Andrea Idili
Associate Professor
Laboratory of Translational Chemistry
Univ. of Rome Tor Vergata, Italy
Dep. of Chemical Science and Technologies
Email: andrea.idili@uniroma2.it

CURRICULUM VITAE

Date of Birth	14/07/1983
Sex	Male
Nationality	Italian
Status	Married

CURRENT POSITION

Associate Professor
Period: 10th Feb 2025 – present
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**

CURRENT RESEARCH INTERESTS

In-vivo biosensing, Continuous monitoring, Point-of-Care (PoC) sensors, Electrochemical Aptamer-based (EAB) sensors, Paper-based sensors, DNA/RNA nanotechnology.

EDUCATION

Ph.D. – Chemical Sciences (DNA nanotechnology)
Date: Feb 2016
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**
Supervisor: Prof. Francesco Ricci
Final Mark: *Excellent cum laude*

Master's degree – Chemistry (Analytical Chemistry)
Date: Dec 2011
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**
Supervisor: Prof. Francesco Ricci
Final Mark: 110/110

RESEARCH EXPERIENCE

Feb 2022 – Feb 2025 ***Tenure-Track Assistant Professor (RTDb)***
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**

May 2021 – Feb 2022 **Marie-Skłodowska-Curie postdoctoral researcher**
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**
Supervisor: Prof. Francesco Ricci (www.francescoriccilab.com)

Sep 2019 – Apr 2021 **PROBIST Postdoctoral Researcher**
Name of institution: Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, **Spain**
Supervisor: Prof. Arben Merkoci (http://www.nanobiosensors.org/)

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Sep 2017 – Aug 2019 ***Postdoctoral researcher***
Name of institution: 1) Department of Chemistry and Biochemistry, 2) Institute for Collaborative Biotechnologies (ICB), University of California Santa Barbara, Santa Barbara, **USA**
Supervisor: Prof. Kevin Plaxco (https://labs.chem.ucsb.edu/plaxco/kevin/)

Feb 2016 – Jul 2017 ***Postdoctoral researcher***
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**
Supervisor: Prof. Francesco Ricci (www.francescoriccilab.com)

Jan 2012 – Jun 2012 ***Postgraduate student***
Name of institution: Department of Chemical Science and Technologies, University of Rome Tor Vergata, **Italy**
Supervisor: Prof. Francesco (www.francescoriccilab.com)

FELLOWSHIPS AND AWARDS

Feb 2021 ***Marie-Skłodowska-Curie Postdoctoral Fellowship 2020 (Entropic DNA Sensors),*** (H2020-MSCA-IF-2020 action, budget ~180 000 €).
Jul 2020 ***Habilitation as Associate Professor in Anal. Chemistry*** (Italian Ministry for Research)
Oct 2019 ***ISSNAF Awards for Young Investigators 2019*** (3000 $)**.** ISSNAF grants specific focus to early-stage investigators working in North America whose commitment to their discipline of study is innovative, impactful and honors their country of origin.
Sep 2019 ***Best Poster Award*** (100 €). XXVIII National Meeting of Analytical Chemistry organized by Italian Chemical Society (SCI), Bari, Italy.
Mar 2019 ***PROBIST postdoctoral fellowship*** (H2020 MSCA-COFUND action, budget ~170 000 €)**.** PROBIST is a 3 years' post-doctoral fellowship lead by the Barcelona Institute of Science and Technology (BIST).
Jun 2018 ***Scholarship*** (400 €) issued by Italian Chemical Society for young chemistry researchers (<35) to participate to the XXVII National Meeting of Analytical Chemistry organized by Italian Chemical Society (SCI), Bologna, Italy.
Mar 2016 ***Scholarship*** (500 €) issued by Italian Chemical Society for young chemistry researchers (<35) to participate to the 6th EUCHEMS Congress 2016, Sevilla, Spain.
Feb 2016 ***Postdoctoral fellowship*** (budget ~ 22 100 €) issued by University of Rome Tor Vergata "Development of DNA nanomachines for the detection of cancer markers".
Jan 2016 Honor mention ***"2014 Primo Levi award"*** for young chemistry researchers (<35) issued by the Italian Chemical Society.
May 2013 ***Canada-Italy Innovation Award 2013*** (3000 €) issued by the Embassy of Canada to Italy
This award provides funding to Italian researchers, scientists and innovation experts to travel to Canada for short visits to lay the groundwork for collaborative efforts.
Nov 2012 ***Italian National PhD Fellowship XVIII cycle (2012-2015)***
Jan 2012 ***Fellowship*** (6 months, budget ~ 6000 €) issued by INBB – Biostructures and Biosystems National Institute (Italy) "Development of DNA biosensor for analytical applications".

VISITING PERIODS

Ago 2023 – Oct 2023 ***Visiting researcher in the framework of the RISE project "NanoimmunoEra" (EU - Marie Skłodowska-Curie Actions)***
Name of institution: Department of Chemistry and Biochemistry, University of California Santa Barbara, Santa Barbara, **USA**
Supervisor: Prof. Kevin Plaxco (https://labs.chem.ucsb.edu/plaxco/kevin/)

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Jun 2013 – Feb 2016 ***Visiting PhD student (>1 year during 3 different visiting periods) in the framework of the RISE projects "PEPTIDE NANOSENSORS" and "CHIMERA" (EU - Marie Skłodowska-Curie Actions), and* Canada-Italy Innovation Award 2013.**
Periods: 1) 24th Jul 2013 – 20 Nov 2013; **2)** 26th Jul 2014 – 11th Dec 2014; **3)** 5th Nov 2015 - 15th Feb 2016
Name of institution: Department of Chemistry of the Université de Montréal, **Canada**
Supervisor: Prof. Alexis Vallée-Bélisle (http://www.nanomachineslab.org)

May 2012 – Sep 2012 ***Visiting postgraduate student in the framework of the RISE project "PEPTIDE NANOSENSORS" (EU - Marie Skłodowska-Curie Actions)***
Name of institution: Chemistry and Biochemistry Department, University of California, Santa Barbara, **USA**
Supervisor: Prof. Kevin W. Plaxco (https://labs.chem.ucsb.edu/plaxco/kevin/)

REFEREE/REVIEWER ACTIVITY

Evaluator 2025 - Canada Foundation for Innovation (CFI) - John R. Evans Leaders Fund
2022 – Current: External Review Panel "EMERGE" - Emerging Printed Electronics Research Infrastructure. H2020 Project (GA No: 101008701)

Referee Science (AAAS / Science Partner Journals), Nature Communications (Springer), Angewandte Chemie International Edition (Wiley), ACS Sensors (ACS), Biosensors and Bioelectronics (Elsevier), Analytical Chemistry (ACS), Microchemical Journal (Elsevier), Electrochimica Acta (Elsevier), Analytical Methods (RCS), Bioelectrochemistry (Elsevier), Analytica Chimica Acta (Elsevier), etc. (more than 50 papers refereed)

RESEARCH GRANTS

Year	*Budget (€)*	*Funding Body/Title*	*Role*
Sep 2026	*260.000*	*"PRE-ALERT" Project – Italian Space Agency*	*PI Unit*
Nov 2025	*50.000*	*"FemTrack" Project – Innosuisse Swiss Innovation Agency*	*PI Service Unit*
Dec 2024	*500.000*	*"My First AIRC" Grant 2024 - Cancer Research Foundation.*	*Coordinator*
Feb 2021	*180.000*	*Marie-Skłodowska-Curie Postdoctoral Fellowship 2020*	*PI*
Mar 2019	*170.000*	*PROBIST postdoctoral fellowship (H2020 MSCA-COFUND)*	*PI*

ORAL PRESENTATIONS

Oct 2026 NanoBalkan 2026, Tirana, Albania (**invited speaker**)
Sep 2026 ISE — 43rd Topical Meeting, Gdańsk, Poland (**invited speaker**)
Jun 2026 #NanoSeries2026, Turin, Italy (**invited speaker**)
Oct 2025 European Biosensors Symposium (EBS) 2025, Tarragona, Spain (**oral**)
Sep 2025 GEI2025 – Italian Electrochemistry Days, San Benedetto del Tronto, Italy (**keynote oral**)
Jun 2025 #NanoSeries2025, Valencia, Spain (**invited speaker**)
May 2025 BIOSENSORS 2025 - Continuous Monitoring Biosensors Summer School, Lisbon, Portugal (**invited speaker**)
Oct 2024 BioInspireSensing – Biosensors 2024 Workshop, Sitges, Spain (**oral**)
Aug 2024 XXVIII Congress of Italian Chemical Society, Milan, Italy (**oral**)
Nov 2023 nanoBioMed2023 Conference, Barcelona, Spain (**invited speaker**)
Oct 2022 Trends in Nanotechnology International Conference (TNT2022), Tirana, Albania (**invited speaker)**
Feb 2022 The 2nd International Electronic Conference on Biosensors (online) (**invited speaker**)

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Oct 2021	School of Nanobiosensors - Trends in Nanotech. Intern. Conference (TNT2021), Tirana, Albania (**invited speaker**)
Nov 2019	2019 ISSNAF ANNUAL EVENT, Washington, USA (**invited speaker**)
Sep 2019	XXVIII Congress of the Analytical Chemistry Division, Bari, Italy (**oral**)
Sep 2018	XXVII Congress of the Analytical Chemistry Division, Bologna, Italy (**keynote oral**)
Jun 2018	3th Functional DNA Nanotechnology 2018, Rome, Italy (**oral**)
Jan 2017	E-WiSPOC 2017 - European Winter School on Physical Organic Chemistry (**short oral**)
Sep 2016	6th EuCheMS Congress, Sevilla, Spain (**oral**)
Jul 2016	Scientific Day Bioanalytical 2016, Bologna, Italy (**oral**)
Jun 2016	Y-RICh Workshop 2016, Rome, Italy (**invited speaker**)
Oct 2015	"XV Sigma-Aldrich Young Chemists Symposium, SAYCS 2015", Rimini, Italy (**oral**)
Jul 2015	Scientific Day Bioanalytical 2015, Bologna, Italy (**oral**)
Jun 2015	6th European Conference on Chemistry in Life Sciences (6th ECCLS), Lisbon, Portugal (**short oral**)
Oct 2014	17th Annual Chemistry and Biochemistry Graduate Research Conference, Montreal, Canada (**oral**)

PUBLICATIONS

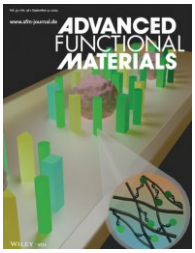
47 papers in ISI peer-reviewed journals + **4** chapter book + **1** patent
21 papers as first or co-first-author
5 papers as corr.or co-corr-author
H-index: **28 - > 2950** total citations (Scopus 20th October 2026)
H-index: **31 - > 3500** total citations (Google Scholar 20th October 2026)
25 papers in journals with impact factor **(IF) > 10** (***2*** *Adv. Funct. Mater.* + ***5*** *JACS* + ***3*** *Nano Lett.* + ***1*** *Nat. Commun.* + ***3*** *ACS Nano* + ***1*** *Sci. Adv.* + ***3*** *Angew. Chem.* + ***3*** *Nucleic Acids Res.* + ***1*** *ACS Cent. Sci.* + ***1*** *Trends Chem.* + ***1*** *Bios. Bioelec* + ***1*** *Small Struct.*)
19 papers in journals with impact factor **(IF) > 5** (**4** ACS Sens. + **1** Chem. Comm.+ **3** Anal. Chem.+ **3** Chem. Science + **1** Nanoscale + **1** Adv. Mater. Technol. + **2** Lab on a chip + **1** *ACS Appl. Nano Mater.* + **1** *ACS Appl. Mater. & Inter.* + **1** *Br. J. Pharma.* + **1** *Curr. Op. Electr.*)

LIST OF PUBLICATIONS

1. Chamorro-Garcia, A., Fetter, L., Emmons, N. A., Alfonsini, M., Paialunga, E., Glahn-Martínez, B., Valenti, G., Porchetta, A., Kippin, T.E., Plaxco, K. W., **Idili A.* (corr. author)**. *Electrochemical DNA-Based Biosensors for In Vivo Quantification of a Therapeutic Protein.* ***Small Structures*** 2026, 7(7), e70539.

2. Chamorro-Garcia, A., Alfonsini, M., Caprioli, D., Parolo, C., & I **Idili A.* (corr. author)**. *Continuous monitoring of biomolecular targets in vivo using DNA-based electrochemical sensors.* ***Current Opinion in Electrochemistry*** 2025, 101765.

3. Antonelli, G., Chamorro-Garcia, A., Mencattini, A., Spitalieri, P., Sangiuolo, F., Filippi, J., ... & **Idili A.* (co-corr. author)**, Martinelli, E. *Continuous pH Monitoring in Organ-on-Chip Devices with Single-Step Fabricated DNA Scaffold Sensors Conjugated Hydrogels and Machine Learning.* ***Advanced Functional Materials*** 2025, 35(36), 2501659.
-Featured in the back cover page of Advanced Functional Materials



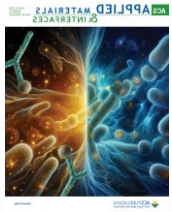
4. Ueno, K., Tsukakoshi, K., Takeuchi, N., Inaba, S., **Idili, A.**, Porchetta, A., ... & Ikebukuro, K. *Bright and pH-sensitive Baby Spinach aptamer with RNA triplex fusion*. ***Nucleic Acids Research*** 2025, 53(11), gkaf151.

5. Yang Q., Pedreira-Rincón J., Balerdi-Sarasola L., Baptista-Pires L., Muñoz J., Camprubí-Ferrer D. , **Idili A.**, Parolo C.

An aptamer-based electrochemical sensor for the quantification of the malaria biomarker lactate dehydrogenase. ***Biosensors and Bioelectronics*** 2025, 274: 117152.

6. Gerson J., Erdal M. K., Dauphin-Ducharme P., **Idili A.**, Hespanha J. P., Plaxco K. W., Kippin T. E.
A high-precision view of intercompartmental drug transport via simultaneous, seconds-resolved, in situ measurements in the vein and brain. ***British Journal of Pharmacology*** 2024, 181(20): 3869-3885.

7. Hu L., Rossetti M., Bergua J. F., Parolo C., Álvarez-Diduk R., Rivas L., **Idili A.* (co-corr. author)**, Merkoçi
A. *Harnessing Bioluminescent Bacteria to Develop an Enzymatic-free Enzyme-linked immunosorbent assay for the Detection of Clinically Relevant Biomarkers.* ***ACS applied materials & interfaces*** 2024; 16(24):30636-30647.
-Featured in the cover page of ACS applied materials & interfaces



8. Bagheri N., Chamorro A., **Idili A.**, Porchetta A.
PAM-Engineered Toehold Switches as Input-Responsive Activators of CRISPR-Cas12a for Sensing Applications. ***Angewandte Chemie International Edition*** 2024; 63(17): e202319677.

9. Rivas L., Hu L., Parolo C., **Idili A.**, Merkoçi, A.
Rational Approach to Tailor Au–IrO2 Nanoflowers as Colorimetric Labels for Lateral Flow Assays. ***ACS Applied Nano Materials*** 2023; *6(6):* 4151-4161.

10. Scroccarello A., Álvarez-Diduk R., Della Pelle F., de Carvalho Castro e Silva C., **Idili A.**, Parolo C., Compagnone D., Merkoçi A.
One-Step Laser Nanostructuration of Reduced Graphene Oxide Films Embedding Metal Nanoparticles for Sensing Applications.
ACS Sensors 2023; 8(2): 598–609.

11. Mariottini, D., **Idili, A.* (co-first and co-corr. author)**, Ercolani, G., Ricci F.
Thermo-programmed synthetic DNA-based receptors.
ACS Nano 2023; 17(3): 1998–2006.

12. Parolo C., **Idili A.**, Heikenfeld J., Plaxco K.W.
Conformational-switch biosensors as novel tools to support continuous, real-time molecular monitoring in lab-on-a-chip devices.
Lab on a Chip 2023; 23: 1339-1348.

13. Chamorro-Garcia A., Parolo C., Ortega G., **Idili A.**, Green J., Ricci F., Plaxco K.W.
he sequestration mechanism as a generalizable approach to improve the sensitivity of biosensors and bioassays.
Chem. Science 2022; 13(41): 12219-12228.

14. **Idili A.,** Bonini A., Parolo C., Alvarez-Diduk R., Di Francesco F., Merkoçi, A.
A programmable electrochemical Y-shaped DNA scaffold sensor for the single-step detection of antibodies and proteins in untreated biological fluids.
Advanced Functional Materials 2022; 32(37): 2201881.

15. Sena-Torralba A., Torné-Morató H., Parolo C., Ranjbar S., Farahmand Nejad M. A., Álvarez-Diduk R., **Idili A.**, Hormozi-Nezha M., Merkoçi, A.
A Novel Ratiometric Fluorescent Approach for the Modulation of the Dynamic Range of Lateral Flow Immunoassays.
Advanced Materials Technologies 2022: 2101450.

16. Hu L., Calucho E., Fuentes-Chust C., Parolo C., **Idili A.**, Alvarez-Diduk R., Rivas, L., Merkoçi, A.
Selection and characterisation of bioreceptors to develop nanoparticle-based lateral-flow immunoassays in the context of the SARS-CoV-2 outbreak.
Lab on a Chip *2022; 22(16): 2938–2943*.

17. Pereira C., Parolo C., **Idili A.**, Gomis R., Rodrigues L., Sales G., Merkoçi A.
Paper-based biosensors for cancer diagnostics.
Trends in Chemistry 2022; 4(6): 554–567.

18. Bergua J.F., Álvarez-Diduk R., **Idili A.**, Parolo C., Maymò M., Hu, L., Merkoçi, A.
Low-Cost, User-Friendly, All-Integrated Smartphone-Based Microplate Reader for Optical-Based Biological and Chemical Analyses.
Analytical Chemistry 2022; 94(2): 1271–1285.
- Among "most read articles" of the month of Analytical Chemistry (February-May 2022)

19. Rosati G., **Idili A.**, Parolo C., Fuentes-Chust C., Calucho E., Hu L., de Carvalho Castro e Silva C., Rivas, L., Nguyen E., Bergua J.F., Alvarez-Diduk R., Munoz J., Junot C., Penon O., Monferrer D., Delamarche E., Merkoçi, A.
Nanodiagnostics to Face SARS-CoV-2 and Future Pandemics: From an Idea to the Market and beyond.
ACS Nano 2021; 15(11): 17137–17149.

20. **Idili A.,** Parolo C., Alvarez-Diduk R., Merkoçi, A.
Rapid and Efficient Detection of the SARS-CoV-2 Spike Protein Using an Electrochemical Aptamer-Based Sensor
ACS sensors 2021; 6(8): 3093–3101.
-- Among "most read articles" of year (last 12 months) of ACS sensors (February-March 2022)

21. **Idili A.**, Gerson J., Kippin T., Plaxco K. W.
Seconds-resolved, in situ measurements of plasma phenylalanine disposition kinetics in living rats.
Anal. Chem. 2021; 93(8): 4023-4032.

22. Bertucci A., Porchetta A., Del Grosso E., Patino T., **Idili A.**, Ricci F.
Protein-controlled Actuation of Dynamic Nucleic Acid Networks Using Synthetic DNA Translators.
Angew. Chem. Int. Ed. 2020; 59(46): 20577-20581.

23. Parolo C., **Idili A.**, Ortega G., Csordas A., Hsu A., Arroyo-Currás N., Yang Q., Ferguson B.S., Wang J., Plaxco K.W.
Real-Time Monitoring of a Protein Biomarker.
ACS sensors 2020; 5(7): 1877-1881.

24. 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(1): 22-31.

25. **Idili A.**, Parolo C., Ortega G., Plaxco K.W.
Calibration-Free Measurement of Phenylalanine Levels in the Blood Using an Electrochemical Aptamer-Based Sensor Suitable for Point-of-Care Applications.
ACS Sensors 2019; 4(12) : 3227-3233.
-Selected for the virtual issue on "Giants in Sensing" featuring some fifty articles from influential sensing researchers who have contributed to **Anal. Chem.**, **ACS Sensors** and **J. Am. Chem. Soc.** in the past five years.

26. **Idili A.**, Gerson J., Parolo C., Kippin T., Plaxco K. W.
An electrochemical aptamer-based sensor for the rapid and convenient measurement of L-tryptophan.
Anal. Bioanal. Chem. 2019; 411(19): 4629-4635.

27. Rossetti M., Del Grosso E., Ranallo S., Mariottini D., **Idili A.**, Bertucci A., Porchetta A.
Programmable RNA-based systems for sensing and diagnostic applications.
Anal. Bioanal. Chem. 2019; 411(19): 4293-4302.

28. Mariottini D., **Idili A.**, Nijenhuis M. A., Ercolani G., Ricci F.
Entropy-based rational modulation of the pKa of a synthetic pH-dependent nanoswitch.
J. Am. Chem. Soc. 2019; 141(29): 11367-11371.

29. **Idili A.**, Arroyo-Currás N., Ploense K. L., Csordas A., Kuwahara M., Kippin T., Plaxco K. W.
Seconds-resolved pharmacokinetic measurements of the chemotherapeutic irinotecan in situ in the living body.
Chem. Science 2019; 10(35): 8164-8170.

30. Mariottini D., **Idili A.**, Nijenhuis M. A., de Greef T., Ricci, F.
DNA-based nanodevices controlled by purely entropic linker domains.
J. Am. Chem. Soc. 2018; 140(44): 14725–14734.

31. Ottaviani A., Iacovelli F., **Idili A.**, Falconi M., Ricci F., 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 Res. 2018; 46(19=: 9951-9959.

32. Hu D., Cecconello A., **Idili A. (co-first author)**, Ricci F., Willner I.
Triplex DNA Nanostructures: From Basic Properties to Applications.
Angew. Chem. Int. Ed. 2017, 56(48): 15210-15233.

33. **Idili A.**, Ricci F., Vallée-Bélisle A.
Determining the folding and binding free energy of DNA-based nanodevices and nanoswitches using urea titration curves.
Nucleic Acids Res. 2017; 45(13): 7571-7580.

34. Mariottini D., **Idili A. (co-first author)**, Vallée-Bélisle A., Plaxco K. W., Ricci F.
A DNA nanodevice that loads and releases a cargo with hemoglobin-like allosteric control and cooperativity.
Nano Lett. 2017*; 17(5):* 3225–3230.

35. Ranallo S., Prévost-Tremblay C., **Idili A.**, Vallée-Bélisle A., Ricci F.
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).

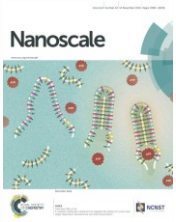
36. Iacovelli F., **Idili A. (co-first author)**, Benincasa A., Mariottini D., Ottaviani A., Falconi M.; Ricci F., Desideri A.
Simulative and experimental characterization of a pH-dependent clamp-like DNA triple helix nanoswitch.
J. Am. Chem. Soc. 2017; 139(15): 5321–5329.

37. Kuzyk A., Urban M. J., **Idili A. (co-first author)**, Ricci F., Liu N.
Selective control of reconfigurable chiral plasmonic metamolecules.
ScienceAdvances 2017; 3(4): e1602803.
-Featured in the several news media (AzoNano, ScienceDaily, PhysOrg, etc.).



38. Rossetti M., Ranallo S., **Idili A.**, Porchetta A., Ricci F.
Allosteric DNA nanoswitches for controlled release of a molecular cargo triggered by biological inputs.
Chem. Science 2017; 8(2): 914-920.

-Featured in the cover page of Chemical Science



39. Del Grosso E., **Idili A.**, Porchetta A., Ricci F.
A modular clamp-like mechanism to regulate the activity of nucleic-acid target-responsive nanoswitches with external activators.
Nanoscale 2016; 8(42): 18057-18061.
-Featured in the cover page of Nanoscale

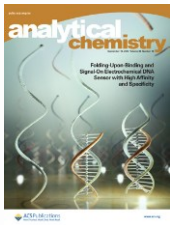


40. Ranallo S., Amodio A., **Idili A.**, Porchetta A., Ricci F.
Electronic control of DNA-based nanoswitches and nanodevices.
Chem. Science 2016; 7(1): 66-71.
-Featured in the cover page of Chemical Science

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

42. Porchetta A., **Idili A. (co-first author)**, Vallée-Bélisle A., Ricci F.
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.

43. Amodio A.,Bin Z., Porchetta A., **Idili A.**, Castronovo M., Fan C., Ricci F.
Rational Design of pH-Controlled DNA Strand Displacement.
J. Am. Chem. Soc. 2014; 136(47): 16469–16472.



44. **Idili A.**, Amodio A., Vidonis M., Feinberg-Somerson J., Castronovo M., Ricci F.
Folding-Upon-Binding and Signal-On Electrochemical DNA Sensor with High Affinity and Specificity.
Anal. Chem. 2014; *86(18)*: 9013–9019.
-Featured in the cover page of Analytical Chemistry
-Among "most read articles" of Analytical Chemistry (August 2014)

45. Puiu M., **Idili A.**, Moscone D., Ricci F., Bala C.
A modular electrochemical peptide-based sensor for antibody detection.
Chem. Comm. 2014; 50(64): 8962-8965.

46. **Idili A.**, Vallée-Bélisle A., Ricci F.
Programmable pH-triggered DNA nanoswitches.
J. Am. Chem. Soc. 2014; 136(16): 5836–5839.
-Featured in the following news media (sciencedaily, sciencenewsline, etc.).

47. **Idili A.**, Plaxco K. W., Vallée-Bélisle A., Ricci F.
Thermodynamic Basis for Engineering High-Affinity, High-Specificity Binding-Induced DNA Clamp Nanoswitches.
ACS Nano 2013; 7(12): 10863–10869.
-Featured in several news media (sciencedaily, kuwaittimes, montreal azzette, etc.).

LIST OF BOOK CHAPTERS

1. Chamorro-Garcia A., Ortega-Quintanilla G., **Idili A.* (co-corr. author)**, Parolo, C.
Structure switching bioreceptors as novel tools for point-of-care diagnostics.

***Biotechnology advances in Disease Diagnosis**, International Encyclopedia of Public Health, 3rd Edition 2024 (Elsevier).*

2. Hu L., **Idili A.**, Parolo C., Alvarez-Diduk R., Calucho E., Merkoçi, A.
Optical smartphone-based sensing: diagnostic of biomarkers.
The Detection of Biomarkers: Past, Present, and the Future Prospects 2022 (pp. 277-302). Academic Press.

3. **Idili A.**, Monton, H., Meidna-Sanchez M., Ibarlucea B., Cuniberti G., Schmidt O., Plaxco K., Parolo C.
Continuous monitoring of molecular biomarkers in microfluidic devices.
Progress in Molecular Biology and Translational Science 2022 - *Micro/Nanofluidics and Lab-on-Chip Based Emerging Technologies for Biomedical and Translational Research Applications-Part B, 295.*

4. **Idili A.**, Ricci F.
Design and Characterization of pH-Triggered DNA Nanoswitches and Nanodevices Based on DNA Triplex Structures.
Methods Mol. Bio. 2018 - *DNA Nanotechnology* (pp. 79-100). Humana Press, New York, NY.

LIST OF PATENTS

1. Plaxco K., Arroyo-Curas N., **Idili A.**,
"Modulating Electron Transfer Kinetics in E-DNA-type Sensors." U.S. Patent Application No. 17/617,100.

TEACHING ACTIVITY

2022 - Present	***Electroanalytical Chemistry (+ laboratory)*** *– Master degree in Chemistry, University of Rome Tor Vergata, Italy; Average enrolment: 25 students*
2025 – Present	***Fundamentals of Analytical Chemistry*** *– Bachelor degree in Chemistry, University of Rome Tor Vergata, Italy; Average enrolment: 40-60 students*
2026 - Present	***Analytical Chemistry I (+ laboratory)*** *– Degree in Pharmacy, University of Rome Tor Vergata, Italy; Average enrolment: 60-80 students*
2021 - 2022	***Analytical Chemistry I (+ laboratory)*** *– Bachelor degree in Chemistry and Applied Chemistry, University of Rome Tor Vergata, Italy; Average enrolment: 50-70 students*
2022 – 2025	***Analytical Chemistry for Environment (+ laboratory)*** *– Bachelor degree in Applied Chemistry, University of Rome Tor Vergata, Italy; Average enrolment: 25 students Supervisor*

MENTORING/SUPERVISION ACTIVITY

As PI :

Jan 2026 – May 2026	***Supervisor*** of one Bachelor's student (Marco Lombardi)
Sep 2025 – Dec 2025	***Supervisor*** of one visiting Master's student (Manon Holsappel – Univ. of Eindhoven)
Apr 2025 – Sep 2025	***Supervisor*** of one Bachelor's student (Andrea Pappafava)
May 2021 – Nov 2025	***Co-supervisor*** of one PhD student from Serbia (Anna Urosevic)
Oct 2019 – Jan 2024	***Co-supervisor*** of one PhD student (L. Hu) (ICN2)

As PostDoc/PhD:

Oct 2019 – Apr 2021	***Supervisor*** three PhD visiting students (E. Belina, V. Safran, A. Bonini) in the group of Prof. Merkoci.
Jul 2018 – Aug 2019	***Supervisor*** of one PhD student (J. Gerson) in the group of Prof. Plaxco.
Jan 2012 – Jun 2017	***Supervisor*** of two MSc projects (D. Mariottini, M. Amadii) and two visiting international

	students (C. Klimburg, N. Champesi) in the group of Prof. Ricci.
Jan 2012 – Jun 2017	***Laboratory supervisor*** of "Applied Analytical Chemistry" for 36 hours of eleven MSc students in Chemistry - University of Rome "Tor Vergata" (20 students).
Nov 2012 – Feb 2014	***Laboratory assistant*** of "Analytical Chemistry 1" for 1st year BSc students in Chemistry - University of Rome "Tor Vergata" (30 students).
Mar 2012 – Jun 2015	***Laboratory assistant*** of "Electroanalytical Chemistry" for 2st year MSc students in Chemistry - University of Rome "Tor Vergata" (15 students).
Feb 2014 –Nov 2014	**Graduate student mentor** of "Team Rome" (composed by 4 MSc students in Chemistry) for the annual biomolecular design competition for students BIOMOD 2014 (Wyss Institute – Harvard). The team received the Gold Project Award.

ORGANIZATION OF SCIENTIFIC MEETINGS

Apr 2025	Organization Committee: Giornate di Bioanalitica - Workshop "Bioanalitica e Citizen Science: innovazione e collaborazione" (Italian Chemical Society), Rome, Italy
Dec 2023	Organization Committee: Workshop GS 2023 - Sensors and Biosensors: Strategic Tools for Diagnostics, Food Safety, and Environmental Monitoring (Italian Chemical Society), Rome, Italy
Jul 2016	Organization Committee: 2th Functional DNA Nanotechnology 2016, Rome, Italy
Jul 2014	Organization Committee: 1th Functional DNA Nanotechnology 2014, Rome, Italy

MEMBERSHIP OF SCIENTIFIC SOCIETIES

Jan 2012 - present	Member of the Italian Chemical Society (SCI)