

# Stanford

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## Rosita Primavera

Basic Life Research Scientist, Rad/Pediatric Radiology

### Bio

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#### BIO

Dr. Rosita Primavera is a Basic Life Research Scientist at Stanford University in the Department of Radiology/Pediatric Radiology. She has a MD in chemistry and pharmaceutical technology and a PhD degree in Cellular and Molecular Biotechnologies. Dr. Primavera has documented experience on the development of nano- and micro-drug delivery systems (DDS) as well as 3D-platforms for the treatment of different diseases. She has trained in developing DDS and 3D-platforms with different materials (synthetic or natural) and employing different techniques (e.g. top/down or bottom/up fabrication). In the last few years, her research interests are focused primarily on diabetes. She has been extensively trained on how to handle and process pancreatic islets from different origins (mouse, rat and human) and she has excellent knowledge and skills to manage and perform in vitro and in vivo experiments involving diabetic animals. She is currently working on the realization of on-commanded system mimicking pancreatic islet function; and both the role of 3D-bioscaffold in pancreatic islet transplantation and the role of the mesenchymal stem cell in the setting of diabetes using novel cellular approaches (i.e. co-transplantation with islets alone or within novel bioscaffolds).

#### HONORS AND AWARDS

- Award “Aldo La Manna” for best graduation thesis, ADRITELF CRS 2014, Florence, Italy (2014)

#### EDUCATION AND CERTIFICATIONS

- Postdoctoral Scholar, Interventional Regenerative Medicine and Imaging Laboratory Stanford University, Radiology Department, Stanford, CA , # cell regeneration using islet cell transplantation and construction of novel 3D porous bioscaffolds loaded with stem cells or extracellular vesicles for pancreatic islet transplantation. (2022)
- Postdoctoral Scholar, Italian Institute of Technology - Genova , Nanotechnology for Precision Medicine (2019)
- PhD, University of Teramo - Italy , Cellular and Molecular Biotechnology (2017)
- MS, Università degli Studi “G. d’ Annunzio” Chieti-Pescara, Italia , Pharmacy (2014)

### Professional

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#### PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, CRS Italy Local Chapter (Italian Chapter of the Controlled Release Society). (2018 - present)
- Member, ISNAFF (2020 - present)
- Member, A.D.R.I.T.E.L.F. (2020 - present)
- Member, S.C.I. (Società Chimica Italiana): Divisione di Tecnologia Farmaceutica e Divisione di Chimica Farmaceutica. (2020 - present)

## Publications

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### PUBLICATIONS

- **Precision Delivery of Human Bone Marrow-Derived Mesenchymal Stem Cells Into the Pancreas Via Intra-arterial Injection Prevents the Onset of Diabetes.** *Stem cells translational medicine*  
Primavera, R., Regmi, S., Yarani, R., Levitte, S., Wang, J., Ganguly, A., Chetty, S., Guindani, M., Ricordi, C., Meyer, E., Thakor, A. S.  
2024
- **# Cell and Autophagy: What Do We Know?** *Biomolecules*  
Mohammadi-Motlagh, H. R., Sadeghalvad, M., Yavari, N., Primavera, R., Soltani, S., Chetty, S., Ganguly, A., Regmi, S., Fløyel, T., Kaur, S., Mirza, A. H., Thakor, A. S., Pociot, et al  
2023; 13 (4)
- **Integrated transcriptome-proteome analyses of human stem cells reveal source-dependent differences in their regenerative signature.** *Stem cell reports*  
Ganguly, A., Swaminathan, G., Garcia-Marques, F., Regmi, S., Yarani, R., Primavera, R., Chetty, S., Bermudez, A., Pitteri, S. J., Thakor, A. S.  
2022
- **Umbilical cord mesenchymal stromal cells-from bench to bedside.** *Frontiers in cell and developmental biology*  
Chetty, S., Yarani, R., Swaminathan, G., Primavera, R., Regmi, S., Rai, S., Zhong, J., Ganguly, A., Thakor, A. S.  
2022; 10: 1006295
- **Mesenchymal stromal cells for the treatment of Alzheimer's disease: Strategies and limitations.** *Frontiers in molecular neuroscience*  
Regmi, S., Liu, D. D., Shen, M., Kevadiya, B. D., Ganguly, A., Primavera, R., Chetty, S., Yarani, R., Thakor, A. S.  
2022; 15: 1011225
- **Conformable hierarchically engineered polymeric micromeshes enabling combinatorial therapies in brain tumours.** *Nature nanotechnology*  
Di Mascolo, D., Palange, A. L., Primavera, R., Macchi, F., Catelani, T., Piccardi, F., Spano, R., Ferreira, M., Marotta, R., Armirotti, A., Gallotti, A. L., Galli, R., Wilson, et al  
2021
- **Enhancing islet transplantation using a biocompatible collagen-PDMS bioscaffold enriched with dexamethasone-microplates.** *Biofabrication*  
Primavera, R., Razavi, M., Kevadiya, B. D., Wang, J., Vykunta, A., Di Mascolo, D., Decuzzi, P., Thakor, A.  
2021
- **Silicone-based bioscaffolds for cellular therapies.** *Materials science & engineering. C, Materials for biological applications*  
Razavi, M. n., Primavera, R. n., Vykunta, A. n., Thakor, A. S.  
2021; 119: 111615
- **Insulin Granule-Loaded MicroPlates for Modulating Blood Glucose Levels in Type-1 Diabetes.** *ACS applied materials & interfaces*  
Primavera, R., Bellotti, E., Di Mascolo, D., Di Francesco, M., Wang, J., Kevadiya, B. D., De Pascale, A., Thakor, A. S., Decuzzi, P.  
2021
- **Cellular uptake and retention of nanoparticles: Insights on particle properties and interaction with cellular components** *MATERIALS TODAY COMMUNICATIONS*  
Augustine, R., Hasan, A., Primavera, R., Wilson, R., Thakor, A. S., Kevadiya, B. D.  
2020; 25
- **Hybrid Polydimethylsiloxane Bioscaffold-Intravascular Catheter for Cellular Therapies** *ACS APPLIED BIO MATERIALS*  
Hu, S., Primavera, R., Razavi, M., Avadhani, A., Wang, J., Thakor, A. S.  
2020; 3 (10): 6626–32
- **Hybrid Polydimethylsiloxane Bioscaffold-Intravascular Catheter for Cellular Therapies.** *ACS applied bio materials*  
Hu, S., Primavera, R., Razavi, M., Avadhani, A., Wang, J., Thakor, A. S.  
2020; 3 (10): 6626-6632
- **A Collagen Based Cryogel Bioscaffold that Generates Oxygen for Islet Transplantation.** *Advanced functional materials*  
Razavi, M., Primavera, R., Kevadiya, B. D., Wang, J., Buchwald, P., Thakor, A. S.  
2020; 30 (15)

- **A Collagen Based Cryogel Bioscaffold that Generates Oxygen for Islet Transplantation** *ADVANCED FUNCTIONAL MATERIALS*  
Razavi, M., Primavera, R., Kevadiya, B. D., Wang, J., Buchwald, P., Thakor, A. S.  
2020
- **Rapid Antibody-Based COVID-19 Mass Surveillance: Relevance, Challenges, and Prospects in a Pandemic and Post-Pandemic World.** *Journal of clinical medicine*  
Augustine, R. n., Das, S. n., Hasan, A. n., S, A. n., Abdul Salam, S. n., Augustine, P. n., Dalvi, Y. B., Varghese, R. n., Primavera, R. n., Yassine, H. M., Thakor, A. S., Kevadiya, B. D.  
2020; 9 (10)
- **Emerging Nano- and Micro-Technologies Used in the Treatment of Type-1 Diabetes.** *Nanomaterials (Basel, Switzerland)*  
Primavera, R. n., Kevadiya, B. D., Swaminathan, G. n., Wilson, R. J., De Pascale, A. n., Decuzzi, P. n., Thakor, A. S.  
2020; 10 (4)
- **Controlled Nutrient Delivery to Pancreatic Islets Using Polydopamine-Coated Mesoporous Silica Nanoparticles.** *Nano letters*  
Razavi, M. n., Primavera, R. n., Kevadiya, B. D., Wang, J. n., Ullah, M. n., Buchwald, P. n., Thakor, A. S.  
2020
- **Engineering shape-defined PLGA microPlates for the sustained release of anti-inflammatory molecules.** *Journal of controlled release : official journal of the Controlled Release Society*  
Di Francesco, M. n., Primavera, R. n., Summa, M. n., Pannuzzo, M. n., Di Francesco, V. n., Di Mascolo, D. n., Bertorelli, R. n., Decuzzi, P. n.  
2019