

# Sujoy Ghosh

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## EDUCATION

**Ph.D, APPLIED PHYSICS** | AUGUST 2011- DECEMBER 2016  
SOUTHERN ILLINOIS UNIVERSITY | CARBONDALE, ILLINOIS, USA

**M.S, PHYSICS** | AUGUST 2009 – AUGUST 2011  
SOUTHERN ILLINOIS UNIVERSITY | CARBONDALE, ILLINOIS, USA

**M.Sc, PHYSICS** | AUGUST 2006 – AUGUST 2008  
UNIVERSITY OF CALCUTTA | KOLKATA, WEST BENGAL, INDIA

**B.Sc, PHYSICS** | AUGUST 2003 – AUGUST 2006  
UNIVERSITY OF CALCUTTA | KOLKATA, WEST BENGAL, INDIA

## WORK & RESEARCH EXPERIENCE

**Staff R & D Associate** | OAK RIDGE NATIONAL LABORATORY  
October 2022 – Present | Oak Ridge, Tennessee

**Research Associate & Nanofabrication Facility Manager** | COLORADO SCHOOL OF MINES  
July 2021 – March 2022 | Golden, Colorado

**Postdoctoral Research Associate** | LOS ALAMOS NATIONAL LABORATORY  
July 2019 – July 2021 | Los Alamos, New Mexico

**Postdoctoral Research Associate** | UNIVERSITY OF NEW HAMPSHIRE  
January 2017 – January 2019 | Durham, New Hampshire

**Graduate Research Assistant** | SOUTHERN ILLINOIS UNIVERSITY  
January 2011 – December 2016 | Carbondale, Illinois

**Research Intern** | HELMHOLTZ-ZENTRUM BERLIN FÜR MATERIALIEN UND ENERGIE  
June 2015 – August 2015 | Berlin, Germany

**Graduate Teaching Assistant** | SOUTHERN ILLINOIS UNIVERSITY  
August 2009 – December 2010 | Carbondale, Illinois

## RESEARCH INTERESTS & EXPERTISE

- Experimental quantum materials research with a focus on device fabrication and nanoscale transport phenomena
- Strongly correlated low-dimensional nanomaterials for quantum computing device applications
- Synthesis and characterization of various low-dimensional materials e.g 2D materials, nano-wires, nanotubes etc.
- 2D nanomaterials based electronic, opto-electronic and bio-sensing device applications
- Low temperature electronic, opto-electronic and magneto-electronic transport property of low-dimensional nanomaterials
- Electrochemical energy storage device applications utilizing nano-materials based electrodes

## TECHNICAL SKILLS & EXPERTISE

- Microfluidic and microscale device fabrication via e-beam and photolithography
- Focused ion beam (FIB) microscopy and micromachining
- Scanning Electron (SEM), Transmission Electron (TEM) and Atomic Force (AFM) microscopy
- Raman, UV-Vis, Photoluminescence (PL), Fluorescence and FTIR spectroscopy
- Chemical vapor deposition (CVD), thermal deposition, e-beam deposition and sputtering
- High vacuum low temperature probe station, physical property measurement systems, electrochemical work station etc.

## AWARDS

- 2015 Deutscher Akademischer Austausch Dienst (DAAD) scholarship for further study and training in Germany
- 2014 Dissertation Research Assistantship Award, Southern Illinois University Carbondale
- 2013 Best Poster Presentation Award in Physical Sciences, Southern Illinois University Research Town Meeting
- 2013 Best Oral Presentation Award in MRS Spring Meeting, Symposium O, Beyond Graphene – 2D Atomic Layers

## PUBLICATIONS & PRESENTATIONS

GOOGLE SCHOLER LINK: [HTTPS://SCHOLAR.GOOGLE.COM/CITATIONS?USER=G86M8USAAAAJ&HL=EN](https://scholar.google.com/citations?user=G86M8USAAAAJ&hl=en)

- 2022 Colossal Piezoresistance in Narrow-Gap  $\text{Eu}_5\text{In}_2\text{Sb}_6$ , **Physical Review B** **106** (4), 045110  
[S.Ghosh](#), T.Asaba, E.D.Bauer, F.Ronning, J.Thompson, P.Rosa, S.M. Thomas
- 2021 Role of Layer Thickness and Field-Effect Mobility on Photoresponsivity of Indium Selenide (InSe) Based Phototransistors, **Oxford Open Materials Science** **1** (1), itab010  
M.Wasala, P.Patil, [S.Ghosh](#), L.Weber, S.Lei, S.Talapatra
- 2021 Broadband Photocurrent Spectroscopy and Temperature Dependence of Band-gap of Few-Layer Indium Selenide, **Emergent Materials**, **4**, 1029–1036  
P.D. Patil, M.Wasala, [S.Ghosh](#), S.Lei, S.Talapatra
- 2020 An Integrated Microfluidic Platform for Selective and Real-Time Detection of Thrombin Biomarkers using a Graphene FET, **Analyst**, **145**, 4494-4503  
N.I.Khan, M.Mousazadehkasin, [S.Ghosh](#), J.G.Tsavalas, E.Song
- 2020 Influence of Channel Thickness on Charge Transport Behavior of Multi-layer Indium Selenide (InSe) Field Effect Transistors, **2D Materials** **7** (2), 025030  
M.Wasala, P.Patil, [S.Ghosh](#), R.Alkhalidi, L.Weber, S.Lei, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2019 Gate-Induced Metal–Insulator Transition in 2D van der Waals Layers of Copper Indium Selenide Based Field-Effect Transistors, **ACS Nano**, **13**(11), 13413-13420  
P.Patil, <sup>†</sup>[S.Ghosh](#), M.Wasala, S.Lei, R.Vajtai, P.M.Ajayan, A.Ghosh, S.Talapatra
- 2019 The Effects of Impurities on the Electrochemical Characterization of Liquid Phase Exfoliated Niobium Diselenide Nanosheets, **Journal of Physical Chemistry C**, **123**(14), 8671-8680.  
H.Ahmad, [S.Ghosh](#), G.Dutta, A.G.Maddaus, J.G.Tsavalas, S.Hollen, E.Song
- 2019 Electric Double Layer Field-Effect Transistors Using Two-Dimensional (2D) Layers of Copper Indium Selenide ( $\text{CuIn}_7\text{Se}_{11}$ ), **Electronics**, **8**(6), 645.  
P.Patil, [S.Ghosh](#), M.Wasala, S.Lei, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2018 Low Temperature Studies of Photoconduction in Few Layer p-type Tungsten Diselenide ( $\text{WSe}_2$ ) Field Effect Transistors (FET), **Nanotechnology**, **29**(48), 484002.  
[S.Ghosh](#), M.Wasala, P.Patil, N.R.Pradhan, D.Rhodes, M.Fralaide, Y.Xin, S.A.McGill, L.Balicas, S.Talapatra
- 2018 High Performance Graphene Based Electrochemical Double Layer Capacitors Using 1-butyl-1-methylpyrrolidinium tris (pentafluoroethyl) trifluorophosphate [BMP][FAP] Ionic Liquid as Electrolyte, **Electronics** **2018**, **7**(10), 229.  
J.Huffstutler, M.Wasala, J.Richie, J.Barron, A.Winchester, [S.Ghosh](#), C.Yang, W.Xu, L.Song, S.Kar, S.Talapatra
- 2018 Selective Detection of a Protein Biomarker Utilizing a Large Area CVD-Grown Graphene-Based Field Effect Transistor, **Frontiers in Bioengineering and Biotechnology**, **6**, 29.  
[S.Ghosh](#), N.I.Khan, J.G.Tsavalas, E.Song

- 2017 Fast Photoresponse and High Detectivity in Copper Indium Selenide ( $\text{CuIn}_7\text{Se}_{11}$ ) Phototransistors **2D Materials**, **5 (1)**,015001.  
†[S.Ghosh](#),[P.Patil](#),[M.Wasala](#),[S.Lei](#), [A.Nolander](#),[S.Pooplasingam](#),[R.Vajtai](#),[P.M.Ajayan](#),[S.Talapatra](#).
- 2017 Adsorption Energy of Oxygen Molecules on Graphene and Two-dimensional Tungsten Disulfide **Scientific Reports**, **7(1)**,1-10.  
[F.R.Bagsican](#),[A.Winchester](#),[S.Ghosh](#),[X.Zhang](#) , [L.Ma](#),[M.Wang](#),[H. Murakami](#),[S.Talapatra](#),[R.Vajtai](#) ,  
[P.M.Ajayan](#), [J.Kono](#),[M.Tonouchi](#),[I.Kawayama](#)
- 2016 Laser THz Emission Spectroscopy of Gas Adsorption-Desorption Dynamics in Tungsten Disulfide Nanosheets. **e-Journal of Surface Science and Nanotechnology**,**14**,78-82.  
[F.R.Bagsican](#), [I.Kawayama](#), [H.Murakami](#),[M.Tonouchi](#),[A.Winchester](#), [S.Ghosh](#),[S.Talapatra](#)
- 2016 UV Photo detection Using ZnO Nanowires Grown Via Chemical Bath Deposition Using a Modified Seeding Technique.**Journal of Applied Physics**,**119(8)**,084306.  
[A.Al-Asadi](#),[L.Henley](#), [S.Ghosh](#),[A.Quetz](#),[I. Dubenko](#),[N.Pradhan](#),[L.Balicas](#), [N.Perea Lopez](#),  
[V.Carozo](#),[Z. Lin](#),[M.Terrones](#),[S.Talapatra](#),[N.Ali](#)
- 2016 Effect of Underlying Boron Nitride (BN) Thickness on Photoresponse in Molybdenum Disulfide ( $\text{MoS}_2$ )-BN Heterostructures. **Journal of Materials Research**,**31(7)**,893-899.  
[M.Wasala](#), [J.Zhang](#), [S.Ghosh](#),[B.Muchharla](#),[R. Malecek](#),[D.Mazumdar](#), [H.Samassekou](#),  
[M. Gaither-Ganim](#),[A. Morrison](#),[N-P Lopez](#),[V.Carozo](#),[Z.Lin](#),[M.Terrones](#),[S.Talapatra](#)
- 2015 Fractional PhotoCurrent Dependence of Graphene Quantum Dots Prepared from Carbon Nanotubes. **Physical Chemistry Chemical Physics**,**17 (38)**, 24566-24569.  
[S.Kundu](#), [S.Ghosh](#),[M.Fralaide](#),[T.N.Narayanan](#),[V.K. Pillai](#),[S.Talapatra](#)
- 2015 Ultrafast Intrinsic Photoresponse and Direct Evidence of Sub-gap States in Liquid Phase Exfoliated  $\text{MoS}_2$  Thin Films. **Scientific Reports** **5(1)**, 1-8.  
[S. Ghosh](#),[A.Winchester](#),[B.Muchharla](#),[M.Wasala](#), [S.Feng](#),[A.L.Elias](#), [M.B.Murali Krishna](#),[T.Harada](#),  
[C.Chin](#),[K.Dani](#), [S.Kar](#),[M.Terrones](#),[S.Talapatra](#)
- 2014 Universal ac Conduction in Large Area Atomic Layers of CVD Grown  $\text{MoS}_2$ .  
**Physical Review B**, **89(12)**, 125422  
[S. Ghosh](#),[S.Najmaei](#),[S.Kar](#),[R.Vajtai](#),[J.Lou](#),[N.R. Pradhan](#),[L.Balicas](#),[P.M.Ajayan](#) ,[S.Talapatra](#)
- 2014 Electrochemical Characterization of Liquid-Phase Exfoliated 2D Layers of Molybdenum Disulfide.  
**ACS Applied Materials & Interfaces**, **6 (3)**, 2125–2130.  
[A. Winchester](#), [S. Ghosh](#),[S.Feng](#), [A.L.Elias](#),[T.Mallouk](#),[M Terrones](#),[S.Talapatra](#)
- 2013 Photosensor Device Based on Few-Layered  $\text{WS}_2$  Films.  
**Advanced Functional Materials**,**23 (44)**, 5511-5517.  
[N.Perea-López](#) , [A.L.Elías](#),[A.Berkdemir](#), [A.Castro-Beltran](#) ,[H.R.Gutiérrez](#),[S.Feng](#),[R.Lv](#),  
[T.Hayashi](#),[F.López-Urías](#) ,[S.Ghosh](#),[B.Muchharla](#),[S.Talapatra](#),[H. Terrones](#),[M.Terrones](#)
- 2012 Effect of 1- Pyrene Carboxylic-Acid Functionalization of Graphene on Its Capacitive Energy Storage. **Journal of Physical Chemistry C**, **116 (39)**, 20688-20693.  
[S.Ghosh](#), [X.An](#), [R.Shah](#), [D.Rawat](#),[B.Dave](#),[S.Kar](#), [S.Talapatra](#)

## CONFERENCE PRESENTATION

### Contributed Talks

- 2018 Liquid Phase Exfoliated Niobium Diselenide ( $\text{NbSe}_2$ ) for Electrochemical Energy Storage Applications  
**78th Physical Electronic Conference ,Durham, NH**  
[S.Ghosh](#), [G.Dutta](#),[H.Ahmad](#),[A.G.Maddaus](#),[E.Song](#)
- 2017 Liquid Phase Exfoliated  $\text{NbSe}_2$  and  $\text{NbSe}_2$ /Conducting Polymer Based Hybrid Two-Dimensional Nanomaterials for Flexible Energy Storage Devices  
**Abstract: NM04.07.02,Materials Research Society Fall Meeting,Boston, MA**  
[S.Ghosh](#), [A.Maddaus](#), [B.Si](#), [S.Hollen](#),[J.G.Tsavalas](#),[E.Song](#)

- 2016 Electronic Transport and Photo-Current Generation in Few Layer n-Type CuInSe Field Effect Transistor  
**Abstract: EP10.2.09, Materials Research Society Spring Meeting, Phoenix, AZ**  
S.Ghosh, M.Wasala, P.Patil, S.Lei, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2015 Electronic and optoelectronic properties of Few Layer MoS<sub>2</sub> Flake  
**Abstract: S2.00010, American Physical Society March Meeting, San Antonio, TX**  
 J.Zhang, S.Ghosh, M.Wasala, S.Talapatra
- 2015 Temperature dependent photoconduction in atomically thin Layers of Indium Selenide  
**Abstract: S2.00010, American Physical Society March Meeting, San Antonio, TX**  
S.Ghosh, M.Wasala, J.Zhang, S.Lei, R.Vajtai, P. M. Ajayan, S.Talapatra
- 2014 Photoconduction in Few Layer Tungsten Diselenide (WSe<sub>2</sub>) FETs  
**Abstract: J13.01, Materials Research Society Fall Meeting, Boston, MA**  
S.Ghosh, M.Wasala, N.R.Pradhan, D.Rhodes, L.Balicas, S.Talapatra
- 2014 Synthesis and Photoresponse of Few Layer Liquid Phase Exfoliated Molybdenum Disulphide (MoS<sub>2</sub>) Flakes  
**Abstract: BAPS.2014.MAR.F51.13, American Physical Society March Meeting, Denver, CO**  
S.Ghosh, B.Muchharla, A.Winchester, S.Feng, A.L.Elias, N.Perea Lopez, S.Kar, M.Terrones, S.Talapatra
- 2013 Electrical Transport in Large Area CVD Grown MoS<sub>2</sub>  
**Abstract: O5.04, Materials Research Society Spring Meeting, San Francisco, CA**  
S.Ghosh, S.Najmaei, Z.Liu, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2013 Electrical Transport Properties of Liquid Phase Exfoliated MoS<sub>2</sub> Thin Films  
**Abstract: T23.00006, American Physical Society March Meeting, Baltimore, MD**  
S.Ghosh, A.Winchester, A.L. Elias, N.R.Pradhan, L.Balicas, M.Terrones, S. Talapatra
- 2013 Electrical Characterization of Graphene Flakes Synthesized Using Liquid Phase Exfoliation of Graphene  
**Abstract: C6.00008, American Physical Society March Meeting, Baltimore, MD**  
 S.Talapatra, B.Muchharla, M.Connolly, A.Winchester, S.Ghosh, S.Kar
- 2012 Investigation of Electrochemical Gate Controlled Charge Transport in Large Area Boron-Nitrogen Doped Graphene  
**Abstract: H12.00002, American Physical Society March Meeting, Boston, MA**  
S.Ghosh, S.Kar, Z.Liu, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2011 1-pyrenecarboxylic acid functionalization of graphene: effect on capacitive energy storage  
**Abstract: B20.00010, American Physical Society March Meeting, Dallas, TX**  
S.Ghosh, R.Shah, X.An, D.Rawat, S.Kar, S.Talapatra

### Poster Presentation

- 2015 Photoconduction in Few Layer Tungsten Diselenide (WSe<sub>2</sub>) FETs  
**Center for Undergraduate Research and Creative Activities, Southern Illinois University**
- 2013 Electrical Transport in Large Area CVD Grown Few Layer MoS<sub>2</sub>  
**Research Town Meeting, Southern Illinois University**

### Contributed Conference Abstracts

- 2022 Colossal Piezoresistance in Narrow-Gap Eu<sub>5</sub>In<sub>2</sub>Sb<sub>6</sub>  
**Abstract: M64.00008, American Physical Society March Meeting, Chicago, IL**  
 S.Thomas, S.Ghosh, C.Lane, F.Ronning, E.Bauer, J.Thompson, J-X.Zhu, P.Rosa
- 2022 Layer dependent photo-response of Indium Selenide (InSe) field-effect transistors (FETs)  
**Abstract: K60.00007, American Physical Society March Meeting, Chicago, IL**  
 P.Patil, M.Wasala, S.Ghosh, L. Weber, S. Lei, S.Talapatra

- 2019 Evidence of Metal-Insulator Transition in 2D Van der Waals layers of Copper Indium Selenide ( $\text{CuIn}_7\text{Se}_{11}$ )  
**Abstract:K12.003,APS March Meeting,Boston, MA.**  
P.Patil, S.Ghosh, M.Wasala, S.Lei, R.Vajtai, P.M.Ajayan,S.Talapatra
- 2019 Temperature dependent electrical and photoconductive properties of few-layer Indium Selenide ( $\text{InSe}$ ) FETs  
**Abstract:V13. 00008,APS March Meeting,Boston,MA**  
M.Wasala, P.Patil, S.Ghosh, R.Alkhalidi, L.Weber, S.Lei, H.Sirikumara, T.Jayasekera, R.Vajtai, P.Ajayan, S.Talapatra
- 2019 Highly Sensitive Detection of Protein Biomarkers Using Graphene Field-Effect Transistor Integrated with a Microfluidic Platform  
**Abstract MA2019-01 2089,Sensors for Precision Medicine,ECS meeting,Dallas,TX**  
N.I.Khan, S.Ghosh,M.Mousazadehkasin,J.G.Tsavalas, E.Song
- 2018 Selective Detection of a Protein Biomarker Utilizing a Large Area CVD-Grown Graphene-Based Field Effect Transistor  
**Abstract MA2018-01 2485,Microfluidics, Sensors and Devices 2, ECS meeting,Seattle, WA**  
S.Ghosh, N.I.Khan,E.Song
- 2018 Low Temperature Electronic Transport in Field-effect Transistors based on 2D Layers of Copper Indium Selenide ( $\text{CuIn}_7\text{Se}_{11}$ )  
**Abstract: L37.00006 , APS March Meeting, Los Angeles, CA**  
P.Patil, M.Wasala,S.Ghosh, S.Lei, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2017 Temperature Dependent Photocurrent Spectroscopy of Few Layer  $\text{CuIn}_7\text{Se}_{11}$   
**Abstract:H33.011,APS March Meeting,New Orleans, LA**  
M.Wasala, P.Patil, S.Ghosh,S.Lei,R.Vajtai, P.M.Ajayan,S.Talapatra
- 2017 Fast Photo-detection in Phototransistors based on Group III-VI Layered Materials  
**Abstract:K31.012,APS March Meeting,New Orleans,LA**  
P.Patil, S.Ghosh,M.Wasala, S.Lei, R.Vajtai, P.M.Ajayan, S.Talapatra
- 2017 Opto-Electronic Properties of Multilayer Indium Selenide ( $\text{InSe}$ ) Field Effect Transistors  
**Abstract: NM04.04.12, MRS Fall Meeting,Boston, MA**  
M.Wasala,P.Patil, S.Ghosh,S.Lei,R.Vajtai, P.M.Ajayan, S.Talapatra
- 2016 Field Effect Transistors Using Atomically Thin Layers of Copper Indium Selenide ( $\text{CuInSe}$ )  
**Abstract: P16.00015, APS March Meeting, Baltimore, MD**  
P.Patil, S.Ghosh,M.Wasala,S.Lei,R.Vajtai, P.M.Ajayan,S.Talapatra
- 2016 Effect of Underlying Boron Nitride (BN) Thickness on Photoresponse in Molybdenum Disulfide ( $\text{MoS}_2$ )-BN Heterostructures  
**Abstract:EP10.1.02,MRS Spring Meeting, Phoenix, AZ**  
M.Wasala, J.Zhang, S.Ghosh, B.Muchharla, R.Malecek, D.Mazumdar, H.Samassekou, M. Gaither-Ganim, A.Morrison, N.Perea Lopez, V.Carozo, Z.Lin, M.Terrones, S.Talapatra
- 2015 Electronic and photo-electronic transport in sputter deposited  $\text{MoS}_2$  film  
**Abstract: S2.00006, APS March Meeting, San Antonio, TX**  
M.Wasala, S.Ghosh, J.Zhang, J.Richie, D.Mazumdar, S.Kar, S.Talapatra
- 2015 Synthesis and Photoresponse of Hydrothermally Grown  $\text{ZnO}$  Nanowires  
**Abstract: M26.00001, APS March Meeting, San Antonio, TX**  
A.Al-Asadi, L.Henley, S.Ghosh, A.Quetz, I.Dubenko, N.Pradhan, L.Balicas, S. Talapatra, N.Ali
- 2015 Electronic and optoelectronic properties of Few Layer  $\text{MoS}_2$  Flake  
**Abstract: S2.00002, APS March Meeting, San Antonio, TX**  
J.Zhang, S.Ghosh, M.Wasala, S.Talapatra

- 2014 Synthesis and Electrochemical Characterization of Liquid Phase Exfoliated Graphene Flakes  
**Abstract: H1.00337, APS March Meeting, Denver, CO**  
J.Richie, J. Huffstutler, M.Wasala, A.Winchester, S.Ghosh, S.Kar, S.Talapatra
- 2014 High Performance Graphene Electrochemical Double Layer Capacitors Using 1-butyl-1-methylpyrrolidinium tris (pentafluoroethyl) trifluorophosphate [BMP][FAP] Ionic Liquid as Electrolyte  
**Abstract: K19.04, MRS Fall Meeting, Boston, MA**  
M.Wasala, J.Huffstutler, J.Richie, A.Winchester, S.Ghosh, Y.Chao, W.Xu, L.Song, S. Kar, S.Talapatra
- 2014 Synthesis and Characterization of Liquid Phase Exfoliated Tungsten Disulphide ( $WS_2$ ) Flakes  
**Abstract: A51.011, APS March Meeting, Denver, CO**  
M.Wasala, S.Ghosh, A. Winchester, L.Moore, B. Nichols, M.Dubey, S.Talapatra
- 2014 Performance of Liquid Phase Exfoliated Graphene As Electrochemical Double Layer Capacitors Electrodes  
**Abstract: J25.00003, APS March Meeting, Denver, CO**  
J.Huffstutler, M.Wasala, J.Richie, A.Winchester, S.Ghosh, S.Kar, S.Talapatra
- 2013 Electrical Characterization of Graphene Flakes Synthesized Using Liquid Phase Exfoliation of Graphite in Isopropyl Alcohol  
**Abstract: C6.00008, APS March Meeting, Baltimore, MD**  
S.Talapatra, B.Muchharla, M.Connolly, A.Winchester, S.Ghosh, S.Kar
- 2013 Large Area Synthesis of  $WS_2$  Crystalline Sheets Directly on  $SiO_2$  and Their Transfer to Other Substrates  
**Abstract: BAPS.2013.MAR.Q1.251, APS March Meeting, Baltimore, MD**  
A.L.Elias, N.Perea-Lopez, A.Castro-Beltran, A.Berkdemir, S.Feng, R.Lv, A.Long, T.Hayashi, Y.A. Kim, M.Endo, H.R. Gutierrez, S.Ghosh, S.Talapatra, N. R. Pradhan, L.Balicas, F.Lopez-Urias, H.Terrones, M.Terrones
- 2013 Photocurrent studies on continuous large area monolayers of  $WS_2$  and  $MoS_2$   
**Abstract: BAPS.2013.MAR.R38.9, APS March Meeting, Baltimore, MD**  
N.Perea-Lopez, A. L. Elias, H.R. Gutierrez, R. Lv, A.Castro-Beltran, S.Talapatra, S.Ghosh, A.Berkdemir, F.Lopez-Urias, H.Terrones, M.Terrones
- 2013 Large Area Synthesis of  $WS_2$  Crystalline Sheets Directly on  $SiO_2$  and Their Transfer to Other Substrates  
**Abstract: O3.04, MRS Spring Meeting, San Francisco, CA**  
A.L. Elias, N.Perea-Lopez, A.Castro-Beltran, A.Berkdemir, S.Feng, R.Lv, A.Long, T. Hayashi, Y.A.Kim, M.Endo, H.R. Gutierrez, S.Ghosh, N.R. Pradhan, L.Balicas, S.Talapatra, F.Lopez-Urias, H.Terrones, M.Terrones
- 2013 Electrochemical Characterization of Liquid Phase Exfoliated Layers of  $MoS_2$   
**Abstract: O3.17, MRS Spring Meeting, San Francisco, CA**  
A.Winchester, S.Ghosh, A.L.Elias, M. Terrones, S.Talapatra
- 2013 Photocurrent Studies on Continuous Large Area Monolayers of  $MoS_2$   
**Abstract: O7.09, MRS Spring Meeting, San Francisco, CA**  
N.Perea-Lopez, A.L. Elias-Arriaga, H.Rodriguez-Gutierrez, R.Lu, A.Castro-Beltran, A.Berkdemir, S.Talapatra S.Ghosh, F.Lopez-Urias, H.Terrones, M.Terrones
- 2012 Performance of Multi Walled Carbon Nanotubes Grown on Conductive Substrates as Supercapacitors Electrodes using Organic and Ionic liquid electrolytes  
**Abstract: BAPS.2012.MAR.C1.320, APS March Meeting, Boston, MA**  
A.Winchester, S.Ghosh, B.Turner, X.F. Zhang, S.Talapatra
- 2010 Ultrathin Graphene Membranes as Flexible Electrodes for Electrochemical Double Layer Capacitors  
**Abstract: X21.00008, APS March Meeting, Portland, OR**  
S.Talapatra, S.Kar, R.Shah, S.Ghosh, X.An, T.Simmons, M.Washington, S.Nayak