

Evolution of carbon nanostructures: from early studies to present status

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This talk will cover the developments in the field of carbon nanostructures starting with the discovery of fullerenes, the emergence of nanotubes and then graphene. The talk will focus the materials science perspective on how the field has evolved over the past two decades and where we stand today in terms of challenges and opportunities. I will discuss approaches used to engineer materials at the nanoscale for various applications in future technologies and carbon nanostructures will be used to highlight the challenges and progress. Some of the promising applications of these low-dimensional carbon materials and their hybrids will be discussed from the perspective of what has been accomplished in recent years. Our efforts on the strategies of growth and manipulation of carbon nanomaterials and some of our recent successes in controllably fabricating heterogeneous and complex carbon nanostructures will be highlighted.