

**CURRICULUM VITAE****MUHAMMAD NISAR**

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<b>M. Sc &amp; M. Phil</b>	<b>PhD UFRGS</b>

**2018-till present** Postdoctoral research fellow Pontifical Catholic University of Rio Grande do Sul  
Encapsulation of liquid sorbent in the polymer shell for CO<sub>2</sub> capture

**2014-2018** PhD in Chemistry– Federal University of Southern Rio Grand (UFRGS) Brazil,

Title: Polyolefin as polymeric matrix for conducting and magnetic nanocomposites

Supervisor: Prof. Griselda Barrera Galland

Funding: *Twas-Cnpq fellowship*

**2009-2012** M. Phil Chemistry

Title: Synthesis and characterization of bio-based polymer composites.

Supervisor: Prof. Rashid Ahamd

**2006-2008** M. Sc Chemistry

Title: An Improve Method for Amino acid metal Complexation

Supervisor: Prof. Iqbal Hussain

## **RESEARCH INTERESTS**

- *Main research interests are synthesis magnetic and conducting polymer nanocomposites of higher molecular weight, for different industrial application.*
- *Bio-Based polymer composites*
- *Blending of polymer composites*
- *To characterize the materials by scanning electron microscopy (SEM), transmission electron microscopy (TEM), Gel permeation chromatography (GPC), mechanical characterization of the polymer, thermal properties, permeability, magnetic and conductive investigation.*
- *Synthesis of solvent free polymeric materials for CO<sub>2</sub> capture*

## **SUMMARY OF ACHIEVEMENTS**

- Excellent organizational skills.
- Effective Administrative and management skills.
- Excellent Crises management skills.
- Extraordinary achiever with high standards of personal performance.
- Effective Planning and reporting techniques.
- Form quality liaisons and relationships easily.
- Proven record of success in resolving issues.
- Excellent problem solving and communication skills

## **ACADAMIC QUALIFICATION**

<b>Certificate/ Degree</b>	<b>Session</b>	<b>Board/ University</b>	<b>Division/GPA</b>
Postdoctoral	2020-present	University of Chile	
Postdoctoral	2018-2020	Pontifical Catholic University of Rio Grande do Sul	-----
PhD Chemistry	2014-2018	Federal University of Rio Grande do sul Brazil	----
M. Phil (Chemistry)	2009-2012	Hazara University	1 <sup>st</sup> (3.05/4 GPA)
B. Ed (Bachelor of Education)	2009	University of Peshawar	1 <sup>st</sup> (695/1100)
M.sc (Chemistry)	2006-2008	Kohat University of Science and Technology	1 <sup>st</sup> (1368/2000)
B.sc (Chem,Zoo, Geo)	2004-2006	University of Peshawar	1 <sup>st</sup> (330/550)
F.sc (Pre-Medical)	2002-2004	BISE Peshawar	1 <sup>st</sup> (695/1100)
Matric	2001	BISE Peshawar	2 <sup>nd</sup> (506/805)

## Participation in the scientific events

- Three Days International Workshop on "Basic Techniques in Research, Dissertation and Scientific Paper Writing" KUST, 2008
- Two Days Workshop on Faculty Development Program" KUST, 2008
- Social Work program University Of Peshawar " 2006
- One day workshop on young researcher skill development " held at National University of Science and Technology Islamabad, 2011
- **M. Nisar**, G. B. Galland, Study of polyolefin as polymeric matrix for conductive and magnetic nanocomposites, 14th international symposium on advance materials, 2015 Islamabad Pakistan.
- R. Quijada, R. Mensez, B. Constant, C. Garzon, **M. Nisar**, S.M.B. Nachtigall, Barrier, properties of polycaprolactam composites melt mixed with carbon-based particles: Effect of the kind of particle. Xv Simposio Latino americano de polimeros (2016) Mexico.
- **M. Nisar**, C. Bergmann, J. Geshve, R. Quijada, T. Maracchin, N.R.S. Basso, E.G. Barrera, G. B. Galland, Magnetic and semiconductor flexible nanocomposites, Xv Simposio Latinoamericano de polimeros (2016) Mexico.
- **M. Nisar**, C. Bergmann, J. Geshve, R. Quijada, G. B. Galland. An easy approach to synthesis and characterization of polyethylene magnetic nanocomposites, 3rd Brazilian conference on composites material (2016) Rs Brazil.
- **M. Nisar**, M.G.S. Bernd, L. C.P. S. Filho, J. Geshev, G.B. Galland. Nanocomposites of polypropylene with carbon nanotubes from sawdust of the furniture industry: study of properties. XVI Brazil MRS meeting (2017) Rs Brazil.
- S.M.B. Nachtigall, B. Constant R. Quijada, **M. Nisar**. Effect of carbon based filler on the barrier properties of polycaprolactam, XVI Brazil MRS meeting (2017) Rs Brazil.
- **M. Nisar**, C. Bergmann, J. Geshve, R. Quijada, G .B. Galland. Synthesis of polyolefine magnetic and conducting nanocomposites by in situ polymerization, 14<sup>o</sup> CONGRESSO BRASILEIRO DE POLÍMEROS (2017) SP Brazil.
- **M. Nisar**, M.G.S. Bernd, L. C.P. S. Filho, J. Geshev, C. Bergmann, G.B. Galland. Polyolefin/ carbon nanotubes containing iron nanocomposites: A comparative study of different methods of preparation. XVI Brazil MRS meeting (2018) RN (Natal) Brazil.
- F. L. Bernard, R. B. Duczinski, E. A. Duarte, M. Nisar, S. Einloft, MEMBRANAS COMPÓSITAS DE POLISULFONA/SÍLICA FUNCIONALIZADA COM LÍQUIDO IÔNICO PARA CAPTURA DE CO<sub>2</sub>, 15<sup>o</sup> CONGRESSO BRASILEIRO DE POLÍMEROS (2019) Bento Goncalves Rs Brazil.

## Publications:

1. T. YASIN, **M. Nisar**, M. Shafiq, N.Y. Chang, R. Ahmad. Influence of sepiolite and electron beam irradiation on the structural and physicochemical properties of polyethylene/starch nanocomposites, **Polym. Compos.** 34 (3) (2013) 408-416.
2. **M. Nisar**, C. Bergmann, J. Geshve, R. Quijada, G. B. Galland. An efficient approach to the preparation of polyethylene magnetic nanocomposites, **Polymer** 97 (2016) 131-137.
3. **M. Nisar**, C. Bergmann, J. Geshve, R. Quijada, G. B. Galland. Synthesis and characterization of polypropylene/iron encapsulated carbon nanotube composites with high magnetic response at room temperature, **Polymer** 118 (2017) 68-74.
4. **M. Nisar**, C. Bergmann, J. Geshve, R. Quijada, T. Maracchin, N.R.S. Basso, E.G. Barrera, G.B. Galland. Synthesis of high-density polyethylene/rGO-CNT-Fe nanocomposites with outstanding magnetic and electrical properties, **J. Appl. Polym. Sci.** 2017, 134, 45382.
5. R. Mensez, B. Constant, C. Garzon, **M. Nisar**, S.M.B. Nachtigall, R. Quijada, Barrier, mechanical and conductive properties of polycaprolactam nanocomposites containing carbon-based particles: Effect of the kind of particle, **Polymer** 130 (2017) 10-16.
6. **M. Nisar**, P.S. Thue, C. A. Heck, J. L. S. Cuaila, J. Geshev, E. C. Lima, G. B. Galland. Synthesis of polyethylene/nickel-carbon stimuli-responsive material under magnetic field at room temperature: effect of the filler on the properties, **European Polymer Journal** 99 (2018) 378-383.
7. **M. Nisar**, M.G.S. Bernd, L. C.P. S. Filho, J. Geshev, N. Basso, G.B. Galland. Polypropylene nanocomposites with electrical and magnetic properties, **J. Appl. Polym.Sci.** 2018, 135 (42), 46820 .
8. **M. Nisar**, M.G.S. Bernd, L. C.P. S. Filho, J. Geshev, G.B. Galland. Polypropylene/carbon nanotube magnetic composites obtained using carbon nanotubes from sawdust. **Polymer for advance technology** (2019) 30, 457-464.
9. **M. Nisar**, P.S. Thue, C. A. Heck, J. Geshev, E. C. Lima, G. B. Galland. Polyethylene Nanocomposites with Ni, Co, and Fe Carbon-Based Magnetic Fillers, **Polymer Engineering and Science** ,2020, 60 (5), 988-995
10. **M. Nisar**, P.S. Thue, M.B Maghous, J. Geshev, E. C. Lima, S. Eniloft. Metal activated carbon as an efficient filler for high-density Polyethylene nanocomposites, **Polymer composites**, 2020, 41, 3184-3193.
11. **M. Nisar**, P.S. Thue, M.B Maghous, J. Geshev, E. C. Lima, S. Eniloft. Polysulfone magnetic nanocomposites with enhance CO2 capture, **RSC Adv.**, 2020, 10, 34595

**12. M.Nisar, F.L. Bernard, E.V. Duarte, S. Einloft, Fabrication of stable polysulfone microcapsules contains Fe<sub>2</sub>O<sub>3</sub> and ([BMIm][NTf<sub>2</sub>]) ionic liquid for improve CO<sub>2</sub> capture, *Journal of Environmental Chemical Engineering*, 2021, 9, 104781.**

**PATENT**

- Nanocompósito e processo de obtenção de nanocomposite, **BR10201603016**.
- Processo de obtenção de nanocompósito, o nanocomposito e o uso do mesmo, **BR 1020180150693**
- Nanocompósitos compreendendo polietileno e uma carga nanometrica composta por carbono ativado com níquel, processo para obtenção e uso do mesmo, **BR 1020180170210**
- Líquidos iônicos/metal encapsulados em matriz polimérica para captura e separação de CO<sub>2</sub>, **BR10202000385**

References

**1. Dr. Griselda Ligia Barrera de Galland**

Professor

Department of chemistry

Federal University of Rio Grande do sul Rs Brazil

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**2. Dr. Sandra Einloft**

Professor and Dean

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**3. Dr. Julian Penkov Geshev**

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Email Address: [julian@if.ufrgs.br](mailto:julian@if.ufrgs.br)

**4. Dr. Rashid Ahmad**

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