

Dr Filippo Prischi - CV

<https://filippoprischilab.org> // <https://www.essex.ac.uk/people/prisc89105/filippo-prischi>

Employment History

- Jun 2015 – Present:** **Group Leader and Lecturer in Biochemistry.**
Since 2019 **Deputy-Director of Recruitment**
University of Essex, School of Biological Sciences, Colchester, UK.
- May 2010 – May 2015:** **Postdoctoral Researcher.**
Department of Life Sciences, Imperial College London, London, UK.
The project I worked on focused on gaining structural and mechanistic insights into components of the Unfolded Protein Response (UPR). -
Group Leader: Dr Maruf Ali.

Qualifications

- Jul 2017:** **Fellow of the Higher Education Academy (FHEA)**
The fellowship is a professional recognition accredited by the Higher Education Academy, the UK national body which champions teaching excellence.
- Nov 2013:** **Executive Education in Project Management**
University College London (UCL), London, UK.
The course is based on the Association for Project Management's Body of Knowledge and offers an effective grounding in project management.
- Oct 2005 – Feb 2010:** **Ph.D. Biochemistry** – Joint project National Institute for Medical Research - MRC (London, UK) and University of Siena (Siena, Italy) –
Supervisors: Professor Annalisa Pastore & Professor Neri Niccolai.
- Nov 2003 – Sep 2005:** **2 years M.Sc. Molecular and Cell Biology (110 summa cum laude)** –
Supervisor: Professor Neri Niccolai. University of Siena, Siena, Italy.
- Sep 2000 – Nov 2003:** **B.Sc. Biological Sciences (110 summa cum laude)** – *Supervisor: Professor Neri Niccolai.* University of Siena, Siena, Italy.

Grants and Awards

- Jul 2019** Atomwise AIMS Award Programme (Nominal value \$385,000) - Androgen Receptor (AR) (A19-396). Co-Pi Dr Brooke.
- Oct 2019 – Sep 2020** Bicycle Therapeutics (£15,000) - Development of novel cancer treatments: structural studies of Nectin 4 in complex with bespoke anti-cancer peptides.
- Aug 2019 – May 2020** Apollo Therapeutics and EIRA research grant (£87,500) - Development of specific inhibitors that prevent hnRNPA1-mediated therapy resistance in small cell lung cancer. Co-I Dr Pardo (Imperial College London).
- May 2019 – Jun 2019** East Suffolk and North Essex NHS Foundation Trust (£7,700) - ProteinSafe™.
- Apr 2019 – Mar 2022** Leverhulme: Research Grant (£237,494.31) - Flipping the switch; regulating protein synthesis in response to stress. Co-I Dr Belchtold.
- Sep 2017 - Aug 2019** Wellcome Trust: Seed Awards in Science (£99,825.00) – Understanding how RSKs regulate Transcription Factors in Triple Negative Breast Cancer.
- Dec 2017** X-Chem Diamond Light Source (nominal value £76,752.00) Targeting hnRNPA1 for the treatment of Small Cell Lung Cancer.

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2019	Biochemical Society: <i>Travel grant (£400)</i> .
2013	Imperial College: <i>Support for professional development grant (£500)</i> .
2012	Biochemical Society: <i>Travel grant (£650)</i> .
2007	EMBO: <i>Short-Term Fellowship (£5,236.64)</i> .
2007	British Council: <i>Italy-UK collaboration grant (£2,500)</i>

Teaching & Supervision

2020 – Present	Lecturer “Biotecnologie farmacologiche” (Fondazione VITA, Siena, Italy).
2017 – Present	Module Supervisor “BS281 Protein Bioinformatics” (University of Essex).
2015 – Present	Module Supervisor “BS131 Biochemistry of Macromolecules” (University of Essex).
2005 – 2009	Lecturer “Laboratorio di Bioinformatica” (University of Siena, Siena, Italy).

- I am supervising 4 PhD and 3 MSD students at University of Essex.
- Coordinator of an ERASMUS+ project between the School of Biological Sciences (University of Essex) and the Department of Biotechnology, Chemistry and Pharmacy (University of Siena, Italy).
- I have supervised to successful completion 21 final year BSc students (University of Essex).
- I have supervised to successful completion 1 PhD, 5 MSc and 1 MSD students (University of Essex).
- I have co-supervised to successful completion 1 PhD student (University of Siena), and 1 PhD and 5 MRes students (Imperial College London).

Publications - <https://scholar.google.co.uk/citations?hl=en&user=j8hfZGIAAAAJ>

Peer Reviewed Publications:

1. Deganutti, G., Prischi, F. & Reynolds, C.A. “Supervised molecular dynamics for exploring the druggability of the SARS-CoV-2 spike protein”, *J Comput Aided Mol Des* (2020).
2. Brooke, G*§. & Prischi, F*§. “Structural and functional modelling of SARS-CoV-2 entry in animal models”, *Scientific Reports* 10, 15971 (2020). §corresponding authors.
3. Trezza, A., Iovinelli, D., Santucci, A., Prischi, F.§ and Spiga, O.§ “An integrated drug repurposing strategy for the rapid identification of potential SARS-CoV-2 viral inhibitors”. *Scientific Reports* 10, 13866 (2020). §corresponding authors.
4. Spiga, O., Cicaloni, V., Fiorini, C. Trezza, A., Visibelli, A., Millucci, L., Bernardini, G., Bernini, A., Marzocchi, B., Braconi, D., Prischi, F., Santucci, A. “Machine learning application for development of a data-driven predictive model able to investigate quality of life scores in a rare disease”, *Orphanet J Rare Dis* 15, 46 (2020)
5. Prischi, F. & Pastore, A. "Hybrid methods in iron-sulfur cluster biogenesis". *Frontiers in Molecular Biosciences*. 4, 12 (2017).
6. Zabet, N. R., Catoni, M., Prischi, F., Paszkowski, J. "DNA methylation of specific CpG sites directs the establishment and maintenance of CpHpG methylation". *Nucleic Acid Research*. gkw1330 (2017).
7. Prischi, F. & Pastore, A. “Application of nuclear magnetic resonance and hybrid methods to structure determination of complex systems”. *Advances in Experimental Medicine and Biology*. 896:351-368 (2016).
8. Carrara, M., Prischi, F., Nowak, P., Ali, M.M. “Crystal Structures of Perk Luminal Domains Reveal Transient Tetramer State Important for ER Stress Signaling”. *EMBO Journal*. 34(11):1589-600 (2015).
9. Popovic, M., Sanfelice, D., Pastore, C., Prischi, F., Temussi, P.A., Pastore, A. “Selective observation of the disordered import signal of a globular protein by in-cell NMR: The example of frataxins”. *Protein Science*. 24(6):996-1003 (2015).

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10. Carrara, M., Prischi, F., Nowak, P., Kopp, M.C., Ali, M.M. "Noncanonical binding of BiP ATPase domain to Ire1 and Perk is dissociated by unfolded protein CH1 to initiate ER stress signaling". *eLife*. 4:e03522 (2015).
11. Prischi, F., Nowak, P., Carrara, M., Ali, M.M. "Phosphoregulation of human Ire1 RNase splicing activity". *Nature Communication*. 5, 3554 (2014).
12. Carrara, M., Prischi, F., Ali, M.M. "UPR signal activation by luminal sensor domains". *International Journal of Molecular Sciences*. 14(3):6454-66 (2013)
13. Bernini, A., Spiga, O., Venditti, V., Prischi, F., Botta, M., Croce, G., Tong, A.P., Wong, W.T., Niccolai, N. "The use of a ditopic Gd(III) paramagnetic probe for investigating α -bungarotoxin surface accessibility". *Journal of Inorganic Biochemistry*. 112:25-31 (2012)
14. Prischi, F., Konarev, P.V., Iannuzzi, C., Pastore, C., Adinolfi, S., Martin, S.R., Svergun, D.I., Pastore, A. "Structural bases for the interaction of frataxin with the central components of iron-sulphur cluster assembly". *Nature Communication*. 1, 95 (2010).
15. Prischi, F., Pastore, C., Carroni, M., Iannuzzi, C., Adinolfi, S., Temussi, P., Pastore, A. "Of the vulnerability of orphan complex proteins: the case study of the *E. coli* IscU and IscS proteins". *Protein Expression and Purification*. 73(2):161-6 (2010).
16. Prischi, F., Giannini, C., Adinolfi, S., Pastore, A. "The N-Terminus of human frataxin is an intrinsically unfolded region". *FEBS J*. 276(22):6669-76 (2009).
17. Adinolfi, S., Iannuzzi, C., Prischi, F., Pastore, C., Iametti, S., Martin, S.R., Bonomi, F., Pastore, A. Bacterial frataxin "CyaY is the gatekeeper of iron-sulfur cluster formation catalyzed by IscS". *Nat Struct Mol Biol*. 16(4):390-6 (2009).
18. Bernini, A., Venditti, V., Spiga, O., Ciutti, A., Prischi, F., Consonni, R., Zetta, L., Arosio, I., Fusi, P., Guagliardi, A., Niccolai, N. "NMR studies on the surface accessibility of the archaeal protein Sso7d by using TEMPOL and Gd(III)(DTPA-BMA) as paramagnetic probes". *Biophys Chem*. 137(2):71-5 (2008).
19. Venditti, V., Bernini, A., De Simone, A., Spiga, O., Prischi, F., Niccolai, N. "MD and NMR studies of alpha-bungarotoxin surface accessibility". *Biochem Biophys Res Commun*. 356(1):114-7 (2007).
20. Spiga, O., Padula, M.G., Scarselli, M., Ciutti, A., Bernini, A., Venditti, V., Prischi, F., Falciani, C., Lozzi, L., Bracci, L., Valensin, P.E., Caudai, C., Niccolai, N. "Structurally driven selection of human hepatitis C virus mimotopes". *Antivir Ther*. 11(7):917-22 (2006).
21. Bernini, A., Spiga, O., Venditti, V., Prischi, F., Bracci, L., Tong, A.P., Wong, W.T., Niccolai, N. "NMR studies of lysozyme surface accessibility by using different paramagnetic relaxation probes". *J Am Chem Soc*. 128(29):9290-1(2006).
22. Bernini, A., Spiga, O., Ciutti, A., Venditti, V., Prischi, F., Governatori, M., Bracci, L., Lelli, B., Pileri, S., Botta, M., Barge, A., Laschi, F., Niccolai, N. "NMR studies of BPTI aggregation by using paramagnetic relaxation reagents". *BBA*. 1764(5):856-62 (2006).
23. Bernini, A., Spiga, O., Venditti, V., Prischi, F., Bracci, L., Huang, J., Tanner, J.A., Niccolai, N. "Tertiary structure prediction of SARS coronavirus helicase". *Biochem Biophys Res Commun*. 343(4):1101-4 (2006).
24. Spiga, O., Bernini, A., Ciutti, A., Chiellini, S., Menciassi, N., Finetti, F., Causarone, V., Anselmi, F., Prischi, F., Niccolai, N. "Molecular modelling of S1 and S2 subunits of SARS coronavirus spike glycoprotein". *Biochem Biophys Res Commun*. 310(1):78-83 (2003).

In Submission:

1. Cronin, R., Brooke, G. §, Prischi, F. § "p90 ribosomal S6 kinase family roles in prostate cancer progression and chemoresistance". §corresponding author
2. Obomighie, I.C., Lapenas, K., Murphy, B.E., Bowles, A.M.C., Bechtold, U§, Prischi, F. §.

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"Ribosomal protein S6 kinases roles in plant homeostasis". §corresponding author

Accepted with major revisions:

1. Chrysostomou, S.*, Roy, R. *, Prischi, F.*, Chapman, K., Mufti, U., Peach, R., Ding, L., Mauri, F., Bellezza, G., Cagini, L., Barbareschi, M., Ferrero, S., Abrahams, J.M., Pascoe, J., Billingham, L., Cullen, M., Hrouda, D., Winkler, M., Klug, D.R., Yaliraki, S.N., Barahona, M., Aboagye, E., Wang, Y., Ali, MM., Seckl, M.J., Pardo, O.E. "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer: therapeutic potential of floxacins". *Science Translational Medicine*. *co-first author
2. Galderisi, S., Millucci, L., Cicaloni, V., Rossi, R., Giustarini, D., Cicaloni, V., Spiga, O., Tinti, L., Salvini, L., Tinti, C., Braconi, D., Lupetti, P., Prischi, F., Bernardini, G. and Santucci, A. "Homogentisic acid induces autophagy alterations leading to chondroptosis in human chondrocytes: implications in Alkaptonuria" *FASEB J*.

Published Preprints:

1. Deganutti, G., Prischi, F., Reynolds, C. "Supervised molecular dynamics for exploring the druggability of the SARS-CoV-2 spike protein", 26 August 2020, PREPRINT (Version 1) available at Research Square [[+https://doi.org/10.21203/rs.3.rs-64722/v1](https://doi.org/10.21203/rs.3.rs-64722/v1)]
2. Trezza, A., Iovinelli, D., Santucci, A., Prischi, F.§ and Spiga, O.§ "An integrated drug repurposing strategy for the rapid identification of potential SARS-CoV-2 viral inhibitors", 05 June 2020, PREPRINT (Version 2) available at Research Square [[+https://doi.org/10.21203/rs.3.rs-24586/v2](https://doi.org/10.21203/rs.3.rs-24586/v2)] §corresponding author
3. Brooke, G*§. & Prischi, F*§. "Structural and functional modelling of SARS-CoV-2 entry in animal models", 19 May 2020, PREPRINT (Version 1) available at Research Square [[+https://doi.org/10.21203/rs.3.rs-29443/v1](https://doi.org/10.21203/rs.3.rs-29443/v1)] §corresponding author
4. Trampari, E., Holden, E., Wickham, G.J., Ravi, A., Prischi, F., de Oliveira Martins, L. Savva, G.M., Bavro, V.N., Webber, M.A. "Antibiotics select for novel pathways of resistance in biofilms." *bioRxiv*, 605212 (2019)
5. Bernini, A., Venditti, V., Spiga, O., Prischi, F., Botta, M., Tong, A.P, Wong, W., Niccolai, n. "The surface accessibility of a-bungarotoxin monitored by a novel paramagnetic probe" *arXiv:1105.0126* (2011).

In preparation:

1. Dunnett, L., Sicorello, A., Trezza, A., Roy, R., Spiga, O., Pardo, O.E., Pastore, A., Prischi, F. § "hnRNPA1 phosphorylations modulate mRNA binding by direct interaction with the mRNA." §corresponding author
2. Cronin, R., Brooke, G., Prischi, F.§ "p90 ribosomal S6 kinase 1 promotes invasion and metastasis of human prostate cancer cells". §corresponding author
3. Prischi, F. and Filippakopoulos, P. Editorial: Structural Studies of Protein Complexes in Signalling Pathways. *Frontiers in Molecular Biosciences*.
4. Paps, J., Guijarro, C., Trezza, A., Prischi, F.§ " Evolutionary analysis of Ribosomal Kinases using comparative genomics coupled with protein structural dynamics". §corresponding author

Talks & Conferences

1. **Prischi, F.** "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer". Jain (deemed-to-be) University in Bangalore (India), February 5th 2020.
2. **Prischi, F.** "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer". St. Joseph's College in Bangalore (India), February 6th 2020.
3. **Prischi, F.** "Targeting RSK4 prevents both chemoresistance and metastasis in lung and

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- bladder cancer". PES University in Bangalore (India), February 7th 2020.
4. **Prischi, F.** "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer". M.S.Ramaiah University of Applied Sciences (India), February 7th 2020.
 5. **Prischi, F.** "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer". University Malaya in Kuala Lumpur (Malaysia), February 10th 2020.
 6. **Prischi, F.** "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer". Universiti Teknologi MARA System (UiTM) in Kuala Lumpur (Malaysia), February 11th 2020.
 7. **Prischi, F.***, Chrysostomou, S.* , Roy, R. * , Chapman, K., Mufti, U., Peach, R., Ding, L., Mauri, F., Bellezza, G., Cagini, L., Barbareschi, M., Ferrero, S., Abrahams, J.M., Pascoe, J., Billingham, L., Cullen, M., Hrouda, D., Winkler, M., Klug, D.R., Yaliraki, S.N., Barahona, M., Aboagye, E., Wang, Y., ali, M.M., Seckl, M.J., Pardo, O.E. "Targeting RSK4 prevents both chemoresistance and metastasis in lung and bladder cancer", *FEBS congress 2019*, Krakow (Poland), 6-14th July 2019. Molecular Oncology Poster Prize Winner
 8. **Prischi, F.** "Targeting hnRNPA1 for the treatment of Small Cell Lung Cancer" *EEMaX symposium*, Norwich, December 12th 2018.
 9. **Prischi, F.** "Purification of protein kinases for structural studies" *Cambridge AKTA user day*, Cambridge, September 21th 2018.
 10. **Prischi, F.** "The black sheep of the p90 ribosomal kinase family: RSK4" *EEMaX symposium*, Colchester, December 20th 2016.
 11. **Prischi, F.** "Interaction of BiP and ER stress transducers is disrupted by unfolded proteins causing UPR activation" *16th International MST Meeting*, NanoTemper HQ, Munich (Germany), June 18th-19th 2015.
 12. **Prischi, F.**, Carrara, M., Ali, M.M. "Phosphoregulation of human Ire1 RNase splicing activity" *Centre for Structural Biology Open Day*, Imperial College London, June 6th 2014.
 13. **Prischi, F.**, Carrara, M., Ali, M.M. "Phosphoregulation of human Ire1 RNase splicing activity" *Molecular Chaperones & Stress Responses*, Cold Spring Harbor Laboratory, Cold Spring Harbor (NY), April 29th-May 5th 2014.
 14. **Prischi, F.** "Biochemical and Biophysical characterization of c-IRE1 α " *OPPF-MPL HTP Protein Production and Crystallization*, Harwell Research Complex, March 30th-April 7th 2011.
 15. **Prischi, F.** "Insights into the structure of an IscS/IscU/CyaY complex" *Frataxin meeting*, NIMR/MRC, London, May 7th-8th 2010.
 16. **Prischi F**, Pastore C, Iannuzzi C, Martin S, Adinolfi S, Pastore A. Understanding the iron-sulphur cluster machinery: Characterization of the E. coli IscS/IscU complex. *IIX CCPN meeting*, University of Cumbria, Penrith, 5-7 August 2008.
 17. **Prischi F**, Niccolai N, Pastore A. Key features of EF-HAND superfamily structure using paramagnetic probe. *XXXVII National NMR Congress*, Verbania Pallanza, Lago Maggiore, 12-15 September 2007.
 18. **Prischi F**, Bernini A, Venditti V, Spiga O, Tong AP, Wong WT, Niccolai N. Dimerization of α -bungarotoxin monitored by paramagnetic probes: a new approach for protein-protein interaction studies. *XXXVI National NMR Congress*, Vietri sul Mare (SA), 20-23 September 2006.

Public Engagement

- I am a STEM ambassador registered with STEM Learning.
- I am involved, in partnership with the local community, in "Pint of Science" and "Café Scientifique" the Essex off-campus public engagement forum.

Professional societies & Esteem factors

Since 2020	Member of the British Crystallographic Association (BCA)
Since 2016	East of Anglia and South-East coordinator of the <i>Association of Italian Scientists in the UK (AISUK)</i>
Since 2016	Member of the <i>British Biophysical Society (BSS)</i> .
Since 2010	Member of the <i>Biochemical Society</i> .

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- Since 2020** Associate Editor BMC Molecular and Cell Biology.
Since 2018 PLOS ONE Editorial board member.
Since 2017 Review Editor for Frontiers in Molecular Biosciences.
- Since 2017** Reviewer of BBSRC and MRC grants.
- May 2020** Organised the 2020 School of Life Sciences webinar series "THE ONLY WAY IS SCIENCE".
- 20th Dec 2016** Organised the 5th *EEMaX Annual Symposium* at University of Essex, UK.