

ARTEM SMIRNOV - Curriculum Vitae

Personal information

First name / Surname **Artem Smirnov**
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Date of birth 23 May 1992
Gender Male
Research area Biochemistry and Molecular Biology

Scientific interests

My research activity has been mainly focused on the understanding of molecular mechanisms of cellular homeostasis and differentiation, as well as alteration of these pathways in tumours. Specifically, I have been studying the role of transcriptional regulation in epithelial homeostasis and epithelial cancer tumorigenesis.

Research experience

Dates	2024-present
Position held	Assistant Professor in molecular biology (tenure-track)
Research topic	p63 in urothelial cancer
Institution	University of Rome Tor Vergata (Rome, Italy)
Dates	2022-2024
Position held	Postdoctoral researcher (RTDa)
Research topic	p63 in urothelial cancer
Head of the laboratory Institution	Professor Eleonora Candi University of Rome Tor Vergata (Rome, Italy)
Dates	2019-2022
Position held	Postdoctoral researcher
Research topic	p53 in EBV-associated epithelial cancer
Head of the laboratory Institution	Professor Xin Lu University of Oxford (Oxford, UK)
Dates	2014-2019
Position held	MSc, PhD student, and Postdoctoral researcher
Research topic	p53&p63 in epithelial biology
Head of the laboratory Institution	Professor Gerry Melino University of Rome Tor Vergata (Rome, Italy)
Dates	2013-2014
Position held	BSc and MSc student
Research topic	Cancer therapy via p53 reactivation
Head of the laboratory Institution	Professor Nick Barlev St. Petersburg Institute of Technology (St. Petersburg, Russia)
Dates	2012-2013
Position held	BSc student
Research topic	Visualisation of p53 in tumour cells
Head of the laboratory Institution	Professor Nick Barlev St. Petersburg Institute of Technology (St. Petersburg, Russia)

Education

Date	2017
Title of qualification awarded	PhD in Biochemistry & Molecular Biology
University or Institution	University of Rome Tor Vergata (Rome, Italy)
Thesis title	ZNF185 is a novel target of p63 and p53 involved in keratinocyte differentiation and DNA damage response
Date	2015
Title of qualification awarded	MSc in Biotechnology
University or Institution	St. Petersburg Institute of Technology (St. Petersburg, Russia)
GPA	Major GPA: 5.0/5.0; Overall GPA: 5.0/5.0 cum laude
Date	2013
Title of qualification awarded	BSc in Chemical Technology and Biotechnology
University or Institution	St. Petersburg Institute of Technology (St. Petersburg, Russia)
GPA	Overall GPA: 4.8/5.0
Funding	RSA fund (9800 euro) University of Rome Tor Vergata (Italy) Project title: "AI-assisted identification of p63 targetome in skin cancer" 2025-2025 Travel grant (350 euro) Biochemical Society (UK)
Personal skills and competences	
Languages	English (fluent), Italian (fluent), Spanish (intermediate), Russian (native)
Research techniques	DNA purification, preparation and electrophoresis, molecular cloning, PCR, ChIP, luciferase assay RNA purification, preparation and electrophoresis, RT-PCR, qPCR Protein electrophoresis and western blotting, co-immunoprecipitation, proximity ligation assay Human tumour and primary cell culture work, RNAi and DNA transfection in vitro Preparation and analysis of samples by FACS, cell sorting Human samples processing, IHC on Fr/FFPE human tissue sections, ICC/IF and confocal microscopy; High-throughput screening of therapeutic compounds in vitro; Basics of animal work (mouse) and tumour xenograft models Basics of analysis of genomics, proteomics, and transcriptomics processed data Omics data visualisation in R and genome browsers
Computer skills	MS Word, Excel, PowerPoint Adobe Illustrator, Photoshop, InDesign GraphPad, FlowJo, R
Editorial experience	Editorial Board member for Discover Oncology Peer reviewer for international journals: PNAS, Cell Death & Differentiation, Cell Cycle, Molecular Oncology, Cell Death & Disease, Cell Death Discovery, and FEBS journal
National Scientific qualification	National Scientific qualification as associate professor for the disciplinary field of 05/E2 - Molecular biology 12/2023 – 12/2034
Learned Societies	Royal society of Biology (LONDON) – Member (MRSB) since 2022 Biochemical Society (LONDON) – ECR Member since 2022 Società Italiana di Biofis, e Biologia Mol. (ROME) – Junior Member since 2023 American Association for Cancer Research (Philadelphia) – Assoc. member since 2025
Teaching experience	
2023-present	Supervision of two PhD students University of Rome "Tor Vergata"
2024-present	Lectures on Molecular Biology for BSc students (Dentistry) (1 CFU) University of Rome "Tor Vergata"

2022-present	Lectures on Molecular Biology for MSc students (Medical Biotechnologies) (2 CFU) University of Rome "Tor Vergata"
2023-present	Lectures on Nutrigenomics (Farmacy) (0.5 CFU) University of Rome "Tor Vergata"
2023-present	Lecture on Research and Development of Cosmetics for Master I livello in "Nutrizione e Cosmesi" (4h) University of Rome "Tor Vergata"
2023-present	Lectures on Transcriptomics for Master II livello in "Nutrizione Personalizzata" (6h) University of Rome "Tor Vergata"
2021	Supervision of one PhD student University of Oxford
2019	Supervision of two MSc students University of Oxford
2016-2017	Supervision of one MSc student University of Rome
Awards	09/2014 Scholarship of the President of Russian Federation for undergraduate students
Courses	02/2024 Pisa, IT School on super-resolution microscopy 07/2021 Oxford, UK Introduction to Bioinformatics at the CCB 03/2020 Oxford, UK Experimental design and Statistics in Preclinical Research: the Good, the Bad and the Ugly 01/2020 Oxford, UK Research techniques day 07/2019 Oxford, UK Oxford FELASA accredited course 030/10 for carrying out procedures on animals (Function A) as per Directive 2010/63/EU 07/2019 Oxford, UK Animals (Scientific Procedures) Act 1986: Personal License Category B training Course 06/2019 Oxford, UK R: Data handling 05/2019 Oxford, UK R: Kick-off 10/2017 Rome, Italy Corso per l'accesso all'utilizzo delle strutture di servizio alla sperimentazione animale
Publications	Published 30 papers , including: First/co-first author – 11 papers (44%) (+2 papers under review) Co-corresponding – 1 paper (accepted) H-index = 12 Citations = 933 (source: Scopus) Cumulative IF = 176 (source: JCR Clarivate)
Research articles and reviews	Barnaba D., Franzese Canonico M., Helmer-Citterich M., Gandellini P., Melino G., Smirnov [#] A., Candi [#] E. LEADR, a p63 target, dampens interferon signalling in bladder cancer. (2025) Cell Death Discovery. <i>Accepted for publication</i> . [#] Co-corresponding. Cao L., Li Y., Ou M., Smirnov A., Liu R., Wang T., Su X., Li P., Mancini M., Candi E., Melino G., Shi Y., Zheng Z., Shao C. Mesenchymal Stromal Cells Highly Expressing Sca-1 Promote Breast Cancer Lung Metastasis through Recruiting Myeloid Cells. (2025) Cell Death & Disease. <i>Accepted for publication</i> . Giacobbi E., Bonfiglio R., Rotondaro G., Servadei F., Smirnov A., Palumbo V., Scioli M.P., Bonanno E., Buonomo C.O., Vanni G., Candi E., Mauriello A., Scimeca M. Implications of Mineralization Biomarkers in Breast Cancer Outcomes Beyond Calcifications. (2025) International Journal of Molecular Sciences. 26 (2). Giovannini S., Li Y., Pecorari R., Fierro C., Fiorilli C., Corigliano F., Moriconi V., Zhou J., De Antoni A., Smirnov A., Rinalducci S., Timperio A.M., Agostini M., Zhang J., Shi Y., Candi E., Melino G., Bernassola F. Thioredoxin-interacting protein (TXNIP) is a substrate of the NEDD4-like E3 ubiquitin-protein ligase WWP1 in cellular redox state regulation of acute myeloid leukemia cells. (2025). Molecular Oncology. 19 (1). Croce D., Smirnov A., Tiburzi L., Travaglini S., Costa R., Calabrese A., Basili R., Levialdi Ghiron N., Melino G. AI-driven transcriptomic encoders: From explainable models to accurate, sample-independent cancer diagnostics. (2024). Expert Systems with Applications. 258. Giovannini S., Smirnov A., Concetti L., Scimeca M., Mauriello A., Bischof J., Rovella V., Melino G., Buonomo C.O., Candi E., Bernassola F. (2024). Biology Direct. 19 (1).

Piro M.C., Pecorari R., [Smirnov A.](#), Cappello A., Foffi E., Lena A.M., Shi Y., Melino G., Candi E. p63 affects distinct metabolic pathways during keratinocyte senescence, evaluated by metabolomic profile and gene expression analysis. (2024). *Cell Death & Disease*. 15 (11).

[Smirnov A.](#), Lena A.M., Tosetti G., Yang X., Cappello A., Helmer-Citterich M, Melino G., Candi E. Epigenetic priming of an epithelial enhancer by p63 and CTCF controls expression of a skin-restricted gene XP33. (2023) *Cell Death Discovery*, 9 (1)

Cappello A., Tosetti G., [Smirnov A.](#), Ganini C., Yang X., Shi Y., Wang Y., Melino G., Bernassola F., Candi E. p63 orchestrates serine and one carbon metabolism enzymes expression in head and neck cancer. (2023) *Biology Direct*, 18 (1), 73.

Yang X., [Smirnov A.](#), Buonomo O.C., Mauriello A., Shi Y., Bischof J., Woodsmith J., Bove P., Rovella V., Scimeca M., Sica G., Tisone G., Wang Y., Servadei F., Melino G., Candi E., Bernassola F. A primary luminal/HER2 negative breast cancer patient with mismatch repair deficiency. (2023) *Cell Death Discovery*, 9 (1), 365.

Han Y., Rovella V., [Smirnov A.](#), Buonomo O.C., Mauriello A., Perretta T., Shi Y., Woodsmith J., Bischof J., Bove P., Juhl H., Scimeca M., Sica G., Tisone G., Wang Y., Giacobbi E., Materazzo M., Melino G., Candi E., Bernassola F. A BRCA2 germline mutation and high expression of immune checkpoints in a TNBC patient. (2023) *Cell Death Discovery*, 9 (1), 370.

Yang X., Zong C., Feng C., Zhang C., [Smirnov A.](#), Sun G., Shao C., Zhang L., Hou X., Liu W., Meng Y., Zhang L., Shao C., Wei L., Melino G., Shi Y. Hippo Pathway Activation in Aged Mesenchymal Stem Cells Contributes to the Dysregulation of Hepatic Inflammation in Aged Mice. (2023) *Advanced Science*, 10 (27), 2300424.

[Smirnov A.](#), Magri A, Lotz R, Han X., Yin C., Harris M., Osterburg C., Dötsch V., McKeating J.A., Lu X. ASPP2 binds to hepatitis C virus NS5A protein via an SH3 domain/PxxP motif-mediated interaction and potentiates infection. (2023) *Journal of General Virology*, 104 (9), 001895.

[Smirnov A.](#), Melino G and Candi E. Gene expression in organoids: an expanding horizon. *Biology Direct*. 2023. 18.

[Smirnov A.](#) and Candi E. Take a breath. *The FEBS Journal*. 2023.

Al Moussawi* K, Chung* K, Carroll* TM, Osterburg* C, [Smirnov*](#) A, Lotz R, Miller P, Dedeic Z, Zhong S, Oti M, Kouwenhoven EN, Asher R, Goldin R, Tellier M, Murphy S, Zhou H, Dotsch V, Lu X. Mutant Ras and inflammation-driven skin tumorigenesis is suppressed via a JNK-iASPP-AP1 axis. *Cell Reports*. 2022. 41. *contributed equally

Barbaglia MN, Harris JM, [Smirnov A](#), Burlone ME, Rigamonti C, Pirisi M, Minisini R, Magri A. 17β-Oestradiol Protects from Hepatitis C Virus Infection through Induction of Type I Interferon. *Viruses*. 2022. 14.

Lena AM, Rossi V, Osterburg S, [Smirnov A](#), Osterburg C, Tuppi M, Cappello A, Amelio I, Dötsch V, De Felici M, Klinger FG, Annicchiarico-Petruzzelli M, Valensise H, Melino G, Candi E. The p63 C-terminus is essential for murine oocyte integrity. *Nature Communications*. 2021;12(1).

Montanaro M, Meloni M, Anemona L, Giurato L, Scimeca M, Izzo V, Servadei F, [Smirnov A](#), Candi E, Mauriello A, Uccioli L. Macrophage Activation and M2 Polarization in Wound Bed of Diabetic Patients Treated by Dermal/Epidermal Substitute Nevelia. *The International Journal of Lower Extremity Wounds*. 2020.

Panatta E, Lena AM, Mancini M, [Smirnov A](#), Marini A, Delli Ponti R, Botta-Orfila T, Tartaglia GG, Mauriello A, Zhang X, Calin GA, Melino G, Candi E. Long non-coding RNA uc.291 controls epithelial differentiation by interfering with the ACTL6A/BAF complex. *EMBO reports*. 2020;21(3).

*Nicolai S, *Pieraccioli M, *[Smirnov A](#), Pitolli C, Anemona L, Mauriello A, Candi E, Annicchiarico-Petruzzelli M, Shi Y, Wang Y, Melino G, Raschella G. ZNF281/Zfp281 is a target of miR-1 and counteracts muscle differentiation. *Molecular Oncology*. 2019;14(2):294-308. *contributed equally.

Piro M, Ventura A, [Smirnov A](#), Saggini A, Lena A, Mauriello A, Bianchi L, Melino G, Candi E. Transglutaminase 3 Reduces the Severity of Psoriasis in Imiquimod-Treated Mouse Skin. *International Journal of Molecular Sciences*. 2020;21(5).

Michaletti A, Mancini M, [Smirnov A](#), Candi E, Melino G, Zolla L. Multi-omics profiling of calcium-induced human keratinocytes differentiation reveals modulation of unfolded protein response signaling pathways. *Cell Cycle*. 2019;18(17):2124-40.

	Smirnov A, Anemona L, Novelli F, Piro CM, Annicchiarico-Petruzzelli M, Melino G, Candi E. p63 Is a Promising Marker in the Diagnosis of Unusual Skin Cancer. <i>International Journal of Molecular Sciences</i>. 2019;20(22). Smirnov A, Anemona L, Montanaro M, Mauriello A, Annicchiarico-Petruzzelli M, Campione E, Melino G, Candi E. Transglutaminase 3 is expressed in basal cell carcinoma of the skin. <i>European Journal of Dermatology</i>. 2019;29(5):477-83. Smirnov A, Cappello A, Lena AM, Anemona L, Mauriello A, Di Daniele N, Annicchiarico-Petruzzelli M, Melino G, Candi E. ZNF185 is a p53 target gene following DNA damage. <i>Aging</i>. 2018;10(11):3308-26. Smirnov A, Lena AM, Cappello A, Panatta E, Anemona L, Bischetti S, Annicchiarico-Petruzzelli M, Mauriello A, Melino G, Candi E. ZNF185 is a p63 target gene critical for epidermal differentiation and squamous cell carcinoma development. <i>Oncogene</i>. 2018;38(10):1625-38. Panatta E, Lena AM, Mancini M, Affinati M, Smirnov A, Annicchiarico-Petruzzelli M, Piro MC, Campione E, Bianchi L, Mazzanti C, Melino G, Candi E. Kruppel-like factor 4 regulates keratinocyte senescence. <i>Biochemical and Biophysical Research Communications</i>. 2018;499(2):389-95. Cassandri M, Smirnov A, Novelli F, Pitolli C, Agostini M, Malewicz M, Melino G, Raschellà G. Zinc-finger proteins in health and disease. <i>Cell Death Discovery</i>. 2017;3(1). Candi E, Smirnov A, Panatta E, Lena AM, Novelli F, Mancini M, Viticchiè G, Piro MC, Di Daniele N, Annicchiarico-Petruzzelli M, Melino G. Metabolic pathways regulated by p63. <i>Biochemical and Biophysical Research Communications</i>. 2017;482(3):440-4. Smirnov A, Panatta E, Lena A, Castiglia D, Di Daniele N, Melino G, Candi E. FOXM1 regulates proliferation, senescence and oxidative stress in keratinocytes and cancer cells. <i>Aging</i>. 2016;8(7):1384-97. Peintner L, Novelli F, Smirnov A, Maurer U, Borner C, von Karstedt S. 9th Tuscany Retreat on Cancer Research: genetic profiling, resistance mechanisms and novel treatment concepts in cancer. <i>Cell Death & Differentiation</i>. 2015;23(1):183-4.
Articles under revision	Lena* AM., Smirnov* A., Mancini M., Montanaro M., Ciccocanti F., Foti V., Nardacci R., Fimia GM., Mavilio M., Federici M., Mauriello A., Piacentini M., Melino G., Candi E. Deletion of the p63 exon 13 in mice reveals C-terminal isoform-specific functions in epithelial development. <i>PNAS</i>. <i>Under revision</i>. *Contributed equally Pecorari* R., Mancini* M., Smirnov* A., Corleone G., Novelli F., Lena AM., Franzese Canonico M., Montanaro M., Cappello A., Sacconi A., Misso G., Falco M., Tammaro C., Ciccocanti F., Blandino G., Piacentini M., Scimeca M., Caraglia M., Mauriello A., Fanciulli M., Melino G., Candi E. p63 and ZNF148 cooperate to regulate head and neck squamous cell carcinoma. <i>PNAS</i>. <i>Under revision</i>. *Contributed equally Fierro C., Giovannini S., Panatta E., Corigliano F., Fiorilli C., Pecorari R., Li Y., Moriconi V., Zhou J., Delvecchio S., Smirnov A., Garcia Manteiga JM., Brendolan A., Zhang J., Shi Y., Amelio I., Candi E., Melino G., Bernassola F. The WWP1-JARID1B axis sustains acute myeloid leukemia chemoresistance. <i>PNAS</i>. <i>Under revision</i>.
Book chapters	Candi E, McLean WHI, Didona B, Terrinoni A, Smirnov A, and Melino G. (Mar 2018) Cornification Diseases (Skin Cell Death). In: eLS. John Wiley & Sons Ltd, Chichester. Candi E, Knight RA, Panatta E, Smirnov A, and Melino G. (Nov 2016) Cornification of the Skin: A Non-apoptotic Cell Death Mechanism. In: eLS. John Wiley & Sons, Ltd: Chichester.
CONFERENCES	
Oral presentations	11/2024 p53 family members mini-workshop Rome, Italy 05/2024 Symposium on Cancer Challenges Frascati, Italy 10/2023 Inflammation and cancer international conference Kazan, Russia 06/2023 SIBBM Conference Bari, Italy 08/2017 10th Tuscany Retreat on Cancer Research Sarteano-Siena, Italy 08/2015 9th Tuscany Retreat on Cancer Research Sarteano-Siena, Italy 12/2013 V International Youth Medical Congress St. Petersburg, Russia

Posters	03/2013 Modern problems of experimental medicine St. Petersburg, Russia
	04/2025 AACR Annual meeting 2025 Chicago, USA
	11/2024 CSHL meeting on Epigenetics Cold Spring Harbor, New York, USA
	06/2024 PNRR HEAL ITALIA annual meeting Palermo, USA
	05/2025 19 th p53 meeting Trieste, Italy
Conference abstracts	12/2019 Ludwig Retreat Oxford, UK
	03/2014 Biotechnology and quality of life Moscow, Russia
	06/2025 47 th FEBS congress Milan, Italy
	09/2017 47th annual ESDR meeting Salzburg, Austria
	07/2017 The 17th international p53 workshop Singapore
	06/2017 2nd Symposium on Frontiers in Molecular Science Basel, Switzerland