CURRICULUM VITAE – Cristine D. Villagonzalo

PERSONAL INFORMATION

Family name, First name	**Villagonzalo, Cristine D.**
Researcher unique identifier(s)	ORCID: 0000-0002-3670-8794 Scopus ID: 6506626057
Nationality	Filipino
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Professional Address	National Institute of Physics (NIP) University of the Philippines Diliman (UPD) corner Ma. Regidor St. and C.P. Garcia Avenue, Diliman, Quezon City 1101

EDUCATION

2001 **PhD (Dr.rer.nat) in Theoretical Physics (Cum Laude)**
Technische Universität (TU) Chemnitz, Fakultät für Naturwissenschaften, Chemnitz, Germany
Dissertation title: *"Thermoelectric Transport at the Metal-Insulator Transition in Disordered Systems"*
Supervisor: Prof. Michael Schreiber (retired)

1997 **Postgraduate Diploma in Condensed Matter Physics**
The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy

1995 **Master of Science in Physics**
University of the Philippines Diliman, Quezon City, Philippines

1992 **Bachelor of Science in Physics (Cum Laude)**
University of the Philippines Diliman, Quezon City, Philippines

CURRENT POSITION

Nov. 2024 – **Coordinator**, ICTP Asian Network on Condensed Matter, Complex Systems and Statistical Physics

2014 – **Professor**, National Institute of Physics, University of the Philippines Diliman

PREVIOUS POSITIONS

2025 – Mar. 2026 **Deputy Director for Research & Extension**, NIP, UPD

2020 – 2024 **Deputy Director for Academic Affairs,** NIP, UPD

2023 – 2024 **Deputy Coordinator**, ICTP Asian Network on Condensed Matter, Complex Systems and Statistical Physics

2022 – 2023 **President,** National Research Council of the Philippines (NRCP), Department of Science and Technology (DOST)

2021 – 2022 **Vice President,** NRCP, DOST

2019 – 2023 **Physics Division Chair,** NRCP

2018 – 2019 **Program Coordinator,** NIP's Structure and Dynamics Research Program

2017 **President,** Samahang Pisika ng Pilipinas (SPP) / Physics Society of the Philippines

2015 – 2018 **General Council Member,** Asia Pacific Center for Theoretical Physics (APCTP), Pohang, Korea

2015 -- 2016 **Second/First Vice President,** Samahang Pisika ng Pilipinas (SPP)

2011 – 2014 **Director,** Office of Extension Coordination, Office of the Vice Chancellor for Academic Affairs, UPD

2008 – 2013 **Associate Professor**, NIP UPD
2005 – 2006 **Secretary General**, SPP / Physics Society of the Philippines
2003 – 2013 **Program Coordinator,** NIP's Structure and Dynamics Research Program
2002 – 2008 **Assistant Professor**, NIP UPD
1998 – 1999 **Research Assistant**, Technische Universität Chemnitz, Germany
1992 – 1995 **NIP Instructor** (on study leave from 1996 to 2001)

AWARDS AND FELLOWSHIPS / SCHOLARSHIPS

Mar. 2024 **2023 NRCP Achievement Award in Physics**
Mar. 2024 **NRCP Service Award**
2022 – 2024 **One UP Professorial Chair** in Solid State Physics for Outstanding Teaching and Public Service
2019 – 2021 **One UP Professorial Chair** in Solid State Physics for Outstanding Teaching and Public Service
2016 – 2018 **One UP Professorial Chair** in Physics for Outstanding Research & Public Service
2013 – 2015 **UP Scientist 1** (UP System Scientific Productivity System)
2001 – 2002 **Postdoctoral Research Fellow**, Department of Physics and Astronomy, West Virginia University, Morgantown, WV, USA
2000 – 2001 **PhD Scholarship,** Sachsische Staatsministerium für Wissenschaft und Kunst, Chemnitz, Germany

TEACHING ACTIVITIES

2002 – present Teaching load of 2 to 3 courses per semester that includes a combination of graduate and undergraduate physics major courses in classical mechanics, modern physics, quantum mechanics, statistical physics, solid state physics and low temperature physics
1992 – 1995 Taught fundamental physics lecture and laboratory service courses for science and engineering college students

MENTORING OF STUDENTS

PhD Students (4): V. Villegas (2022), N.I. Sombillo (co-advised with R.Banzon, 2021), C. Baldo III (2015), R. Gammag (2011)
Master of Science Students (16): G.M. Herman (2025), K.A. Feri (2022), D. Marquez (2018), A. Cortez (2016), G.M. Itable (2016), G.R. Tongco-Rosario (2014), M. Capili (2012), N. Ilano (co-advised with R. Banzon, 2010), S. Johnson (2009), M.J. Hernal (co-advised with R. Banzon, 2009), N.J. Jacosalem (2008), A. Alinea (co-advised with R. Banzon, 2008), R. Gammag (2007), J. Muldera (2006), M. Labora (2004), M. Morales (2004)
Bachelor of Science Students (38): M. G. Danganan (2024), D.J. Bobadilla (2024), M. Glorioso (2024), A.E. Ordonio (2023), J.A. Gamboa (2023), G.M. Herman (2022), J.M. Rangel (2022), T.J. Rodriguez (2021), J.C. Kalpatura (2021), S. Ancheta (2020), M.J. Bunagan (2020), R. Co (2020), K.L. Delima (2020), G.A. Mactal (2019), D.V.J. Narag (2019), C. Villano Jr. (2019), Z. Ottong (2018), E.R. Santos (2018), N.J. Ferrer (2018), G.A.J. Acosta (2017), J. Suico (2014), H. Lazo (co-advised with R. Banzon, 2012), E.A. Panganiban (co-advised with R. Banzon, 2010), A. Amarra (co-advised with R. Banzon, 2009), A. Cortez (2008), M. Capili (co-advised with R. Banzon, 2007), C. Castro (2007), C.A. Nuñez (co-advised with R. Banzon, 2007), R. Flores (2006), L. Garcia (2006), C.O. Jaramillo (co-advised with R. Banzon, 2006), A. De La Torre (2005), J. Dizon (2005), R. Gammag (2005), R. Pariñas (2005), G.R. Tongco (2004), R. Marco Jr. (co-advised with R. Banzon, 2004), R. Sandagon (2004)

OTHER EXTENSION WORK

2024-2026 SPP Topical Editor, Reviewer in Elsevier Journals, NRCP Project Referee/Monitor

SELECTED PUBLICATION LIST* – Cristine D. Villagonzalo

1. V. Villegas and C. Villagonzalo (2024). Optimal polarization and susceptibility profiles of half-filled open magnetoelectric Fermi-Hubbard optimal dimer, *Phys Lett. A*, **525**, 129898 https://doi.org/10.1016/j.physleta.2024.129898
2. J. Prasongkit, S. Jungthawan, C. Villagonzalo (2024). Enhancing thermoelectric efficiency In Twisted Bilayer PdSe2, *ACS Applied Energy Materials*, **7,** 18, 7798 – 7807 https://doi.org/10.1021/acsaem.4c01336
3. V. Villegas and C. Villagonzalo (2023). Magnetocaloric and electrocaloric heat engine and refrigeration cycles in the open Fermi-Hubbard optical dimer with attractive interactions, *Phys. Lett. A*, **481** 129011. https://doi.org/10.1016/j.physleta.2023.129011
4. V. Villegas and C. Villagonzalo (2022). Caloric effects in an open Fermi-Hubbard optical dimer Due to onsite and heat bath-induced two particle interactions, *J. Magn. Magn. Mater.*, **564** 170094. https://doi.org/10.1016/j.jmmm.2022.170094
5. V. Villegas and C. Villagonzalo (2022). Corrigendum and addendum to "Refrigeration using magnetocaloric and electrocaloric effects in a Fermi-Hubbard optical dimer exposed to a heat bath [*Physica A* **600** (2022) 127540], *Physica A,* **620** 128743 https://doi.org/10.1016/j.physa.2023.128743
6. V. Villegas and C. Villagonzalo (2022). Refrigeration using magnetocaloric and electrocaloric effects in a Fermi-Hubbard optical dimer exposed to a heat bath, *Physica A*, **600** 127540 https://doi.org/10.1016/j.physa.2022.127540
7. N. Sombillo, R. Banzon and C. Villagonzalo (2021). Optimal fixed-point quantum search in an interacting Ising Spin System, *Quantum Inf. Process*, **20** 90, https://doi.org/10.1007/s11128-021-03023-1
8. N. Sombillo, R. Banzon and C. Villagonzalo (2017). Measurement-enhanced Quantum Search. AIP Conference Proceedings **1871**, 020002 (August 2017), https://doi.org/10.1063/1.4996512
9. C. Baldo III and C. Villagonzalo (2016). Spin inverter and polarizer curved nanowire driven by Rashba and Dresselhaus spin-orbit interactions. *Physica E,* **83** 498 – 504
10. C. Baldo III and C. Villagonzalo (2014). Spin-orbit coupled transport in a curved quantum wire. *Physica E,* **63** 93 – 98
11. R. Gammag and C. Villagonzalo (2013). Two-dimensional electron gas tilt-induced Landau level crossings. *Solid State Communications,* **153** 16 – 20
12. R. Gammag and C. Villagonzalo (2012). Quenching of the DOS beats in two-dimensional electron gas in tilted magnetic fields. *Solid State Communications,* **152** 757 – 761
13. R. Gammag and C. Villagonzalo (2012). Persistent spin-splitting of a two-dimensional electron gas in tilted magnetic fields. *European Physics Journal B,* **85** 22
14. C. Villagonzalo and R. Gammag (2011). The intrinsic features of the specific heat at half-filled Landau levels of two-dimensional electron systems. *J. Low Temp. Phys.* **163**, 43 – 52
15. R. Gammag and C. Villagonzalo (2008). The interplay of Landau level broadening and temperature on two-dimensional electron systems. *Solid State Communications*, **146**, 487 – 490
16. R.A. Römer, A. MacKinnon and C. Villagonzalo (2003). Thermoelectric properties of disordered systems, *J. Phys. Soc. Jpn.* **72** *Suppl. A,* 167 – 168
17. C. Villagonzalo, R.A. Römer, M. Schreiber and A. MacKinnon (2000). Behavior of the thermopower in amorphous materials at the metal-insulator transition, *Phys. Rev. B* **62**, 16446 – 16452
18. C. Villagonzalo, R.A. Römer and M. Schreiber (1999). Thermoelectric transport properties in disordered systems near the Anderson transition, *Eur. Phys. J. B* **12**, 179 – 189
19. C. Villagonzalo, R.A. Römer and M. Schreiber (1999). Transport properties near the Anderson transition, *Ann. Phys. (Leipzig)* **8**, SI-269 – SI-272
20. C. Villagonzalo, and R.A. Römer (1998). Low temperature behavior of the thermopower in disordered systems near the Anderson Transition, Ann. Phys. (Leipzig) **510**, 394 – 399

(*A list of other publications and conference proceedings is available upon request.)

RESEARCH FUNDING

2004 – present Accumulated amount of PhP 2,568,000 in UPD, CS and NIP faculty grants as project leader (A list of project grants is available upon request.)