



AL MAGNIFICO RETTORE  
DELL'UNIVERSITA' DEGLI STUDI DI MILANO

COD. ID: 5557

Il sottoscritto chiede di essere ammesso a partecipare alla selezione pubblica, per titoli ed esami, per il conferimento di un assegno di ricerca presso il Dipartimento di Dipartimento di Scienze Biomediche e Cliniche

Responsabile scientifico: Paolo Fiorina

Andy Joe Seelam

## CURRICULUM VITAE

### INFORMAZIONI PERSONALI

Cognome	Seelam
Nome	Andy Joe Seelam

### OCCUPAZIONE ATTUALE

Incarico	Struttura
Laureato	Università Del Piemonte Orientale

### ISTRUZIONE E FORMAZIONE

Titolo	Corso di studi	Università	anno conseguimento titolo
Laurea Magistrale o equivalente	Biotechnologie Medicina	Università Del Piemonte Orientale	2018
Specializzazione			
Dottorato Di Ricerca	Scienza Della Nutrizione	Università degli studi di Milano	2023
Master			
Diploma Di Specializzazione Medica			
Diploma Di Specializzazione Europea			
Altro			

### ISCRIZIONE AD ORDINI PROFESSIONALI

Data iscrizione	Ordine	Città
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## LINGUE STRANIERE CONOSCIUTE

lingue	livello di conoscenza
Italian	B1
English	C2
Hindi	C2
Telugu	C2

## PREMI, RICONOSCIMENTI E BORSE DI STUDIO

anno	Descrizione premio
09/2017 - 02/2018	Research Fellowship (borsa di studio) in Molecular Biology, Università degli studi del Piemonte orientale, Department of Translational Medicine, Division of Hematology. Dr Annalisa Di Ruscio, Novara, Italy.
2017-2018	Master Student merit-based scholaership, Unviersità degli studi del Piemonte orientale Novara, Italy (€ 2469)

## ATTIVITÀ DI FORMAZIONE O DI RICERCA

<p><b>descrizione dell'attività</b></p> <p>09/2017-02/2018 Borsista di Studio</p> <p>Projects on:</p> <ul style="list-style-type: none"><li>▪ Translational Application of DNMT1 - interacting RNAs in Leukemia Development.</li><li>▪ The contribution of Poly(ADP-Ribose) Polymerase 1 (PARP1) in the establishment of DNA methylation profile. Involved in optimizing and executing experiments in leukemic cell lines in order to discover underlying epigenetic alterations.</li></ul> <p>09/2018-10/2018 Frequentatore Laureato</p> <p>Dip. Scienze Biomediche e Cliniche L. Sacco, Università degli Studi di Milano, Milan (Italy)</p> <ul style="list-style-type: none"><li>▪ Acquired experience in various immunological and biochemical assays which are used in discovering novel therapies to treat diabetes and metabolic diseases.</li><li>▪ Supported research projects on diabetes, and other metabolic diseases.</li></ul>
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11/2018-2019 Assegnista di Ricerca

Dip. Scienze Biomediche e Cliniche L. Sacco, Università degli Studi di Milano, Milan (Italy)

Undertaking research projects on:

- PD-L1 genetic overexpression in hematopoietic stem and progenitor cells in developing cell-based immunotherapies.
- Assessment of the relation between ketonemia and the progression of renal damage in diabetes.
- Development of gene therapies for the treatment of GLUT1 deficiency syndrome.

Involved in managing and optimizing techniques, experiments in the context of post-translational research, particularly Immunology and Diabetes.

2019-2022 Ph.D. in Nutritional Sciences

Undertaking Projects on:

- GLP1R is a T cell negative Costimulatory molecule.
- PD-1 blockade counteracts post-COVID-19 immune abnormalities and stimulates the anti-SARS-CoV-2 immune response
- Acute and long-term disruption of glycometabolic control after SARS-CoV-2 infection
- Indirect and direct effects of SARS-CoV-2 on human pancreatic islets

gained expertise in in vitro assays such as coculture of pancreatic islets with various cytokines and patients serum to assess apoptosis, RT-PCR, immunofluorescence, confocal microscopy.

06/2022-12/2022 PhD internship in Brigham and Woman's hospital, Harvard Medical School

Undertook Projects on:

- Role Stromal cells in cancer microenvironment.
- Direct Tumor Killing and Immunotherapy through Anti-SerpinB9 Therapy.
- Immunotherapy through Anti-SerpinB3 inhibition increases tumor susceptibility to immune system

Overall Techniques acquired:

- In Vivo: Non-obese diabetic (NOD), C57BL/6J models, Flox-Cre Models.
- IMMUNOLOGY: Flow Cytometry using 12 fluorophores by Surface, intracellular, nuclear staining, MHC-peptide Multimer staining on BD celesta and Cytex instruments; Enzyme-linked Immunosorbent Assay(ELISpot); Luminex technology; T-helper, T-Regulatory cell generation functional assays, Mixed Lymphocyte Reaction (MLR) Assays.



- **BIOCHEMISTRY:** Western blot; Electrophoresis techniques; Colorimetric assays for protein quantification and for the detection of cellular NAD<sup>+</sup> ; Fluorimetric assays for glucose level assessment; SeaHorse Assay
- **MOLECULAR BIOLOGY:** Isolation of DNA/RNA; PCR; Digital PCR and Realtime PCR; Combined Bisulfite Restriction Analysis (COBRA); Sanger Sequencing; Bisulfite Sequencing.
- **CELL BIOLOGY:** Culturing of Primary, immortalized and cancer cell lines (suspension and adherent); Hematopoietic stem cells; RNAi - Transfection with microRNAs; Proliferation and Apoptosis assays; GIEMSA Staining; Immunological cell sorting of CD34+, CD4+, CD8+ , Bone marrow derived Murine KLS, Human and Murine CD4+, CD8+; PBMCs isolation from whole blood;
- **MICROSCOPY:** light and fluorescence microscopy, Confocal Microscopy
- **MICROBIOLOGY:** Standard Cloning technique involving Plasmid ligation; Restriction enzyme digestion; Transformation; Isolation of DNA from bacteria
- Preparation of scientific manuscripts abstracts and scientific posters, support in grant preparation

## ATTIVITÀ PROGETTUALE

Anno	Progetto
2016-2018	The contribution of poly(ADP-Ribopse) Polymerase 1 (PARP1) in the establishment of DNA methylation profile.
2018-2020	Pharmacologically enhanced regulatory hematopoietic stem cells revert experimental autoimmune diabetes and mitigate other autoimmune disorders
2018-2020	The IL-8-CXCR1/2 axis contributes to diabetic kidney disease
2018-2021	miR-21 antagonism reprograms macrophage metabolism and abrogates chronic allograft vasculopathy
2019-2022	PD-1 blockade counteracts post-COVID-19 immune abnormalities and stimulates the anti-SARS-CoV-2 immune response
2019-2022	Acute and long-term disruption of glycometabolic control after SARS-CoV-2 infection
2019-2022	Indirect and direct effects of SARS-CoV-2 on human pancreatic islets
2019-2022	PhD Thesis Project "GLP1R is a T cell negative Costimulatory molecule

## TITOLARITÀ DI BREVETTI

Brevetto



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## CONGRESSI, CONVEGNI E SEMINARI

Data	Titolo	Sede
2019	-GLP1R signalling promotes allograft survival by skewing the effector/regulatory T cell balance	55th Annual Meeting of the European Association for the Study of Diabetes, 2019, Barcelona,  Spain. (Poster Presentation)
2019	Alterations in the placental proteome in gestational diabetes	55th Annual Meeting of the European Association for the Study of Diabetes, 2019, Barcelona,  Spain. (Poster and Oral Presentation)
2019	IGFBP2 disrupts colonic stem cell growth and facilitates the onset of diabetic enteropathy	55th Annual Meeting of the European Association for the Study of Diabetes, 2019, Barcelona,  Spain. (Poster and Oral Presentation)
2019	Weight Loss Improves Cardio-Metabolic and Inflammatory State in Subjects with Metabolic Syndrome”	Abstract The 13th European Nutrition Conference, FENS 2019.
2019	La sfida al diabete: le nuove frontiere, le nuove prospettive tenutosi a Coccaglio	Congresso Interassociativo AMD-SID
2019	24° Congresso AMD SID	Lombardia, COCCAGLIO (BS)
2020	25° Congresso AMD SID	Lombardia, COCCAGLIO (BS)
2021	26° Congresso AMD SID	Lombardia, COCCAGLIO (BS)
2022	28° CONGRESSO NAZIONALE SID	Rimini, Italy

## PUBBLICAZIONI

### Peer reviewed publications

- 1) Ben Nasr M, D'Addio F, Montefusco L, Usuelli V, Loretelli C, Rossi A, Pastore I, Abdelsalam A, Maestroni A, Dell'Acqua M, Ippolito E, Assi E, Seelam AJ, Fiorina RM, Chebat E, Morpurgo P, Lunati ME, Bolla AM, Abdi R, Bonventre JV, Rusconi S, Riva



- A, Corradi D, Santus P, Clark P, Nebuloni M, Baldi G, Finzi G, Folli F, Zuccotti GV, Galli M, Herold KC, Fiorina P. Indirect and Direct Effects of SARS-CoV-2 on Human Pancreatic Islets. *Diabetes*. 2022 Jul 1;71(7):1579-1590. doi: 10.2337/db21-0926. PMID: 35499468.. (IF: 7.23)
- 2) D'Addio F, Sabiu G, Usuelli V, Assi E, Abdelsalam A, Maestroni A, Seelam AJ, Ben Nasr M, Loretelli C, Mileto D, Rossi G, Pastore I, Montefusco L, Morpurgo PS, Plebani L, Rossi A, Chebat E, Bolla AM, Lunati ME, Mameli C, Macedoni M, Antinori S, Rusconi S, Gallieni M, Berra C, Folli F, Galli M, Gismondo MR, Zuccotti G, Fiorina P. Immunogenicity and Safety of SARS-CoV-2 mRNA Vaccines in a Cohort of Patients With Type 1 Diabetes. *Diabetes*. 2022 Aug 1;71(8):1800-1806. doi: 10.2337/db22-0053. PMID: 35551366. (IF: 7.23)
  - 3) Bendotti G, Montefusco L, Lunati ME, Usuelli V, Pastore I, Lazzaroni E, Assi E, Seelam AJ, El Essawy B, Jang J, Loretelli C, D'Addio F, Berra C, Ben Nasr M, Zuccotti G, Fiorina P. The anti-inflammatory and immunological properties of GLP-1 Receptor Agonists. *Pharmacol Res*. 2022 Aug;182:106320. doi: 10.1016/j.phrs.2022.106320. Epub 2022 Jun 20. PMID: 35738455. (IF:10.33)
  - 4) Ben Nasr M, Robbins D, Parone P, Usuelli V, Tacke R, Seelam AJ, Driver E, Le T, Sabouri-Ghomi M, Guerrettaz L, Shoemaker D, Fiorina P. Pharmacologically Enhanced Regulatory Hematopoietic Stem Cells Revert Experimental Autoimmune Diabetes and Mitigate Other Autoimmune Disorders. *J Immunol*. 2022 Apr 1;208(7):1554-1565. doi: 10.4049/jimmunol.2100949. Epub 2022 Mar 23. PMID: 35321879. (IF:5.44)
  - 5) U Ummarino S, Hausman C, Gaggi G, Rinaldi L, Bassal MA, Zhang Y, Seelam AJ, Kobayashi IS, Borchellini M, Ebralidze AK, Ghinassi B, Trinh BQ, Kobayashi SS, Di Ruscio A. NAD Modulates DNA Methylation and Cell Differentiation. *Cells*. 2021 Nov 2;10(11):2986. doi: 10.3390/cells10112986. PMID: 34831209; PMCID: PMC8616462. (IF: 7.6)
  - 6) Loretelli C, Abdelsalam A, D'Addio F, Ben Nasr M, Assi E, Usuelli V, Maestroni A, Seelam AJ, Ippolito E, Di Maggio S, Loreggian L, Radovanovic D, Vanetti C, Yang J, El Essawy B, Rossi A, Pastore I, Montefusco L, Lunati ME, Bolla AM, Biasin M, Antinori S, Santus P, Riva A, Zuccotti GV, Galli M, Rusconi S, Fiorina P. PD-1 blockade counteracts post-COVID-19 immune abnormalities and stimulates the anti-SARS-CoV-2 immune response. *JCI Insight*. 2021 Dec 22;6(24):e146701. doi: 10.1172/jci.insight.146701. PMID: 34784300; PMCID: PMC8783674.. (IF: 9.48)
  - 7) Usuelli V, Ben Nasr M, D'Addio F, Liu K, Vergani A, El Essawy B, Yang J, Assi E, Uehara M, Rossi C, Solini A, Capobianco A, Rigamonti E, Potena L, Venturini M, Sabatino M, Bottarelli L, Ammirati E, Frigerio M, Castillo-Leon E, Maestroni A, Azzoni C, Loretelli C, Joe Seelam A, Tai AK, Pastore I, Becchi G, Corradi D, Visner GA, Zuccotti GV, Chau NB, Abdi R, Pezzolesi MG, Fiorina P. miR-21 antagonism reprograms macrophage metabolism and abrogates chronic allograft vasculopathy. *Am J Transplant*. 2021 Mar 25. (IF: 7.16)
  - 8) Montefusco L, Ben Nasr M, D'Addio F, Loretelli C, Rossi A, Pastore I, Daniele G, Abdelsalam A, Maestroni A, Dell'Acqua M, Ippolito E, Assi E, Usuelli V, Seelam AJ, Fiorina RM, Chebat E, Morpurgo P, Lunati ME, Bolla AM, Finzi G, Abdi R, Bonventre JV, Rusconi S, Riva A, Corradi D, Santus P, Nebuloni M, Folli F, Zuccotti GV, Galli M, Fiorina P. Acute and long-term disruption of glycometabolic control after SARS-CoV-2 infection. *Nat Metab*. 2021 Jun;3(6):774-785. (IF:13.51)



- 9) Pastore I, Assi E, Ben Nasr M, Bolla AM, Maestroni A, Usuelli V, Loretelli C, Seelam AJ, Abdelsalam A, Zuccotti GV, D'Addio F, Fiorina P. Hematopoietic Stem Cells in Type 1 Diabetes. *Front Immunol.* 2021 Jul 9;12:694118. (IF:6.42)
- 10) Loretelli C, Rocchio F, D'Addio F, Ben Nasr M, Castillo-Leon E, Dellepiane S, Vergani A, Abdelsalam A, Assi E, Maestroni A, Usuelli V, Bassi R, Pastore I, Yang J, El Essawy B, Elased KM, Fadini GP, Ippolito E, Seelam AJ, Pezzolesi M, Corradi D, Zuccotti GV, Gallieni M, Allegretti M, Niewczas MA, Fiorina P. The IL-8-CXCR1/2 axis contributes to diabetic kidney disease. *Metabolism.* 2021 Aug;121:154804. (IF:6.15)
- 11) Ben Nasr M, Usuelli V, Seelam AJ, D'Addio F, Abdi R, Markmann JF, Fiorina P. Regulatory B Cells in Autoimmune Diabetes. *J Immunol.* 2021 Mar 15;206(6):1117-1125. (IF: 4.88)
- 12) Usuelli V, Loretelli C, Seelam AJ, Pastore I, D'Addio F, Ben Nasr M, Fiorina P. Novel Soluble Mediators of Innate Immune System Activation in Solid Allograft Rejection. *Transplantation.* 2021 May 25. (IF: 4.74)
- 13) Assi E, D'Addio F, Mandò C, Maestroni A, Loretelli C, Ben Nasr M, Usuelli V, Abdelsalam A, Seelam AJ, Pastore I, Magagnotti C, Abdi R, El Essawy B, Folli F, Corradi D, Zuccotti G, Cetin I, Fiorina P. Placental proteome abnormalities in women with gestational diabetes and large-for-gestational-age newborns. *BMJ Open Diabetes Res Care.* 2020 Nov;8(2):e001586. (IF: 3.18)
- 14) Della Porta, M., Piuri, G., Garziano, M., Barichella, M., Muzio, F., Seelam, A., . . . Cazzola, R. (2020). Weight Loss Improves Cardio-Metabolic and Inflammatory State in Subjects with Metabolic Syndrome. *Proceedings of the Nutrition Society*, 79(OCE2), E285. doi:10.1017/S0029665120002335

## ALTRE INFORMAZIONI


Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del DPR n. 445/2000.

Il presente curriculum, non contiene dati sensibili e dati giudiziari di cui all'art. 4, comma 1, lettere d) ed e) del D.Lgs. 30.6.2003 n. 196.

**RICORDIAMO** che i curricula **SARANNO RESI PUBBLICI sul sito di Ateneo** e pertanto si prega di non inserire dati sensibili e personali. Il presente modello è già precostruito per soddisfare la necessità di pubblicazione senza dati sensibili.

Si prega pertanto di **NON FIRMARE** il presente modello.

Luogo e data: \_Milano\_\_\_\_\_, \_\_\_\_30/12/22\_\_