

Nicholas Domingo Ignacio
Graduate Research Assistant

Texas Materials Institute

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Research Interests

- Integration of 2D materials in PCM and RRAM for neuromorphic computing
- Crystalline-crystalline phase transformations for multilevel PCM.
- Scanning transmission electron microscopy and scanning tunnelling microscopy (STM superuser at TMI)
- Materials science pedagogy

Education

08/2021 – current: Ph.D. Candidate (advisor Prof. Deji Akinwande) Materials Science and Engineering Program and Texas Materials Institute, University of Texas at Austin, Austin, USA
01/2020 – 06/2020: Materials Exchange Program, University of Oxford, Oxford, UK
08/2017 – 06/2021: S.B. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, USA

Awards & Honors

12/2022: Professional Development Award, UT Austin, Office of Graduate Studies
08/2021: Virginia and Ernest Cockrell, Jr. Fellow, University of Texas at Austin
08/2021: T. W. Whaley, Jr. Scholarship, University of Texas at Austin

Professional Activities

Publications

2022: Y. Huang, Y. Gu, S. Mohan, A. Dolocan, **N. D. Ignacio**, S. Kutagulla, K. Matthews, A. Londoño-Calderon, Y.-F Chang, Y.-C. Chen, J. Warner, M.T. Pettes, J.C. Lee, D. Akinwande, Reliability improvement and effective switching model of thin-film MoS₂ memristors, *Adv Funct Mater* (2022) **Submitted**.

M. Floto*, **N. D. Ignacio***, R. Ciufo, D. Akinwande, C.B. Mullins,
Hydrogen-Induced Surface Reconstruction of Co(poly) Studied by STM ,
J. Phys. Chem. C (2022) **Submitted**.

** Denotes equal contribution*

Conferences

Posters

- 11/2022:** “Control of Crystalline-Crystalline Phase Changes in In₂Se₃ by Encapsulation”, Materials Research Society (MRS) Fall 2022 Meeting, (Boston, Ma, USA)
- 06/2022:** “Hydrogen-Induced Surface Reconstruction of Co(poly) Studied by STM”, 82nd Physical Electronics Conference (PEC) Meeting 2022, (Chicago, IL, USA)

Member

Materials Research Society
 American Physics Society

Teaching Experience

Introduction to Astronomy (AST301), Department of Astronomy, University of Texas at Austin (Spring 2023)

Materials Engineering (ME334), Department of Mechanical Engineering, University of Texas at Austin (Summer 2022)

Introduction to Solid-State Chemistry (3.091), Department of Materials Science and Engineering, MIT, (Fall 2019)

Service & Outreach

- 09/2022 – current:** Cockrell School of Engineering DEI board member
- 09/2022 – current:** K-12 STEM outreach through UT MRSEC in local elementary schools
- 08/2021 – current:** MIT Education Councilor (Interview prospective undergraduates)
- 08/2020 – 06/2022:** First year associate advisor
- 08/2020 – 06/2022:** Undergraduate associate advising steering committee member
- 06/2020 – 06/2022:** Department Representative on DEI board of MIT Undergraduate Association
- 08/2018 – 08/2021:** Department of Materials Science Freshmen Pre-orientation program mentor and coordinator

Last Updated December 2022