Francesco Ricci
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University of Rome, Tor Vergata
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CURRICULUM VITAE

Date of Birth	01/01/1977
Sex	Male
Nationality	Italian

Education

Ph.D (Analytical Chemistry)	Oct 2005, Chemistry Department, University of Rome, Tor Vergata, Italy Supervisor: Prof. Giuseppe Palleschi
M.S. (Chemistry, Summa cum Laude)	Mar 2001, Chemistry Department, University of Rome, Tor Vergata, Italy Supervisor: Prof. Giuseppe Palleschi

Professional Experience

Nov 2019 - current	Full Professor, Analytical Chemistry, Chemistry Department, Univ. of Rome, Tor Vergata, Italy
Apr 2014 – Oct 2019	Associate Professor, Chemistry Department, University of Rome, Tor Vergata, Italy
Jun 2013 - Jun 2014	Visiting Professor, Marie Curie Outgoing Fellowship, University of California, Santa Barbara (Prof. Kevin W. Plaxco)
Dec 2006 - Apr 2014	Senior Researcher, Chemistry Department, University of Rome, Tor Vergata, Italy
Jun 2008 - Dec 2008	Visiting Post-Doc Researcher, University of California, Santa Barbara (Prof. Kevin W. Plaxco)
Jun 2006 - Dec 2006	Visiting Post-Doc Researcher, University of California, Santa Barbara (Prof. Kevin W. Plaxco)

Current Research Interests

DNA Functional Nanotechnology, DNA-based sensors, Nanomachines, Aptamers, Conformation switching probes, Smart drug-release, Electrochemical sensors, Synthetic Biology.

Awards

Apr 2021	Luigi Galvani Prize of the Bioelectrochemical Society
Oct 2018	ERC Consolidator Grant 2018
Sep 2017	ACS “Advances in Measurement Science Lectureship” Award
Sep 2017	Heinrich Emanuel Merck Award on Analytical Science
Sep 2013	ERC Starting Grant 2013
Jun 2013	Habilitation as Full Professor in Anal. Chemistry (Italian Ministry for Research)
Mar 2012	EU Marie Curie FP7 International Outgoing Fellowship (IOF)
Nov 2009	Honour mention “Primo Levi” Award for young chemistry researchers (<35)
Jun 2007	“Best PhD thesis” award by the Italian Chemical Society
Sep 2005	“Best Young Researcher” award by the Italian Chemical Society

Visiting periods

Jun 2006 – Jun 2013	Visiting post-doc researcher and visiting professor at the University of California, Santa Barbara (UCSB) (>2 years during 5 different visiting periods)
Jan 2000 – Jun 2000	Visiting research student at the University of Lund, Sweden

Referee/Evaluator activity

Panelist	2018-current: Member of ERC Advanced Grant Evaluation Panel PE3 (2018-) 2013: Evaluation Panel for “Young Researcher Grants” of the Italian Ministry of Health
Referee	*J. Am. Chem. Soc.*, *Angew. Chem. Int. Ed.*, *Chem. Comm.*, *Biosens. Bioelectron.*, *Anal. Chem.* etc. (more than 150 papers refereed)
Evaluator	FP7 Marie Curie Actions, H2020 MCSA projects, H2020 FET actions, Italian Ministry for Research and Education, Italian Ministry of Health, European Research Council (ERC), Portuguese Fundação para a Ciência e a Tecnologia, Netherlands Organisation for Scientific Research (NWO), FP7 Marie Curie Actions,

Research Grants

Year	Budget (€)	Funding Body/Title	Role
2020	239.000	FARE grant DNA-electro-Ab	Coordinator
2022	134.000	ERC Proof of Concept Grant: "IMMUNO-MONITORING". End date: 2024.	Coordinator
2020	518.875	MSCA- Doctoral Training Network Grant: "SYNSENSO". End date: 2025.	Partner
2020	134.000	EU Marie Curie-Sklowdoska Fellowship "Entropic DNA" (dr. A. Idili). End date: 2022.	Coordinator
2020	470.000	AIRC "Investigator Grant". Cancer Research Foundation.	Coordinator
2019	1.995.000	ERC Consolidator Grant 2018: "Pro-Toolkits". End date: 2024.	P.I.
2019	134.000	EU Marie Curie-Sklowdoska Global Fellowship "Enzyme switches" (dr. E. Del Grosso). End date: 2022.	Coordinator
2019	407.000	EU H2020-SC1-2018-Single-Stage-RTD "Endoscape". End date: 2023.	Partner
2018	198.000	EU Marie Curie-Sklowdoska Global Fellowship "DNA-Nano-Ab" (dr. S. Ranallo). End date: 2022.	Coordinator
2018	251.000	EU Marie Curie-Sklowdoska Global Fellowship "Re-Immune" (dr. A. Amodio). End date: 2020.	Coordinator
2018	244.000	EU Marie Curie-Sklowdoska Global Fellowship "Smart BioSense" (dr. A. Chamorro Garcia). End date: 2021.	Coordinator
2017	480.000	Initial Training Network Grant: "DNA-Robotics". End date: 2022.	P.I.
2016	150.000	ERC Proof of Concept Grant: "Ab Switch". End date: 2018.	P.I.
2016	110.000	JDRF grant: Biomarkers of Progression in the At-Risk Setting for Type 1 Diabetes. End date: 2018.	P.I.
2016	80.000	PRIN grant, Italian Ministry of Research and Education. End date: 2019.	Coordinator
2016	70.000	"Young Researchers Grant", Italian Ministry of Health. End date: 2019.	P.I.
2015	250.000	EU Marie Curie-Sklowdoska Global Fellowship "MiRNAno" (dr. A. Bertucci). End date: 2019.	Coordinator
2014	166.000	Horizon-2020 RISE grant "Immuno-nanodecoder". End date: 2019.	Co-coordinator
2013	1.450.000	ERC Starting Grant 2013: "Nature Nanodevices". End date: 2019.	P.I.
2013	203.000	"My First AIRC" Grant. Cancer Research Foundation.	P.I.
2013	103.000	PRIN grant, Italian Ministry of Research and Education.	Coordinator
2013	55.000	EU Marie Curie FP7 IRSES grant "Chimera".	Coordinator
2013	83.000	"Young Researchers Grant" from Italian Ministry of Health.	Coordinator
2012	247.000	EU Marie Curie International Outgoing Fellowship (IOF) "Peptide Sensing".	P.I.
2012	60.000	EU Marie Curie FP7 IRSES grant "PSP".	Coordinator
2011	100.000	Bill and Melinda Gates Foundation "Grand Challenges Exploration Initiative" grant.	P.I.
2010	120.000	"Future in Research" grant, Italian Ministry of Research and Education.	Coordinator

Invited / Keynote Lectures (selection of most recent)

Jul 2023	RNA:DNA:protein nanotechnology symposium, Munich, Germany.
Jul 2023	5th ERC grantees conference, Edinburgh, UK.
Jun 2023	"A. Corbella" International Summer School on Organic Synthesis, Gargnano, Italy.
Jun 2023	Merck Innovation Seminar, Darmstadt, Germany.
Dec 2022	Collaborative Research Center (SFB1032), Munich, Germany.
Sep 2022	Dynamic Biosensors SwitchSense Users meeting, Munich, Germany.
Jul 2022	ECC8, Lisbon
Apr 2022	Chemistry Department at the University of Cincinnati, Hans Zimmer Seminar.
Jan 2020	European Conference on Novel Technologies for In-Vitro Diagnostics, DIATECH2020, Leuven, Belgium.
May 2019	NANTECH2019, Aalto, Finland
Apr 2019	DPG Spring Meeting, Regensburg, Germany
Feb 2019	EBS2019, 2nd European BioSensor Symposium, Florence, Italy
Jun 2019	14th Intern. Symposium on Macrocyclic and Supramolecular Chem. (ISMSC2019), Lecce, Italy
Jun 2018	3rd Conference on Molecular Rotors, Motors, and Switches, Telluride, Colorado, USA
Mar 2018	PITTCON 2018, Orlando, FL, USA (invited lecture for 2017 ACS lectureship award)
Sep 2017	"XIX Euroanalysis", Stockholm, Sweden (plenary lecture)

Publications (overview)

142 papers in ISI peer-reviewed journals
89 papers as corresponding author + **30** papers as first-author
H-index: **57**
> 9300 total citations (Scopus May 2024)
70 papers in journals with impact factor (IF) > 10 (e.g. **22** JACS, **19** Angew. Chem., **7** Nano Lett., **3** Nat. Commun., **2** PNAS)
61 papers in journals with impact factor (IF) > 5 (*Chem. Comm.*, *Anal. Chem.*, *Chem. Sc.* etc.)

List of publications

142. Patiño Padial T, Del Grosso E, Gentile S, Baranda Pellejero L, Mestre R, Paffen L, Sánchez S, **Ricci F (corr. author)**
Synthetic DNA-based Swimmers Driven by Enzyme Catalysis
J Am Chem Soc 2024, in press.

141. Sorrentino D, Ranallo S, Nakamura E, Franco E, **Ricci F (corr. author)**
Synthetic Genes For Dynamic Regulation Of DNA-Based Receptors
Angew Chem Int Ed, 2024, in press.

140. Diaz-Fernandez A, Ranallo S, **Ricci F (corr. author)**
Enzyme-Linked DNA Displacement (ELIDIS) Assay for Ultrasensitive Electrochemical Detection of Antibodies
Angew Chem Int Ed, 2024, e202314818.

139. Bucci J, Irmisch P, Del Grosso E, Seidel R, **Ricci F (corr. author)**
Timed Pulses in DNA Strand Displacement Reactions
J Am Chem Soc 2023, 145, 20968–20974.

138. Farag N, Đorđević M, Del Grosso E, **Ricci F (corr. author)**
Dynamic and Reversible Decoration of DNA-Based Scaffolds
Advanced Materials, 35, 18, 2211274.

137. Brannetti S, Gentile S, Chamorro-Garcia A, Barbero L, Del Grosso E, **Ricci F (corr. author)**
Decorated DNA-Based Scaffolds as Lateral Flow Biosensors
Angew Chem Int Ed, 2023, e202313243.

136. Mariottini D, Bracaglia S, Barbero L, Fuchs SW, Saal C, Moniot S, Knuehl C, Baranda L, Ranallo S, **Ricci F (corr. author)**

Bispecific Antibody Detection Using Antigen-Conjugated Synthetic Nucleic Acid Strands
ACS Sensors 2023, in press.

135. **Ricci F (co-corr. author)**, Dietz H
The harmony of form and function in DNA nanotechnology
Nat Nanotech, in press.

134. Mariottini D, Idili A, Ercolani G, **Ricci F (corr. author)**
Thermo-programmed synthetic DNA-based receptors
ACS Nano, 2023, 17, 1998–2006.

133. Ranallo S, Bracaglia S, Sorrentino D, **Ricci F (corr. author)**
Synthetic Antigen-Conjugated DNA Systems for Antibody Detection and Characterization
ACS Sensors, 2023, 8, 2415–2426.

132. Bracaglia S, Ranallo S, **Ricci F. (corr. author)**
Electrochemical cell-free biosensors for antibody detection.
Angew. Chem. Int. Ed. 2023, DOI: 10.1002/anie.202216512.
Featured in the Front Cover of Angew Chem Int Ed.

131. Patino Diaz A, Bracaglia S, Ranallo S, Patino T, Porchetta A, **Ricci F (corr. author)**.
Programmable Cell-Free Transcriptional Switches for Antibody Detection.
J. Am. Chem. Soc. 2022, 144, 13, 5820–5826.

130. Ranallo S, Sorrentino D, Delibato E, Ercolani G, Plaxco KW, **Ricci F. (corr. author)**
Protein–Protein Communication Mediated by an Antibody-Responsive DNA Nanodevice.
Angew. Chem. Int. Ed. 2022, 61, e202115680.
Featured in the Back Cover of Angew Chem Int Ed.

129. Jean Périllat V., Del Grosso E., Berton C., **Ricci F (co-corr. author)**, Pezzato C.
Controlling DNA nanodevices with light-switchable buffers.
Chem. Commun. 2023,

128. Gentile S, Del Grosso E, Prins LJ, **Ricci F (corr. author)**
Autonomous and Programmable Reorganization of DNA-Based Polymers Using Redox Chemistry
Chemistry Eur J, 2023, 29, e202300394.

127. Baranda L P, Nijenhuis M A D , **Ricci F (co-corr. author),** Gothelf K
Protein-Templated Reactions Using DNA-Antibody Conjugates
Small 2023, 19, 2200971.

126. Ortega G, Chamorro-Garcia A, **Ricci F**, Plaxco KW
On the Rational Design of Cooperative Receptors
Annual Review of Biophysics 2023, 52, 319-337.

125. Rossetti M, Merlo R, Bagheri N, Moscone D, Valenti A, Saha A, Arantes P, Ippodrino R, **Ricci F**, Treglia I, Delibato E, Van Der Oost J, Porchetta A
Enhancement of CRISPR/Cas12a trans-cleavage activity using hairpin DNA reporters
Nucleic Acids Research, 2022, 50, 8377-83961.

124. Bucci J., Irmisch P., Del Grosso E., Seidel R., **Ricci F (corr. author)**
Orthogonal Enzyme-Driven Timers for DNA Strand Displacement Reactions.
J. Am. Chem. Soc. 2022, 144, 19791-19798

123. Del Grosso E., Irmisch P., Gentile S., Prins L. J., Seidel R., **Ricci F (corr. author)**
Dissipative Control over the Toehold-Mediated DNA Strand Displacement Reaction.
Angew. Chem. Int. Ed. 2022, 61, e202201929.

122. Del Grosso E., Franco E., Prins L., **Ricci F (co-corr. author)**
Dissipative DNA Nanotechnology.
Nat. Chem. 2022, 14, 600-613.

121. Wu Y., Ranallo S., Del Grosso E., Chamoro-Garcia A., Ennis H. L., Milosavić N., Yang K., Kippin T., **Ricci F.**, Stojanovic M. and Plaxco K. W.
Using Spectroscopy to Guide the Adaptation of Aptamers into Electrochemical Aptamer-Based Sensors
Bioconjug. Chem. 2022,

120. Farag N., Ercolani G., Del Grosso E., **Ricci F (corr. author)**
DNA Tile Self-Assembly Guided by Base Excision Repair Enzymes
Angew. Chem. Int. Ed. 2022, 61, e202208367.

119. Gentile S, Del Grosso E, Pungchai PE, Franco E, Prins LJ, **Ricci F (co-corr. author)**
Spontaneous Reorganization of DNA-Based Polymers in Higher Ordered Structures Fueled by RNA
J Am Chem Soc 2021, 143, 20296–20301.

118. Gentile S, Del Grosso E, Prins L, **Ricci F (corr. author**)
Reorganization of Self-Assembled DNA-Based Polymers using Orthogonally Addressable Building Blocks
Angew Chem Int Ed 2021, **60**, 12911-12917.

117. Mariottini, D, Del Giudice D, Ercolani G, Di Stefano S, **Ricci F (co-corr. author)**
Dissipative operation of pH-responsive DNA-based nanodevices
Chem Sci, 2021,**12**, 11735-11739

116. Zanut A, Rossetti M, Marcaccio M, **Ricci F**, Porchetta A, Valenti G
DNA-Based Nanoswitches: Insights into Electrochemiluminescence Signal Enhancement
Anal Chem, 2021, **93**(30), 10397–10402.

115. Bracaglia S, Ranallo S, Plaxco KW, **Ricci F (co-corr. author)**
Programmable, Multiplexed DNA Circuits Supporting Clinically Relevant, Electrochemical Antibody Detection
ACS Sensors 2021, 6, 2442–2448.

114. Pfeiffer M, Trofymchuk K, Ranallo S, **Ricci F**, Steiner F, Cole F, Glembockyte V, Tinnefeld P
Single antibody detection in a DNA origami nanoantenna
iScience 2021, 24, 103072.

113. Farag N, Mattossovich R, Merlo R, Nierzwicki L, Palermo G, Porchetta A, Perugino G, **Ricci F (co-corr. author)**
Folding upon repair DNA nanoswitches for monitoring the activity of DNA repair enzymes
Angew Chem Int Ed 2021, 60, 7283-7289.

112. Baranda L P, Mahdifar M, Ercolani G, Watson J, Brown Jr T, **Ricci F (corr. author)**
Using antibodies to control DNA-templated chemical reactions
Nat Commun 2020, 11, 6242.
Featured in the following news media: Chemeurope, Bioengineer, etc

111. Del Grosso E, Prins L, **Ricci F (corr. author)**
Transient DNA-based nanostructures controlled by redox inputs
Angew Chem Int Ed 2020, 59, 13238-13245.

Featured in the front cover of Angew Chem Int Ed
Angewandte Chemie "Very Important Paper"

110. Bertucci A, Porchetta A, Del Grosso E, Patiño T, Idili A, **Ricci F (corr. author)**
Protein–Controlled Actuation of Dynamic Nucleic Acid Networks by Using Synthetic DNA Translators
Angew Chem Int Ed 2020, 59, 20577-20581.
Angewandte Chemie "Very Important Paper"

109. Del Grosso E, Ponzo I, Ragazzon G, Prins L, **Ricci F (corr. author)**
Disulfide–Linked Allosteric Modulators for Multi–cycle Kinetic Control of DNA–Based Nanodevices
Angew Chem Int Ed 2020, 59, 21058-21063.

108. Sorrentino D, Ranallo S, **Ricci F (corr. author)**
Rational Control of the Activity of a Cu2+-Dependent DNAzyme by Re-engineering Purely Entropic Intrinsically Disordered Domains
ACS Appl Mater Interfaces 2021, 13, 9300–9305.

107. Mocenigo M, Porchetta A, Rossetti M, Brass E, Tonini L, …, Marini B, **Ricci F (co-corr. author)**, Ippodrino R
Rapid, Cost-Effective Peptide/Nucleic Acid-Based Platform for Therapeutic Antibody Monitoring in Clinical Samples
ACS Sensors 2020, 5, 10, 3109–3115.

106. Bissonnette S, Del Grosso E, Simon A J, Plaxco K W, **Ricci F (co-corr. author)**, Vallée-Bélisle A
Optimizing the Specificity Window of Biomolecular Receptors Using Structure-Switching and Allostery
ACS Sensors 2020, 5, 1937–1942.
Featured in the supplementary cover of ACS Sensors

105. Ortega G, Mariottini D, Troina A, Dahlquist FW, **Ricci F**, Plaxco KW
Rational design to control the trade-off between receptor affinity and cooperativity
Proc Natl Acad Sci U S A 2020, 117, 19136-19140.

104. Engelen W, Zhu K, Subedi N, Idili A, **Ricci F**, Tel J, Merkx M
Programmable Bivalent Peptide–DNA Locks for pH-Based Control of Antibody Activity
ACS Central Science 2020, 6, 22-31.

103. Zuidema JM, Bertucci A, Kang J, Sailor MJ, **Ricci F (co-corr. author)**
Entropy-Based Rational Modulation of the pK_a of a Synthetic pH-Dependent Nanoswitch
Nanoscale 2020, 12, 2333-2339..

102. Ranallo S, Sorrentino D, **Ricci F (corr. author)**
Orthogonal regulation of DNA nanostructure self-assembly and disassembly using antibodies
Nat Commun 2019, 10, 5509.

101. Mariottini D,Idili A, Nijenhuis M A D, Ercolani G, **Ricci F (corr. author)**
Entropy-Based Rational Modulation of the pK_a of a Synthetic pH-Dependent Nanoswitch
J Am Chem Soc 2019, 141, 11367.

100. Del Grosso E, Ragazzon G, Prins L, **Ricci F (co-corr. author)**
Fuel-responsive allosteric DNA-based aptamers for the transient release of ATP and cocaine
Angew Chem Int Ed 2019, 58, 5582-5586.
Featured in the back cover of Angewandte Chemie

99. Patino T, Porchetta A, Jannasch A, Lladó A, Stumpp T, Schäffer E, **Ricci F (co-corr. author),** Sánchez S
Self-Sensing Enzyme-Powered Micromotors Equipped with pH-Responsive DNA Nanoswitches.
Nano Lett 2019, 19, 3440-3447.
Featured in the supplementary cover of Nano Letters

98. Ranallo S, Porchetta A, **Ricci F (corr. author)**
DNA-Based Scaffolds for Sensing Applications
Anal Chem 2019, 1, 44–59.
Featured in the supplementary cover of Analytical Chemistry
Among "most read articles" of Analytical Chemistry (January 2019)

97. Bertucci A, Kim K-H, Kang J, Zuidema J M, Lee S H, Kwon E J, Kim D, Howell S B, **Ricci F**, Ruoslahti E, Jang H J, Sailor M J
Tumor-Targeting, MicroRNA-Silencing Porous Silicon Nanoparticles for Ovarian Cancer Therapy
ACS Appl Mater Interfaces *2019, 11, 23926-23937.*

96. Arrabito G, Cavaleri F, Porchetta A, **Ricci F**, Vetri V, Leone M, Pignataro B
Printing Life‐Inspired Subcellular Scale Compartments with Autonomous Molecularly Crowded Confinement
Adv Biosystems 2019, 1900023.
Featured in the inside front cover of Advanced Biosystems

95. Mariottini D, Idili A, Nijenhuis M A D , de Greef T F A, **Ricci F (co-corr. author)**
DNA-Based Nanodevices Controlled by Purely Entropic Linker Domains
J Am Chem Soc 2018, 140, 14725-14734.

94. Ottaviani A, Iacovelli, F, Idili A, Falconi M, **Ricci F (co-corr. author),** Desideri A
Engineering a responsive DNA triple helix into an octahedral DNA nanostructure for a reversible opening/closing switching mechanism: a computational and experimental integrated study
Nucleic Acids Research 2018, 46, 9951–9959.

93. Del Grosso E, Amodio A, Ragazzon G, Prins L, **Ricci F (co-corr. author)**
Dissipative synthetic DNA-based receptors for the transient load and release of molecular cargo
Angew Chem Int Ed 2018, 57, 10489-10493.

92. Amodio A, Del Grosso E, Troina A, Placidi E, **Ricci F (corr. author)**
Remote electronic control of DNA-based reactions and nanostructures assembly
Nano Lett 2018, 18, 2918-2923.

91. Porchetta A, Ippodrino R, Marini B, Caruso A, Caccuri F, **Ricci F (corr. author)**
Programmable Nucleic Acid Nanoswitches for the Rapid, Single-Step Detection of Antibodies in Bodily Fluids
J Am Chem Soc 2018, 140, 947-953.

90. Bertucci A, Porchetta A, **Ricci F (corr. author)**
Antibody-templated assembly of an RNA mimic of Green Fluorescent Protein
Anal Chem 2018, 90, 1049–1053.
Among "most read articles" of Analytical Chemistry (December 2017)
Featured in the Front Cover of Analytical Chemistry

89. Watkins H M A, **Ricci F (co-corr. author)**, Plaxco K W
Experimental Measurement of Surface Charge Effects on the Stability of a SurfaceBound Biopolymer
Langmuir 2018, 34, 14993–14999.

88. Bertucci A, Guo J, Oppmann N, Glab A, **Ricci F**, Caruso F, Cavalieri F
Probing transcription factor binding activity and downstream gene silencing in living cells with a DNA nanoswitch
Nanoscale 2018, 10, 2034-2044.

87. Green L, Amodio A, Subramanian HKK, **Ricci F (co-corr. author)**, Franco E
pH-driven reversible self-assembly of micron-scale DNA scaffold
Nano Lett 2017, 17, 7283–7288.

86. Hu Y, Cecconello A, Idili A, **Ricci F (co-corr. author**), Willner I
Triplex DNA Nanostructures: from basic properties to applications
Angew Chem 2017, 56, 15210-15233

85. Kwon E J, Skalak M, Bertucci A, Braun G, Ricci F, Ruoslahti E, Sailor M J, Bhatia S N
Porous Silicon Nanoparticle Delivery of Tandem Peptide Anti-Infectives for the Treatment of Pseudomonas aeruginosa Lung Infections
Adv Materials 2017, 29, 1701527 pdf
Featured in the following news media (EurekAlert, ScienceNewsLine, PhysOrg, etc.).
Featured in Science Translational Medicine (Editor's choice: "Resistance is futile")

84. Ranallo S, Idili A, Prevost C, Vallée-Bélisle A, **Ricci F (corr. author)**
Antibody powered nucleic acid release using a DNA-based nanomachine.
Nat Commun 2017, 8, 15150.
Featured in the following news media (C&EN, E&T Magazine, The Engineer, GEN, etc.)
Featured in the following Italian media (SkyTg24, Focus, ADNKronos, Galileo, etc.).
N°1 most read article of Nature Communications (May 2017).

83. Kuzyk A, Idili A, Urban M, **Ricci F (co- corr. author),** Liu LN
Selective control of reconfigurable chiral plasmonic metamolecules
Science Adv 2017, 3, e1602803.

82. Idili A, **Ricci F (co-corr. author)**, Vallée-Bélisle A
Determining the folding and binding free energy of DNA-based nanodevices and nanoswitches using urea titration curves
Nucleic Acids Research 2017, 27, 7571-7580.

81. Mariottini D, Idili A, Vallée-Bélisle A, Plaxco KW, **Ricci F (corr. author)**
A DNA Nanodevice that loads and releases a cargo with hemoglobin-like allosteric control and cooperativity
Nano Lett 2017, 17, 3225–3230.

80. Iacovelli F, Idili A, Benincasa A, Mariottini D, Ottaviani A, Falconi M, **Ricci F (co- corr. author)**, Desideri A
Simulative and experimental characterization of a pH-dependent clamp-like DNA triple-helix nanoswitch
J Am Chem Soc 2017, 139, 5321–5329.

79. Rossetti M, Ranallo S, Idili A, Palleschi G, Porchetta A, **Ricci F (corr. author)**
Allosteric DNA nanoswitches for controlled release of a molecular cargo triggered by biological inputs
Chem Science 2017, 8, 914-920.
Featured in the Front Cover of Chemical Science

78. Mahshid S, **Ricci F**, Kelley SO, Vallée-Bélisle A
Electrochemical DNA-Based Immunoassay That Employs Steric Hindrance To Detect Small Molecules Directly in Whole Blood
ACS Sensors 2017, *2, 718-723.*

77. de Ávila BE, Zhao M, Campuzano S, **Ricci F**, Pingarrón JM, Mascini M, Wang J.
Rapid micromotor-based naked-eye immunoassay.
Talanta 2017, 167, 651-657.

76. Del Grosso E, Idili A, Porchetta A, **Ricci F (corr. author)**
A modular clamp-like mechanism to regulate the activity of nucleic-acid target-responsive nanoswitches with external activators
Nanoscale 2016, 8, 18057-18061.
Featured in the Front Cover of Nanoscale

75. Li H, Arroyo-Currás N, Kang D, **Ricci F**, Plaxco KW
Dual-reporter drift correction to enhance the performance of electrochemical aptamer-based sensors in whole blood
J Am Chem Soc 2016, 138, 15809–15812

74. Kang D, **Ricci F**, White R J, Plaxco K W
Survey of Redox-Active Moieties for Application in Multiplexed Electrochemical Biosensors
Anal Chem 2016, 88, 10452–10458.

73. Amodio A, Adedeji A F, Castronovo M, Franco E, **Ricci F (corr. author)**
pH-controlled assembly of DNA tiles
J Am Chem Soc 2016, 138, 12735–12738

72. Della Sala F, Chen J, Ranallo S, Badocco D, Pastore P, **Ricci F (co-corr. author)**, Prins LJ
Reversible Electrochemical Modulation of a Catalytic Nanosystem
Angew Chem Int Ed 2016, 55 (36), 10737–10740.

71. Jeong H, Ranallo S, Rossetti M, Heo J, Shin J, Park K, **Ricci F (co-corr. author)**, Hong J
Electronic Activation of a DNA Nanodevice Using a Multilayer Nanofilm
Small 2016, in press.

70. **Ricci F**,Vallée-Bélisle A, Simon A J, Porchetta A, Plaxco KW
Using Nature's "Tricks" To Rationally Tune the Binding Properties of Biomolecular Receptors
Acc Chem Res 2016, 49, 1884–1892.

69. Ranallo S, Amodio A, Idili A, Porchetta A, **Ricci F (corr. author)**
Electronic control of DNA-based nanoswitches and nanodevices
Chem Science 2016, 7, 66-71.
Featured in the cover page of Chemical Science

68. Del Grosso E, Dallaire A M,Vallée-Bélisle A, **Ricci F (corr. author)**
Enzyme-Operated DNA-Based Nanodevices
Nano Lett. 2015, 15, 8407–8411.

67. Ranallo S, Rossetti M, Plaxco KW, Vallée-Bélisle A, **Ricci F (corr. author)**
A Modular, DNA-Based Beacon for Single-Step Fluorescence Detection of Antibodies and Other Proteins
Angew Chem Int Ed. 2015, 54, 13214–13218.
Featured in the following news media (NDTV, ScienceDaily, RAI-Radio3, etc.).

66. Mahshid SS, Camiré S, **Ricci F**, Vallée-Bélisle A
A highly selective electrochemical DNA-based sensor that employs steric hindrance effects to detect proteins directly in whole blood

J Am Chem Soc. 2015, 137, 15596–15599.
Featured in the following news media (CBC News, ScienceDaily, etc.).

65. Idili A, Porchetta A, Amodio A, Vallée-Bélisle A, **Ricci F (corr. author)**
Controlling Hybridization Chain Reactions with pH
Nano Lett 2015, 15 (8), 5539–5544.

64. Porchetta A, Idili A, Vallée-Bélisle A, **Ricci F (corr. author).**
A general strategy to introduce pH-induced allostery in DNA-based receptors to achieve controlled release of ligands
Nano Lett 2015, 15 (7), 4467–4471.

63. Ren J, Hu Y, Lu C-H, Guo W, García MA, **Ricci F**, Willner I.
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Among "most read articles" of Analytical Chemistry (August 2014)

57. Puiu M, Idili A, Moscone D, **Ricci F (Corr. Author)**, Bala C.
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56. Simon A, Vallée-Bélisle A, **Ricci F**, Watkins HM, Plaxco KW
Using the Population-Shift Mechanism to Rationally Introduce "Hill-type" Cooperativity into a Normally Non-Cooperative Receptor
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55. Watkins HM, Simon A, **Ricci F**, Plaxco KW
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53. Porchetta A, Vallée-Bélisle A, Plaxco KW, **Ricci F (Corr. Author)**
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5. **Ricci F (Corr. Author)**, Amine A, Moscone D, Palleschi G.
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5. Ippodrino R, Marini B, **Ricci F**, et al. ***2019***. Nucleotide-based nanoswitch and methods for the detection of antibodies and other analytes

4. Plaxco KW, **Ricci F**, et al. ***2019***. Dual-reporter Electrochemical Sensors with Drift Correction, US20190209063.

3. Vallee-Belisle AV, **Ricci F**, et al. ***2012***. Nucleotide-Based Probes and Methods for the Detection and Quantification of Macromolecules and Other Analytes, WO2012071344A2.

2. Palleschi G, **Ricci F**, Moscone D, Poscia A. ***2008***. Process for the preparation of modified electrodes, electrodes prepared with said process, and enzymatic biosensors comprising said electrodes. US2008160625, EP1935331A3.

1. Ricci G, **Ricci F**, Federici G. ***2005***. Method for quantitative and semi-quantitative detection of l-phenylalanine, l-tyrosine, l-3, and their corresponding keto-acids. WO2005052589.

Media/Press Coverage

Jun 2019	"Working as a researcher is 'like playing with your favorite toy but you get paid for it'", Aalto University news
Feb 2018	"'Modular DNA nanoswitches get close and light up specific biomarkers", NanoWerk
Dec 2017	"Erasmus, Marie Skłodowska-Curie, ERC: how EU grants shaped the careers of ERC grantees", ERC stories
Sept 2017	"Heinrich Emanuel Merck Award for Analytical Science Goes to Prof. Francesco Ricci", Merck press release
Sept 2017	"Announcing the Inaugural Advances in Measurement Science Lectureship Award", ACS Axial
May 2017	"'DNA slingshot' targets drug delivery", Chemical & Engineering News
May 2017	"Molecular slingshot made from DNA shoots drugs to targeted locations in the body", E&T
May 2017	"Molecular slingshot made of DNA developed as a novel drug delivery system", GEN
May 2017	"Medicina di precisione: la nanomacchina italocanadese per portare farmaci dove serve", Focus
May 2017	"Creata una "fionda molecolare" per l'utilizzo mirato dei farmaci", SkyTG24
Apr 2017	"Self-assembled nanostructures can be selectively controlled", ScienceDaily
Apr 2017	"DNA Self-Assembly Allows Control of the Optical Properties of Plasmonic Metamolecules", AzoNano
Oct 2015	"Detecting HIV diagnostic antibodies with DNA nanomachines", ScienceDaily
Oct 2015	"Tiny DNA 'machine' could cut HIV diagnosis cost", NDTV
Oct 2015	"Puzzle di DNA", RaiRadio3, radio interview
Sep 2015	"Molecular diagnostics at home", ScienceDaily
Sep 2015	"Montreal scientists score possible breakthrough for rapid diagnostic medical tests", CBC News
Nov 2014	"Disorder enhances binding cooperativity", "Editor's choice", Science 346, 961-962
Sep 2014	"Early-career funding: Big introductions", Nature 513, 449-451. (Interview about ERC funding)
Jun 2014	"DNA nanotechnologies, an international workshop in Rome", ResearchItaly
May 2014	"Now, a DNA tool to spot cancer", Yahoo News
May 2014	"Le cancer traité par l'infiniment petit", TVA Nouvelles
May 2014	"Un nanodétecteur qui éclaire littéralement les cellules cancéreuses", Sciences et Avenir
May 2014	"Using DNA to build tool that may literally shine light on cancer", ScienceDaily
Feb 2014	Radio Interview for a national program of the Swiss Radio channel "RS2"
Feb 2014	"Biosensing: Detecting Cocaine 'Naturally'", Science Daily
Jan 2014	"DNA clamps could stop cancer in its tracks", GizMag
Dec 2013	"Le mie nanomacchine per diagnosi e terapie", La Stampa (national newspaper).
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Dec 2013	"DNA clamp' technology to help cancer treatment", Kuwait Times
Fab 2013	"Cocaine sensor uses nature's techniques to boost sensitivity", The Engineera
Feb 2013	"DNA clamp to grab cancer before it develops", Bioscience Technology

Jan 2013	"Enhancing aptamer abilities", Spotlight on Recent JACS Publications, JACS
Dec 2012	'DNA clamp' technology may help screen for cancer", Montreal Gazette
Jun 2012	"Bioengineers design rapid diagnostic tests inspired by nature", ScienceDaily
Feb 2012	"Choose your own Analytical Range", Chemical & Engineering News
Feb 2012	"Nanosensors made from DNA may light path to cancer tests and drugs", ScienceDaily
Feb 2012	"Chemists mimic nature to expand the range of biosensors", R&D Technology
Jan 2012	"Choose your own Analytical Range", Spotlight on Recent JACS Publications, JACS
Nov 2011	"DNA nanosensors pave way for cancer tests, drugs", BioPhotonics
Sep 2011	"TF-beacons may light path to new cancer tests and drugs", ACS News Service Weekly PressPac
Nov 2010	"Simple Biosensors monitor immune disease", Highlights in Chemical Biology, RCS
Nov 2010	"Switching up disgnostics", ACS Chemical Biology spotlight
May 2009	"Chemists Explain The Switchboards In Our Cells", Science Daily
Aug 2009	"Mathematical Model Finally Explains Cellular 'Switches'", Softpedia.com
Aug 2009	"Explaining the switchboards in our cells", R & D Magazine

Conferences (organization)

Jun 2024	6th "Functional DNA nanotechnology", Munich, 26-28 June 2024. Organizer
May 2022	5th "Functional DNA nanotechnology", Rome, 25-27 May 2022. Organizer
Oct 2020	4th "Functional DNA nanotechnology", Rome, 7-9 October 2020. Organizer
Jun 2018	3rd "Functional DNA nanotechnology", Rome, 6-8 June 2018. Organizer
Jun 2016	2nd "Functional DNA nanotechnology", Rome, 22-24 June 2016. Organizer
Jun 2014	"Functional DNA nanotechnology", Rome, 19-20 June 2014. Organizer
Nov 2006	"Kinetic in Analytical Chemistry" Rome, 2-4 November 2006. Organizing Committee

Teaching activity

Sep 2006 –current	Electroanalytical Chemistry. Master degree in Chemistrty, University of Rome, Tor Vergata (average enrolment: 15 students). 6 CFU
Sep 2007 –current	Laboratory of Analytical Chemistry. Bachelor degree in Applied Chemistry, University of Rome, Tor Vergata (average enrolment: 25 students). 8 CFU
Sep 2004 –Sep 2010	Analytical Chemistry. Master degree in Biology, University of Rome, Tor Vergata (average enrolment: 200 students). 2 CFU

Advisor and supervision activity

Advisor of PhD students

2010-2013	PhD in Chemistry, Alessandro Porchetta (output: 6 publications + 3 awards)
2011-2014	PhD in Chemistry, Andrea Idili (output: 6 publications + 1 award)
2011-2014	PhD in Chemistry, Alessia Amodio (co-tutor) (output: 5 publications + 2 awards)
2012-2015	PhD in Chemistry, Simona Ranallo (output: 3 publications + 1 award)
2013-2016	PhD in Chemistry, Erica Del Grosso (output: 3 publications + 2 awards)
2013-2016	PhD in Chemistry, Davide Mariottini (output: 3 publications)
2017-2020	PhD in Chemistry, Lorena Baranda (output: 3 publications)

Advisor of MSc students

2010-2011	MSc in Chemistry, Andrea Idili (output: 1 publication)
2010-2011	MSc in Chemistry, Beatrice Zangrilli
2010-2011	MSc in Chemistry, Sara Desiderati
2011-2012	MSc in Chemistry, Simona Ranallo (output: 1 publication)
2013-2014	MSc in Biotechnology, Davide Mariottini (output: 1 publication)

2014-2015 MSc in Biotechnology, Veronica Di Giorgio
2014-2015 MSc in Biotechnology, Irene Ponzo

Invited seminars (selection of most recent)

May 2018 Institute for Bioengineering of Catalonia (IBEC), Barcelona
Sep 2018 Eindhoven University of Technology
Apr 2018 Merck, KGaA-Darmstadt
Oct 2017 Cavendish Laboratory, Cambridge University (BSS Formal Seminars)
Nov 2017 University of Torino
Sep 2016 Aarhus University

Member of PhD committee

Sep 2018 Wouter Engelen, Eindhoven University of Technology, advisor: Maarten Merkx
Oct 2016 Ilenia Manuguerra, Aarhus University Interdisciplinary Nanoscience Center (iNANO), advisor: Kurt Gothelf
Jun 2015 Denis Selnihhin, Aarhus University Interdisciplinary Nanoscience Center (iNANO), advisor: Ebbe Andersen
Jun 2014 Berta Esteban Fernàndez de Ávila, Università Complutense de Madrid, advisor: José Pingarrón
Jul 2013 Claudio Parolo, Universitat Autonoma de Barcelon, advisor: Arben Merkoci