

## CURRICULUM VITAE

### Sharjah Institute for Medical Research and College of Pharmacy, University of Sharjah, United Arab Emirates

#### 1. PERSONAL DATA

**Name:** Nelson Alexandre da Cruz Soares (Soares NC)

**Date of Birth:** 02 of May 1975

**Place of Birth:** Lisbon-Portugal

**Nationality:** Portuguese

**Marital status:** Married

**Contact Address:** Unit K14, University of Sharjah village Al-Bayrouni, Sharjah

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**ORCID ID:** <https://orcid.org/0000-0003-2331-8532>

#### 2. ACADEMIC/PROFESSIONAL PARTICULARS

##### (a) Field of Specialization:

Proteomics, Post translational modification, Phosphoproteomics, Bacterial proteomics, Mass spectrometry

##### (b) Academic qualifications

PhD, **2008**, New University of Lisbon-ITQB, Lisbon-Portugal, Wound-Related changes in the Apoplast proteome of *Medicago truncatula* and their association with early steps of ROS signal transduction pathway (With distinction)

BSc, **2001**, University of Westminster-School of Biosciences, London-England.

Degree on Biochemistry and Microbiology (with Honours 2.1)

##### (c) Academic Honours and Awards

IDM Post graduate student publication competition award (**2019**): Nakedi et al., 2018 "Identification of novel physiological substrates of *Mycobacterium bovis* BCG Protein Kinase G (PknG) by label-free quantitative phosphoproteomics." Molecular & Cellular Proteomics (2018); mcp-RA118

IDM Post graduate student publication competition award (**2018**): Albeldas et al., 2018 "Global proteome and phosphoproteome dynamics indicate novel mechanisms of vitamin C induced dormancy in *Mycobacterium smegmatis*." Journal of Proteomics (2018); Jprot

##### (d) Membership of Professional Bodies

Invited member of Metabolomics Association of South Africa Jan 2018-to date

**(e) Language Proficiency**

Mother tongue **Portuguese**

Other languages

**English** Listening (C2), Reading (C2), Spoken interaction (C2); Spoken production (C2)  
Writing (C2)

**Spanish** Listening (C2), Reading (C2), Spoken interaction (C2); Spoken production (C2)  
Writing (B1)

**German** Listening (A1), Reading (A1), Spoken interaction (A1); Spoken production (A1)  
Writing (A1)

**French** Listening (A1), Reading (A1), Spoken interaction (A1); Spoken production (A1)  
Writing (A1)

**3. CAREER DETAILS**

**Governmental**

- (a) Proteomics and Metabolomics Working Group Coordinator** at the Centre of Genomics and Proteomics to support governmental initiative **DIPLOMICS**, Cape Town- South Africa, Feb 2018-July **2019**

**ACADEMIC**

- (a)** Assistant Professor in the Department of Medicinal Chemistry within the College of Pharmacy of the University of Sharjah, Present
- (b)** Coordinator of IDM Metabolomics & Proteomics Core Facility, University of Cape Town, South Africa, **2017**-July **2019**
- (c)** Junior Research Fellow, Department of Integrative Biomedical Sciences, University of Cape Town, South Africa, **2013**-July **2019**
- (d)** Postdoctoral, Proteome Centre Tübingen, Universität of Tübingen, Germany, 01 March **2011** - 31 December **2012**
- (e)** Postdoctoral fellowship Programa Angeles Alvariño-Xunta de Galicia, Complejo Hospitalario A Coruña-Unidad de Investigacion Biomedicas de A Coruña, University of La Coruna, Spain, 01 January **2010** - 31 December **2012**
- (f)** Post-doc contract by Red Española para La Investigación en Patología Infecciosa(REIPI), Complejo Hospitalario A Coruña-Unidad de Investigacion Biomedicas de A Coruña, University of La Coruna, Spain, 02 May **2007** - 31 December **2009**

**4. Teaching**

**(a) Summary of Courses Taught**

- I. University of Sharjah-Experimental Design and Data Analysis, College of Pharmacy-Department of Pharmaceutics, Course code: 1103613. Fall 2019-2020 (16 Masters students)
- II. University of Cape Town- Chemical & System Biology Honours module on System biology approaches to Precision Medicine: from mechanism and

biomarkers to diagnostics and therapeutic intervention" (**2016-to 2019**) (14-20 Honours students)

- III. University of Cape Town-Honours Level Medical Biochemistry and Structural Biology (**2014-to 2019**) (60 Honours students)
- IV. University of Tübingen- M.Sc. level with Molecular and Cellular proteomics course (**2011-2012**) (30-50 Masters students)

**(b) Participation in Academic Accreditation**

N/A

**(c) Research Students Supervised/Trained**

Level	Number of trainees
PhD Students	1
Masters	4
Honours students/interns	7

- I. I have co-supervised **Kehilwe C Nakedi**. PhD Programme University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn. Dez **2018**
- II. I have co-supervised **Naadir Ganief**. Master Programme University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn. Dez **2018**
- III. I was supervisor of **Azraa Khan**, B.Sc. Medical Honour Programme "Phosphoproteomic Analysis Elucidates the physiological role of Mycobacterial PknG under acidic stress by label-free mass spectrometry. 31<sup>st</sup> Oct **2018**
- IV. I was supervisor of **Monique Klingenberg**, B.Sc. Medical Honour Programme "Phosphoproteomic Analysis Elucidates the role of Mycobacterial PknG kinase activity in response to sub-lethal concentration of Rifampicin". 27<sup>st</sup> Oct **2017**
- V. I co-supervised **Kim Gurwitz**. Master Programme University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn. 22<sup>nd</sup> of March **2016**
- VI. I was co-Supervisor of **Claudia Albeldas**. B.Sc. Medical Honour Programme: "Investigating the effects of Vitamin C on *Mycobacteria smegmatis*." 26<sup>th</sup> October of **2015** University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn.
- VII. I was co-Supervisor of **Elise de Kock**. B.Sc. Medical Honour Programme: "Proteomics analysis of antibiotic resistance mechanisms of *Mycobacterium smegmatis*." 11<sup>th</sup> November of **2014** University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn.
- VIII. I was co-Supervisor of **Jessica Sjouerman**. B.Sc. Medical Honour Programme: "Proteomic investigation into the role of sub-lethal concentrations of H<sub>2</sub>O<sub>2</sub> and NO in the escape of redox stress by *Mycobacterium smegmatis*." 11<sup>th</sup> November of **2014** University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn.
- IX. I was co-Supervisor of **Kim Gurwitz**. B.Sc. Medical Honour Programme: "Unravelling molecular mechanisms of HIV associated neurocognitive disorders through proteomics". 13<sup>th</sup> November of **2013** University of Cape Town. Supervisor: Prof Dr Jonathan M Blackburn.
- X. I was co-Supervisor of **Philipp Spät**. Master: "SILAC-based quantitative proteomics reveals global dynamics of *E. coli* proteome and phosphoproteome during in batch growth in minimal medium." Dez. **2012** University of Tübingen. Supervisor: Prof. Dr. Boris Macek Proteome Center Tübingen, Germany.

- XI. I was co-Supervisor of **Maria Clara Póvoa Cabral**. Master: "Mestrado em Assistência e Investigación Sanitaria-esp. Fundamentos de Investigación Biomédica. Note: Clara was awarded with the best Mark: "Matricula de Honra". Universidade da Coruña-Faculdade de Ciências da Saúde. 24<sup>th</sup> of July of **2009**. Supervisor: Prof. Dr. Germán Bou CHUAC-INIBIC, Spain.

**(d) Participation in Thesis and Oral Examination Committees**

Level	Number of examinations
PhD Students	5
Masters	3

**(e) Training**

BMedSC Honours Techniques course (**2014 until 2019**): Coordinator of the Chromatography & Mass Spectrometry course.

**5. Research**

**(a) Research Interests**

Career objective: Seeking to work within proteomics field to pursue a career in all levels of research and development.

Area of expertise: Bacterial Proteomics; Host pathogen interaction; Mechanism of antibacterial resistance;

Current Main Research interest: Infectious Diseases, Tuberculosis, HIV and search for several disease biomarkers

**(b) Publications/Citations data**

Type of Publication	Number of Publications
Articles in International Refereed	46 +4 (under review/accepted)
Conference Papers	25
Edited book	1

<u>Citation Source</u>	<u>Number</u>
Google Academics	1152

**(c) Research Grants**

- I. Title: "**Application of Proteomics for the Discovery of Disease Biomarkers.**"  
Financed by: University of Sharjah  
PI: Nelson da Cruz Soares  
Number of participants: 3  
**Role: Principle Investigator**
- II. Title: "**Screening for HLA Haplotype and immune function-related genes variants as host-related factors that predispose to cytokine storm syndrome in Emirati COVID-19 patients.**"

Financed by: University of Sharjah

PI: Prof. Mawieh Hamad

Number of participants: 7

**Role: co-Principle Investigator**

III. Title: ***"FRG20-M: Biomarker Discovery in Healthcare Utilizing Big Data Gadgets- The Case of Diabetes in the United Arab Emirates"***

Financed by: Faculty Research Grant 2020 (FRG 20)- American University of Sharjah

PI: Dr Abdulrahim Shamayleh

Number of participants: 6

**Role: co-Investigator**

IV. Title: ***"Targeted Phosphoproteomic Analysis of Infected Macrophages to identify Targets for Tuberculosis Drug Discovery."***

Financed by: National Research Foundation-Research and Innovation Support and Advancement-South Africa. Period: **2019-2021**. Grant No: 118561

PI: Dr. Nelson C Soares

Number of participants: 8

Participants: **Soares N.C.**, Blackburn JM, Mijakovic I, Nakedi KC, Shell D, John Iradukunda.

**Role: Principle Investigator**

V. Title: ***"Definition of Ser/Thr/Tyr phosphorylation networks in Mycobacterium-Infected Macrophages."***

Financed by: National Research Foundation-Research and Innovation Support and Advancement-South Africa. Period: **2016-2018**. Grant No: 98963.

PI: Dr. Nelson C Soares

Number of participants: 8

Participants: **Soares N.C.**, Blackburn JM, Warner D, Mijakovic I, Mulder N, Nakedi KC, Nel AJM, Ganief N, Albeldas C.

**Role: Principle Investigator**

VI. Title: ***"Incentive Funding for Rated Researchers."***

Financed by: National Research Foundation-Research and Innovation Support and Advancement-South Africa. Period: **2016-2020**. Grant No: 95984.

PI: Dr. Nelson C Soares

Number of participants: N/A

Participants: **Soares N.C.**

**Role: Principle Investigator**

- VII. Title: "***Clinical Infectious Diseases Research Initiative-Equipment Funding.***"  
Financed by: Clinical Infectious Diseases Research Initiative-Wellcome Trust.  
Period: **2013-2014.**  
PI: Dr. Nelson C Soares and Prof Jonathan Blackburn  
Number of participants: N/A  
Participants: **Soares N.C.**  
**Role: Principle Investigator**
- VIII. Title: "***Mecanismos de regulación de resistencia antibiótica y virulencia en el microorganismo patógeno nosocomial Acinetobacter baumannii.***"  
Financed by: Instituto de Salud Carlos III (FIS). Ministerio de Sanidad y Consumo. Period: **2008-2010.** code: PI081613.  
PI: Dr. Germán Bou.  
Number of participants: 8  
Participants: Bou G, **Soares N.C.**, Pova MC, Fernandez-Moreira E, Poza M, Beceiro A, Tomas M, Gayoso C, Villanueva R.  
Role: Participant.
- IX. Title: "***Respuesta del patógeno Acinetobacter baumannii a distintas condiciones de estrés: búsquedas de nuevas dianas terapéuticas.***"  
Financed by: Consellería de Innovación e Industria-Servicio Galego de Salud (SERGAS).  
Period: **2008-2010.** code: Programa Sectorial Biomedicina e Ciencias da Saude. 08CSA064916PR  
PI: Dr. Germán Bou.  
Number of participants: 9  
Participantes: Bou G, **Soares N.C.**, Pova MC, Fernandez-Moreira E, Poza M, Beceiro A, Tomas M, Gayoso C, Villanueva R.  
Role: Main Participant.
- X. Title: "***Estudios de resitencia Antibiotica, virulencia, y epidemicidad, en el microorganismo patogeno nosocomial Acinetobacter baumannii, mediante analisis proteomico.***"  
Financed by: Consellería de Sanidade. Xunta da Galicia  
Period: **2007-2010,** code: PS07/90  
PI: Dr. Germán Bou.  
Number of participants: 5  
Participants: Bou G, **Soares N.C.**, Poza M, Molina F, Beceiro A, Perez A.  
Role: Main Participant

- XI. Title: "**Cell Wall Proteins with roles in xylogenic programmes in Eucalyptus.**"  
PI: Dr. Philp Jackson  
Financed by: Fundação de Ciencia e Tecnologia (Portugal), realizado Instituto de Tecnologia Quimica e Biologica POCTI/AGR/46671/2002.  
Role: Main associated PhD student

**(d) Patents**

N/A

**(e) Participation in Regional & International Conferences**

**Oral presentation:**

- I. **Soares NC, Invited** Keynote Speaker- International Caparica Congress on Analytical Proteomics-ICAP2021. This congress will be held from the 12<sup>th</sup> to the 15<sup>th</sup> of July 2021, in Caparica, Lisbon-Portugal
- II. Nakedi KC, Calder B, Blackburn JM and **Soares NC**, "Characterization of the Macrophage Ser/Thr/Tyr protein phosphorylation network perturbed by mycobacterial Protein Kinsase (PknG)" @ 3rd International Conference on Post-Translational Modification in Bacteria, Tuebingen, Germany, **Dec 3-4 2018**
- III. Nakedi KC, Calder B, Blackburn JM and **Soares NC**, "Phosphoproteomics based approach unveils Mycobacterium PknG's function during macrophage infection" @1st South African Proteomics Symposium 23rd August, University of the Witwatersrand, Pretoria-South Africa **2018**
- IV. Nakedi KC, Calder B, Mousumi B, Blackburn JM and **Soares NC** Mycobacterial phosphoproteome profiling for the discovery of novel protein kinase PknG substrates@5th International Congress on Analytical Proteomics 3rd-6th July **2017**, Caparica-Portugal
- V. Nakedi KC, Calder B, Mousumi B, Blackburn JM and **Soares NC**  
Title: Mycobacterial phosphoproteome profiling for discovery of novel Ser/Thr protein kinase substrates @Swiss South African Symposium of Pathogen Genomics 23rd February **2017** UCT, Cape Town- South Africa
- VI. Nakedi KC, Calder B, Mousumi B, Blackburn JM and **Soares NC**  
@ 25th SASBMB Congress 10-14 July **2016** East London-South Africa  
Published in conference proceedings
- VII. Nakedi KC, Calder B, Mousumi B, Blackburn JM and **Soares NC**

Title: Quantitative Phosphoproteomic analysis reveals new physiological substrates of Mycobacteria protein kinase PknG  
@2nd Conference on Post-translational modification in bacteria 19-20 October **2016** Lyon-France  
Published in conference proceedings.

- VIII. Calder B, **Soares NC\***, Randal P, Dheda K and Blackburn JM.  
Title: "Mass spectrometry-based validation of urine biomarker for tuberculosis."  
@2nd International Caparica Conference on Urine Omics & 2<sup>nd</sup> Caparica Conference in Translational Caparica Conference in Translational Nephrology 28-30<sup>th</sup> September **2015** Caparica-Portugal. Published in conference proceedings.
- IX. **Soares NC.**, Spät P., Krug K., Macek B.  
Title: "Bacterial Proteomics: Focus on Stable Isotope Labeling by amino acids (SILAC) quantitation."  
@King's College London 28<sup>th</sup> of September **2012**.
- X. **Soares NC**, Mendez JA, Mateos-Martins J, Gayoso C, Aranda J, Bou G.  
Title: "Proteomic and functional characterization of the extracellular proteome from a highly invasive and multiresistant *Acinetobacter baumannii* clinical strain."  
@2nd International Congress on Analytical Proteomics Vigo-Spain 20<sup>th</sup> July **2011**. Published in conference proceedings.
- XI. **Soares NC**, Bou G.  
Title: "Proteomics- a useful tool to better understand mechanisms of virulence, persistence and drug resistance in *Acinetobacter baumannii*"  
@Seminario de Proteomica-Hospital Clinico de Santiago Date:18<sup>th</sup> February **2011**
- XII. **Soares NC**, Cabral MP, Arandas J, Rumbo C, Bou G.  
Title: "Mechanism of biofilm formation in *Acinetobacter baumannii*- a proteomic perspective".  
@8th International Symposium on the Biology of Acinetobacter Università di Roma Tre, Rome-Italy. Date: 03<sup>rd</sup> September **2010**. Published in conference proceedings.
- XIII. **Soares NC**, Bou G. Title: "Microbiology-Proteomics@INIBIC, what was done so far and future perspectives".



@Unidad de Investigación -seminarios científicos año 2010 La Coruña-Spain.  
Date: 07<sup>th</sup> June **2010**

- XIV. **Soares N.C.**, Francisco R., Vielba J.M., Ricardo C.P., Jackson P.A  
Title: "Investigating the differentially regulation of apoplatic proteins in response to wounding in Medicago leaves".  
@XIth Cell Wall Meeting Copenhagen-Denmark. Date: 14<sup>th</sup> August **2007**.  
Published in conference proceedings.
- XV. **Soares NC.**, Jackson P. Title: "Peroxide regulation of cell wall proteins during leaf wounding in Medicago".  
@ "Science Conference at Noon" Instituto de Tecnologia Química e Biológica, Oeiras-Portugal. Date: 01<sup>st</sup> October **2004**

**Poster (Abstracts published in conference proceedings):**

- I. Nakedi KC, Calder B, Blackburn JM and **Soares NC**, "Characterization of the Macrophage Ser/Thr/Tyr protein phosphorylation network perturbed by mycobacterial Protein Kinsanse (PknG)" @ 3rd International Conference on Post-Translational Modification in Bacteria, Tuebingen, Germany, **Dec 3-4 2018**
- II. Nakedi KC, **Soares NC\***, Garnett S and Blackburn JM. "Quantitative phosphoproteome analysis reveals new physiological substrates of Mycobacteria Ser/Thr protein kinase PknG". 1<sup>st</sup> International conference on Post-translational modifications in bacteria 9-10<sup>th</sup> September **2014** Gottingen, Germany
- III. **Soares N.C**, Spät P., Krug K. and Macek B. "Global Dynamics of *E.coli* proteome and phosphoproteome during in vitro growth". EuPA/BSPR 9-12<sup>th</sup> July **2012**. Glasgow, Scotland.
- IV. **Soares NC.**, Cabral CP., Arandas J., Rumbo C. and Bou G. "Proteomics reveals mechanisms of biofilm developing in *Acinetobacter baumannii*. 2010, 4<sup>th</sup> EupA meeting 23 to 27 October **2010**. Lisbon-Portugal.
- V. 2.2.4. Cabral M.P., **Soares N.C.**, Parreira, J. R. and Bou, G. "The effects of sodium salicylate on *Acinetobacter baumannii* – a proteomic view. "  
@5th Congress of the Portuguese Proteomics Network - ProCura and 1st International Congress on Analytical Proteomics - ICAP. September 30th - October 3rd, **2009**. Caparica, Portugal.
- XII. Fernández-Moreia E., Rumbo Lorenzo C., Tomás M. M., **Soares N.C.**, Carvajal M., Mosquera A. and Bou G.

- Title: "Las vesículas de membrana (OMVs) de *Acinetobacter baumannii* son un vehículo de dispersión de factores de virulencia y ADN plasmídico".  
@XXII Congreso Nacional de microbiología 21-24th Sep **2009**, Almería, Spain.
- XIII. **Soares N.C.**, Cabral M.P., Gayoso C., Fernandez-Moreira E., Mallo S., Rodriguez-Velo P., Bou G. Title: "Associating in vitro growth changes in the proteome of *Acinetobacter baumannii* with resistance to oxidative stress."  
@3rd EuPA Congress, Stockholm-Sweden June 14-17<sup>th</sup> **2009**
- XIV. Mallo S., Perez-Llarena F.J., **Soares N.C.**, Fernández-Moreira E., Bou G.. Title: La delección del triplete Gly-Asn-Ser (GNS) 306-308 en la  $\beta$ -lactamasa plasmídica de clase c FOX-4, se asocia a un ligero aumento en la sensibilidad al ácido clavulánico y sulbactam"  
@SOCIEDAD ESPAÑOLA DE ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA (SEIMC)-May **2008**-Madrid-Spain.
- XV. **Soares N.C.**, Francisco R., Ricardo C.P.P and Jackson P.A.  
Title: "Peroxide regulation of the cell wall proteins during leaf wounding of Medicago."  
@ 3rd Annual Meeting of Procura together with 9th Meeting of the Portuguese Human Genetics Society" 11<sup>th</sup> Nov **2005**, Cascais, Portugal.
- XVI. **Soares N.C.**, Francisco R., Ricardo C.P.P and Jackson P.A.  
Title: "Peroxide regulated cell wall proteins during the early response wounding in Medicago and Lupin."  
@X Cell Wall Meeting, 29<sup>th</sup> Aug **2004**, Sorrento, Italy.
- XVII. Ribeiro M.J., Silva Pereira C., **Soares N.C.**, Viera A.M., Feijó J.A. and Jackson P. A.  
Title: "The significance of extensin network formation in rapid defence responses."  
@ X Cell Wall Meeting, 29<sup>th</sup> Aug **2004**, Sorrento, Italy.
- XVIII. **Soares N.C.**, Francisco R., Ricardo C.P.P and Jackson, P.A.  
Title: "Peroxide induced changes in cell wall proteins during of Medicago and Lupinus."  
@ Functional Genomics and Proteomics, 17th Nov **2003**, Instituto Ricardo Jorge, Lisboa.
- XIX. **Soares N.C.**, and Jackson P.

Title: "Cell Wall proteins involved in stress responses in Medicago and Lupinus."

@Proteomics: The chemical tools and challenges, 6-8 July 2003, Cambridge, UK.

## 6. Service

- (a) Member of Institutional, National, or International Scientific Advisory Boards
- (b) Membership of Conference Committees

**2018- Advanced Proteomics Workshop and 1<sup>st</sup> South African Proteomics Symposium- Faculty of Health Sciences Department of Integrative Biomedical Sciences, 20-22<sup>nd</sup> and 23<sup>rd</sup> of August 2018 University of Witwatersrand –Role:** Part of the Organizing and Scientific committee

**2016- Research Day- Faculty of Health Sciences Department of Integrative Biomedical Sciences, 1<sup>st</sup> September 2016 University of Cape Town –Role:** Part of the Organizing and Scientific committee

**2016- 6<sup>th</sup> ACGT Proteomics Workshop 04-05 February 2016: University of Cape Town Role:** Part of the Organizing and Scientific committee

**2014- Mass Spectrometry Master Class 14-16<sup>th</sup> October 2014: University of Cape Town Role:** Part of the Organizing and Scientific committee

### Acted as Chair:

**2016- South African Society of Biochemistry and Molecular Biology-Congress.** Chaired session "Bioinformatics & Omics", 11<sup>th</sup> July 2016 East London-South Africa

**2016- Research Day- Faculty of Health Sciences Department of Integrative Biomedical Sciences, 1<sup>st</sup> September 2016 University of Cape Town**

- (c) Service as Reviewer

I am often invited to peer review manuscripts from Journals such as: Nature Communications, EMBO, PLoS Neglected Tropical Diseases, PLOS one, Frontiers in Microbiology, Molecular Cellular Proteomics, Journal of Proteome Research, Journal of Proteomics, Proteome Science, Proteomics.

- (d) Membership of Journal Editorial Boards

Associated Editor of Proteome Science

- (e) Invited Presentations at Scientific Meetings/Workshop

Please see above 5(e)

- (f) University Service

- (g) Service to Profession/Industry

- (h) Public Service

## 7. List of Publications

### (a) International Refereed Journals

#### Papers in international scientific periodicals with referees:

- I. Zaher D, Ramadan W, El-Awady R, Omar HA, Hersi F et.al “Disrupting the Evolutionary Dynamics of Cancer Ecosystem by a Novel Pleiotropic Benzopyrane Derivative: A Safe and Effective Anticancer Modality” Submitted
- II. Hermann C, Karamchand L., Blackburn J.M., **Soares NC\*** “Cell envelope proteomics of mycobacteria.” (2020) Journal of Proteome Research –Under review
- III. Altel T, Vunna, S, Ramanathan M, **Soares NC**, Sebastian A, Bolognesi ML, Abu-Yousef IA and Majdalawieh A. “Stereocontrolled Transformation of Cyclohexadienone Derivatives to Access Stereochemically-Rich and Natural Products-Inspired Architectures.” (2020) Organic & Biomolecular Chemistry – under review
- IV. Srinivasulu V., Al-Marzooq F., Hamad M., Khanfar MA, **Soares NC** and Al-Tel T. “Sequencing Groebke-Blacburn-Bienayme and Aza-Michael addition Reactions: A Modular Strategy for the Access of Diverse Collection of Constrained Benzoxazepine and Imidazopyrazine Systems” (2020) Synthesis under review
- V. Fortuin S, Nel AJ, Blackburn JM and **Soares NC\*** “Comparison between the proteome of Escherichia coli single colony and during liquid culture” J.Proteomics (2020) J Proteomics 2020 Aug 12:103929
- VI. Semreen MH, Alniss H, Cacciatore S, El-Awady R. Mousa M. Almehdi AM, El-Huneidi W, Zerbini L, **Soares NC**, “GC-MS based comparative metabolomics analysis of MCF-7 and MDA-MB-231 cancer cell treated with Tamoxifen and/or Paclitaxel.” J Proteomics. 2020 Jun 10:103875.
- VII. Baros SS, Blackburn JM, **SoaresNC\***, “Phosphoproteomic Approaches to Discover Novel Substrates of Mycobacterial Ser/Thr Protein Kinases.” Mol Cell Proteomics. 2020 Jan. doi:10.1074/mcp.R119.001668

- VIII. Hermann C, Giddey AD, Nel AJM, **Soares NC**, Blackburn JM. (2019) "Cell wall enrichment unveils proteomic changes in the cell wall during treatment of *Mycobacterium smegmatis* with sub-lethal concentrations of rifampicin" J. of proteomics, 2018 Feb 18. Pii:S1874-3919(18)30067-8. Doi: 10.1016/j.prot.2018.02.019.
- IX. Ganief N, Sjouerman J, Albeldas C, Nakedi, Hermann C, Calder B, Blackburn JM and **Soares NC\*** "Associating H<sub>2</sub>O<sub>2</sub> and NO related changes in the proteome of *Mycobacterium smegmatis* with enhanced survival in macrophage" Emerging Microbes & Infection, (2018) Dec 13; 7(1):212. Doi: 10.1038/s41426-018-0210-2
- X. Senthebane DA, Jonker T, Rowe A., Thomford NE., Munro D., Dandara C., Wonkam A., Govender D., Calder B, **Soares NC.**, Blackburn JM., Parker MI., Dzobo K. "The Role of Tumor Microenvironment in Chemoresistance: 3D Extracellular Matrices as Accomplices." (2018) Int J Mol Sci. 2018 Sep 20;19(10). Pii:E2861 doi:10.3390/ijms19102861
- XI. Nakedi KC, Calder B, Banerjee M, Giddey AD, Nel AJM, Garnett, Blackburn JM\* and **Soares NC\***. "Identification of novel physiological substrates of *Mycobacterium bovis* BCG Protein Kinase G (PknG) by label-free quantitative phosphoproteomics" (2018) Molecular Cellular Proteomics, 2018 Mar 16 pii: mcp.RA188.000705. doi: 10.1074/mcp.RA118.000705.
- XII. Hermann C, Giddey AD, Nel AJM, **Soares NC** and Blackburn JM. "Gel-free sample preparation techniques and bioinformatics enrichment analysis to in depth characterise the cell wall proteome of mycobacteria." (2018) MethodsX, 5; 475-484
- XIII. Bell L, Calder B, Hiller R, Klein A, **Soares NC**, Stoychev SH, Voster BC and Tabb DL. (2018) "Challenges and Opportunities for biological Mass Spectrometry core facilities in the developing world". J. of Biomolecular Techniques, 2018 Mar 23. Pii: jbt. 18-2901-003. Doi:10.7171/jbt. 18-2901-003.
- XIV. Albeldas C, Ganief N, Nakedi KC, Calder B, Garnett S, Nel A, Blackburn JM\* and **Soares NC\***. (2017) "Global proteome and phosphoproteome dynamics indicate novel mechanisms of vitamin C induced dormancy in *Mycobacterium smegmatis* ." J Proteomics. doi:10.1016/j.jprot2017.10.006
- XV. Kalule JB, Fortuin S, Clader B, Robberts L, Keddy KH, Nel A, Garnett S, Nicol M, Warner DF, **Soares NC\***, and Blackburn JM\*. (2017)" Proteomic comparison of three clinical diarrhoeagenic drug-resistant *Escherichia coli* isolates grown on CHROMagar<sup>TM</sup> STEC media." J Proteomics. doi:10.1016/j.jpro.2017.09.003
- XVI. Onile OS, Calder B, **Soares NC**, Anumundu CI, Blackburn JM. (2017)" Quantitative label-free proteomic analysis of human urine to identify novel

- protein biomarkers for schistosomiasis*". PLoS Negl. Trop Dis. 2017 Nov 8;11(11):e0006045.doi:10.1371/journal.pntd.0006045. eCollection 2017 Nov
- XVII. Giddey AD, de Kock E, Nokedi KC, Garnett S, Nel AJ, **Soares NC\***, Blackburn JM\*. (2017) "A temporal proteome dynamics study reveals the molecular basis of induced phenotypic resistance in *Mycobacterium smegmatis* at sub-lethal rifampicin concentrations." Sci Rep. 2017 Mar 6;7:43858. (\*) Corresponding author
- XVIII. Gurwitz KT, Burman RJ, Murugan BD, Garnett S, **Soares NC**, Raimondo JV, Blackburn JM. (2017) "Time-dependent, HIV-tat-Induced Perturbation of Human Neurons In Vitro: Towards a Model for the Molecular Pathology of HIV-Associated Neurocognitive Disorders." Front Mol Neurosci. 2017 May 29;10:163.
- XIX. Ganief T, Gqamana P, Garnett S, Hoare J, Stein DJ, Joska J, **Soares N**, Blackburn JM. (2017) "Quantitative proteomic analysis HIV-1 Tat-induced dysregulation in SH-SY5Y neuroblastoma cells." Proteomics 2017 Mar;17(6). Doi:10.1002/pmic.201600236. Epub2017 Feb 27.
- XX. **Soares NC\***, Bou G, Blackburn JM. (2016). "Editorial Proteomics of Microbial Human Pathogens". Frontiers Micro. Nov 2016 4;7:1742(\*) Corresponding author
- XXI. **Soares NC\*** and Blackburn JM. (2016). "Mass Spectrometry Targeted Assays as a Tool to Improve Our Understanding of Post-translational Modifications in Pathogenic Bacteria". Frontiers Micro. Aug 2016 4;7:1216(\*) Corresponding author
- XXII. Peters JS, Calder B, Gonnelli G, Degroevé S, Rajaonarifara E, Mulder N, **Soares NC**, Lennart Martens and Blackburn JM. (2016) "Identification of Quantitative Proteomic Differences between *Mycobacterium tuberculosis* Lineages with Altered Virulence". Frontiers Micro. May 2016 May 31;7:813
- XXIII. Potgieter MG, Nokedi KC, Amble J, Nel JM, Garnett S, **Soares NC**, Nicola Mulder and Blackburn JM. (2016) "Proteogenomic analysis of *Mycobacterium smegmatis* using high resolution mass spectrometry". Frontiers Micro. Apr 2016 Apr 5;7:427
- XXIV. Calder B, Albeldas C, Blackburn JM, **Soares NC\***. (2016) "Mass Spectrometry Offers Insight into the Role of Ser/Thr/Tyr Phosphorylation in the *Mycobacteria*". Frontiers Micro. Feb 2016 12;7:141(\*) Corresponding author
- XXV. Adeola HA, Clader B, **Soares NC**, Kaestner L, Blackburn JM, Zerbini LF.(2016) „In silico verification and parallel reaction monitoring prevalidation of potential prostate cancer biomarkers“ Future Oncol. 2016 Jan;12(1):43-57.

- XXVI. Rosenberg A, Soufi B, Ravikumar V, **Soares NC**, Krug K, Smith Y, Macek B, Ben-Yehuda S. (2015) „*Phosphoproteome dynamics mediate revival of bacterial spores*“. BMC Biol. 2015 Sep 17;13:76.
- XXVII. Nakedi KC, Nel AJ, Garnett S, Blackburn JM and **Soares NC\***. (2015) “*Comparative Ser/Thr/Tyr phosphoproteomics between two Mycobacterial species: The fast growing Mycobacterium smegmatis and the slow growing Mycobacterium bovis BCG*“. Frontiers in Microbiol. 2015 Apr 8;6:237. (\*) Corresponding author
- XXVIII. Adeola HA, **Soares NC**, Paccetz JD, Kaestner L, Blackburn JM, Zerbini LF. (2015) “*Novel urinary prostate cancer biomarker identification using label-free MS1 quantification in a multi-ethnic cohort of South Africans patients*“. Proteomics Clin Appl 2015 Jun;9(5-6):597-609
- XXIX. Fortuin S, Tomazella GG, Nagaraj N, Sampson SL, Gey van Pittius NC, **Soares NC**, Wiker H, de Souza GA and Warren RM. (2015) “*Phosphoproteomics analysis of a clinical Mycobacterium tuberculosis Beijing isolate: expanding the mycobacterial phosphoproteome catalog*“ Frontiers in Micro. 2015 Feb 10;6:6.
- XXX. Nel AJ, Garnett S, Blackburn JM and **Soares NC\*** (2015):“*Comparative reevaluation of FASP and enhanced FASP methods by LC-MS/MS*“. J Proteome Res. 2015 Mar 6;14(3):1637-42. (\*) Corresponding author
- XXXI. Calder B, **Soares NC**, de Kock E and Blackburn JM (2015): “*Mycobacterial proteomics: analysis of expressed proteomes and post-translational modifications to identify candidate virulence factors*“ Expert Rev Proteomics. 2015 Feb;12(1):21-35.
- XXXII. Rumbo-Lorenzo C., Tomás M., Fernandez -Moreira E., **Soares N.C.**, Carbajal M., Santillana E., Miller A.J., Romero A. and Bou G. (2014): “*In Acinetobacter baumannii, an outer membrane protein associated with antibiotic resistance causes death cell by apoptosis and also modulates the autophagy response*“. Infect Immun 2014 Nov;82(11):4666-80.
- XXXIII. **Soares N.C.\***, Spät P., Mendez J.A., Nakedi KC., Aranda J., Bou G. (2014): “*Ser/Thr/Tyr phosphoproteome characterization of Acinetobacter baumannii: comparison between a reference strain and a highly invasive multidrug resistant clinical isolate*“. Journal of Proteomics .2014 May 6; 102:113-24. Epub 2012 Oct 31 (\*) Corresponding author.
- XXXIV. Krug K., Carpy A., Behrends G., Matic K., **Soares NC**, Macek B. (2013):“*Deep coverage of Escherichia coli proteome enables the assessment of false discovery rates in simple proteogenomic experiments.*“ Mol Cell Proteomics. 2013 Nov; 12 (11):3420-30

- XXXV. **Soares N.C.**, Spät P., Krug K., Macek B. (2013): "Global analysis of the *Escherichia coli* proteome and phosphoproteome during in vitro growth". J. Proteome Res. 2013 Jun 7; 12(6):2611-21.
- XXXVI. Mendez J.A.#, **Soares N.C.#**, Mateos J., Gayoso C., Rumbo C., Aranda J., Tomas M. and Bou G. (2012): "Extracellular proteome of highly invasive multidrug-resistance clinical strain of *Acinetobacter baumannii*." J. Proteome Res. 2012 Dec 7; 11(12):5678-94. Epub 2012 Oct 31. (#) *These authors contributed equally for this work.*
- XXXVII. Soufi B.#, **Soares N.C.#**, Ravikumar and Macek B. (2012): "Emerging evidence of cross-talk between protein modifications in bacteria: Focus on protein acetylation and phosphorylation". Current Opinion in Microbiology. 2012 Jun; 15(3):357-63. Epub 2012 May 24 (#) *These authors contributed equally for this work.*
- XXXVIII. Beceiro A., Maharjan S., Gaulton T., Doumith M., **Soares N.C.**, Dhanji H., Warner M., Doyle M., Hickey M., Downie G., Bou G., Livermore D.M., Woodford N. (2011): "False extended-spectrum beta-lactamase phenotype in clinical isolates of *Escherichia coli* associated with increased expression of OXA or TEM-1 penicillinases and loss of porins". J. Antimicrob Chemother. 2011 Sep;66(9):2006-10. Epub 2011 Jul 8.
- XXXIX. Cabral M.P.#, **Soares N.C.#**, Aranda J., Parreira J.R., Rumbo C., Poza M., Valle J., Calamia V., Lasa I., Bou G. (2011): "Proteomic and functional analyses reveal a unique lifestyle for *Acinetobacter baumannii* biofilms and a key role of histidine metabolism". J. Proteome Res. 2011 Aug 5;10(8): 3399-417. Epub 2011 Jun 17. (#) *These authors contributed equally for this work.*
- XL. Rumbo C., Fernández-Moreira E., Merino M., Poza M., Mendez J.A., **Soares N.C.**, Mosquera A., Chaves F., Bou G. (2011): "Horizontal transfer of the OXA-24 carbapenemase gene via outer membrane vesicles: a new mechanism of dissemination of carbapenem resistance genes in *Acinetobacter baumannii*". Antimicrob Agents Chemother. 2011 Jul;55(7): 3084-90. Epub 2011 Apr 25.
- XLI. **Soares N.C.**, Wojtkowska J., Jackson P.A. (2011): "A proteomic analysis of the wound response in *Medicago sativa* leaves reveals the early activation". J. of Proteomics. Aug 12;74(8): 1411-20. Epub 2011 Apr 2.
- XLII. Mallo S., Pérez-Llarena F.J., Kerff F., **Soares N.C.**, Galleni M., Bou G. (2010) "A tripeptide deletion in the R2 loop of the class C beta-lactamase enzyme FOX-4 impairs cefoxitin hydrolysis and slightly increases susceptibility to beta-lactamase inhibitors". J. Antimicrob Chemother. 2010 Jun;65(6): 1197-94. Epub 2010 Apr 9.



- XLIII. **Soares N.C.**, Cabral M.P., Gayoso C., Mallo S., Rodriguez-Velo P., Fernandez-Moreira E., Bou G. (2010): "Associating growth-phase-related changes in the proteome of *Acinetobacter baumannii* with increased to oxidative stress". J Proteome Res. 2010 Apr 5;9(4): 1951-64.
- XLIV. **Soares N.C.**, Cabral M.P., Parreira J.R., Gayoso C., Barba M.J., Bou G. (2009): "2-DE analysis indicates that *Acinetobacter baumannii* displays a robust and versatile metabolism". Proteome Sci. 2009 Sep 28;7:37.
- XLV. **Soares N.C.**, Francisco R., Vielba J.M., Ricardo C.P., Jackson P.A. (2009): "Associating wound-related changes in the apoplast proteome of *Medicago* with early steps in the ROS signal-transduction pathway". J Proteome Res. 2009 May;8(5):2298-309.
- XLVI. **Soares N.C.**, Francisco R., Ricardo C.P., Jackson P.A. (2007): "Proteomics of ionically bound and soluble extracellular proteins in *Medicago truncatula* leaves". Proteomics 2007 Jun;7(12): 2070-82.
- XLVII. Ribeiro J.M., Pereira C.S., **Soares N. C.**, Viera A.M., Feijó J.A., Jackson P.A. (2006): "The contribution of extension network formation to rapid, hydrogen peroxide-mediated increases in grapevine callus wall resistance to fungal lytic enzymes". J Exp Bot 2006;57(9): 2025-35 Epub 2006 May 23.
- XLVIII. Jackson P.A., Galinha C.I., Pereira C.S., Fortunato A., **Soares N.C.**, Amancio S.B., Ricardo C.P. (2001): "Rapid deposition of extensin during the elicitation of grapevine callus cultures is specifically catalyzed by a 40-kilodalton peroxidase". Plant Physiol. 2001 Nov; 127(3): 1065-76.

XLIX.

**(b) Conference Papers**

Please see above 5(e)

**(c) Books/Book Chapter**

Irudukunda J, Ganief T, Blackburn MJ and **Soares NC**\*Chapter 11. *Mass Spectrometry-Based analysis of Mycobacterial single-colony Proteome*. Springer Nature "Methods in Shotgun Proteomics Protocols" 2020

**(d) Other Publications**

**Invited Editor** Research Topic Proteomics of Microbial Human Pathogens-Frontiers in Microbiology-Microbial Physiology and Metabolism 2016.