

## Resmi Anand, PhD

### ***Affiliation***

DST INSPIRE Faculty  
Centre for Drug Discovery at the Inter University  
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### **Education**

<b>Degree</b>	<b>Institution/University</b>	<b>Year</b>	<b>Subject(s)</b>
Ph.D	University of Bologna/National Research Council (CNR),Italy	2013	Chemistry
M. Tech	Cochin University of Science and Technology	2008	Polymer Technology
M.Sc	School of Chemical Sciences, Mahatma Gandhi University, Kottayam, Kerala	2006	Chemistry (Polymer Science)
B.Sc	Catholicate college/ Mahatma Gandhi University	2004	Chemistry

### **Professional Experience**

<b>Position</b>	<b>Institute/Organization</b>	<b>Responsibilities</b>	<b>Year From – To</b>
DST INSPIRE Faculty	Centre for Drug Discovery at the Inter University Centre for Biomedical Research & Super Speciality Hospital (Govt. of Kerala)	Development of injectable hydrogel based delivery systems for cartilage tissue repair	Feb 2017- present
Research Associate	Biomedical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram	Development of polymer scaffolds for cartilage tissue engineering	Jan 2014 - Nov 2015
Marie Curie Early Stage Researcher	The Institute of Organic Synthesis and Photoreactivity (ISOF), Consiglio Nazionale delle Ricerche (CNR), Italy	Spectroscopic studies on multifunctional cyclodextrin and metal organic	June 2010-June2013

Marie Curie Exchange student	The department of Pharmacy, University of Paris-Sud, UMR-CNRS, France.	framework based nanocarriers for delivery of anticancer and antiviral drugs “Synthesis of nanoparticles loaded with anticancer drugs and physico-chemical characterization.”	Sep2012 - Nov 2012
Junior Research Fellow	Biomedical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram	Development of combination products of polymer ceramic nanocomposites with cells and growth factors for bone-tissue engineering application	July2008 - Nov2009

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#### **Awards and fellowships:**

- DST INSPIRE Faculty award (Feb 2017 – present)
- Marie curie early stage research fellowship (June 2010 – June 2013)
- Best student poster award at CRS Nordic chapter meeting “Drug Delivery and Targetting” June 2012 at Reykjavik, Iceland
- Mahatma Gandhi University 3<sup>rd</sup> rank in M.Sc Chemistry (Polymer Science, 2006)

#### **Peer reviewed journals:**

1. V. Rodriguez-Ruiz, A. Maksimenko, **R. Anand**, S. Monti, V. Agostoni, P. Couvreur, M. Lampropoulou, K. Yannakopoulou, R. Gref “Efficient “green” encapsulation of a hydrophilic anticancer drug in Metal organic frameworks nanoparticles” **J. Drug Target** **2015**, *23*, 759-767.  
*(Invited article in special issue honoring Prof. R. Langer for his lifetime achievements in the biomedical field.)*
2. **Anand, R.**; Borghi, F.; Manoli, F.; Manet, I.; Agostoni, V.; Reschiglian, P.; Gref, R.; Monti, S.; “Host-guest interactions in Fe (III)- trimesate MOF Nanoparticles loaded with Doxorubicin conjugates” **J. Phys. Chem. B.**, **2014**, *118*, **8532-8539**
3. **Anand, R.**; Manoli, F; Manet, I; Donzello, M.P; Viola, E; Malanga, M; Jicsinszky, L.; Fenyvesi, E.; Monti, S; “Fluorescent cyclodextrin carriers for a water soluble Zn(II) pyrazinoporphyrazine octacation with photosensitizer potential” **RSC Adv.**, **2014**, *4*, 26359-26367
4. Agostoni, V # .; **Anand, R.**; #.; Monti, S.; Hall, S.; Maurin, G.; Horcajada, P.; Serre, C.; Bouchemal, K.; Gref, R.; “Impact of phosphorylation over the encapsulation of

nucleosides analogues within porous iron (III) Metal Organic Frameworks MIL-100(Fe) nanoparticles” *J. Mater. Chem.B*, **2013**,**1**, 4231-4242, (# equal contribution) **Hot paper**

5. **Anand, R.**; Malanga, M.; Manet, I.; Manoli, F.; Tuza, K.; Aykac, A.; Ladaviere, C.; Fenyvesi, E.; Vargas-Berenguel, A.; Gref, R.; Monti, S.; “Citric acid  $\gamma$ -cyclodextrin crosslinked oligomers as carriers for doxorubicin delivery” *Photochem.Photobiol.Sci.*, **2013**,**12**, 1841-1854
6. Agostoni, V.; Chalati, T.; Horcajada, P.; Willaime, H.; **Anand, R.**; Semiramoth, N.; Baati, T.; Hall, S.; Maurin, G.; Chacun, H.; Chacun, H.; Bouchemal, K.; Martineau, C.; Taulelle, F.; Couvreur, P.; Roger-Kreuz, C.; Clayette, P.; Monti, S.; Serre, C.; Gref, R.; “Towards an Improved anti-HIV Activity of NRTI via Metal Organic Framework nanoparticles.” *Adv.Healthc Mater.* **2013**, 2(12), 1630-1637.
7. **Anand, R.**; Ottani, S.; Manoli, F.; Manet, I.; Monti, S. “A close-up on doxorubicin binding to  $\gamma$ -cyclodextrin: an elucidating spectroscopic, photophysical and conformational study.” *RSC Adv.*, **2012**, 2, 2346-2357.
8. **Anand, R.**; Manoli, F.; Manet, I.; Daoud-Mahammed, S.; Agostoni, V.; Gref, R.; Monti, S. “ $\beta$ -Cyclodextrin polymer nanoparticles as carriers for doxorubicin and artemisinin: a spectroscopic and photophysical study.” *Photochem.Photobiol.Sci.*, **2012**, 11, 1285-1292.
9. **Anand, R.**; Manoli, F.; Vargas-Berenguel, A.; Monti, S. “Photocontrolled binding of artemisinin to a bis( $\beta$ -cyclodextrin) bearing azobenzene on the primary face.” *J.Drug Del.Sci.Tech.*, **2012**, 22(3), 266-269.
10. **Resmi, R.**; Amrutha, S. R.; Jayakannan, M. "Control of Molecular Aggregation in Symmetrically Substituted  $\pi$ -Conjugated Bulky Poly(p-phenylenevinylene)s and Their Copolymers." *J. Polym. Sci. Polym. Chem.*, **2009**, 47, 2631-2642.

#### **Book chapter:**

**Anand, R.** and Nair, BP; “Anacardic acid and Cardanol: Prospective applications for Cancer therapy, Drug delivery and imaging” in Cashew Nut Shell Liquid: a Goldfield for Functional Materials edited by Parambath Anilkumar Publisher: Springer international publishing. 2017, Electronic ISBN: 9783319474557

#### **Research interests:**

- Development of biomaterials for tissue engineering and drug delivery applications
- Spectroscopic investigation on host:guest interaction of cyclodextrins, cyclodextrin polymers, fluorescent cyclodextrin oligomers and metal organic frameworks based systems with anticancer and antiviral drugs.