

CURRICULUM VITAE

FORMATO EUROPEO / EUROPEAN FORMAT

INFORMAZIONI PERSONALI/ PERSONAL INFORMATION

Nome, Cognome/Name, Surname Paolo Tieri

ESPERIENZA PROFESSIONALE /WORK EXPERIENCE

In ordine di data /Dates (from – to) 2017-now

Nome e indirizzo del datore di lavoro / Name and address of employer
Tipo o settore di attività / Type of business or sector
Funzione o posto occupato / Occupation or position held
Principali mansioni e responsabilità / Main activities and responsibilities

Education/Research

Adjunct Professor

Network Biology and Bioinformatics course at the Data Science Master Degree

In ordine di data /Dates (from – to)

Nome e indirizzo del datore di lavoro / Name and address of employer

Tipo o settore di attività / Type of business or sector
Sapienza Università di Roma

2011-now

CNR, Consiglio Nazionale delle Ricerche, IAC Istituto per le Applicazioni del Calcolo, Roma, Italy
Government research agency

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Funzione o posto occupato / Occupation or position held
Principali mansioni e responsabilità / Main activities and responsibilities
Staff scientist

Bioinformatics, computational biology, systems biology, network biology, mathematical models for immunology, multi-omic data; fund raising; mentor for graduate and PhD students

In ordine di data /Dates (from – to) 03/2012-09/2012

Nome e indirizzo del datore di lavoro / Name and address of employer
Tipo o settore di attività / Type of business or sector

Funzione o posto occupato / Occupation or position held
Principali mansioni e responsabilità / Main activities and responsibilities

MPG-CAS Partner Institute for Computational Biology, Shanghai,

China Academic research

Visiting scientist

Computational biology of rheumatoid arthritis, network biology, multi-omic data analysis and integration

In ordine di data /Dates (from – to) 2003-2011

Nome e indirizzo del datore di lavoro / Name and address of employer
Tipo o settore di attività / Type of business or sector
Funzione o posto occupato / Occupation or position held
Principali mansioni e responsabilità / Main activities and responsibilities

Università di Bologna, Dept. of Experimental Medicine, Bologna,

Italy Government research agency

Research fellow (titolare di assegni di ricerca)

Systems immunology, functional genomics of aging, bioinformatics, computational biology, systems biology, network biology; fund raising; mentor for graduate and PhD students

ISTRUZIONE E FORMAZIONE / EDUCATION AND TRAINING

In ordine di data /Dates (from – to) 2009

Bologna, Italy

Nome e tipo d'istituto di istruzione o formazione / Name and type of organisation providing education and training

Principali materie e competenze professionali apprese / Principal subjects occupational skills covered
Systems biology and experimental pathology

Certificato o diploma ottenuto / Title of qualification awarded

PhD Philosophiae Doctor

Università di Bologna, Dept. of Experimental Medicine,

In ordine di data /Dates (from – to) 1999

Nome e tipo d'istituto di istruzione o formazione / Name and type of organisation providing education and training

Physics, final thesis in biomedical physics

Principali materie e competenze professionali apprese / Principal subjects occupational skills covered
Certificato o diploma ottenuto / Title of qualification awarded

Laurea Magistralis

Università di Bologna, Dept. of Physics, Bologna, Italy

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ATTIVITA' DI RICERCA / RESEARCH ACTIVITIES

Network medicine, network biology, bioinformatics, computational biology, systems biology, mathematical models for biology, multi-omic data integration and analysis with particular focus on immune system and immune-related pathologies

Attuali campi di ricerca / Research sectors

Recenti attività scientifiche/ Recent Scientific Activities.

Project iPC individualized Paediatric Cure – H2020 Project no. 826121 2019-2023, role: Researcher

Project ERA4TB European Regimen Accelerator for Tuberculosis – IMI2 grant agreement No 853989 2019-2024, role: Researcher

NMI, Network Medicine Institute, nonprofit entity recognized by the US and EU 2019-present, role: Scientific Committee Member

Project OpenMultiMed Open Multiscale Systems Medicine COST

Action CA15120 2016-2020, role: Management Committee Member, European Union FP7, 2012-2014, KEPAMOD Knowledge exchange

Short Missions Coordinator

European Union FP7, 2013-2015, MISSION-T2D Multiscale Immune System Simulator for the ONset of Type 2 Diabetes integrating genetic, metabolic and nutritional data, P.I. for WP6 'Model Integration' <http://www.mission-t2d.eu/> role: WP leader

Chinese Academy of Sciences, 2012, Visiting Fellowship Award, in collaboration with Prof C Nardini group, role: co-P.I. in network biology approach in rheumatoid arthritis

CNR-MIUR, 2012-2014, INTEROMICS, WP "Predictive and

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Publicazioni/ Books and Articles (2010-present)

- Shahini E, Pasculli G, Mastropietro A, Stolfi P, **Tieri P**, Vergni D, Cozzolongo R, Pesce F, Giannelli G. Network Proximity-Based Drug Repurposing Strategy for Early and Late Stages of Primary Biliary Cholangitis. *Biomedicines*. **2022**;10(7):1694. doi: 10.3390/biomedicines10071694. PMID: 35884999
- Castiglione F, Nardini C, Onofri E, Pedicini M, **Tieri P**. Explainable Drug Repurposing Approach From Biased Random Walks. *IEEE/ACM Trans Comput Biol Bioinform*. **2022**; doi: 10.1109/TCBB.2022.3191392. PMID: 35839194
- Zolotareva O, Nasirigerdeh R, Matschinske J, Torkzadehmahani R, Bakhtiari M, Frisch T, Späth J, Blumenthal DB, Abbasinejad A, **Tieri P**, Kaissis G, Rückert D, Wenke NK, List M, Baumbach J. Flimma: a federated and privacy-aware tool for differential gene expression analysis. *Genome Biol*. **2021**;22(1):338. doi: 10.1186/s13059-021-02553-2. PMID: 34906207
- Zanin M, Aitya NAA, Basilio J, Baumbach J, Benis A, Behera CK, Bucholc M, Castiglione F, Chouvarda I, Comte B, Dao TT, Ding X, Pujos-Guillot E, Filipovic N, Finn DP, Glass DH, Harel N, Iesmantas T, Ivanoska I, Joshi A, Boudjeltia KZ, Kaoui B, Kaur D, Maguire LP, McClean PL, McCombe N, de Miranda JL, Moisesescu MA, Pappalardo F, Polster A, Prasad G, Rozman D, Sacala I, Sanchez-Bornot JM, Schmid JA, Sharp T, Solé-Casals J, Spiwok V, Spyrou GM, Stalidzans E, Stres B, Sustersic T, Symeonidis I, **Tieri P**, Todd S, Van Steen K, Veneva M, Wang DH, Wang H, Wang H, Watterson S, Wong-Lin K, Yang S, Zou X, Schmidt HHHW. An Early Stage Researcher's Primer on Systems Medicine Terminology. *Netw Syst Med*. **2021** Feb 25;4(1):2-50. doi: 10.1089/nsm.2020.0003. PMID: 33659919; PMCID: PMC7919422.
- Lazareva O, Canzar S, Yuan K, Baumbach J, Blumenthal DB, **Tieri P**, Kacprowski T, List M. BiCoN: Network-constrained biclustering of patients and omics data. *Bioinformatics*. **2020** Dec 26;btaa1076. doi: 10.1093/bioinformatics/btaa1076. Epub ahead of print. PMID: 33367514.
- Stolfi P, Valentini I, Palumbo MC, **Tieri P**, Grignolio A, Castiglione F. Potential predictors of type-2 diabetes risk: machine learning, synthetic data and wearable health devices. *BMC Bioinformatics*. **2020** Dec 14;21(Suppl 17):508. doi: 10.1186/s12859-020-03763-4. PMID: 33308172; PMCID: PMC7733701.
- Vasconcelos MH, Alcaro S, Arechavala-Gomez V, Baumbach J, Borges F, Brevini TAL, Rivas JL, Devaux Y, Hozak P, Keinänen-Toivola MM, Lattanzi G, Mohr T, Murovska M, Prusty BK, Quinlan RA, Pérez-Sala D, Scheibenbogen C, Schmidt HHHW, Silveira I, **Tieri P**, Tolios A, Riganti C. Joining European Scientific

Forces to Face Pandemics. *Trends Microbiol.* **2021** Feb;29(2):92-97. doi: 10.1016/j.tim.2020.10.008. Epub 2020 Dec 4. PMID: 33288385; PMCID: PMC7716745.

• Wang H, Pujos-Guillot E, Comte B, de Miranda JL, Spiwok V, Chorbev I, Castiglione F, **Tieri P**, Watterson S, McAllister R, de Melo Malaquias T, Zanin M, Rai TS, Zheng H. Deep learning in systems medicine. *Brief Bioinform.* **2021** Mar 22;22(2):1543-1559. doi: 10.1093/bib/bbaa237. PMID: 33197934.

• Stolfi P, Manni L, Soligo M, Vergni D, **Tieri P**. Designing a Network Proximity-Based Drug Repurposing Strategy for COVID-19. *Front Cell Dev Biol.* **2020** Oct 6;8:545089. doi: 10.3389/fcell.2020.545089. PMID: 33123533; PMCID: PMC7573309.

• Comte B, Baumbach J, Benis A, Basilio J, Debeljak N, Flobak Å, Franken C, Harel N, He F, Kuiper M, Méndez Pérez JA, Pujos-Guillot E, Režen T, Rozman D, Schmid JA, Scerri J, **Tieri P**, Van Steen K, Vasudevan S, Watterson S, Schmidt HHHW (2020). Network and Systems Medicine: Position Paper of the European Collaboration on Science and Technology Action on Open Multiscale Systems

Medicine. Netw Syst Med. **2020** Jul 6;3(1):67-90. doi: 10.1089/nsm.2020.0004. PMID: 32954378; PMCID: PMC7500076.

• Ortona E, Gagliardi MC, **Tieri P**, Ruggieri A. (2020) ACE2 expression and sex disparity in COVID19. *Cell Death Discovery*, in press

• Manni L, **Tieri P**, Soligo M. (2020). A contribution to the hypothesis of nicotinic challenge as therapeutic option for COVID-19 patients. *Qeios*. doi:10.32388/UJX3KN.3. (preprint) • Silverman EK, Schmidt HHHW, Anastasiadou E, Altucci L, Angelini M, Badimon L, Balligand JL, Benincasa G, Capasso G, Conte F, Di Costanzo A, Farina L, Fiscon G, Gatto L, Gentili M, Loscalzo J, Marchese C, Napoli C, Paci P, Petti M, Quackenbush J, **Tieri P**, Viggiano D, Vilahur G, Glass K, Baumbach J. (2020) Molecular networks in Network Medicine: Development and applications. *Wiley Interdiscip Rev Syst Biol Med.* 2020 Apr 19:e1489. doi: 10.1002/wsbm.1489. PMID: 32307915.

• Blumenthal DB, Viola L, List M, Baumbach J, **Tieri P**, Kacprowski T (2020). EpiGEN: an epistasis simulation pipeline. *Bioinformatics.* 2020 Apr 14. pii: btaa245. doi:10.1093/bioinformatics/btaa245. PMID: 32289146.

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- Celestini A, Cianfriglia M, Mastrostefano E, Palma A, Castiglione, **Tieri P** (2019) Critical nodes reveal peculiar features of human essential genes and protein interactome. 2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), San Diego, CA, USA, 2019, pp. 2121-2128, doi: 10.1109/BIBM47256.2019.8983221.
- Matarrese P, **Tieri P**, Anticoli S, Ascione B, Conte M, Franceschi C, Malorni W, Salvioli S, Ruggieri A (2019) *X-chromosome-linked miR548am-5p is a key regulator of sex disparity in the susceptibility to mitochondria-mediated apoptosis.* *Cell Death Dis*, 10(9):673. doi: 10.1038/s41419-019-1888-3
- Prana V, **Tieri P**, Palumbo MC, Mancini E, Castiglione F (2019) *Modeling the Effect of High Calorie Diet on the Interplay between Adipose Tissue, Inflammation, and Diabetes.* *Comput Math Methods Med*, 7525834. doi: 10.1155/2019/7525834
- De Assis Ribeiro HAL, Maioli TU, De Freitas LM, **Tieri P**, Castiglione F (2019) *A mathematical model of murine macrophage infected with Leishmania sp.* *Proceedings BIBM 2018 IEEE International Conference on Bioinformatics and Biomedicine*, 8621351, pp. 1425-1430
- De Freitas LM, Maioli TU, De Assis Ribeiro HAL, **Tieri P**, Castiglione F (2019) *A mathematical model of Chagas disease infection predicts inhibition of the immune system.* *Proceedings BIBM 2018 IEEE International Conference on Bioinformatics and Biomedicine*, 8621389, pp. 1374-1379
- Palma A, Jarrah AS, **Tieri P**, Cesareni G, Castiglione F (2018) *Gene Regulatory Network Modeling of Macrophage Differentiation Corroborates the Continuum Hypothesis of Polarization States.* *Front Physiol.* 9:1659. doi: 10.3389/fphys.2018.01659. PMID: 30546316
- Palumbo MC, Morettini M, **Tieri P**, Diele F, Sacchetti M, Castiglione F (2018) *Personalizing physical exercise in a computational model of fuel homeostasis,* *PLoS Comput. Biol.*, 14(4), e1006073. doi:10.1371/journal.pcbi.1006073
- **Tieri P**, Farina L, Petti M, Astolfi L, Paci P, Castiglione F (2018) *Network inference and reconstruction in Bioinformatics*, in *Encyclopedia of Bioinformatics and Computational Biology*, 1st Ed., Editors-in-Chiefs: Ranganathan S, Nakai K, Schonbach C, in press
- Zanin M, Chorbev I, Stres B, Stalidzans E, Vera J, **Tieri P**, Castiglione F, Groen D, Zheng H, Baumbach J, Schmid JA, Basilio J, Klimek P, Debeljak N, Rozman D, Schmidt HHHW (2017) *Community effort endorsing multiscale modelling, multiscale data science and multiscale computing for systems medicine.* *Brief Bioinform.* doi: 10.1093/bib/bbx160
- Ribeiro H, Maioli TU, de Freitas LM, **Tieri P**, Castiglione F. (2017) *Modeling immune response to leishmania species indicates adenosine as an important inhibitor of Th-Cell activation.* *Frontiers in Cell and Infect Microbiol*, doi:10.3389/fcimb.2017.00309
- Moreau JF, Pradeu T, Grignolio A, Nardini C, Castiglione F, **Tieri P**, Capri M, Salvioli S, Taupin JL, Garagnani P, Franceschi C. (2016) *The emerging role of ECM crosslinking in T cell mobility as a hallmark of immunosenescence in humans.* *Ageing Research Reviews*, 35:322-335, doi:10.1016/j.arr.2016.11.005
- Mendez T, Castiglione F, Tieri P, Felicori L. *Systems and Synthetic Biology applied to*

Health. 2016, Elsevier, in press

- Castiglione F, Tieri P, Palma A, Jarrah AS. Statistical ensemble of gene regulatory networks of macrophage differentiation. 2016. BMC Bioinformatics, in press
- Bartoletti-Stella A, Chiaro G, Calandra-Buonaura G, Contin M, Scaglione C, Barletta G, Cecere A, Garagnani P, Tieri P, Ferrarini A, Piras S, Franceschi C, Delledonne M, Cortelli P, Capellari S. (2015) A patient with PMP22-related hereditary neuropathy and DBH-gene related dysautonomia. J Neurol. PubMed PMID: 26410747
- Tieri P, Nardini C, Dent JE, eds (2015) Multi-omic Data Integration (ebook), Publisher: Frontiers Media SA, ISBN: 978-2-88919-648-7
- Nardini C, Dent J, Tieri P (2015). Editorial: Multi-omic Data Integration. Front. Cell Dev. Biol. 3:46. doi: 10.3389/fcell.2015.00046
- Cappuccio A, Tieri P, Castiglione F. (2015) Multi-scale modeling in immunology, a review. Brief Bioinform. 10.1093/bib/bbv012
- Tieri P, Prana V, Colombo T, Santoni D, Castiglione F. (2014) Multi-scale Simulation of T Helper Lymphocyte Differentiation. In: Campos S, editor. Advances in Bioinformatics and Computational Biology. Lecture Notes in Computer Science. 8826: Springer International Publishing; p. 123-34 doi: 10.1007/978-3-319-12418-6_16
- Tieri P, Zhou XY, Zhu L, Nardini C. (2014) Multi-omic landscape of rheumatoid arthritis: re-evaluation of drug adverse effects. Front. Cell Dev. Biol. , 2:59. doi: 10.3389/fcell.2014.00059
- Grignolio A, Mishto M, Faria AMC, Garagnani P, Franceschi C, Tieri P (2014) Towards a liquid self: how time, geography, and life experiences reshape the biological identity. Front.

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Immunol. 5:153. doi: 10.3389/fimmu.2014.00153

- Castiglione F, Tieri P, De Graaf A, Franceschi C, Liò P, Van Ommen B, Mazzà C, Tüchel A, Bernaschi M, Samson C, Colombo T, Castellani GC, Capri M, Garagnani P, Salvioli S, Nguyen VA, Bobeldijk-Pastorova I, Krishnan S, Cappozzo A, Sacchetti M, Morettini M, Ernst M (2013) The onset of type 2 diabetes: proposal for a multi-scale model. JMIR Res Protoc. 2(2):e44. doi: 10.2196/resprot.2854
- Tieri P, Nardini C (2013) Signalling Pathway Database Usability: Lessons Learned. Mol Biosystems 9(10), 2401-7. doi: 10.1039/c3mb70242a
- Garagnani P, Giuliani C, Pirazzini C, Olivieri F, Bacalini MG, Ostan R, Mari D, Passarino G, Monti D, Bonfigli AR, Boemi M, Ceriello A, Genovese S, Sevini F, Luiselli D, Tieri P, Capri M, Salvioli S, Vijg J, Suh Y, Delledonne M, Testa R, Franceschi C (2013) Centenarians as super-controls to assess the biological relevance of genetic risk factors for common age related diseases: A proof of principle on type 2 diabetes. Aging 5(5), 373-85
- Tieri P, Bellavista E, Termanini A, Salvioli S, Capri M, Franceschi C (2012) Charting the NF-κB interactome map. PLoS ONE 7(3): e32678. doi:10.1371/journal.pone.0032678
- Tieri P, de la Fuente A, Termanini A, Franceschi C (2011) Integrating omics data for signaling pathways, interactome reconstruction, and functional analysis. Methods Mol. Biol. 719, 415-33 rated "must read" by FACULTYof1000
- Tieri P, Grignolio A, Zaikin A, Mishto M, Remondini D, Castellani GC, Franceschi C (2010) Network, degeneracy and bow tie: integrating paradigms and architectures to grasp the complexity of the immune system. Theoretical Biology and Medical Modelling, 7, 32

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Additional Information
Mothertongue ITALIAN

	SPEAKING	
Reading	Spoken interaction	Spoken production

Other languages UNDERSTANDING WRITING Listening

English C1 C2 C2 C2 C2

cancellazione e la distruzione di dati, anche se non registrati in una banca dati.

In relazione a quanto riportato, autorizzo la Sapienza Università di Roma al trattamento dei dati contenuti nel presente *curriculum vitae*.

The Undersigned hereby authorises the Sapienza Università di Roma to utilize and store the personal sensitive data contained in the attached Curriculum Vitae within the framework of the Data protection Act No. 196, dates 30 June 2003 as promulgated by the Italian Government.

TRATTAMENTO DEI DATI PERSONALI, INFORMATIVA E CONSENSO

Il D.Lgs 30/06/2003, n. 196 "*Codice in materia di protezione dei dati personali*" regola il trattamento dei dati personali, con particolare riferimento alla riservatezza, all'identità personale e al diritto di protezione dei dati personali; l'interessato deve essere previamente informato del trattamento.

La norma in considerazione intende come "trattamento" qualunque operazione o complesso di operazioni concernenti la raccolta, la registrazione, l'organizzazione, la conservazione, la consultazione, l'elaborazione, la modifica, la selezione, l'estrazione, il raffronto, l'utilizzo, l'interconnessione, il blocco, la comunicazione, la diffusione, la

Sì, acconsento

Roma, 25 agosto 2022