

# DAVIDE CORÀ

## CURRICULUM VITAE sintetico

### Contatti:

Dipartimento di Medicina Traslazionale  
Università degli Studi del Piemonte Orientale  
Via Solaroli 17, I-28100 Novara, Italy.

CAAD - Center for translational research on Autoimmune and Allergic Disease  
Via Trieste, 15/A, I-28100 Novara, Italy.

Phone: +39-0321-660631

+39-0321-660841

E-mail : [davide.cora@uniupo.it](mailto:davide.cora@uniupo.it)

Web : <http://www.to.infn.it/~cora>

### Titoli:

Laurea in Fisica

Master in Bioinformatica

Ph.D., in “Sistemi complessi applicati alla biologia post-genomica”

### Posizione attuale:

Professore Associato (s.s.d. BIO/11)  
Dipartimento di Medicina Traslazionale,  
Università del Piemonte Orientale.

## AFFILIAZIONI

- Dipartimento di Medicina Traslazionale, Università del Piemonte Orientale.
- Center for Translational Research on Autoimmune & Allergic Diseases – CAAD.
- BITS – Bioinformatics Italian Society.

## ATTIVITA' DIDATTICA FRONTALE

- Corso di “BIOLOGIA MOLECOLARE”, presso corso di Laurea in BIOTECNOLOGIE (48 ore, 6 CFU – sede di Novara).
- Corso di “BIOCHIMICA – BIOLOGIA MOLECOLARE”, presso corso di Laurea Magistrale in MEDICINA E CHIRURGIA (25 ore, 2 CFU – sede di Alessandria).
- Corso di “BIG DATA ANALYSIS”, presso Laurea Magistrale in MEDICAL BIOTECHNOLOGY (30 ore, 5 CFU – sede di Novara).
- Corso di “BIOINFORMATICA E APPROCCI DI SYSTEMS BIOLOGY”, presso Laurea Magistrale in BIOTECNOLOGIE FARMACEUTICHE (24 ore, 3 CFU – sede di Novara)

## SINTESI INTERESSI DI RICERCA

La parte principale della mia attività di ricerca si svolge all'interno della **Bioinformatica e Biologia Computazionale**, ovvero nell'ambito di quell'insieme di studi e ricerche interdisciplinari volte alla definizione delle proprietà degli organismi viventi tramite l'uso di metodi integrati derivanti dalla biologia, matematica, fisica, informatica.

### Keywords:

- Bioinformatics and Computational Biology.
- Regulatory networks, microRNAs, non-coding DNA.
- Cancer and Plant Genomics.
- Metagenomics.
- Big Data Analysis, AI.

In questi contesti, collaboro anche con diversi laboratori sperimentali, fornendo competenze computazionali e di analisi dei dati.

## PUBBLICAZIONI SU RIVISTE internazionali WOS / SCOPUS

- 1) "Computational identification of transcription factor binding sites by functional analysis of set of genes sharing overrepresented upstream motifs."  
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- 2) "Ab-initio identification of putative human transcription factor binding sites by comparative genomics."  
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- 3) "Correlated fragile site expression allows the identification of candidate fragile genes involved in immunity and associated with carcinogenesis."  
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- 4) "Identification of candidate regulatory sequences in mammalian 3' UTRs by statistical analysis of oligonucleotide frequencies."  
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- 5) "VRG database: a database of Vascular dysfunctions Related Genes."  
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*Computers & Mathematics with Applications* 2008, 55;5:1068-1073.
- 6) "Genome-wide survey of microRNA / Transcription Factor Feed-Forward Regulatory Circuits in Human."  
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- 7) "Molecular models for intrastrand DNA G-quadruplexes."  
Fogolari F., Haritha Haridas, Alessandra Corazza, Paolo Viglino, **Davide Cora'**, Michele Caselle, Gennaro Esposito and Xodo E  
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- 8) 8) "Nucleation dynamics in 2d cylindrical Ising models and chemotaxis."  
Bosia C., Caselle M. and **Corà D.**  
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- 9) "Identification of functional TFAP2A and SP1 binding sites in new TFAP2A modulated genes."  
Orso F.\*, **Corà D.\***, Ubezio B., Provero P., Caselle M. and Taverna D.  
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- 10) "CircuitsDB: a database of mixed microRNA / Transcription Factor Feed – Forward Regulatory Circuits in human and mouse."  
Friard O., Re A., Taverna D., De Bortoli M. and **Corà D.**  
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- 11) "Identity and divergence of protein domain architectures after the Yeast Whole Genome Duplication event."  
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- 12) "The role of incoherent microRNA-mediated feedforward loops in noise buffering."  
Osella M., Bosia C., **Corà D.**, Caselle M.  
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- 13) "A curated database of microRNA mediated Feed-Forward loops involving MYC as master regulator."  
El-Baroudi M.\*, **Corà' D.\***, Bosia C., Osella M, Caselle M.  
*PLoS One.* 2011 Mar 3;6(3):e14742.
- 14) "Genetic and expression analysis of MET, MACC1 and HGF in liver metastases from colorectal carcinomas: assessment of response to Met inhibition in patient-derived xenografts and clinicopathological significance."  
Francesco Galimi, Davide Torti, Francesco Sassi, Claudio Isella, **Davide Corà**, Stefania Gastaldi, Dario Ribero, Andrea Muratore, Paolo Massucco, Dimitrios Siatis, Gianluca Paraluppi, Federica Gonella, Francesca Maione, Alberto Pisacane, Ezio David, Bruno Torchio, Mauro Risio, Mauro Salizzoni, Lorenzo Capussotti, Timothy Perera, Enzo Medico, Maria Flavia Di Renzo, Paolo M. Comoglio, Livio Trusolino and Andrea Bertotti.  
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- 15) "Mulcom: a multiple comparison statistical test for microarray data in Bioconductor."  
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- 16) "A Molecularly Annotated Platform of Patient-Derived Xenografts ("Xenopatients") Identifies HER2 as an Effective Therapeutic Target in Cetuximab-Resistant Colorectal Cancer."  
Andrea Bertotti, Giorgia Migliardi, Francesco Galimi, Francesco Sassi, Davide Torti, Claudio Isella, **Davide Corà**, Federica Di Nicolantonio, Michela Buscarino, Consalvo Petti, Dario Ribero, Nadia Russolillo, Andrea Muratore, Paolo Massucco, Alberto Pisacane, Luca Molinaro, Emanuele Valtorta, Andrea Sartore-Bianchi, Mauro Risio, Lorenzo Capussotti, Marcello Gambacorta, Salvatore Siena, Enzo Medico, Anna Sapino, Silvia Marsoni, Paolo M. Comoglio, Alberto Bardelli, and Livio Trusolino.  
*Cancer Discov.* 2011 Nov;1(6):508-23.
- 17) "Transcriptional hallmarks of Noonan syndrome and Noonan-like syndrome with loose anagen hair."  
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- 18) "Dynamic Modeling of miRNA-mediated Feed-Forward Loops."  
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- 19) "The role of transposable elements in shaping the combinatorial interaction of transcription factors".  
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*BMC Syst Biol.* 2012 Oct 10;6(1):131.
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- 22) "Molecular and morphologic characterization of superficial- and deep-subcutaneous adipose tissue subdivisions in human obesity."  
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- 23) "MiRNA/gene profiling unveils early molecular changes and NRF2 activation in a rat model recapitulating human HCC."  
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- 24) "Association of polyalanine and polyglutamine coiled coils mediates expansion disease-related protein aggregation and dysfunction."  
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- 28) "Interplay of microRNA and epigenetic regulation in the human regulatory network."  
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- 30) "Bioengineered tumoral microtissues recapitulate desmoplastic reaction of pancreatic cancer."  
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- 31) "VEGF blockade enhances the antitumor effect of BRAFV600E inhibition."  
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**Cora' D**, Re A, Caselle M, Bussolino F.  
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- 34) "The Epithelial-Mesenchymal Transition, as Hacked by a microRNA Combinatorial Code."  
**Cora' D**, Caselle M.  
*Cell Syst.* 2018 Jul 25;7(1):3-4.
- 35) "TFEB controls vascular development by regulating the proliferation of endothelial cells."  
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*EMBO J.* 2019 Feb 1;38(3). pii: e98250.
- 36) "Compound Dynamics and Combinatorial Patterns of Amino Acid Repeats Encode a System of Evolutionary and Developmental Markers."  
Pelassa I, Cibelli M, Villeri V, Lilliu E, Vaglietti S, Olocco F, Ghirardi M, Montarolo PG, **Corà D**, Fiumara F.  
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- 37) "Aldo-keto reductases protect metastatic melanoma from ER stress-independent ferroptosis."  
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- 41) "TFEB Signalling-Related MicroRNAs and Autophagy."  
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- 42) "Role of TGFβ1 and WNT6 in FGF2 and BMP4-driven endothelial differentiation of murine embryonic stem cells"  
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- 44) "LSD1-directed therapy affects glioblastoma tumorigenicity by deregulating the protective ATF4-dependent integrated stress response"  
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Antona A, Valalda M, Roy K, Favero F, Mazzucco E, Zuccalà M, Leo G, Soggia G, Bettio V, Tosi M, Gaggianesi M, Riva B, Reano S, Genazzani A, Manfredi M, Stassi G, **Corà D**, D'Alfonso S, Capello D.  
*Cancers (Basel)*. 2022 Feb 2;14(3):776.
- 46) "Long Non-Coding RNA LINC02802 Regulates In Vitro Sprouting Angiogenesis by Sponging microRNA-486-5p."  
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- 47) "TFEB controls integrin-mediated endothelial cell adhesion by the regulation of cholesterol metabolism."  
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*Angiogenesis*. 2022 May 11.
- 48) "Proteome and Physiological Characterization of Halotolerant Nodule Endophytes: The Case of *Rahnella aquatilis* and *Serratia plymuthica*."  
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- 50) “The TFEB-TGIF1 axis regulates EMT in mouse epicardial cells.”  
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\* **indica first or last authorship condivisa**