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- TEACHING EXPERIENCE** ◦ Teaching course (MSNE 433/533, Computational Materials Modeling) at Rice University
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◦ Advisor: J. W. Rabalais
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B.S. in Radiophysics and Electronics (1996), Kiev National University, Kiev, Ukraine
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- PUBLICATIONS**
1. Govind Chilkoor, Kalimuthu Jawaharraj, Bhuvan Vemuri, Alex Kutana, Manoj Tripathi, Divya Kota, Taib Arif, Tobin Filleter, Alan B. Dalton, Boris I. Yakobson, M. Meyyappan, Muhammad M. Rahman, Pulickel M. Ajayan, and Venkataramana Gadhamshetty. **Hexagonal Boron Nitride for Sulfur Corrosion Inhibition** *ACS Nano*, (2020).
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 3. Vasilii I. Artyukhov, Sunny Gupta, Alex Kutana, and Boris I. Yakobson. **Flexoelectricity and charge separation in carbon nanotubes** *Nano Letters* **20**, 3240–3246 (2020).
 4. Yosuke Uchiyama, Alex Kutana, Kenji Watanabe, Takashi Taniguchi, Kana Kojima, Takahiko Endo, Yasumitsu Miyata, Hisanori Shinohara, and Ryo Kitaura. **Momentum-forbidden dark excitons in hBN-encapsulated monolayer MoS₂** *npj 2D Materials and Applications* **3**, 26, 1–6 (2019).

5. Sunny Gupta, Sharmila N. Shirodkar, Alex Kutana, and Boris I. Yakobson. **In Pursuit of 2D Materials for Maximum Optical Response** *ACS Nano* **12**, 10880–10889 (2018).
6. Sandhya Susarla, Jordan A. Hachtel, Xiting Yang, Alex Kutana, Amey Apte, Zehua Jin, Robert Vajtai, Juan Carlos Idrobo, Jun Lou, Boris I. Yakobson, Chandra Sekhar Tiwary, and Pulickel M. Ajayan. **Thermally Induced 2D Alloy-Heterostructure Transformation in Quaternary Alloys** *Advanced Materials* **30**, 1870344, 1–6 (2018).
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9. Sandhya Susarla, Vidya Kochat, Alex Kutana, Jordan A. Hachtel, Juan Carlos Idrobo, Robert Vajtai, Boris I. Yakobson, Chandra Sekhar Tiwary, and Pulickel M. Ajayan. **Phase Segregation Behavior of 2D Transition Metal Dichalcogenide Binary Alloys Induced by Dissimilar Substitution** *Chemistry of Materials* **29**, 7431–7439 (2017).
10. Sandhya Susarla, Alex Kutana, Jordan A. Hachtel, Vidya Kochat, Amey Apte, Robert Vajtai, Juan Carlos Idrobo, Boris I. Yakobson, Chandra Sekhar Tiwary, and Pulickel M. Ajayan. **Quaternary 2D Transition Metal Dichalcogenides (TMDs) with Tunable Bandgap** *Advanced Materials* **29**, 1702457, 1–8 (2017).
11. Jincheng Lei, Alex Kutana, and Boris I. Yakobson. **Predicting Stable Phase Monolayer Mo₂C (MXene), a Superconductor with Chemically-Tunable Critical Temperature** *Journal of Materials Chemistry C* **5**, 3438–3444 (2017).
12. Ziang Zhang, Alex Kutana, Ajit Roy, and Boris I. Yakobson. **NanoChimneys: Topology and Thermal Conductance of 3D Nanotube-Graphene Cone Junctions** *The Journal of Physical Chemistry C* **121**, 1257–1262 (2017).
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22. Ziang Zhang, Alex Kutana, and Boris I. Yakobson. **Edge reconstruction-mediated graphene fracture** *Nanoscale* **7**, 2716–2722 (2015).
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