Iowa City, IA.

Susan Lutgendorf's group: Determination of the effects of healing touch on cell motility in human cancer cell lines using LSDCAS. University of Iowa, Iowa City, IA.

Zoya Kurago's group: Studies of the effect of Head and Neck squamous cell carcinoma (HNSCC) cells on differentiation of dendritic cells using LSDCAS. New York University, New York City, NY.

Jekaterina A. Erenpreisa's group: LSDCAS and molecular studies of the fate of cells undergoing mitotic catastrophe and endomitosis and the potential role of these phenomena in promoting cancer cells survival. Latvia Biomedical Research Center, Riga, Latvia.

Michael A. Mackey's group: Studies of altered cell cycle regulation following exposure of cells to cytotoxic agents. University of Iowa, Iowa City, IA.

Pedro Gonzales-Alegre' group: Mechanisms of inclusion formation by TorsinA (TA) mutant protein in rat pheochromocytoma cell line PC12. University of Iowa, Iowa City, IA.

Galen B. Schneider's group: FAK-regulation of cell motility in osteoblast cells growing on rough and grooved implant surfaces. University of Iowa, Iowa City, IA.

Kyle E. Brown's group: Potential of survival and differentiation of hepatic stellate cells and their potential involvement in cirrhotic processes. University of Iowa, Iowa City, IA.

Gabriele Ludewig's group: Effect of PC3B-2,5HQ-induced polyploidization in murine cell lines. University of Iowa, Iowa City, IA.

B. Areas of Research Interest, Current Projects, Collaborations, Group Meetings and Seminar Series (continuation)

Collaborations (continuation):

Andre Obenaus's group: Studies of changes in cell proliferation and cell migration induced by densely and sparsely ionizing radiations on human neural stem cells HFB-2050. Loma Linda University, Loma Linda, CA.

Group Meetings:

Free Radical and Radiation Biology Group. Department of Radiation Oncology, University of Iowa, Iowa City, IA.

Quantitative Biological System Laboratory. Department of Biomedical Engineering, University of Iowa, Iowa City, IA.

The Iowa Institute of Biomedical Imaging (IIBI) Group.

Seminar Series:

Free Radical and Radiation Biology - Graduate Program Seminars

Radiation and Cancer Biology Journal Club

Free Radical Journal Club

CERT Seminars – Chromatin Effects on replication and Transcription

EHSRC/Superfund/Toxicology Seminars

The Iowa Institute of Biomedical Imaging (IIBI) - Weekly Medical Imaging Seminar.

D. Research Support

a. Contracts funded by the Italian Research National Council (CNR):

- 1984 Contract no. 84.00206.02
"NMR, ESR and spectrophotometric Studies of model and biological membranes irradiated with gamma-rays".
- 1986-1987 Contract no. 85.00304.02
"Application of the physics in the biomedical and environmental researches".
- 1986-1987 Contract no. 86.01446.57
"Quality control for diagnostic X-rays".
- 1987 Regione Umbria Found II-09-02 art. 01/01
"Test of uptake of paramagnetic contrasting agent using high resolution NMR".
- 1987-1988 Contracts nos. 86.02680.44 and 87.02808.44
Oncology Project.
"NMR and spectrophotometric studies of neoplastic cells treated with vitamins and liposomes".
- 1987-1988 Contracts nos. 87.01021.02 and 88.00411.02
Application of the Physics to the Biomedical and Environmental Research.
"Molecular and cellular effects of ionizing radiation".
- 1989-1991 Contracts nos. 89.01796.02, 90.01185.CT02,
1993 91.01363.CT02 and 9301331.CT02
"Interaction of densely ionizing radiation with biological systems".
- 1992-1993 Contract no. 92.01321.CT02
"Interaction of ionizing radiation and UV with biological systems".

b. Contracts funded by the Commission of the European Committee (CEC):

- 1989 Contract no. SCI*0154-C (EDB)
"Direct comparison of the biological effectiveness of protons and alpha-particles".
- 1990-1991 Contract no. B17*-0036-C
"Molecular and cellular effects of protons, deuterons and alpha particles".
- 1992-1995 Contract no. PL 920049/ F13P-CT920053
"Molecular and cellular effectiveness of charged particles (light and heavy ions) and neutrons".

D. Research Support (continuation)c. Grants funded by the National Institute of Health (NIH):

Grant	Co-Principal Investigator	Grant Title	Award Amount (direct costs)	Period of Support
NIH R01 CA74899	Fiorenza Ianzini (P.I. M. A. Mackey)	"Mechanisms of Radiosensitization by Moderate Hyperthermia"	\$ 562,030.00	7/97 - 6/01
Grant	Co-Principal Investigator	Grant Title	Award Amount (direct costs)	Period of Support
NIH R33 1R33CA948 01-01	Fiorenza Ianzini (P.I. M. A. Mackey)	"Large Scale Digital Cell Analysis System"	\$ 1,098,153.00	4/02 – 3/05
Grant	Investigator	Grant Title	Award Amount (direct costs)	Period of Support
NIH 5P20 CA091709- 03	Fiorenza Ianzini (P.I. M. M. Graham)	"Molecular Imaging of Response to Cancer Therapy"	\$ 1,057,292.00	4/01 – 5/04
Grant	Core Directors	Grant Title	Award Amount (direct costs)	Period of Support
NIH/NCI 2P30CA086 862-06	Fiorenza Ianzini Michael A. Mackey (LSDCAS Core) George J. Weiner (HCCC Support Grant)	"Holden Comprehensive Cancer Center Support Grant" Large Scale Digital Cell Analysis System Core	\$287,686.66 (LSDCAS Core) \$7,322,036.73 (HCCC Support Grant)	7/05-6/10

D. Research Support (continuation)

c. Grants funded by the National Institute of Health (NIH) (continuation):

Grant	Mentor	Grant Title	Award Amount (direct costs)	Period of Support
NIH/NCI T32 Training Grant	Fiorenza Ianzini (P.I.D. R. Spitz)	Training Program in Free Radical and Radiation Biology	\$ 1,415,938	12/09-11/14 pending
Grant	Principal Investigator	Grant Title	Award Amount (direct costs)	Period of Support
NIH/NCI 1R01CA140 543-01	Fiorenza Ianzini	" Mechanism of Depolyploidization Following Radiation-Induced Mitotic Catastrophe"	\$ 1,606,908.00	12/09 -11/14 pending

d. Grants funded by the Radiation Oncology Center, Mallinckrodt Institute of Radiology, Washington University School of Medicine:

Grant	Principal Investigator	Grant Title	Award Amount	Period of Support
ROC Seed Money	Fiorenza Ianzini	"The Contribution of Delayed DNA Damage to Radiation-Induced Genomic Instability"	\$ 10,000.00	3/98 – 7/99

D. Research Support (continuation)e. Grants funded by the Government of **Latvia** and the Government of the **USA**:

Grant	Principal Investigator	Grant Title	Award Amount	Period of Support
Scientific Visit Exchange	Fiorenza Ianzini	“Determination of Clonogenic Survival Capacity and its Origin in Tumor Cells Undergoing Mitotic Catastrophe: Implication for Radiation Treatment”	\$ 7,700.00	11/04-7/05

f. Grants funded by the National Aeronautics and Space Administration (**NASA**)

Grant	Principal Investigator	Grant Title	Award Amount	Period of Support
NRA NNJ06HH68G	Fiorenza Ianzini	“Role of High-LET Radiation-Induced Mitotic Catastrophe in Mutagenesis: Implication for Carcinogenesis”	\$ 900,000.00	12/06 – 11/09
Grant	Principal Investigator	Grant Title	Award Amount	Period of Support
NRA NNJ09ZSA001N	Fiorenza Ianzini	“Mechanisms of Cell Survival Following Space Radiation-Induced Mitotic Catastrophe: Implications for Cancer Risk”	\$ 1,049,871.00	12/09 – 11/12 pending
Grant	Principal Investigator	Grant Title	Award Amount	Period of Support
NRA NNJ09ZSA001N	Fiorenza Ianzini	“Characterization of Neural Stem Cell Function after Charged Particle Radiation”	\$ 1,349,919.00	10/09 – 9/12 pending

E. Invited Lectures:

1. 1985 "Effects of Gamma Irradiation on Phosphatidylcholine Multilamellar Liposomes: NMR and Spectrofluorimetric Studies".
Department of Radiation Oncology, Radiation Oncology Research Laboratory CED-200, University of California, San Francisco, USA.
2. 1989 "Comparison of Biological Effectiveness of Protons and Alpha Particles with the same LET".
European Society for Radiation Biology, 22nd Annual Meeting, Brussels, Belgium.
3. 1989 "Correlation Between Mutation Induction and Survival in V79 Cells Irradiated with Low Energy Protons".
European Society for Radiation Biology, 22nd Annual Meeting, Brussels, Belgium.
4. 1989 "Biological Effectiveness of Protons and Alpha Particles on the Mutation Induction at the HGPRT Locus in V79 Chinese Hamster Cells".
Association for Radiation Research, Autumn Meeting, Bristol, England.
5. 1994 "Induction of DNA dsb and Rejoining in V79 Cells Exposed to Low Energy Protons".
VII National Meeting of the Italian Society for Radiation Research and IX National Meeting of Research Activities in Radiochemistry, Chemistry of Radiation, Nuclear Chemistry and of the Radioelements, Pisa, Italy.
6. 1995 "Radiobiology with Ultra Soft X-Ray Source".
"81st National Congress of the Italian Society of Physics", Perugia, Italy.
7. 1996 "DNA Double Strand Break Production and Rejoining, and Mutation Induction in V79 Chinese Hamster Cells Irradiated with Low Energy Protons".
"12th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.
8. 1997 "Radiation-induced G2 checkpoint abrogation results in catastrophic mitosis and production of delayed DNA damage in HeLa S3 cells".
"Radiation Oncology Center, ASTRO Seminars".
Washington University, School of Medicine, St. Louis, Missouri, USA.

E. Invited Lectures (continuation):

9. 1997 "RBE and cell inactivation after proton irradiation and application to therapy"
"Radiation Oncology Center, Current Topics Conference". Washington University, School of Medicine, St. Louis, Missouri, USA.
10. 1997 "Delayed Induction of DNA Strand Breaks Following Mitotic Catastrophe Occurring as a Result G2 Checkpoint Abrogation"
"5th International Workshop on Radiation Damage to DNA, Techniques, Quantitation and Mechanisms" Bowness-on-Windermere, Lake District, UK.
11. 1997 "Abrogation of G2/M Cell-Cycle Checkpoint Leads to Delayed DNA Damage"
Radiation and Genomic Stability Unit, Medical Research Council, Harwell, UK.
12. 1997 "Radiation-Induced Abrogation of G2/M Cell-Cycle Checkpoint Leads to Delayed DNA Damage in HeLa S3 Cells"
"13th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.
13. 1998 "Radiation-Induced Mitotic Catastrophe Occurs to a Reduced Extent in Cells with Functional p53: Implications for Genomic Instability".
"Workshop on Dose Response Relationships Involved in the Development of Radiation-Induced Genomic Instability and the Implications for Radiation Protection". Capri, Italy.
14. 1998 "Kinetics and Magnitude of Mitotic Catastrophe Produced by Exposure of V79 Chinese hamster Cells to High LET Radiation".
"29th Meeting of the European Society for Radiation Biology and 9th Meeting of the Italian Society for Radiation Research". Capri, Italy.
15. 1998 "Mitotic Catastrophe Induced by Light Ions: Kinetics and Magnitude".
"14th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.
16. 1999 "Delayed DNA Damage Associated with Mitotic Catastrophe: Implications for Genomic Instability".
"6th International Workshop – Radiation Damage to DNA Lesions, Mechanisms, and Consequences". Chapel Hill, North Carolina, USA.
17. 1999 "Reduced Mitotic Catastrophe in Irradiated Wild-Type p53 Cells".
"11th International Congress of Radiation Research". Dublin, Ireland.

E. Invited Lectures (continuation):

18. 1999 "Is Genomic Instability Related to Mitotic Catastrophe and Delayed DNA Damage?".
"11th International Congress of Radiation Research".
Dublin, Ireland.
19. 2001 "Radiation-Induced Mitotic Catastrophe: its Potential Role in Carcinogenesis and Genomic Instability".
"The University of Iowa College of Engineering Imaging Group Seminars". Iowa City, IA.
20. 2001 "The Large Scale Digital Cell Analysis System (LSDCAS) and its Use in the Quantitative Analysis of Cell Populations".
"The Iowa Microscopy Society". Iowa City, USA.
21. 2002 "p53 is Involved in Radiation-Induced Mitotic Catastrophe".
"Workshop on Delayed Effects of Radiation Exposure: Transgenerational, Bystander and Genomic Instability".
"49th Annual Meeting of the Radiation Research Society and 20th North American Hyperthermia Society". Reno, Nevada, USA.
22. 2002 "Radiation-Induced Mitotic Catastrophe is p53 Dependent".
"Free Radical and Radiation Biology Seminar Series"
Department of Radiation Oncology, University of Iowa, IA, USA.
23. 2004 "Adriamycin-Induced Mitotic Catastrophe in PC-3 Human Prostate Cancer Cells".
NIH PPG "Oxidative Events in Cancer Therapy" Seminar Series". Free Radical and Radiation Biology Program, Department of Radiation on Oncology, University of Iowa, IA, USA.
24. 2004 "Mitotic Catastrophe is Suppressed in p53 Functional Cells and Enhanced in p53 Non-Functional Cells: Implications for Radiation Therapy".
Department of Pathology, University of Iowa, IA. USA
25. 2005 "Mitotic Catastrophe is Suppressed in p53 Functional Cells and Enhanced in p53 Non-Functional Cells: Implications for Radiation Therapy".
Riga Technical University, Biomedical Engineering and Nanotechnologies Institute, Riga, Latvia.
26. 2005 "Large Scale Digital Cell Analysis System: Data Acquisition and Dissemination".
Riga Technical University, Biomedical Engineering and Nanotechnologies Institute, Riga, Latvia.
27. 2006 "Normal Tissue Response"
Loma Linda University, Loma Linda, California.

E. Invited Lectures (continuation):

- 28.2006 “Polyploid Mitotic Catastrophe Cells May Escape Death by Undergoing Serial Reduction Divisions: a Mechanism for Tumor Progression?”
“53rd Annual Meeting of the Radiation Research Society”. Philadelphia, PA, USA, November 6-9, 2006.
- 29.2006 “Studies of Mitotic Catastrophe using the Large Scale Digital Cell Analysis System”.
Holden Comprehensive Cancer Center Forum, University of Iowa, Iowa City, IA.
- 30.2007 “The Large Scale Digital Cell Analysis Facility and Its Application in Radiation Biology”.
European Community MC RTN Project CELLION: Studies on Cellular Response to Targeted Single Ions Using Nanotechnology, Padova, Italy.
- 31.2007 “A Subpopulation of Cells Undergoing Radiation-Induced Mitotic Catastrophe Escape Death by Initiating Serial Reduction Divisions: a Mechanism for Tumor Resistance, Tumor Progression and Tumor Development?”.
Pathology Research Day. Iowa City, IA, USA.
- 32.2008 “A Subpopulation of Cells Undergoing Radiation-Induced Mitotic Catastrophe Escape Death by Initiating Serial Reduction Divisions: a Mechanism for Tumor Resistance, Tumor Progression and Tumor Development?”
Toxicology Research Seminar Series. Department of Occupational and Environmental Health. University of Iowa, Iowa City, IA, USA.
- 33.2008 “In Polyploid Tumor Cells Formed as a Result of Mitotic Catastrophe Induced by Anticancer Treatment, Reductive Cell Division Produces Viable Diploid-Like Progeny Following Alterations in Nuclear Morphology”.
CERT Seminar Series (Chromatin Effects on Replication and Transcription), Department of Biological Sciences, University of Iowa, Iowa City, IA, USA.
- 34.2009 “Mechanisms of Depolyploidization in Cancer Cells Following Radiation-Induced Mitotic Catastrophe”
Radiation Medicine Research Series.
Loma Linda University, Loma Linda, CA, USA.
- 35.2009 “Mechanisms of Depolyploidization in Cancer Cells Following Radiation-Induced Mitotic Catastrophe”
Integrated Biomedical Sciences Seminar Series.
Loma Linda University, Loma Linda, CA, USA.
- 36.2009 “Machine Vision Approaches Towards the Analysis of Cell Population Dynamics Using Live Cell Imaging
Cancer Center Forum Series. University of Iowa, Iowa City, IA, USA.

E. Invited Lectures (continuation):

- 37.2009 "Mechanisms of Depolyploidization in Cancer Cells Following Radiation-Induced Mitotic Catastrophe"
Interdisciplinary Graduate Program in Molecular and Cellular Biology. University of Iowa, Iowa City, IA.
- 38.2009 "Role of High-LET Radiation-Induced Mitotic Catastrophe in Carcinogenesis".
NASA Human Research Program Investigators' Workshop. League City, TX.
- 39.2009 "Mechanisms of Depolyploidization in Cancer Cells Following Radiation-Induced Mitotic Catastrophe"
Cancer Genetics and Computational Biology Program – Cancer Center, University of Iowa, Iowa City, IA.
- 40.2009 "The large Scale digital Cell Analysis Core Facility"
Cancer Center, University of Iowa, Iowa City, IA.
- 41.2009 "Functional Alterations in Neural Stem Cells Following Space Relevant Radiation Exposures".
Heavy Ion Symposium and 20th NASA Space Radiation Investigators Workshop. Cologne, Germany.
- 42.2009 "MRC-5 Human Lung Fibroblast Cells Exposed to 1 GeV ⁵⁶Fe Ions Express the Meiosis-Specific Proteins SPO11 and SYCP3 and the Cancer Stem Cell Protein Marker Nestin".
Heavy Ion Symposium and 20th NASA Space Radiation Investigators Workshop. Cologne, Germany.
- 43.2009 "Alterations in Neural Stem Cells Following Ionizing Radiation Exposures: Functional Magnetic Resonance Imaging and Live Cell Imaging Studies"
55th Annual Meeting of the Radiation Research Society. Savannah, GA, USA.
- 44.2009 "Tumor and Normal Human Cell Lines Exposed to Sparsely and Densely Ionizing Radiation Express Meiotic-Specific Proteins and Cancer Stem Cell Markers."
55th Annual Meeting of the Radiation Research Society, Savannah, GA, USA.

F. Seminars:

1. 1990 "Mutation Induction in Mammalian Cells Exposed to High LET Protons".
Physics Laboratory, Istituto Superiore di Sanita', Rome, Italy.
2. 1990 "Direct Comparison of Protons and Alpha Particles Effectiveness in Inducing Damage and Molecular Lesion on Mammalian Cells".
Physics Laboratory, Istituto Superiore di Sanita', Rome, Italy.
3. 1991 "Relevance of Experiments with Different Charged Particles Having the same LET for Biophysical Modelling of Radiation Effects".
Workshop on Biophysical Modelling of Radiation Effects, Padua, Italy.
4. 1993 "Comparison between Protons and Deuterons with the same LET in Inducing Mutation in V79 Cells".
25th Annual Meeting of the European Society for Radiation Biology, Stockholm, Sweden.
5. 1994 "Effectiveness of Deuterons and Helium-3 Ions with LET Ranging from 40 to 60 keV/ μ m in Inducing Lethality in V79 Cells".
European Society for Radiation Biology and European Society for Hyperthermic Oncology Joint Meeting, Amsterdam, The Netherlands.
6. 1996 "Treatment of HeLa S3 Cells with Moderate Hyperthermia Prior to Irradiation Leads to A Synergistic Accumulation of cyclin B1 and results in an Enhanced Loss of G2 Checkpoint Function".
"12th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.
7. 1997 "Spontaneous Premature Chromosome Condensation: Checkpoints Gone Awry".
"13th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.
8. 1998 "Reduced Induction of Mitotic Catastrophe in Cells with Functional p53 Exposed to Ionizing Radiations: Implications for Genomic Instability".
"14th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.
9. 1999 "Time-Lapse Digital Video Analysis of Irradiated Mammalian Cells".
"11th International Congress of Radiation Research, Dublin, Ireland.
10. 1999 "Time-Lapse Digital Cinematography: The Tool of the Future".
"15th MIR-ROC Radiation and Biological Sciences Symposium". St. Louis, Missouri, USA.

F. Seminars (continuation):

11. 2000 "Cell-Cycle Delays and Mitotic Catastrophe in V79 Cells Irradiated with Low Energy Protons".
"47th Annual Meeting of the Radiation Research Society".
Albuquerque, NM, USA.
12. 2000 "Time-Lapse Digital Cinematography-Based Study of Cells Undergoing Mitotic Catastrophe".
"47th Annual Meeting of the Radiation Research Society".
Albuquerque, NM, USA.
13. 2001 "Determination of the Fate of Cells Undergoing Mitotic Catastrophe Using LSDCAS".
"48th Annual Meeting of the Radiation Research Society and 19th North American Hyperthermia Society".
San Juan, Puerto Rico.
14. 2001 "Time-Lapse Digital Cinematography: A New Tool for Analyzing Mammalian Cells".
"13th Symposium on Microdosimetry".
Stresa, Italy.
15. 2001 "Application of the Large Scale Digital Cell Analysis System as a Tool for the Study of Mitotic Catastrophe".
Italian National Institute of Health and Department of Physics, University of Rome, Italy.
16. 2002 "The Large Scale Digital Cell Analysis System (LSDCAS) and its Use in the Quantitative Analysis of Cell Populations".
"IEEE-EMBS – Special Topic Conference on Microtechnologies in Medicine and Biology".
Madison, WI, USA.
17. 2003 "The Large-Scale Digital Cell Analysis System: a Tool for the Quantitative Analysis of Large Populations of Living Cells".
"Center for Bioinformatics and Computational Biology (CBCB) Colleges of Engineering and Medicine (University of Iowa) – Seminar Series".
Iowa City, IA, USA.
18. 2004 "Drug-Induced Mitotic Catastrophe in Human Prostate Cancer Cells".
Tumor Biology Seminar Series. Department of Pathology, University of Iowa, Iowa City, IA, USA.
19. 2004 "Other Evidences that Lack of p53 Promotes Mitotic Catastrophe in Irradiated Mammalian Cells".
Tumor Biology Seminar Series. Department of Pathology, University of Iowa, Iowa City, IA, USA.
20. 2005 "Exploring the Role of Radiation-Induced Mitotic Catastrophe in Cancer Progression. I".
Tumor Biology Seminar Series. Department of Pathology, University of Iowa, Iowa City, IA, USA.

F. Seminars (continuation):

- 21.2005 “Exploring the Role of Radiation-Induced Mitotic Catastrophe in Cancer Progression. II”.
Tumor Biology Seminar Series. Department of Pathology,
University of Iowa, Iowa City, IA, USA.
- 22.2006 “Large Scale Digital Cell Analysis System (LSDCAS):
Challenges Arising in a Diverse System”.
Tumor Biology Seminar Series. Department of Pathology,
University of Iowa, Iowa City, IA, USA.
- 23.2006 “Role of high-LET Radiation-Induced Mitotic Catastrophe
in Mutagenesis: Implication for Carcinogenesis”.
Tumor Biology Seminar Series. Department of Pathology,
University of Iowa, Iowa City, IA, USA.

G. Knowledge of Languages:

- a. Italian mother tongue
- b. English, spoken and written.
- c. Portuguese, spoken and written.

H. Professional Qualification: Courses and Workshops:

1. 1980 1st National Course of Physics of Radiation and Biomedical Technology. Rome, Italy.
2. 1980 3rd BASIC Course for Health Care Personnel. Rome, Italy.
3. 1981 Course of Magnetic Resonance and Biomedical Applications. Pontignano, Italy,
4. 1981 2nd National Course of Physics of Radiation and Biomedical Technology. Rome, Italy.
5. 1982 NATO ASI School on Coordination Chemistry of Metalloenzymes in Hydrolytic and Oxidative Processes. San Miniato, Italy.
6. 1982 NATO ASI School on Physical Methods on Biological Membranes and Their Model Systems: Possibilities and Limits. Altavilla Milicia, Italy.
7. 1983 Advanced Experimental and Theoretical Methodologies for Studying Paramagnetic Systems. Alghero, Italy.
8. 1985 Beckman HPLC Course. Madison, Wisconsin, USA.
9. 1986 GDRM School: Emerging Phenomena and Techniques in the Magnetic Resonance, EPR, ENDOR, NMR. CNR-Montelibretti, Rome, Italy.
10. 1986 Workshop: Genetic Physico-Chemical Approaches for Analysis of Biological Catalysts. Firenze, Italy.
11. 1986 6th National Course of Physics of Radiation and Biomedical Technology. Rome, Italy.
12. 1987 2nd Chianti Workshop on Magnetic Resonance - Nuclear and Electron Relaxation in Biological and Model Systems. San Miniato, Italy.
13. 1987 NATO Advanced Study Institute - New Perspectives in the Dynamics of Assembly of Biomembranes. Cargese, Corsica.
14. 1991 Workshop on Biophysical Modelling of Radiation Effects. Padova, Italy.
15. 1992 BioRad Life Science Group - Seminars: DNA Electrophoresis. Rome, Italy.
16. 1992 CEE Course: Current Techniques in Radiation Mutagenesis. Leiden, Netherlands.
17. 1995 Keystone Symposia: Repair and Processing of DNA Damage. Taos, New Mexico, USA.

H. Professional Qualification: Courses and Workshops (continuation):

- 18.1997 Workshop on Radiation Damage to DNA, Techniques, Quantitation and Mechanisms. Bowness-on-Windermere, Lake District, UK.
- 19.1997 Gordon Conference: Molecular Concepts in Radiation Oncology. Plymouth, New Hampshire, USA.
- 20.1997 9th p53 Workshop. Crete, Greece.

IV. Service

A.

University Committees/Boards:

1998	Steering Committee of the Radiation Oncology Center. Washington University School of Medicine, St. Louis, Missouri.
2003-2005	Education Committee, Department of Radiology, University of Iowa, Iowa City, Iowa.
2003-present	Chair, Advisory Board for the Large Scale Digital Cell Analysis System (LSDCAS), a Core Facility of the Holden Comprehensive Cancer Center, University of Iowa, Iowa City, Iowa.
2004-2005	Research Sub-Committee (Education Committee), Department of Radiology, University of Iowa, Iowa City, Iowa.
2004-2005	Accademic Sub-Committee (Education Committee), Department of Radiology, University of Iowa, Iowa City, Iowa.
2005-present	Medical School Admission Interviews Committee. Carver College of Medicine, University of Iowa, Iowa City, Iowa.
2005-present	MSTP Admission Interviews Committee. Carver College of Medicine, University of Iowa, Iowa City, Iowa.
2005	E-Research Computing Focus Group Committee. ITS. University of Iowa, Iowa City, Iowa.
2006-present	Biosciences Program, Graduate Students Admission Interviews Committee. University of Iowa, Iowa City, Iowa.

IV. Service (continuation)

B.

Search Committees:

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| 2002 | Search Committee for Research Assistant II (PR1506), Department of Radiation Oncology – Free Radical and Radiation Biology Program, University of Iowa, Iowa City, Iowa. |
| 2005 | Search Committee for Research Assistant II (PR15), Department of Pathology, University of Iowa, Iowa City, Iowa. |
| 2006 | Search Committee for Research Assistant II Department of Pathology, University of Iowa, Iowa City, Iowa. |
| 2008 | Search Committee for Faculty searches of Surgical Pathologist/Cytopathologist, Department of Pathology, University of Iowa, Iowa City, Iowa. |

C.

Thesis Committees:

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| 2000-2002 | Lacey E. Bresnahan, Master's in Biomedical Engineering, University of Iowa, Iowa City, Iowa. |
| 2004-present | Elizabeth A. Kosmacek, PhD in Biomedical Engineering, University of Iowa, Iowa City, Iowa. |
| 2005-2006 | Nicki K. Baman, Master's in Biomedical Engineering, University of Iowa, Iowa City, Iowa. |
| 2008-present | Caitlin Cloud, Master's in Pathology, University of Iowa, Iowa City, Iowa. |

D.

Scientific Journal's and/or Scientific Society's Committees:

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| 2003-present | Radiation Research Society's Membership Committee. |
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IV. Service (continuation)

E.

Review Boards:

a. Study Sections/Panels

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| 2003 | International Science and Technology Center (ISTC). |
| 2007 | Department of Defense - Congressionally Directed Medical Research Programs (CDMRP), Breast Cancer Research Program (BCRP). |
| 2008 | University of Iowa – Biological Sciences Funding Program (BSFP) Grants Competition |
| 2008 | NIH – National Institute of Allergy and Infectious Diseases (NIAID) Special Emphasis Panel: Mechanisms, Diagnosis and Treatment of Radiation Injury from a Nuclear Accident or Terrorist attack [ZAI1 TP-I (M1)]. |
| 2009 | NASA - Space Radiation Program - NASA Specialized Centers of Research (NSCOR). NRA NNJ08ZSA003N: Carcinogenesis and Central Nervous System Risks from Space Radiation. |

b. Scientific Journals

International Journal of Radiation Biology.
International Journal of Radiation Oncology, Biology, Physics.
Radiation Research.
Journal of the American College of Radiology.
Clinical Medicine: Oncology
Mutagenesis
Journal of Current Pharmaceutical Design
Neoplasia
Cancer Research
Molecular Cancer Therapeutics
Cell Biology and Toxicology

c. Advisory Boards:

Radiation and Free Radical Research Core (RFRRRC), a Shared resources of the Holden Comprehensive Cancer Center at the University of Iowa.

IV. Service (continuation)

G.

Teaching Responsibilities and Undergrad and Grad Students and Residents Trained at Other Institutions (continuation):

b. Undergrad and Grad Students and Residents Trained:

1. 1986 – 1988 Claudia Cutrera, Ph.D. in Biology, University of Rome, Italy.
“Effects of Gamma-Rays on Water Structure in Water-Membrane Models: ESR and Calorimetric Studies”.
2. 1996 – 1998 Clint Waugh, College Student. Washington University, St. Louis, MO.
3. 1996 Krysta Lambert, High School Student. Washington University, St. Louis, MO.
4. 1997 – 1998 Cristiane Takita, Medical Resident in Radiology. Washington University, St. Louis, MO.
5. 1998 Cristina Pippa, High School Graduate. Washington University, St. Louis, MO.