

# Gianluca D'Ippolito

## **PERSONAL**

GIANLUCA D'IPPOLITO, Lecturer

- Primary Department: Biomedical Engineering, University of Miami, College of Engineering
- Secondary: Voluntary Associate Professor of Orthopaedics, University of Miami Miller School of Medicine
- Research Chemist, Miami VA Healthcare System (Federal Position)
- Principal Investigator, South Florida VA Foundation for Research and Education
- Office Phone: 305-575-3388
- Citizenships: American

## **EDUCATION**

February 1993: Doctor in Stem Cell Biology, University of Florence, Italy ()

November 1997: Specialization in Biochemistry and Clinical Biochemistry, University of Florence

## **EXPERIENCE**

Academic:

Doctoral Student, Division of Hematology, Department of Medicine, University of Florence, Italy (March 1989-January 1993)

Postdoctoral Associate, Division of Hematology, Department of Medicine, University of Florence, Italy (February 1993-August 1995)

School of Specialization in Clinical Biochemistry, University of Florence, Italy (November 1993-June 1997)

Postdoctoral Associate, Division of Endocrinology, Department of Medicine, University of Miami School of Medicine, Miami, FL (September 1995-May 1999)

Assistant Scientist, Division of Endocrinology, Diabetes, and Metabolism, Department of Medicine, University of Miami School of Medicine, Miami, FL (June 1999-May 2003)

Research Assistant Professor, Division of Gerontology and Geriatric Medicine, Department of Medicine, University of Miami School of Medicine, Miami, FL (June 2003-December 2010)

Research Assistant Professor, Department of Ortopaedics, University of Miami School of Medicine, Miami, FL (January 2011- May 2012)

Research Associate Professor, Department of Ortopaedics, University of Miami School of Medicine, Miami, FL (June 2012 – September 2016 - Primary).

Research Associate Professor, Department of Biomedical Engineering, College of Engineering, University of Miami, Miami, FL (October 2012 – Present - Secondary).

Voluntary Research Associate Professor, Department of Ortopaedics, University of Miami School of Medicine, Miami, FL (October 2016 – Present)

Research Chemist & GRECC Investigator – Miami VA Medical Center (June 2006 – Present)

Lecturer Department of Biomedical Engineering, College of Engineering, University of Miami, Miami, FL (August 2017 – Present)

Principal Investigator - South Florida VA Foundation for Research and Education (September 2017- Present).

## **PATENTS**

1. Title of Invention: Marrow Isolated Adult Multipotent Inducible (MIAMI) cells, a novel and unique population of postnatal stem cells. U.S. Patent No. 7,807,458. 2010.
2. Title of Invention: Acellular biologic composition and method of manufacture. U.S. Patent No. 9687511. 2017.
3. Title of Invention: Biologic composition and method of manufacture. U.S. Patent No. 9675643. 2017.

**Patent Application:** Isolation of Non-Expanded (ne)-MIAMI cells.

Publication number US20150132266 A1. Application number US 14/540,563. 2014.

## **PUBLICATIONS**

16. Books and monographs:

1. Rios C, Garbayo E, Gomez LA, Curtis K, **D'Ippolito G**, and Schiller PC. Stem Cells and Their Contribution to Tissue Repair. e-Book. eISBN: 978-1-60805-008-6, 2010.  
<http://www.bentham.org/ebooks/9781608050086/index.htm>
2. Schiller PC, **D'Ippolito G**, Howard GA. "Biology of Bone" in Osteoporosis in Older Persons: Advances in Pathophysiology and Therapeutic Approach. Springer-Verlag London Ltd. 2008 p. 1-18.
3. **D'Ippolito G**, Schiller PC, Ricordi C, Roos BA, Howard GA. Age-related changes and hormonal regulation of mesenchymal stromal stem cells from human vertebral bone marrow. In: Biology of Menopause. Bellino FL, Ed. Proceedings of the Serono International Symposium on Biology of Menopause, Newport Beach, CA, Sept 10-13, 1998, New York, Springer, pp 121-133, 2000.
4. Bernabei PA, Santini V, **D'Ippolito G**, Rossi-Ferrini P. Fludarabine and gemcitabine interaction with cytosine-arabinoside on human acute myeloid leukemia cells. In: Drug

Resistance in Leukemia and Lymphoma. Pieter R, Kaspers GJL, Veerman AJP, Eds. Harwood Academic Publishers (HAP), London, pp 217-221, 1997.

5. Santini V, Bernabei PA, **D'Ippolito G**, Figuccia M, Zoccolante A, Rossi-Ferrini P. Gemcitabine and gemcitabine plus Ara-C have significant activity on blast cells from patients with blast crisis chronic myeloproliferative disorders. In: Drug Resistance in Leukemia and Lymphoma. Pieter R, Kaspers GJL, Veerman AJO, Eds. Harwood Academic Publishers (HAP), London, pp 223-230, 1997.

Juried or refereed journal articles:

<https://scholar.google.com/citations?user=wsYFVEQAAAAJ&hl=en>

1. Grau-Monge C, Delcroix G, Bonnin-Marquez A, Valdes, M, Awadallah ELM, Quevedo D, Armour MR, Montero RB, Schiller PC, Andreopoulos FM, **D'Ippolito G**. Marrow-isolated adult multilineage inducible cells embedded within a biologically-inspired construct promote recovery in a mouse model of peripheral vascular disease. Biomedical Materials. Feb 17;12(1):015024, 2017. doi: [10.1088/1748-605X/aa5a74](https://doi.org/10.1088/1748-605X/aa5a74).
2. **D'Ippolito G\***, Rios C\*, Curtis KM, Delcroix GJ, Gomez LA, El Hokayem J, Rieger M, Parrondo R, De Las Pozas A, Perez-Stable C, Howard GA, Schiller PC. Low Oxygen Modulates Multiple Signaling Pathways Increasing Self-Renewal while Decreasing Differentiation, Senescence and Apoptosis in Stromal MIAMI Cells. Stem Cells Dev. 2016 Apr 8. [Epub ahead of print]. **\*These authors contributed equally to this work.**
3. Delcroix GJ-R, Molinari M, Reiner T, Temple HT, Montero RB, Andreopoulos FM, Schiller PC, **D'Ippolito G**. Multi-Layered Scaffold to Mimic Hyaline Articular Cartilage Architecture. 2015, Current Tissue Engineering. Volume 4; E-pub ahead of print. <http://benthamscience.com/journals/current-tissue-engineering/article/133087/>

4. Temple HT, Ganey T, Delcroix GJ-R, Schiller PC, **D'Ippolito G**, Malinin TI. Bone Regeneration: Microparticulate and Biomimetic Strategies. 2015, Current Tissue Engineering. Volume 4; E-pub ahead of print.  
<http://benthamscience.com/journals/current-tissue-engineering/article/133090/>
5. Galoian K, Qureshi A, **D'Ippolito G**, Schiller PC, Molinari M, Brothers S, Johnstone A, Paz Mejia A, Temple HT. Epigenetic Regulation Of Embryonic Stem Cell Marker Mir302c In Human Chondrosarcoma As Determinant Of Antiproliferative Activity Of Proline Rich Polypeptide-1. Int J Oncol. 2015 Jun 18. doi: 10.3892/ijo.2015.3054
6. Delcroix GJ-R, **D'Ippolito G**, Reiner T, Malinin T, Temple HT, Montero-Menei CN, Schiller PC. TGF- $\beta$ 3-releasing pharmacologically active microcarriers combined with human cartilage microparticles drive MIAMI cells toward a hyaline cartilage phenotype. CellR4 2015; 3 (1): e1394
7. Montero RB, Vazquez-Padron RI, Pham SM, **D'Ippolito G**, Andreopoulos FM. Electrospun gelatin constructs with tunable fiber orientation promote directed angiogenesis. Open Journal of Regenerative Medicine. 3, 1-12. doi: [10.4236/ojrm.2014.31001](https://doi.org/10.4236/ojrm.2014.31001).
8. **D'Ippolito G**, Gomez LA, Curtis K, Delcroix GJ-R, Hare JM, Hatzistergos K, Oskouei BN, Howard GA, Reiner T, and Schiller PC. Isolation and Characterization of Swine MIAMI Cells: A Valuable Animal Model for Adult Stem Cell Therapy. CellR4 2014; 2 (5): e1215.
9. Delcroix G, Kaimrajh DN, Baria D, Cooper S, Reiner T, Latta L, **D'Ippolito G**, Schiller PC Temple HT. Histological, biomechanical and biological fan-folded Iliotibial band allografts for anterior cruciate ligament reconstruction. Arthroscopy: The Journal of Arthroscopic and Related Surgery. 29(4):756-65, 2013.  
<http://dx.doi.org/10.1016/j.arthro.2012.11.007>
10. Roche S, **D'Ippolito G**, Gomez LA, Bouckenoghe T, Lehmann S, Montero-Menei CN, Schiller PC. Comparative analysis of protein expression of three stem cell populations:

Models of cytokine delivery system in vivo. *Int. J. Pharm.* 440(1):70-82, 2012.

<http://dx.doi.org/10.1016/j.ijpharm.2011.12.041>

11. Chen K, Perez-Stable C, **D'Ippolito G**, Schiller PC, Roos BA, Howard GA. Human Bone Marrow-Derived Stem Cell Proliferation Is Inhibited by Hepatocyte Growth Factor via Increasing the Cell Cycle Inhibitors p53, p21 and p27. *Bone*. 49:1194-204, 2011.
12. Garbayo E, Raval A, Curtis, K, della-Morte D, Gomez LA, **D'Ippolito G**, Reiner T, Perez-Stable C, Howard G, Perez-Pinzon M, Montero-Menei C, Schiller P. Neuroprotective properties of marrow-isolated adult multilineage inducible cells in rat hippocampus following cerebral ischemia are enhanced when complexed to biomimetic microcarriers. *J Neurochem*, 119:972-988, 2011
13. **D'Ippolito G<sup>§\*</sup>**, Azar-Rahnemai A<sup>§</sup>, Gomez LA<sup>§</sup>, Reiner T, Vazquez-Padron R, Perez-Stable C, Roos BA, Pham S, Schiller PC. Human Marrow-isolated adult multilineage inducible (MIAMI) cells protect against peripheral vascular ischemia in a mouse model. *Cytherapy* 13(2):179-92, 2011. **<sup>§</sup>These authors contributed equally to this work**  
**\*Corresponding author**
14. **D'Ippolito, G**, Schiller, PC. Adult and Embryonic Stem Cells in Cartilage Repair. *Current Rheumatology* 5(1):15-23, 2009.
15. Howard, GA, Schiller, PC, **D'Ippolito, G**, Cheung, HS, Troen, BR, Roos, BA Unlocking the Mysteries of Adult Stem Cells and Regenerative Medicine. *Federal Practitioner* 24(7):30-32, 37, 2007.
16. **D'Ippolito G\***, Tatard VM\*, Diabira S, Valeyev A, Hackman J, McCarthy M, Bouckenooghe T, Menei P, Montero-Menei CN\*, and Schiller PC\*. Neurotrophin-Directed Differentiation of Human Adult Stromal MIAMI Cells to Dopaminergic Neurons. *BONE*. 40:360-73, 2007. **\*These authors contributed equally to this work.**

17. **D'Ippolito G**, Howard GA, Roos BA, Schiller PC. Sustained Stromal Stem Cell Self-Renewal and Osteoblastic Differentiation during Aging. *Rejuvenation Research*. 9:10-19, 2006.
18. **D'Ippolito G**, Howard GA, Roos BA, Schiller PC. Isolation and Characterization of Marrow-Isolated Adult Multilineage Inducible (MIAMI) cells. *Experimental Hematology*. 34:1608-10, 2006.
19. **D'Ippolito G\***, Diabira S, Howard GA, Roos BA, Schiller PC Low oxygen tension inhibits osteogenic differentiation and enhances stemness of human MIAMI cells. *BONE*, 39:513-22, 2006. **\*Corresponding author**
20. Balkan W, Burnstein KL, Schiller PC, Perez-Stable C, **D'Ippolito G**, Howard GA, Roos BA. Androgen-induced mineralization by MC3T3-E1 osteoblastic cells reveals a critical window of hormone responsiveness. *Biochem Biophys Res Commun*. 328:783-789, 2005
21. **D'Ippolito G**, Diabira S, Howard GA, Menei P, Roos BA, Schiller PC. Marrow-Isolated Adult Multilineage Inducible (MIAMI) Cells, a Unique Population of Postnatal Young and Old Human Cells with Extensive Expansion and Differentiation Potential. *J Cell Sci*, 117:2971-2981, 2004.
22. **D'Ippolito G**, Schiller PC. Potential of adult stem cells for insulin production. *International Diabetes Monitor* 16:23-29, 2004.
23. Huang CY, Reuben PM, **D'Ippolito G**, Schiller, PC, Cheung HS. Chondrogenesis of human bone marrow derived mesenchymal stem cells in agarose culture. *Anat Rec*. 278A(1):428-436, 2004

24. Brambilla R, Neary JT, Cattabeni F, Cottini L, **D'Ippolito G**, Schiller PC, Abbracchio MP. Induction of COX-2 and reactive gliosis by P2Y receptors in rat cortical astrocytes is dependent on ERK1/2 but independent of calcium signaling. *J Neurochem* 83:1285-1296, 2002.
25. **D'Ippolito G\***, Schiller PC, Perez-Stable C, Balkan W, Roos BA, Howard GA. Cooperative actions of hepatocyte growth factor and 1,25-dihydroxyvitamin D<sub>3</sub> in osteoblastic differentiation of human vertebral marrow stromal cells. *Bone* 31:269-75, 2002.  
**\*Corresponding author**
26. Qadan LR, Perez-Stable CM, Anderson C, **D'Ippolito G**, Herron A, Howard GA, Roos BA. 2-Methoxyestradiol induces G2/M arrest and apoptosis in prostate cancer. *Biochem Biophys Res Commun* 285:1259-1266, 2001.
27. Brambilla R, Schiller PC, **D'Ippolito G**, Neary JT, Burnstock G, Cattabeni F, Abbracchio MP. Identification of a novel P2 receptor associated with cyclooxygenase-2 upregulation and reactive astrogliosis. *Drug Dev Res* 53:148-157, 2001.
28. Schiller PC, **D'Ippolito G**, Balkan W, Roos BA, Howard GA. Gap-junctional communication mediates parathyroid hormone stimulation of mineralization in osteoblastic cultures. *Bone* 28:38-44, 2001.
29. Schiller PC, **D'Ippolito G**, Brambilla R, Roos BA, Howard GA. Inhibition of gap-junctional communication induces the trans-differentiation of osteoblasts to an adipocytic phenotype in vitro. *J Biol Chem* 276:14133-14138, 2001.
30. Schiller PC, **D'Ippolito G**, Balkan W, Roos BA, Howard GA. Gap-junctional communication is required for the maturation process of osteoblastic cells in culture. *Bone* 28:362-369, 2001.



31. **D'Ippolito G**, Schiller PC. The effect of aging on MSC and their potential use for therapeutic purposes. *Graft* 3:300-304, 2000.
32. **D'Ippolito G\***, Schiller PC, Ricordi C, Roos BA, Howard GA. Age-related changes in osteogenic stem cells isolated from human vertebral bone marrow. *J Florida MA* 86:31-32, 2000. **\*Corresponding author**
33. Schiller PC, **D'Ippolito G**, Roos BA, Howard GA. Anabolic or catabolic responses of MC3T3-E1 osteoblastic cells to parathyroid hormone depend on time and duration of treatment. *J Bone Miner Res* 14:1504-1512, 1999.
34. **D'Ippolito G\***, Schiller PC, Ricordi C, Roos BA, Howard GA. Age-related osteogenic potential of mesenchymal stromal stem cells from human vertebral bone marrow. *J Bone Miner Res* 14:1115-1122, 1999. **\*Corresponding author**
35. Santini V, Bernabei PA, Gozzini A, Scappini B, Zoccolante A, **D'Ippolito G**, Figuccia M, Rossi-Ferrini P. Apoptotic and proliferative effects of gemcitabine and gemcitabine plus Ara-C on blast cells from patients with blast crisis chronic myeloproliferative disorders. *Haematologica* 82:11-15, 1997.
36. Cipolleschi MG, **D'Ippolito G**, Bernabei PA, Caporale R, Nannini R, Mariani M, Fabbiani M, Rossi-Ferrini P, Olivotto M, Dello Sbarba P. Severe hypoxia enhances the formation of erythroid burst from human cord blood cells and the maintenance of BFU-E in vitro. *Exp Hematol* 25:1187-1194, 1997.
37. Santini V, **D'Ippolito G**, Ermini A, Zoccolante A, Bernabei PA, Rossi-Ferrini P. Effects of fludarabine and gemcitabine on human AML cell line HL-60: direct comparison of cytotoxicity and cellular Ara-C uptake enhancement. *Leuk Res* 20:37, 1996.
38. **D'Ippolito G**, Oliviero C, Del Genovese A, Degl'Innocenti o Nocentini A, Caporale R,

Santini V, Bernabei PA, Rossi-Ferrini P. Performance evaluation of the Genius automated haematology analyzer. *Eur Clin Lab* 12:10, 1995.

39. Dal Pozzo O, Bernabei PA, Lombardini L, Fenigli S, **D'Ippolito G**, Rossi-Ferrini P. Daunorubicin impairs 1-d-arabinofuranosylcytosine uptake. *Chemotherapy* 37:436-440, 1991.

Other works submitted for publication:

Human Stromal MIAMI Cell-Seeded Bone Allograft Directs Fast and Superior Mandibular Augmentation in Rats. Deluiz D, Delcroix G , D'Ippolito G, Grau-Monge C, Bonnin-Marquez A, Reiner T, Tinoco EMB, Amadeu T, Pires FR, Schiller PC. Submitted to *Journal of Clinical Periodontology*. 2018

Abstracts Accepted as Oral Presentations

1. Delcroix GJ-R, **D'Ippolito G**, Reiner T, Malinin T, Temple HT, Huang CY, Montero-Menei CN, Schiller PC. MIAMI cell cartilage formation is enhanced by Pharmacologically Active Microcarriers, cartilage microparticles and mechanical stimulation. ISCT South and Central America Regional Meeting, October 14-16, 2015; Santiago, Chile.
2. **D'Ippolito G**, Montero RB, Kelly SP, Delcroix GJR, Schiller PC, Andreopoulos FM. Human Miami Cellular Constructs Promote Angiogenesis In An Aged Mouse Model Of Critical Limb Ischemia. TERMIS-Europe, June 17-20, 2013 Istanbul.
3. Delcroix GJR, **D'Ippolito G**, Reiner T, Montero-Menei CN, Malinin T, Temple HT, Schiller PC. TGF- $\beta$ 3-releasing pharmacologically active microcarriers and human cartilage microparticles to enhance hyaline cartilage formation by MIAMI cells. TERMIS-Europe, June 17-20, 2013 Istanbul.

4. Fukata M, Schiller PC, Abreu MT, and **D'Ippolito G**. Inflammatory Bowel Disease. Treatment with Miami Cells. Cell Transplant Society (CTS) & International Xenotransplantation Association, Joint Congress. October 23-26, 2011 Miami, FL.
5. Delcroix GJR, Garbayo E, Sindji L, Thomas O, Vanpouille-Box C, **D'Ippolito G**, Montero-Menei CN and Schiller PC. Pharmacologically active microcarriers (PAM) enhance the therapeutic effects of MIAMI cell transplanted in hemi-parkinsonian rats. Cell Transplant Society (CTS) & International Xenotransplantation Association (IXA), Joint Congress. October 23-26, 2011 Miami, FL.
6. Garbayo E, Curtis K, Raval A, DellaMorte D, Gomez LA, **D'Ippolito G**, Reiner T, Perez-Stable C, Howard GA, Perez-Pinzon M, Montero-Menei C, Schiller PC. Neuroprotective properties of Marrow-Isolated Adult Multilineage-Inducible (MIAMI) cells in rat hippocampus following global cerebral ischemia are enhanced when complexed to biomimetic microcarriers. Cell Transplant Society (CTS) & International Xenotransplantation Association, Joint Congress. October 23-26, 2011 Miami, FL.
7. Delcroix GJR, Garbayo E, Sindji L, Thomas O, Vanpouille-Box C, **D'Ippolito G**, Montero-Menei CN and Schiller PC. MIAMI cell effectiveness in the treatment of hemi-parkinsonian rats is enhanced by pharmacologically active microcarriers. International Society for Cellular Therapy (ISCT) annual meeting. May 18-22, 2011; Rotterdam (NL).
8. Fukata M, Schiller PC, Abreu MT, and **D'Ippolito G**. Miami Cells for the Treatment of Inflammatory Bowel Disease. International Society for Cellular Therapy (ISCT) annual meeting. May 18-22, 2011; Rotterdam (NL).
9. Schiller PC, **D'Ippolito G**, Howard GA, Roos AB. Sustained Stromal Stem Cell Self-renewal and Osteoblastic Differentiation During Aging. Second Conference of Strategies for Engineered Negligible Senescence (SENS). 7th - 11th September, 2005; Cambridge, England. Rejuvenation Research 8:S-48, 2005.

10. **D'Ippolito G**, Howard GA, Roos BA, Schiller PC. Low Oxygen Tension Inhibits the Osteogenic Differentiation and Enhances Stemness of Primitive Human MIAMI Cells. 4<sup>th</sup> Annual Conference – Mesenchymal & Nonhematopoietic Stem Cells. New Orleans Oct. 14-16, 2004.
11. Brambilla R, Schiller PC, **D'Ippolito G**, Neary JT, Burnstock G, Cattabeni F, Abbracchio MP. Modulation of cyclooxygenase-2 and brain reactive astrogliosis by P2 receptors. Purine 2000, Madrid, Spain, July 9-13, 2000. Drug Dev Res 50:1000, 2000.
12. Brambilla R, Schiller P, **D'Ippolito G**, Neary JT, Burnstock G, Cattabeni F, Abbracchio MP. Role of P2 receptors in reactive astrogliosis. First International Workshop on Nucleotides and Their Receptors in the Immune System, Ferrara, Italy, Sept 8-10, 2000.

## **PROFESSIONAL**

### Funded Research Performed:

Project Role:	Principal Investigator
Project Title:	The effectiveness of repetitive intravenous vs. intranasal infusions of MIAMI cells on Parkinsonian rats.
Funding Source:	Gateway Institute for Brain Research
Funding Period:	03/2017 - 02/2019
Total Project Costs:	\$366,157.52
Project Role:	Principal Investigator
Project Title:	MIAMI cellular-based constructs for vessel regeneration in an aged mouse model of critical limb ischemia
Funding Source:	NIH – R21
Funding Period:	05/2014 - 04/2017

Total Project Direct Costs: \$275,000

Project Role: Co- Investigator (25%)  
Principal Investigator: Paul C. Schiller, PhD  
Project Title: Mechanisms of marrow stromal stem cell self-renewal and aging.  
Funding Source: Veterans Affairs Merit Review  
Funding Period: 10/2011 - 09/2015  
Total Project Direct Costs: \$322,540

Project Role: Principal Investigator  
Project Title: Hypoxia Inhibits Bone Formation through the PI3K/AKT Signal Pathway.  
Funding Source: Florida Department of Health  
Funding Period: 07/2004 - 06/2007  
Total Project Direct Costs: \$441,000

Project Role: Investigator (10%)  
Principal Investigator: Paul C. Schiller, Ph.D.  
Project Title: Mechanisms of marrow stromal stem cell self-renewal  
Funding Source: Veterans Affairs Merit Review  
Funding Period: 04/2006 - 03/2010  
Total Project Direct Costs: \$1,003,600

Project Role: Investigator (10%)  
Principal Investigator: Bernard A. Roos, M.D.  
Project Title: Age-related bone repair by hMSCs in Biodegradable Scaffolds  
Funding Source: Veterans Affairs Merit Review

Funding Period: 10/2004 - 09/2009

Total Project Direct Costs: \$759,800

Project Role: Investigator (10%)

Project Role: Collaborator

Principal Investigator: Carlos Perez-Stable, PhD

Project Title: 2-Methoxyestradiol as chemotherapeutic for prostate cancer

Funding Source: Department of Defense

Funding Period: 10/2003 - 09/2006

Total Project Direct Costs: \$320,000

Project Role: Collaborator

Principal Investigator: Carlos Perez-Stable, PhD

Project Title: Mechanism of 2-methoxyestradiol inhibition of prostate cancer

Funding Source: Veterans Affairs Merit Review

Funding Period: 10/2002 - 09/2005

Total Project Direct Costs: \$558,400

### Grants pending

Project Role: PI

Project Title: Promoting Cartilage Regeneration through Physiological Joint Loading of Stem Cells

Funding Source: DOD

Funding Period: 06/2018 - 09/2021

Total Project Direct Costs: \$750,000 Total

Project Role: Co-Investigator

Project Title: Stem Cell Therapy with MIAMIs Cells for Frail Older Veterans – Phase I Clinical Trial

Funding Source: VA Medical Center

Funding Period: 06/2018 - 09/2020

Total Project Direct Costs: \$150,000 Total

Editorial responsibilities: CellR4

Professional and Honorary Organizations:

American Society for Bone and Mineral Research

International Society for Cellular Therapy

International Society for Stem Cell Research

Honors and Awards:

- PHI BETA DELTA: Honor Society for International Scholars. University of Miami, Miami, FL.
- Miami VA Research Awareness 2010. 1<sup>st</sup> Place Basic Research
- Miami VA Research Awareness 2010. 2<sup>nd</sup> Place Basic Research

Postdoctoral Fellowships:

Division of Endocrinology, Department of Medicine, University of Miami School of Medicine, Miami, FL (1995-1999)

SEAC Fellowship – SEAC Inc., Florence, Italy (1993-1995)

Elena Fellowship – University of Florence, Florence, Italy (1995-1996)

**TEACHING**

Current Teaching Responsibilities:

- Teaching lab techniques to undergraduate, graduate students, post-docs, and fellows. 1996-present.
- Stem cell communication. PhD Student in Pharmacology. 2013-2015
- BME731-C. Stem cell products for musculoskeletal and neural applications. Course at Biomedical Engineering. 2016-Present.
- BME335-P. Biomaterial. Course at Biomedical Engineering. 2016-Present.
- BME565-R2. Principles of Cellular and Tissue Engineering. Course at Biomedical Engineering. 2016-Present.

**Thesis and dissertation advising; postdoctoral fellow and student training/supervision**

1. Max Armour, graduate student from BME, University of Miami.  
January 2017-Present
2. Flavia Zisi Tegou, graduate student from BME, University of Miami.  
January 2017-Present
3. John Graham Solomon IV, Undergraduate student from BME, University of Miami.  
January 2017-Present
4. Ead Lewis Mazen Awadallah, PhD Student in Biomedical Engineer, University of Miami.  
May 2015-Present.
5. Mike Valdes, PhD Student in Biomedical Engineer, University of Miami. August 2014-2015.



6. Marco Molinari, Biomedical Engineer, University of Milan, Italy. December 2013-present.
7. Mitchell Falter undergraduate student, School of Biomedical Engineering, June-August 2012.
8. Nitish Kapur high school summer student, June-July 2011
9. Meghan O'Connell graduate student, University of Miami, September-November 2009
10. Melvys Ceballos-Valledor graduate student, University of Miami, Department of Biochemistry, 2008 –present. Project title: Recombineering MIAMI cells.
11. Carmen Rios graduate student, University of Miami, Department of Biochemistry, 2005 - 2010. Project title: Wnt signaling pathway and cell renewal on MIAMI cells.
12. Kevin Curtis graduate student, University of Miami, Department of Biochemistry, 2005 – 2010. Project title: Neurotrophin-directed differentiation of MIAMI cells to dopaminergic-like neurons.
13. Jimmy El Hokayem graduate student, University of Miami, Department of Biochemistry, January 2008 – August 2008. Project title: Notch signaling pathway and cell renewal on MIAMI cells. Project title: The use of MIAMI cells and the pharmacologically active microcarriers (PAM) for neuronal regeneration.
14. Elisa Garbayo post-doc, University of Miami, Department of Medicine, May 2008 – 2009.
15. Swati Chalapati, undergraduate student, University of Miami, 2004-2006. Project title: Low Oxygen Tension Inhibits Bone Formation on MIAMI cells.

16. Sylma Diabira, MD. Resident in Neurosurgery, University of Angers, France. 2001-2003. Project title: Human mesenchymal stem cells as therapeutic vehicles for brain tumors.
17. Patricia Hernandez-Bravo, BS. Summer student, University of Madrid, Spain. 1998-2001. Project title: Connexin43-mediated gap-junctional communication enhances PTH responsiveness.
18. Zuliana Kurji. Undergraduate, University of Miami, FL, 1999-2000. Project title: Expansion and differentiation in vitro of human mesenchymal stem cells.
19. Roberta Brambilla, MS. University of Milan, Italy, 1998-2000. Project title: P2 receptor activation induces up-regulation of cyclooxygenase 2 mRNA in rat cortical astrocytes.
20. Patricia Estremadoyro, BS. Summer student, University of Miami, FL, 1997-1999. Project title: Hepatocyte growth factor and fibroblast growth factor-2 for the expansion of mesenchymal stem cells.

## **SERVICE**

### Committee and Administrative Responsibilities:

- Vice-Chair of the animal committee, IACUC, for the Miami VA Medical Center
- Responsible for the procurement, isolation, and expansion of human mesenchymal stem cells and MIAMI cells from vertebral bone marrow and from iliac crest aspirate for several funded research projects involving University of Miami Miller School of Medicine faculties.