Final Report: Properties of Solution-Processed and Vapor-Grown 2D-Layered Materials and Heterostructures

The views, opinions and/or findings contained in this report are those of the author(s) and should not contrued as an official Department of the Army position, policy or decision, unless so designated by other documentation.
Final Report
for Period Beginning 21-Aug-2015 and Ending 20-Aug-2018

Begin Performance Period: 21-Aug-2015
End Performance Period: 20-Aug-2018

Major Goals: see uploaded report under upload section.

Accomplishments: see uploaded report under upload section.

Training Opportunities: Nothing to Report

Results Dissemination: Nothing to Report

Honors and Awards: Nothing to Report

Protocol Activity Status:

Technology Transfer: Nothing to Report

PARTICIPANTS:

Participant Type: Graduate Student (research assistant)
Participant: Carlos Francisco De Anda Orea
Person Months Worked: 4.00

Funding Support:
Project Contribution:
International Collaboration:
International Travel:
National Academy Member: N
Other Collaborators:

Participant Type: Graduate Student (research assistant)
Participant: Jay Amrish Desai
Person Months Worked: 12.00

Funding Support:
Project Contribution:
International Collaboration:
International Travel:
National Academy Member: N
Other Collaborators:

**Participant Type:** Graduate Student (research assistant)  
**Participant:** Ridwan Hossain Fayaz  
**Person Months Worked:** 5.00  
**Funding Support:**  
Project Contribution:  
International Collaboration:  
International Travel:  
National Academy Member: N  
Other Collaborators:

**Participant Type:** PD/PI  
**Participant:** Anupama Kaul  
**Person Months Worked:** 1.00  
**Funding Support:**  
Project Contribution:  
International Collaboration:  
International Travel:  
National Academy Member: N  
Other Collaborators:

**Participant Type:** Graduate Student (research assistant)  
**Participant:** Gustavo Alberto Lara Saenz  
**Person Months Worked:** 5.00  
**Funding Support:**  
Project Contribution:  
International Collaboration:  
International Travel:  
National Academy Member: N  
Other Collaborators:

**Participant Type:** Postdoctoral (scholar, fellow or other postdoctoral position)  
**Participant:** Misook Min  
**Person Months Worked:** 5.00  
**Funding Support:**  
Project Contribution:  
International Collaboration:  
International Travel:  
National Academy Member: N  
Other Collaborators:

**Participant Type:** Postdoctoral (scholar, fellow or other postdoctoral position)  
**Participant:** Nirmal Adhikari  
**Person Months Worked:** 1.00  
**Funding Support:**  
Project Contribution:  
International Collaboration:  
International Travel:  
National Academy Member: N  
Other Collaborators:

**Participant Type:** Graduate Student (research assistant)  
**Participant:** Avra Sankar Bandyopadhyay  
**Person Months Worked:** 5.00  
**Funding Support:**  
Project Contribution:  
International Collaboration:  
International Travel:
National Academy Member: N
Other Collaborators:

Participant Type: Graduate Student (research assistant)
Participant: Jorge A Catalan Gonzalez
Person Months Worked: 4.00
Funding Support:
Project Contribution: 
International Collaboration: 
International Travel: 
National Academy Member: N
Other Collaborators:

Participant Type: Graduate Student (research assistant)
Participant: Srishti Chugh
Person Months Worked: 12.00
Funding Support:
Project Contribution: 
International Collaboration: 
International Travel: 
National Academy Member: N
Other Collaborators:
Dr. Kaul moved from the University of Texas, El Paso (UTEP) to the University of North Texas (UNT) in the Fall of 2017 and continued to advise students at UTEP in her absence toward meeting the research goals of this project. The research outputs emerging from this grant are noted below. The Kaul group is grateful to the support received from Dr. Pani Varanasi’s program at the ARO, and also to UTEP Engineering Dean, whose assistance has been invaluable during the transition process.

PUBLICATIONS

JOURNAL (published and/or in review)


6. S. Chugh, N. Adhikari, M. Min, L. Echegoyen, and A. B. Kaul, “Endohedral-doped graphene with ScN@C80 and La@C82 for a new class of optoelectronic devices,” manuscript in preparation, to be submitted.


9. S. Chugh, N. Adhikari, R. Hossain, M. Min, L. Echegoyen, and A. B. Kaul, “Probing charge carrier dynamics in quantum dots and Sc3N@C80 endohedrals integrated with monolayer WSe2,” manuscript in preparation, to be submitted.

Published (Journal)


CONFERENCE PUBLICATIONS & PROCEEDINGS ARTICLES


STUDENT RECOGNITIONS

Ridwan Hossain (PhD candidate): 1st place in Graduate Student Expo, University of Texas, El Paso, Fall 2017