



GIANLUCA TELL

RUOLO ATTUALE

*(Full Professor of Molecular Biology
Head of the Laboratory of Molecular Biology and DNA repair
Deputy Head of the Department of Medicine
Department of Medicine)*

Personal Information

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Personal Statement

His prevailing interests is the study of molecular mechanisms of gene expression particularly in the field of redox signalling and cell oxidative stress. Now, he is focusing on some aspects linking gene expression and DNA repair and its relevance in molecular oncology and cancer. In particular, from 1998, he contributed to the understanding of the molecular mechanisms, involving the main mammalian Apurinic/Apyrimidinic Endonuclease, i.e. APE1, in coordinating cellular responses to oxidative stress in different cell models. His background includes molecular and cellular biology as well as biochemistry techniques and –OMICS technologies to characterize the relationship between structure and function of proteins involved in gene expression and DNA repair. He coordinated several research projects granted from Telethon, AIRC, FIRB, FISIR, NIH, PRIN, ASI and worked as a Referee for several different International Journals, including: Oncogene, Nucleic Acids Research, Proteomics, Cancer Research, Clinical Cancer Research, etc. Actually, from 2010, his research activity is focused on characterizing the non-canonical roles of DNA repair enzymes of the Base Excision Repair pathway in association with RNA metabolism. He is currently head of the Laboratory of Molecular Biology and DNA repair of the Department of Medicine at the University of Udine, Italy, coordinating the work of three Post-Doctoral fellows and two PhD students.

Prof. G. Tell authored more than 150 publications in international peer reviewed journals and several international congress communications, concerning control of gene expression and DNA damage response during response to oxidative stress and genotoxic treatments. In 55% of these publications Prof. Tell gave a central contribution, acting as a first or last name. Total Impact Factor >500. The value of citation index (h-index) according to Scopus is 46 with a mean citation value of 39.50.

MAJOR ACHIEVEMENTS IN SCIENCE. Prof Tell has contributed to the understanding of the molecular mechanisms, involving the main mammalian Apurinic/Apyrimidinic Endonuclease APE1, in coordinating cellular responses to oxidative stress using different cancer cell models. He discovered one of the most important non-canonical roles of this protein in miRNA processing highly relevant in cancer biology.

EDUCATION

Got his Biology degree cum laude on 13 March 1993 (Academic Year 1991/92) at the University of Trieste, Italy

Research support

C. Research Support

In the Last 10 years, Prof. Tell received grants in support of his research activities, for an overall budget of more than 2 MEuros from different granting agencies including: the National Institutes of Health (NIH), MIUR, MAE, Telethon, AIRC, Regione FVG, Private Companies.

Ongoing Research Support

- 2021-2022 Research Grant MUR, FISR2020IP_01563 (D.D. n.562 del 5.5.2020), dal titolo: "A system approach platform, based on Artificial Intelligence (AI) / Machine Learning (ML), for serum proteomics, radiomics and clinical data analysis to identify diagnostic and prognostic biomarkers in SARS-CoV-2 (SCV2) infection". Project location: University of Udine, Italy. Total funding to Dr Tell: € 52.967,91.
- 2018-2022 Research grant AIRC #IG19862 (Unveiling the role of Ape1 in regulating tumor cell resistance to chemotherapy through miRNAs processing in HCC and NSCL). The goal of this proposal is to characterize new Ape1 functions in cancer resistance associated with miRNAs and gene expression regulation. This project will evaluate the roles of Ape1 and Ape1-regulated miRNAs as predictive biomarkers in NCSLC and HCC. Project location: University of Udine, Italy. Total funding to Dr Tell: € 454.000
- 2016-2021 Research Grant R01 NIH (1R01ES026243-01), National Institutes of Health agency: National Cancer Institute Special Emphasis Panel (Ribose-seq profile and analysis of ribonucleotides in DNA of oxidatively-stressed and cancer cells). PI: Prof. Francesca Storici, Georgia Technology Institute, Atlanta, GA, USA. Co-PI: Prof. Gianluca Tell Project. The goal of this project is to map ribonucleotides embedded in DNA in normal and cancer cells and identify the mechanisms for their repair. Project location: Georgia Technology Institute, Atlanta, GA, USA and University of Udine, Italy. Total fundings to Dr. Tell: \$388,190.
- 2017-2019 Crossborder cooperation program Interreg V Italia Austria Bando 2016 funded by the European Regional Development Fund (ERDF) and the National Funds, implemented by the Autonomous Region Friuli Venezia Giulia, in quality of Managing Authority (PreCanMed: Generation of a Precision Cancer Medicine platform). Total funding to Dr Tell: € 205.450

Completed Research Support

- 2015-2017 Research Grant R21 NIH, National Institutes of Health agency: National Cancer Institute Special Emphasis Panel (The Ape1-NPM1 Axis and Telomere Maintenance). PI: Prof. Bruce Demple, Stony Brook University, NY, USA. Co-PI: Prof. Gianluca Tell Project. Total fundings: \$429,642. The goal of this project is to unveil the role of the Ape1-NPM1 axis in telomere maintenance for development of new anticancer drugs. Project location: Stony Brook University, NY, USA and University of Udine, Italy
- 2014-2016 Research grant AIRC #IG14038 (Base Excision Repair dysregulation and cancer: Ape1 as a therapeutic target) € 169.604,0. The goal of this proposal is to identify the Ape1 regulated genes in cancer cells through RIP and ChipSeq gene analysis through NGS strategies and to identify small compounds able to interfere with the Ape1 functional network to sensitize tumor cells to anticancer therapy. Project location: University of Udine, Italy
- 2012-2015 Crossborder cooperation program Italy- Slovenia 2007- 2013 funded by the European Regional Development Fund (ERDF) and the National Funds, implemented by the Autonomous Region Friuli Venezia Giulia, in quality of Managing Authority (Environmental pollutants and neurodegenerative diseases).
- 2010-12 Research grant AIRC #IG10269 – three years (Understanding the functional regulation of APE1 for development of new specific inhibitors) € 201.930,00
- 2010-12 Telethon, Grant # GGP10051B (New diagnostic and therapeutic approaches for the Crigler–Najjar Syndrome Type I)

- 2010-12 Research grant PRIN_2008CCPKRP_003 (Molecular networks involving APE1 and role of post-translational modifications in fine-tuning the APE1 different functions for development of new drugs for cancer treatment). Co-PI, €34.857
- 2009-2010 ITALY/FRANCE 'Galileo' exchange grant from the Università Italo-Francese.
- 2008-11 Grant FIRB-National Proteomics Network RBRN07BMCT_008 (Italian Human ProteomeNet) €1.006.000
- 2008-10 EU/USA Exchange Grant by Ministry from Foreign Affairs: Role of Ape1 in Neurotoxicity of Cancer Treatments
- 2006-08 Telethon, Grant #GGP06208 (DJ-1 in neurodegeneration)
- 2005-09 Private grants from Procter & Gamble and Abiogen
- 2005-07 AIRC, (New approaches for studying genetics, early molecular diagnosis and prognostic factors relevant for HCC)
- 2005-07 Telethon, Grant #GGP05062 (Genetic determinants of bilirubin encephalopathy)
- 2005-07 National coordinator grant PRIN2005051307 (Molecular mechanisms of cell response to oxidative stress) €182900

Publications

Prof Tell has more than 180 scientific publications. Peer reviewed Publications and citations parameters:

- First author publications: 25
- Last/corresponding author publications: 60
- Total publications in peer reviewed international journals: 166
- Peer-reviewed publications at this link: ORCID ID: <https://orcid.org/0000-0001-8845-6448>.
- Scopus Author ID: 7005032283
- Sum of the Times Cited (Scopus): 7111
- Average Citations per Item (Scopus): 39.50
- h-index (Scopus): 46

Most cited paper: The intracellular localization of APE1/Ref-1: More than a passive phenomenon? Tell, G; Damante, G; Caldwell, D; et al. ANTIOXIDANTS & REDOX SIGNALING (2005), 7, 367-384. Number of citations: 264 with a mean of 21.82/year.

Paper with highest Impact Factor: Antoniali G, Serra F, Lirussi L, Tanaka M, D'Ambrosio C, Zhang S, Radovic S, Dalla E, Ciani Y, Scaloni A, Li M, Piazza S, Tell G. Mammalian APE1 controls miRNA processing and its interactome is linked to cancer RNA metabolism. Nature Communications (2017) Oct 6;8(1):797. doi: 10.1038/s41467-017-00842-8. PubMed PMID: 28986522; PubMed Central PMCID: PMC5630600. Impact Factor: 12.1

Journals with mid-high Impact Factor in which Prof. G. Tell published as first or as corresponding author:

1. Nature Communications
2. Nucleic Acids Research
3. Molecular and Cellular Biology
4. Oncogene
5. Genome Biology
6. Antioxidants and Redox Signalling
7. Journal of Biological Chemistry
8. Molecular Biology of the Cell

Referee for many granting agencies

Referee and Associate Editor for several journals

Teaching and services to students

Teaching

Medical School of the University of Trieste

1. Molecular Biology (4 CFU), B.Sc. Degree in Medical Biotechnologies, Academic Years 2000/2001, 2001/2002, undergraduate students;
2. Molecular Biology 2 (4 CFU), B.Sc. Degree in Medical Biotechnologies, Academic Years 2001/2002, 2002/2003, 2003/2004, undergraduate students;
3. Molecular Biology (1 CFU), Degree in Medical Dentistry, Academic Years 2001/2002, 2002/2003, undergraduate students;
4. Recombinant technologies (2 CFU), B.Sc. Degree in Medical Biotechnologies, Academic Years 2001/2002, 2002/2003, undergraduate students;
5. Functional Genomics and Proteomics (3 CFU), M.Sc. Degree in Medical Biotechnologies, Academic Years 2001/2002, 2002/2003, 2003/2004, 2004/2005, undergraduate students;
6. Techniques in Molecular Biology (9 CFU), B.Sc. Degree in Medical Biotechnologies, Academic Years 2001/2002, 2002/2003, 2003/2004, undergraduate students;
7. Molecular Genetics 2 (2 CFU), Master School in Medical Genetics, Academic Years 2001/2002, 2002/2003, graduated students.

For all the above-indicated courses, Prof. G. Tell acted as member or President of the evaluation commission. For all the courses held by Prof. G. Tell, the overall judgment of the students was always completely satisfactory.

Medical School and Biotechnology School of the University of Udine, Italy

1. General Pathology Degree in Rehabilitation Physiotherapy (4 CFU), Academic Year 1998/1999, undergraduate students;
3. Techniques in Molecular Biology (9 CFU), B.Sc. Degree in Medical Biotechnologies, Department of Medicine, Academic Years: 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2017/18, undergraduate students;
4. Molecular Methodologies in Proteomics (3 CFU), Department of Medicine, M.Sc. Degree in Medical Biotechnologies, Academic Years: 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011, 2016/17, undergraduate students;
5. DNA repair mechanisms in mammalian cells (1 CFU), Department of Medicine, M.Sc. Degree in Medical Biotechnologies, Academic Years: 2007/2008, 2008/2009, 2009/2010, undergraduate students;
6. Molecular Biology (1 CFU, 16 hours), Department of Medicine, M.Sc. Degree in Sports Medicine, Academic Year 2011/2012, 2012/13, 2013/14, undergraduate students;
7. Molecular Biology (7 CFU), Department of Medicine, B.Sc. Degree in Biotechnologies, Academic Years: 2011/2012, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17, 2017/18, undergraduate student;
8. Molecular Biology (5 CFU), Department of Medicine, Degree in Medicine, Academic Years: 2011/2012, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17, 2017/18, undergraduate students.

For all the above indicated courses, Prof. G. Tell acted as member or President of the evaluation commission. For all the courses held by Prof. G. Tell, the overall judgment of the students was always completely satisfactory.

PhD Program in "Biomedical Sciences and Biotechnologies" of the University of Udine

From 2005-present Prof. G. Tell acted as teaching member of the PhD Program in "Biomedical Sciences and Biotechnologies" of the University of Udine.

Supervisor of Graduated Students (years 1998-2018):77 students

- 7 in Biology, University of Trieste
- 1 in Chemistry, University of Trieste
- 24 in Medical Biotechnologies, University of Trieste
- 42 in Biotechnologies, Department of Medicine, University of Udine
- 2 in Biomedical Laboratory, Department of Medicine, University of Udine
- 1 in Medicine, Department of Medicine, University of Udine

Supervisor of Post-graduated students (years 2005-2018): 19 students
2 in Biochemistry, University of Trieste
17 in Biomedical Technologies, Department of Medicine, University of Udine

Supervisor of PhD students (years 2005-2021): 15
2 in Biomedical Sciences at the University of Trieste
13 in Biomedical Sciences and Biotechnologies at the Department of Medicine, University of Udine

Supervisor of PostDoctoral fellows (years 2005-2018): 18 Fellows
2 At the University of Trieste
16 At the Department of Medicine, University of Udine

Participation to the Laurea Commission for the Degrees in Medicine and Biotechnology and for PhD Degrees

-From 2000-present: member or President of the evaluation commission for the 'Laurea' Degrees in Medicine or in Biotechnologies both at the University of Trieste and Udine;
-From 2005-present Prof. G. Tell acted as member of the PhD Program in "Biomedical Sciences and Biotechnologies" of the University of Udine;
-From Academic Year 2016-2017-present: member of the evaluation committee for the PhD Program in "Molecular Biomedicine" of the University of Trieste;
-Academic Year 2016-2017: member of the evaluation committee for the PhD Program in "Molecular Medicine and Medical Biotechnologies-XXIX Cycle" of the University of Napoli.

Dissemination of Science and students orienteering activities

- From 2014-present: Organizer or collaborator to several orienteering events for college students, such as the "Open Day" and the "Moduli Formativi" (<https://www.uniud.it/it/servizi/servizi-orientamento-scuole/servizi-scuole/moduli-formativi>) of the University of Udine. These activities involve about 400 students/year;
- Academic Years 2015-2018: Coordinator for the University of Udine of the dissemination initiative in the field of Biology and Biotechnologies to students of the Primary and Secondary Schools within the Project titled 'Piano Lauree Scientifiche-PLS-Biotechnologie', granted by the MIUR. These activities involve about 600 students/year.

Research topics and themes developed

Research topics developed by Prof. G. Tell

The scientific activity of Prof. G. Tell is fully developed within the themes of the BIO / 11 Disciplinary Scientific Sector. Scientific activity in recent years has developed according to the following three major lines of research:

- A. Gene expression and molecular mechanisms controlling cellular responses to oxidative stress.
 - A.1 Molecular mechanisms involved, role and regulation of the Ape1/Ref-1 coactivator in the cellular response to oxidative stress;
 - A.2 Structure/function relationship of the Transcription Factors.

- B. Innovative approaches in the characterization of the complexity of biological systems applied to Molecular Medicine.
 - B.1 New Proteomics approaches applied to: i) ischemia / reperfusion injury in liver transplantation; ii) identification of biomarkers in pre-eclampsia; iii) identification of transcriptional targets of NF- κ B in the neoplastic transformation process in thyroid carcinoma; iv) identification of molecular targets of the action of bisphosphonates in osteoblastic cell lines.

- C. Non-canonical roles of DNA repair pathways in RNA metabolism

Memberships and Assignments

Institutional assignments

- *Academic Years 2010-2012: Representative of Associate Professors in Academic Senate of the University of Udine;*
- *Academic Years 2009-2012: Member of the Teaching Commission for the Degree in Biotechnologies of the University of Udine;*
- *Academic Years 2012-2018: Director of the B.Sc. in Biotechnologies of the University of Udine;*
- *From 2010-present, Head of the Laboratory of Molecular Biology and DNA repair of the Department of Medicine at the University of Udine, Italy;*
- *From October 2015-October 2019, member of the Technology Transfer Commission of the University of Udine, Italy;*
- *Academic Years: 2014-present: Representative of the Rector of the University of Udine within the "Consortium of Molecular Biomedicine" of the Regione Friuli Venezia Giulia (CBM S.c.r.l. <http://www.cbm.fvg.it>);*
- *From 2017-present: Deputy of Research of the Department of Medicine, University of Udine;*
- *From January 2018-present: member of the Scientific Committee for the organization of ESOF2020 (<https://www.euroscience.org/tag/esof-2020/> and <http://www.proesof2020.eu/>).*
- *From October 2019-present: Deputy Director of the Department of Medicine of the University of Udine*

Professional memberships

- *From 2000-present American Association for Biochemistry and Molecular Biology (ASBMB)*
- *From 2000-present Italian Society for Biochemistry and Molecular Biology (SIB)*
- *2003-2008 American Society for Bone and Mineral Research (ASBMR)*
- *2004 Human Proteome Organization (HUPO)*
- *From 2004-present Italian Human Proteome Organization (IHUPO)*
- *2011-2015 Visiting Research Scholar at Stonybrook University, Stonybrook, NY-USA*
- *From 2014-2020, Member of the Scientific Board of the Italian Research Cancer Association (AIRC)*
- *From 2015-present, Member of the Scientific Board of the Fondazione Italiana Fegato, FIF-ONLUS, Trieste, Italy*

Positions and Honors

- Academic Years 1988-1992 Laurea in Biological Sciences at the University of Trieste, Italy, Magna cum Laude on March 13th 1993.
- 1993 – 1994 Research Scientist (Postgraduate fellow) supported by Oncological Research Center (C.R.O.) Aviano, PN, Italy
- Research assistant (tenure track), April 1995-March 2000, Department of Biomedical Sciences and Technologies, School of Medicine, University of Udine, Italy;
- 1996, visiting scientist in the lab of Dr. David Segal, Experimental Immunology Branch, Division of Basic Sciences, NCI, NIH, Bethesda (MD) USA;
- March 2000-September 2003, Assistant Professor (tenure track) of Molecular Biology, Department of Biochemistry, Biophysics and Macromolecular Chemistry, School of Medicine, University of Trieste, Italy;
- September 2003-October 2005, Assistant Professor (tenure track) of Molecular Biology, Department of Biomedical Sciences and Technologies, School of Medicine, University of Udine, Italy;
- June-August 2006, Visiting Professor in the lab of Prof. Sankar Mitra. School of Medicine-Sealy Center For Molecular Science And Department Of Human Biological Chemistry And Genetics. University of Texas, Galveston, TX, USA;
- July 2009, Visiting Professor in the lab of Prof. Pablo Radicella. CEA, Institut de Radiobiologie Cellulaire et Moléculaire, UMR217 CNRS, F-92265 Fontenay-aux-Roses, France;
- From 2010-present, Head of the Laboratory of Molecular Biology and DNA repair of the Department of Medicine at the University of Udine, Italy (Web site: <https://gianlucaTell.wixsite.com/labtell>);
- July-September 2011, Visiting Research Scholar in the lab of Prof. Bruce Dimple. Department of Pharmacological Sciences, Stony Brook University, Stony Brook, NY, USA;
- From November 2012-September 2018, he is Director of the B.Sc. of Biotechnology at the University of Udine, Italy;
- From November 2005-December 2010, he is Associate Professor (tenure track) of Molecular Biology, at the Department of Biomedical Sciences and Technologies, School of Medicine, University of Udine, Udine, Italy;
- from January 2011-December 2016 he is Associate Professor (tenure track) of Molecular Biology, at the Department of Medical and Biological Sciences, School of Medicine, University of Udine, Udine, Italy;
- 12/02/2014, winner of the national habilitation competition as Full Professor in Biochemistry (BIO/10) and in Molecular Biology (BIO/11);
- From 25th October 2015 to 30th September 2019, he is member of the Technology Transfer Commission of the University of Udine, Italy;
- from January 2017- November 2018 he is Associate Professor (tenure track) of Molecular Biology, at the Department of Medicine, University of Udine, Udine, Italy;
- From October 2017-present he is Deputy of the Head of the Department of Medicine for Research, at the Department of Medicine, University of Udine, Udine, Italy;
- From December 2018-present he is Full Professor (tenure track) of Molecular Biology, at the Department of Medicine, University of Udine, Udine, Italy.

Others:

- 1994 (January) -1995 (May) Second lieutenant, Italian Army, anti-aircraft artillery, Sabaudia (Rome) and 5th Regiment "A. Pe. Cam. Superga" of Artillery in Udine, Italy
- 1997 – 1998 Teaching assistant, Biochemical and Molecular Gene Expression Techniques, Department of Biomedical Sciences and Technologies, Udine University Medical School, Udine – Italy

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24/03/2023