

DAVIDE CORÀ

CURRICULUM VITAE sintetico

Contatti:

Dipartimento di Medicina Traslazionale
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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 Traslationale, 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 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."
Cora' D., Di Cunto F., Provero P., Silengo L., Caselle M.
BMC Bioinformatics. 2004 May 11;5:57.
- 2) "Ab-initio identification of putative human transcription factor binding sites by comparative genomics."
Cora' D., Herrmann C, Dieterich C, Di Cunto F., Provero P., Caselle M.
BMC Bioinformatics. 2005 May 2;6:110.
- 3) "Correlated fragile site expression allows the identification of candidate fragile genes involved in immunity and associated with carcinogenesis."
Re A., **Cora' D.**, Puliti AM., Caselle M., Sbrana I.
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- 4) "Identification of candidate regulatory sequences in mammalian 3' UTRs by statistical analysis of oligonucleotide frequencies."
Cora' D., Di Cunto F., Caselle M., Provero P.
BMC Bioinformatics 2007, May 24;8:174.
- 5) "VRG database: a database of Vascular dysfunctions Related Genes."
Zanivan S.*, **Cora' D.***, Caselle M., Bussolno F.
Computers & Mathematics with Applications 2008, 55;5:1068-1073.
- 6) "Genome-wide survey of microRNA / Transcription Factor Feed-Forward Regulatory Circuits in Human."
Re A.*, **Cora' D.***, Taverna D., Caselle M.
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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
BMC Structural Biology 2009 Oct 7;9(1):64.
- 8) 8) "Nucleation dynamics in 2d cylindrical Ising models and chemotaxis."
Bosia C., Caselle M. and **Corà D.**
Phys. Rev. E 81, 021907 (2010).
- 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.
BMC Genomics. 2010 Jun 3;11:355.
- 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.**
BMC Bioinformatics. 2010 Aug 23;11:435.

- 11) "Identity and divergence of protein domain architectures after the Yeast Whole Genome Duplication event."
Grassi L., Fusco D., Sellerio A., **Corà D.**, Bassetti M., Caselle M., Cosentino-Lagomarsino M.
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- 12) "The role of incoherent microRNA-mediated feedforward loops in noise buffering."
Osella M., Bosia C., **Corà D.**, Caselle M.
PLoS Comput Biol. 2011 Mar;7(3):e1001101.
- 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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BMC Bioinformatics. 2011 Sep 28;12:382.
- 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.
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- 17) "Transcriptional hallmarks of Noonan syndrome and Noonan-like syndrome with loose anagen hair."
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- 19) "The role of transposable elements in shaping the combinatorial interaction of transcription factors".
Testori A, Caizzi L, Cutrupi S, Friard O, De Bortoli M, **Corà' D*** and Caselle M.*
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- 20) "Gene autoregulation via intronic microRNAs and its functions."
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- 21) "IRF-1 expression is induced by cisplatin in ovarian cancer cells and limits drug effectiveness."
Pavan S, Olivero M, **Corà D**, Di Renzo MF.
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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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- 25) "Single-cell States in the estrogen response of breast cancer cell lines."
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- 32) "MicroRNA-mediated regulatory circuits: outlook and perspectives."
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- 33) "miR-205 mediates adaptive resistance to MET inhibition via ERFFI1 targeting and raised EGFR signaling."
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- 34) "The Epithelial-Mesenchymal Transition, as Hacked by a microRNA Combinatorial Code."
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- 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."
Gagliardi M, Cotella D, Santoro C, **Corà D**, Barlev NA, Piacentini M, Corazzari M.
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- 38) "A regulatory microRNA network controls endothelial cell phenotypic switch during sprouting angiogenesis."
Stefania Rosano, **Davide Corà**, Sushant Parab, Claudio Isella, Roberta Porporato, Roxana Maria Hoza, Raffaele A. Calogero, Chiara Riganti, Federico Bussolino, Alessio Noghero.
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- 39) "Deciphering the Ets-1/2-mediated transcriptional regulation of F8 gene identifies a minimal F8 promoter for hemophilia A gene therapy."
Rosella Famà, Ester Borroni, Simone Merlin, Chiara Airoldi, Silvia Pignani, Alessia Cucci, **Davide Corà**, Valentina Brusca, Sharon Scardellato, Stefania Faletti, Giuliana Pelicci, Mirko Pinotti, Gillian E Walker, Antonia Follenzi
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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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- 43) “An Investigation of the Role of Common and Rare Variants in a Large Italian Multiplex Family of Multiple Sclerosis Patients”
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- 46) “Long Non-Coding RNA LINC02802 Regulates In Vitro Sprouting Angiogenesis by Sponging microRNA-486-5p.”
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Int J Mol Sci. 2022 Jan 31;23(3):1653.
- 47) “TFEB controls integrin-mediated endothelial cell adhesion by the regulation of cholesterol metabolism.”
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- 48) “Proteome and Physiological Characterization of Halotolerant Nodule Endophytes: The Case of *Rahnella aquatilis* and *Serratia plymuthica*.”
Novello G, Gamalero E, Massa N, Cesaro P, Lingua G, Todeschini V, Caramaschi A, Favero F, **Corà D**, Manfredi M, Marengo E, Pelagi M, Pangaro L, Caffiero G, Milano F, Bona E.
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- 49) "A Metabologenomic approach reveals alterations in the gut microbiota of a mouse model of Alzheimer's disease."
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Manganaro L, Bianco S, Bironzo P, Cipollini F, Colombi D, **Corà D**, Corti G, Doronzo G, Errico L, Falco P, Gandolfi L, Guerrera F, Monica V, Novello S, Papotti M, Parab S, Pittaro A, Primo L, Righi L, Sabbatini G, Sandri A, Vattakunnel S, Bussolino F, Scagliotti GV.
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- 57) "Human cytomegalovirus infection triggers a paracrine senescence loop in renal epithelial cells"
Raviola S, Griffante G, Iannucci A, Chandel S, Lo Cigno I, Lacarbonara D, Caneparo V, Pasquero S, Favero F, **Corà D**, Trisolini E, Boldorini R, Cantaluppi V, Landolfo S, Gariglio M, De Andrea M.
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- 58) “Integrative Bioinformatics Analysis Reveals a Transcription Factor EB-Driven MicroRNA Regulatory Network in Endothelial Cells.”
Gravina T, Favero F, Rosano S, Parab S, Diaz Alcalde A, Bussolino F, Doronzo G, **Corà D.**
Int J Mol Sci. 2024 Jun 28;25(13):7123.
- 59) “Characterization of gut microbiota dynamics in an Alzheimer's disease mouse model through clade-specific marker-based analysis of shotgun metagenomic data”
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Saverio V, Ferrario E, Monzani R, Gagliardi M, Favero F, **Corà D,** Santoro C, Corazzari M.
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* **indica first or last authorship condivisa**