

Curriculum Vitae

Theodoros Goulas

CURRENT POSITION

Organization:	University of Thessaly
Department:	Food Science and Nutrition
Laboratory:	Molecular Biology Lab
Position Held:	Associate Professor
Address:	Terma N. Temponera 43100 Karditsa
e-mail:	theodorosgoulas@uth.gr , and theodoros_goulas@yahoo.gr ,
URL:	www.uth.gr
Lines of Research:	Integrative structural and functional biochemistry of host-microbiome interactions. Relevant for translational research in health and biotechnology.

RESEARCH LINES

My scientific knowledge background, acquired by academic degree in different countries, ranges from biochemistry and structural biology to microbiology and bacterial physiology. This permitted me to work on integrative structural and functional biochemistry of host-microbiome interactions and their influence on human health. Central questions answered were on how microbes, beneficial and pathogenic, can enter and establish in different parts of the human body, extract useful for their growth components and oppose host mechanisms that can be detrimental for their prosperity. More specifically, my PhD was focused on the very important for the human *Bifidobacterium bifidum* and the mechanism that uses for persistence within the gut by utilising five distinct galactosidases for carbohydrate hydrolysis and energy extraction. I paid also attention on the physiology of pathogens of the “red complex” (*Porphyromonas gingivalis* and *Tannerella forsythia*), residence of the periodontal pockets and main responsible for periodontal diseases. Here, toxins such as the arginine deiminase and the proteinase gingipain K, but also a unique serine proteinase inhibitor and a component of the type-IX secretion system were characterised. Their structural properties together with biochemical and microbiological information gave a plain explanation of their role in bacterial survivability and persistence. Other pathogens such as *Bacteroides fragilis* and *Bacillus anthracis* excrete potent proteolytic toxins (fragilysin and InhA) for host component degradation equipped with unique latency regulation mechanisms for timely activation during bacterial invasion. The last being the subject of a critical review in architectures and mechanisms of latency in metallopeptidase zymogens. Another pathogen, *Escherichia coli*, uses a pan-peptidase inhibitor (α 2-macroglobulin) to protect its membrane components from attacking peptidases, a protein of high structural similarity to the human homolog. Considerable time, I spent with human proteins like the α 2-macroglobulin, transforming growth factor β 2 and fetuin-B. Also, of importance were membrane proteins like the peptidase HtpX (*E. coli*) and several others still ongoing like the functionally unknown protein HomA (*Helicobacter pylori*). At the same time, results and some products derived from my scientific activity were further patented and used for new state of the art biotechnological applications (Prebiotic synthesis by β -galactosidases) but also as tools of laboratorial interest (the pCri system vector collection and the peptidase Lysarginase).

All these works let me to publish in high-impact journals (Proc. Natl. Acad. Sci., Chem. Rev., Angew. Chem., Nat. Methods, Sci. Rep. etc) in most cases either as first or corresponding author and therefore prove my consistency and ability not only to perform studies in a respectful time period but also to design those studies and guide other researchers as a director. Funding for my research was acquired from national sources like the grant from the “State Scholarship Foundation” (Greece) and the grant “Juan de la Cierva” (Spanish Ministry of Education). Besides those and other funds acquired from national and international projects where I participated as Research Associate, I got funding as Principal Investigator from a biotechnological company Clasado BioSciences (UK), and three iNEXT grants from Instruct-ERIC.

GENERAL QUALITY INDICATORS OF SCIENTIFIC PRODUCTION

Number of years of scientific research experience:	13 years and 10 months (4 years of PhD thesis)
Total publications based on Scopus:	30 Articles (28 Scientific Papers and 2 Book Chapters)
Quartile in Category:	1 st Decile: 6 Articles; 1 st Quartile: 10 Articles
Contribution:	1 st Author: 16 Articles; Corresponding Author: 11 Articles
Citations:	594 (Scopus)
h-Index:	13 (Scopus)
Thesis Supervision:	PhD: 2 (completed); MSc: 1 (completed); Visiting PhD: 3 (completed)

EDUCATION

- **B.Sc. in Food Science and Technology** 12.03.2001
Aristotle University of Thessaloniki, School of Agriculture, Department of Food Science and Technology, Greece.
(Accredited by "Ministerio de Educación, Cultura y Deporte" in Spain as degree in Biology 21.02.2014)
- **M.Sc. in Food Biotechnology** 17.12.2004
Reading University, School of Chemistry, Food and Pharmacy, UK.
- **Ph.D. in Molecular Biology, Protein Biochemistry and Biotechnology** 12.12.2008
Reading University, School of Chemistry, Food and Pharmacy, UK.
(Accredited by "Universitat de Barcelona" in Spain 26.04.2010)
- **Postgraduate Certification in Protein Crystallography** 01.11.2017
Birkbeck College, University of London, UK.

CAREER HISTORY

- **Graduate student,** 07.1999 – 09.1999
Work experience in the Food Industry Florina-A.Xonaios A.B.E.E, Greece.
- **Research Associate,** 01.2009 – 10.2014
Structural Biology Unit, Molecular Biology Institute of Barcelona, CSIC, Spain (PI: FX Gomis-Rüth).
- **Senior Research Associate,** 11.2014 – 10.2018
Structural Biology Unit, Molecular Biology Institute of Barcelona, CSIC, Spain (PI: FX Gomis-Rüth).

OBTAINED ACCREDITATIONS/RECOGNITIONS

Type of entity: Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA), Spain.

- Assistant Professor (Profesor Ayudante Doctor, Número PAD: 2019-6561).
- Associate Professor (Profesor Contratado Doctor, Número PCD : 2019-6560).

PUBLICATIONS

Peer-Reviewed Publications (In grey frame, the ten most important publications)

1. *Goulas T, Goulas A, Tzortzis G, Gibson GR (2007). Molecular cloning and comparative analysis of four beta-galactosidase genes from Bifidobacterium bifidum NCIMB41171. *Appl Microbiol Biotechnol* 76: 1365-1372
2. *Goulas T, Goulas A, Tzortzis G, Gibson GR (2009). Comparative analysis of four beta-galactosidases from Bifidobacterium bifidum NCIMB41171: purification and biochemical characterisation. *Appl Microbiol Biotechnol* 82: 1079-1088

3. ***Goulas T**, Goulas A, Tzortzis G, Gibson GR (2009). Expression of four beta-galactosidases from *Bifidobacterium bifidum* NCIMB41171 and their contribution on the hydrolysis and synthesis of galactooligosaccharides. *Appl Microbiol Biotechnol* 84: 899-907
4. ***Goulas T**, Goulas A, Tzortzis G, Gibson GR (2009). A novel α -galactosidase from *Bifidobacterium bifidum* with transgalactosylating properties: gene molecular cloning and heterologous expression. *Appl Microbiol Biotechnol* 82: 471-477
5. **Goulas T**, Arolas JL, and Gomis-Rüth FX (2011). Structure, function and latency regulation of a bacterial enterotoxin potentially derived from a mammalian adamalysin/ADAM xenolog. *Proc Natl Acad Sci USA* 108: 1856-1861; Ref: WoS; IF: 9.681; Rank: 3/56; 1st Decile
6. Marrero A, Duquerroy S, Trapani S, **Goulas T**, Guevara T, Andersen GR, Navaza J, Sottrup-Jensen L and Gomis-Rüth FX (2012). The crystal structure of human alpha-2 macroglobulin reveals a unique molecular cage. *Angew Chem Int Ed* 51: 3340-3344
7. Arolas JL, García-Castellanos R, **Goulas T**, Akiyama Y, Gomis-Rüth FX (2014). Expression and purification of integral membrane metallopeptidase HtpX. *Pr Exp and Pur* 99: 113-118
8. ****Goulas T**, Garcia-Ferrer I, Garcia-Pique R, Sottrup-Jensen L and Gomis-Rüth FX (2014). Crystallization and preliminary X-ray diffraction analysis of eukaryotic alpha-2 macroglobulin family members modified by methylamine, proteases and glycosidases. *Mol Oral Micro* 29: 354-364
9. ****Goulas T**, Cuppari A, Garcia-Castellanos R, Snipas S, Glockshuber R, Arolas JL and Gomis-Rüth FX (2014). The pCri System: a vector collection for recombinant protein expression and purification. *PLOS ONE* 9: e112643; Ref: WoS; IF: 3.234; Rank: 9/57; 1st Quartile
10. Huesgen PF, Lange PF, Rogers L, Kleifeld O, **Goulas T**, Gomis-Rüth FX and Overall C (2015). Lysarginase mirrors trypsin for protein C-terminal and methylation-site identification. *Nat Methods* 12: 55-58; Ref: WoS; IF: 25.328; Rank: 1/77; 1st Decile
11. Garcia-Ferrer I, Arède P, Gómez-Blanco J, Luque D, Duquerroy S, Castón JR, ****Goulas T** and Gomis-Rüth FX (2015). Structural and functional insights into *Escherichia coli* alpha-2 macroglobulin endopeptidase snap-trap inhibition. *Proc Natl Acad Sci USA*, 112: 8291-8295; Ref: WoS; IF: 9.423; Rank: 4/63; 1st Decile
12. **Goulas T**, Mizgalska D, Garcia-Ferrer I, Kantyka T, Guevara T, Szmigielski B, Sroka A, Millán C, Usón I, Veillard F, Potempa B, Mydel P, Solà M, Potempa J & Gomis-Rüth FX (2015). Structure and mechanism of a bacterial host-protein citrullinating virulence factor, *Porphyromonas gingivalis* peptidylarginine deiminase. *Sci Rep* 5: 11969; Ref: WoS; IF: 5.228; Rank: 4/63; 1st Decile
13. Millán C, Sammito M, Garcia-Ferrer I, **Goulas T**, Sheldrick GM and Usón I (2015). Combining phase information in reciprocal space for ARCIMBOLDO. *Acta Cryst. D* 71: 1931-1945
14. **Goulas T**, Garcia-Ferrer I, Hutcherson JA, Potempa BA, Potempa J, Scott DA, Gomis-Rüth FX (2016). Structure of RagB, a major immunodominant outer-membrane surface receptor antigen of *Porphyromonas gingivalis*. *Mol Oral Microbiol*. 31: 472-485
15. Arolas JL, **Goulas T**, Pomerantsev AP, Leppla SH, Gomis-Rüth FX (2016). Structural basis for latency and function of immune inhibitor a metallopeptidase, a modulator of the *Bacillus anthracis* secretome. *Structure* 24: 25-36
16. Lasica M, *****Goulas T**, Mizgalska D, Zhou X, Diego I, Ksiazek M, Madej M, Guo Y, Guevara T, Nowak M, Potempa M, Goel A, Sztukowska M, Prabhakar A, Bzowska M, Bereta J, Thøgersen I, Enghild JJ, Simonian M, Kulczyk AW, Nguyen K, Potempa J and Gomis-Rüth FX (2016). Structural and functional probing of PorZ, an essential bacterial-surface component of the type-IX secretion system of human oral-microbiomic *Porphyromonas gingivalis*. *Sci Rep* 6: 37708
17. **Goulas T**, Garcia-Ferrer I, Marrero A, Duquerroy S and Gomis-Rüth FX (2017). Structural and functional insight into pan-endopeptidase inhibition by alpha-2 macroglobulins. *Biol Chem Review*, 398: 975-994
18. Pomowski A, Usón I, Nowakowska ZM, Veillard F, Sztukowska MN, Guevara T, **Goulas T**, Mizgalska D, Nowak ML, Potempa BA, Huntington JA, Potempa J and Gomis-Rüth FX (2017). Structural insights unravel the zymogenic mechanism of the virulence factor gingipain K from *Porphyromonas gingivalis*, a causative agent of gum disease from the human oral microbiome. *J Biol Chem* 292: 5724-5735
19. Marino-Puertas L, ****Goulas T** and Gomis-Rüth FX (2017). Matrix metalloproteinases outside vertebrates. *Mol Cell Res* S0167-4889: 30096-30094
20. **Goulas T**, Ksiazek M, Garcia-Ferrer I, Sochaj-Gregorczyk AM, Waligorska I, Wasylewski M, Potempa J and Gomis-Rüth FX (2017). Structure-derived snap-trap mechanism of a multispecific serpin from the dysbiotic human oral microbiome. *J Biol Chem* 292: 10883-10898; Ref: WoS; IF: 3.022; Rank: 75/293; 2nd Quartile; **Special virtual issue**: "The microbiome" (2020). Assembled by Chris Whitfield,
21. García-Castellanos R, Nielsen NS, Runager K, Thøgersen IB, **Goulas T**, Enghild JJ and Gomis-Rüth FX (2017). Structural and functional implications of human transforming growth factor beta-induced protein (TGFB1p) in corneal dystrophies. *Structure* 25: 1740-1750
22. Arolas J, *** **Goulas T**, Cuppari A and Gomis-Rüth FX (2018). Multiple Architectures and Mechanisms of Latency in Metallopeptidase Zymogens. *Chem Review* 118: 5581-5597; Ref: WoS; IF: 54.301; Rank: 1/172; 1st Decile
23. Cuppari A, Körschgen H, Fahrenkamp D, Schmitz C, Guevara T, Karmilin K, Kuske M, Olf M, Dietzel E, Yiallourous I, Sanctis D, **Goulas T**, Weiskirchen R, Jahnen-Dechent W, Floehr J, Stöcker W, Jovine L & Gomis-Rüth FX (2019). Structure of mammalian plasma fetuin-B and its mechanism of selective metallopeptidase inhibition. *IUCrJ* 6: 317-330

24. Bereta G, *****Goulas T**, Madej M, Bielecka E, Solà M, Potempa J & Gomis-Rüth FX (2019). Structure, function and inhibition of a genomic/clinical variant of Porphyromonas gingivalis peptidylarginine deiminase. *Protein Science* 28:478-4869
25. Amo-Maestro L, Marino-Puertas L, ****Goulas T** and Gomis-Rüth FX (2019). Recombinant production, purification, crystallization, and structure analysis of human transforming growth factor β 2 in a new conformation. *Sci Rep* 9: 8660; Ref: WoS; IF:4.011; Rank:12/69; 1st Quartile
26. Marino-Puertas L, Amo-Maestro L, Taulés-Marin M, Gomis-Rüth FX and ***Goulas T** (2019). Recombinant overexpression and purification of human α 2-macroglobulin variants and interaction studies with recombinant G-related α 2-macroglobulin binding protein and latent transforming growth factor- β 2. *Sci Rep* 9: 9186, Ref:WoS; IF:4.011; Rank:12/69; 1st Quartile
27. Mendes SR, Amo-Maestro L, Marino-Puertas L, de Diego L, **Goulas T** and Gomis-Rüth FX (2020). Analysis of the inhibiting activity of reversion-inducing cysteine-rich protein with Kazal motifs (RECK) on matrix metalloproteinases. *Sci Rep* 10: 6317 Ref:WoS; IF:4.011; Rank:12/69; 1st Quartile
28. Amo-Maestro L, Sagar A, Pompach P, Goulas T, Scavenius C, Ferrero DS, Castrillo-Briceño M, Taulés M, Enghild JJ, Bernadó P, Gomis-Rüth FX (2021). An integrative structural biology analysis of von Willebrand factor binding and processing by ADAMTS-13 in solution. *J Mol Biol* 433: 166954
29. Luque D, *****Goulas T**, Mata CP, dos Reis-Mendes S, Gomis-Rüth FX, and Castón JR. Cryo-EM shows structural basis of pan-peptidase inhibition by human α 2-macroglobulin. *Under Review*
30. Mizgalska D, *****Goulas T**, Rodríguez-Banqueri A, Veillard F, Madej M, Małecka E, Szczesniak K, Ksiazek M, Widziolok M, Guevara T, Potempa J and Gomis-Rüth FX. An intermolecular latency mechanism regulates the activity of PorU, the essential signal peptidase and sortase of the Porphyromonas gingivalis Type-IX Secretion System. *Under Review*

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** Co-corresponding author

*** Shared first authorship

Book Chapters

1. **Goulas T** and Gomis-Rüth FX (2013). Fragilysin. In Handbook of Proteolytic Enzymes, Third Edition, Academic Press Volume 1, Chapter 186 pp 887-891
2. Garcia-Ferrer I, Marrero A, Gomis-Rüth FX and ***Goulas T** (2017). alpha-2 Macroglobulins: structure and function. In Macromolecular Protein Complexes, Subcellular Biochemistry Vol. 83, Ed J. Robin Harris and Jon Marles-Wright, Springer, pp 149-183

Other Publications

1. **Goulas T**, Tzortzis G, and Gibson GR (2007). Molecular cloning, characterisation and transgalactosylation properties of galactosidases from Bifidobacterium bifidum (NCIMB 41171). Conference publication in the 160th Meeting of the Society of General Microbiology, pp 70, UK.
2. **Goulas T**, Tzortzis G, Gibson GR, Ward D, Mehta T, Young S, Jaffe D, Gnerre S, Berlin A, Heiman D, Hepburn T, Shea T, Sykes S, Alvarado L, Kodira C, Lander E, Galagan J, Nusbaum C and Birren B (2008). The genome sequence of Bifidobacterium bifidum strain NCIMB 41171. Published in NCBI Database.
3. Garcia-Ferrer I, Arède-Rei P, **Goulas T** and Gomis-Rüth FX (2015). Mechanistic insights into the action of a bacterial protease inhibitor (P35-019). *FEBS J.*, 282 (Suppl. 1), 328-328 (Published conference abstract).

PATENTS

Inventors: Tzortzis G, Goulas A, **Goulas T**.

Exploited by: Clasado Biosciences INC

Objectives: Production of functional ingredients.

Patent 1: α -Galactosidase from *Bifidobacterium bifidum* and its use; No: WO/2007/071987; PCT/GB2006/004796.

Patent 2: Galactosidase with galactosyltransferase activity; No; WO/2007/088324; PCT/GB2007/000178.

Patent 3: β -Galactosidase with transgalactosylating activity; No: WO/2007/110619; PCT/GB2007/001081.

TECHNOLOGICAL RESULTS DERIVED FROM SPECIALISED AND TRANSFER ACTIVITIES

- **Scientific coordinator:** Main responsible for product development, production and preparation for distribution of "LysArginase Enzyme". Work took place from January 2014 to May 2018.

- **External advisor** of the biotechnological company Clasado Biosciences Ltd (U.K.). For the period 2008-2017
- **External advisor** of the biotechnological company VemiCo Ltd (U.K.). Since 2018

PARTICIPATION IN RESEARCH PROJECTS AND OBTAINED GRANT

- **MSc and PhD grant:** Sponsored by the “State Scholarships Foundation of Greece (IKY)”, 10.2003-01.2008.
- **Consolidated Research Groups of Catalunya Grant**, Generalitat of Catalunya. Ref.: 2009SGR1036. “Structural biology: computational methods and structure-function analysis of proteins of biomedical and biotechnological interest (MEBIO)”. Total awarded: €42,640. **Role: Research associate.** 2009 – 2013 (extended till 31.3.2014).
- **R&D project**, State Plan, section Molecular and Cellular Biology, Ministry of Economy and Competitiveness. “Biochemistry of proteolysis: function, regulation and structure of peptidases and their inhibitors”. Ref.: BFU2012-32862. Total awarded (direct costs): €280,000. **Role: Research associate.** 01.01.2013-31.12.2015.
- **R&D project**, State Plan, program Explora technology, section Biotechnology, Ministry of Economy and Competitiveness. “Redesign of therapeutic proteins with enhanced stability through incorporation of non-natural amino acids”. Ref.: BIO2013-49320-EXP. Total awarded (direct costs): €60,000 (direct costs). **Role: Research associate.** 01.09.2014-31.01.2017.
- **R&D project**, National Biotechnology Plan, Ministry of Science and Technology. “Structural biology of hydrolases of therapeutic interest (IV)”. Ref.: BIO2009-10334. Total awarded (direct costs only): €295,000. **Role: Research associate.** 01.01.2010-31.12.2013.
- **European Union STREP FP7 Project** “King of hearts, joints and lungs; periodontal pathogens as etiologic factor in RA, CVD and COPD and their impact on treatment strategies”. Ref. FP7-HEALTH-2012-306029-2 “TRIGGER”. Coordinator: Peter Mydel (Bergen, Norway). Total awarded to subgroup: €519,041 (incl. indirect costs). **Role: Research associate.** 01.04.2013 – 31.03.2017.
- **European Union STREP FP7 Project** “Protein citrullination as a link between periodontal diseases and rheumatoid arthritis (RA) and target for development of novel drugs to treat RA”. Ref. FP7-HEALTH-2010-261460 “Gums&Joints”. Coordinator: Peter Mydel (Bergen, Norway). Total awarded to subgroup: €504,510. **Role: Research associate.** 01.11.2010 – 31.10.2014.
- **Postdoctoral Research Grants**, Sponsored by the “Ministerio de Economía y Competitividad” with the fellowship “Juan de la Cierva” Ref.: JCI-2012-13573, 11.2014-10.2017.
- **R&D project Clasado BioSciences UK** “Development of a beta-galactosidase with unique transgalactosylation properties” Total awarded €126,000. **Role: Principal investigator.** 01.09.2016-31.08.2018
- **iNEXT MX grant** from Instruct European Research Infrastructure Technology, PID: 5550 - BAG-Cri3467: Human alpha-2 macroglobulin in complex with TGFbeta-2 and GRAB, **Role: Principal Investigator.** 22.05.2018.
- **iNEXT MX grant** from Instruct European Research Infrastructure Technology, PID: 5547-BAG-Cri3467: Helicobacter pylori’s outer membrane protein HomA, **Role: Principal Investigator.** 22.05.2018.
- **iNEXT MX grant** from Instruct European Research Infrastructure Technology, PID: 5553-BAG-Cri3467: PorY, SigP and Miropin from the bacterial “red-complex, **Role: Principal Investigator.** 04.06.2018.

ACADEMIC ACTIVITY

Teaching

- Laboratory demonstrations, University of Reading, UK. Part time teaching in laboratory practicals for BSc and MSc students on Molecular Techniques and Bioprocessing, 2004-2008.

Master student direction

- **Irene Garcia Ferrer.** “Biophysical and biochemical characterization of synmetzin, a de novo designed minimal protease”. Universitat de Barcelona, Spain, 09.09.2011.

PhD thesis direction

- **Irene Garcia Ferrer.** “Structural and functional studies on Escherichia coli alpha-2 macroglobulin: a snap-trap peptidase inhibitor”. Universitat de Barcelona, Spain, 01.12.2015. Publications: *Proc Natl Acad Sci USA*, 10.1073/pnas.1506538112.
- **Laura Mariño Puertas.** “Development of efficient eukaryotic and bacterial expression systems for functional studies of recombinant proteins of biomedical interest”. Universitat Autònoma de Barcelona, Spain 14.02.2020. Publications: *Mol Cell Res*, 10.1016/j.bbamcr.2017.04.003; *Sci Rep*, 10.1038/s41598-019-45712-z; *Sci Rep*, 10.1038/s41598-019-44943-4.

Visiting pre-doctoral student supervision

- **Elixabet Capot.** “Characterization of microbial diversity by T-RFLP analysis of genes encoding 16S rRNA”. 08.2005 (2 months undergraduate student).

- **Margareta Coccia.** "Isolation, nucleotide sequence determination and characterisation of a strong promoter isolated from a *Bifidobacterium bifidum* strain". 08.2006 (2 months undergraduate student).
- **Anna Cuppari.** "pCri system: A plasmid collection for protein expression and purification". 02.2010 (6 months pre-doctoral student).

Visiting PhD student supervision

- **Przemek Golik.** "Structural and functional studies on proteases." 02.2016 (6 months PhD visiting student).
- **Nadia Sukusu Nielsen.** "Structural and functional studies on TGFBIp". 12.2016 (3 months PhD visiting student).
- **João Paulo Fernandes.** "Structural and functional studies on beta-galactosidases". 10.2016 (12 months PhD visiting student).

Ad hoc PhD Thesis Examination Panels

- **Giovanna Petrillo.** University of Barcelona (Spain), 28.6.2017

OTHER ACTIVITIES AND MERITS

Honors

- Graduate Award in the Bachelor Degree from the Aristotle University of Thessaloniki, Greece.
- Distinction in the Master Degree from the University of Reading, UK.
- Distinction in the Postgraduate Certification in Protein Crystallography, at Birkbeck College, University of London, UK.
- Sponsored by the "State Scholarships Foundation of Greece (IKY)", 10.2003-01.2008.
- Sponsored by the "Ministerio de Economía y Competitividad" with the fellowship "Juan de la Cierva" Ref.: JCI-2012-13573, 11.2014-10.2017.

Entries in the National Center for Biotechnology Information (NCBI; www.ncbi.nlm.nih.gov)

Genes from *Bifidobacterium bifidum* NCIMB41171: DQ448278, EF520729, DQ448279, DQ443548
 Genome sequence of *Bifidobacterium bifidum* NCIMB41171: NZ_ABQP01000000

Entries in the Protein Data Bank (PDB; www.rcsb.org)

Access codes: 3P24, 4ACQ, 4YT9, 4YTG, 4YTB, 4ZIU, 4ZJH, 4ZJG, 4ZIQ, 4YU5, 4YU6, 5CX8, 5M11, 5MUN, 5A42, 5NCS, 5NCT, 5NCU, 5NCW, 5NV6 and 6I9J

Entries in the Electron Microscopy Data Bank (EMD; www.emdatabank.org)

Access codes: 3016, 3017 and 3018

Referee in scientific publications

- Applied and Microbiological Biotechnology
- Enzyme and Microbial Technology
- FEMS Letters
- Molecular Biology Reports
- Scientific Reports

Responsibilities in Synchrotron radiation facilities

- Main proposer for beam-time request in ALBA Synchrotron (Spain) and beam-time allocation on three scientific groups of the Structural Biology Units of Barcelona (Spain) from 2015-2018.
- Main proposer for beam-time request in Diamond Synchrotron radiation facility (UK) and beam-time allocation among four scientific groups of the Structural Biology Units of Barcelona (Spain) from 2018.
- Analysis and data processing of protein crystals by Synchrotron radiation from 2010-2018.

Frequent Synchrotron visitor of:

- European Synchrotron Radiation Facility (ESRF), Grenoble (France).
- ALBA Synchrotron, Barcelona (Spain).

Courses

1. Course in "DNA Technology" in the Academical Medical Center (AMC) of the University of Amsterdam, Holland, 14.03.2005-18.03.2005.
2. Course in "Membrane Protein Sample Prep and Analysis" held at Diamond Light Source, Oxford, UK on 10.11.2016
3. Course in "CEM3DIP 2018: Cryo-electron microscopy of macromolecular assemblies and cellular tomography", EMBO Practical course, in New Delhi (India), 19.03.2018-29.03.2018.

Stages

- Short stage in Prof. José R. Castón laboratory (Department of Structure of Macromolecules, Centro Nacional Biotecnología/CSIC, Campus de Cantoblanco, Madrid), Aim: Sample analysis by cryo-electron microscopy, 23.10.2018-27.10.2018

INVITED CONFERENCES, TALKS AND POSTERS

1. **Oral Presentation** on “Exploring and exploiting bifidobacterial genes for prebiotic production (2007)”. In the conference organised by the University of Reading, Department of Food Biosciences, Reading, UK.
2. **Oral Presentation** on “Structure, function and latency regulation of a bacterial enterotoxin potentially derived from a mammalian adamalysin/ADAM xenolog (2011)”. In the conference organised by the Spanish Society of Biology and Biochemistry (SEBBM) in Barcelona, Spain.
3. **Oral Presentation** on “Crystallisation trials of a peptidylarginine deiminase (PPAD) from *Porphyromonas gingivalis* (2012)” in the Gums&Joint meeting in Barcelona, Spain.
4. **Oral presentation** on “Structural and functional insights into the pan-endopeptidase inhibitor α 2-macroglobulin”, Goulas T, (2018). In the EMBO Practical course “CEM3DIP 2018: Cryo-electron microscopy of macromolecular assemblies and cellular tomography”, in New Delhi (India), 19.03.2018-29.03.2018.
5. **Oral presentation** "pCri System: a plasmid collection assisting to protein expression and purification". In the conference organised by the Molecular Biology Institute of Barcelona, Spain, 02.04.2014
6. **Abstract presentation** on "Structure-function studies of *Porphyromonas gingivalis* secreted virulence factors" in the Annual Conference of the Microbiology Society of Great Britain, Edinburg 31.03.2020- 03.04.2020.
7. **Poster presentation:** “Molecular cloning, characterisation and transgalactosylation properties of galactosidases from *Bifidobacterium bifidum* (NCIMB 41171)”, **Goulas T**, Goulas A, Tzortzis G, Gibson GR (2007). In the conference organised by the Society of General Microbiology (SGM) in Manchester, UK.
8. **Poster presentation:** “Towards a high-resolution structure of alpha-2-macroglobulin”, Garcia-Ferrer I, Arede P, **Goulas T**, Gomis-Rüth X (07.04.2014). In the practical course organised by the EMBL-EBI in Hinxton, UK.
9. **Poster presentation:** “A structure-derived snap-trap mechanism of a multispecific serpin from the dysbiotic human oral microbiome”, **Goulas T**, Ksiazek M, Garcia-Ferrer I, Sochaj-Gregorczyk AM, Waligorska I, Wasylewski M, Potempa J and Gomis-Rüth FX (2017). In the Gordon Research Conference on Matrix Metalloproteinases, XIII, University of New England, Biddeford, ME (USA), 23.09.2017-26.09.2017.
10. **Poster presentation:** “Matrix metalloproteinases (MMPs) beyond vertebrates”, Marino-Puertas L, ****Goulas T & Gomis-Rüth FX**: In the Gordon Research Conference on Matrix Metalloproteinases, XIII, University of New England, Biddeford, ME (USA), 23.09.2017-26.09.2017.
11. **Poster presentation:** “Functional and structural studies on human α 2-macroglobulin (α 2M)”, Marino-Puertas L, ****Goulas T**, Gomis-Rüth FX (06.07.2017). In the “EMBO Practical Course”, organised at the Research Complex at Harwell (Oxford, UK).
12. **Poster presentation:** “A structure-derived snap-trap mechanism of a multispecific serpin from the dysbiotic human oral microbiome”, ****Goulas T**, Ksiazek M, Garcia-Ferrer I, Sochaj-Gregorczyk AM, Waligorska I, Wasylewski M, Potempa J and Gomis-Rüth FX (2017). In the Conference on “Methods and applications in the frontier between MX and CryoEM” organized by the Structural and Biological Unit of Barcelona (Spain) 19.09.2017-21.09.2017.
13. **Poster presentation:** “A structure-derived snap-trap mechanism of a multispecific serpin from the dysbiotic human oral microbiome”, **Goulas T**, Ksiazek M, Garcia-Ferrer I, Sochaj-Gregorczyk AM, Waligorska I, Wasylewski M, Potempa J and Gomis-Rüth FX (2017). In the XLth SEBBM Congress, Barcelona (Spain), 23.09.2017-02.09.2015.
14. **Poster presentation:** “A structure-derived snap-trap mechanism of a multispecific serpin from the dysbiotic human oral microbiome”, **Goulas T**, Ksiazek M, Garcia-Ferrer I, Sochaj-Gregorczyk AM, Waligorska I, Wasylewski M, Potempa J and Gomis-Rüth FX (2017). In the 10th General Meeting of the International Proteolysis Society, Banff (Canada), 28.10.2017-02.11.2017.
15. **Poster presentation:** “Structural and functional insights into the pan-endopeptidase inhibitor α 2-macroglobulin”, ****Goulas T**, Garcia-Ferrer I, Marrero A, Luque Buzo D, Castón JR, and Xavier Gomis-Rüth (2018). In the EMBO Practical course “CEM3DIP 2018: Cryo-electron microscopy of macromolecular assemblies and cellular tomography”, in New Delhi (India), 19.03.2018-29.03.2018.

GENERAL SKILLS

- **Greek:** mother tongue
- **English:** advanced (C1)
- **Spanish:** advanced (C1)
- **German:** elementary (A1)