

## U.S. Diary 2014

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1. I went to U.S. this time to accept the [Distinguished Alumnus Award \(DAA\) from University of Florida \(UF\)](#). I had done my Ph.D. at University of Florida (UF) in 1979 in Mechanical Engineering and so it was wonderful to receive the DAA from them. During this trip my wife Nandini Nimbkar also accompanied me.

2. In ceremonies lasting for almost four days we were wined and dined by University of Florida (UF) administration including a banquet given by the President of UF, Dr. Bernard Machen at his house. My award acceptance speech at the commencement ceremony is [available here](#). There is also a tradition at UF engineering that DA awardees are interviewed by the Dean of Engineering on leadership issues and [that link is here](#).



Speech after the banquet

3. I also met my professor Dr. Erich Farber under whom I had done my Ph.D. in 1979. He is sprightly 93 years old and though deaf still drives his car! He came to see me in the department of Mechanical Engineering and insisted on dropping me and Nandini at our place of stay. Though he is bent because of age yet his mind and memory is as sharp as ever.



4. I also took this opportunity to visit [various universities regarding precision agriculture](#) since I feel that [precision agriculture has a great scope for India](#). Thus we visited UF faculty both in Gainesville and Lake Alfred research station where we saw their work on

drones for agriculture. At Ohio State University (OSU) in Columbus, we saw the work on automated farm machinery for various applications and at Carnegie Mellon University (CMU) in Pittsburgh we saw the work on robots for horticulture applications. Since the precision agriculture is robot-driven, I was delighted to see at these universities quite a number of smart mechanical and electrical engineers engaged and involved in agricultural work and saw very interesting R&D work being done regarding automation for precision agriculture.

5. For visiting Carnegie Mellon University (CMU) one has to stay in Pittsburgh. I had visited Pittsburgh in 1975. It was an ugly and very dirty steel city. This time I found it to be very clean and nice city with lovely downtown area which was very easy to walk around and explore. America has really cleaned up its cities and most of the downtowns in major cities are very clean and beautiful.



6. I also saw a new theme of hands-on work being introduced in mechanical engineering curriculum in US schools. Thus all the undergraduates now have to undergo training in basic machining like lathe, welding, cutting etc. This is naturally complemented by the new 3-D printing technology which allows complete fabrication of a part or assembly by computer programming. This augers well for engineering and I do hope Indian Institutes also follow upon it. Lately in prestigious institutes like IITs there is more emphasis on software rather than hardware.
7. This hands-on program is being further extended to high schools. A dear friend of mine Dr. Pramod Khargonekar, who is the Director of Engineering at National Science Foundation (NSF), Washington, explained to me about the Maker movement taking place in U.S. Thus NSF is heavily funding a program for high school students to tinker with 3D printing. The idea is to let students design the products and make them via 3D printing and thus allowing them to work with hands. Not only will it foster creativity but will also hopefully make them interested in science and technology and steer them towards engineering. I think this is a wonderful program and should also be followed in India for all engineering students.

8. America has become a nearly cashless society. In every place including buses, plastic cards are the norm. Only very poor people or those involved in shady deals use cash! The use of credit cards was very common even earlier but now it is almost universal in all transactions.
9. We experienced a unique experiment of U.S. immigration preclearance at Abu Dhabi airport. U.S. customs has set up immigration center at one of the terminals at this Airport. Hence we saved tremendous amount of time that we had to spend standing in long queues at JFK by passing through a very courteous and easy immigration at Abu Dhabi. Thus from Abu Dhabi to JFK our flight was like a domestic one and at JFK we just had to collect our bags and leave. The technology for immigration is also quite advanced. Besides the biometric checking (all 10 finger-print matching), the technology allowed the immigration officer to show us the bags on his computer and let us identify them. During check-in our bags were tagged and hence matched with our names. This simplified the baggage clearance for customs.
10. Nevertheless this time during one of the internal domestic flights my checked bag was opened by TSA agents and the lock broken. I don't think they found anything of concern and a small notice was put inside the bag that it was opened by TSA.
11. During the last couple of U.S. visits I have tried to utilize the opportunity to visit some of the beautiful landscapes of America. This time we (together with my daughter Noorie and her husband Navin) chose Smoky Mountains National Park (a range of mountains in states of Tennessee and North Carolina). The hike to the highest peak-Clingmans Dome (done partially by driving and  $\frac{1}{2}$  mile of steep walking) was exhilarating and cold. It started snowing (in middle of May) and was nearly freezing at the top. On our way to the peak we encountered a black bear pup who was rummaging through the undergrowth just on the edge of the road.



12. We also hiked to Grotto and Laurel Falls - a good 1.4 miles one way hike for both of them. Smoky Mountains range is so huge that to cover all the trails and the observation points would have taken us minimum of 10-15 days stay. Shortage of time allowed us to just have a glimpse of the majestic Smoky's. We stayed in a hotel in Gatlinburg-a touristy town closest to the Smoky National Park and hence allowed us to go daily for the driving/hiking trip.



13. Any time we come to U.S. we are amazed at its cleanliness and greenery. Americans make very special efforts to keep and maintain their forests. Why we cannot learn this in India is always amazing to me. All beautiful places in India have been desecrated and our cities are the filthiest in the world and totally unplanned.
14. I have been visiting U.S. since 1970s when we were students at UF. Every time I visit I am amazed at the choices available at supermarkets. We don't shop anymore but a visit to food market was mind boggling. The variety of fruits, vegetables and processed food available is simply insane. Just to see what is available in these markets can take a better part of a day!
15. American restaurants give huge servings. We are not sure why they do it but a possible reason could be that Americans have huge appetite which could be a probable cause of epidemic obesity in U.S. For old people like us it was difficult to finish everything in our plate. So whenever we had refrigerators in our hotel rooms we got the left-overs packed and used them for next day meal. I think huge amount of food is wasted in both restaurants and food stores. Development of biogas technology to utilize the left-over food for biogas production and use it either for cooking or for motive power would be very useful and save lot of energy in these establishments.
16. More and more Americans are becoming vegetarians. Also there is a big movement towards buying organic foods and thus the supermarkets are flooded with organically grown foods. Naturally they cost more than the regularly grown produce. This focus on organic foods has also spawned farm - share movement in cities. In this concept a person buys a share (after paying a yearly amount) in a local farm where the food is grown

organically and every week small amount of freshly grown vegetables, fruits and ornamental crops are available to the share holder.

17. US is very much a do it yourself (DIY) society and as it is aging all sorts of tools and household-use gadgets are becoming handy and easily available. America was always a DIY society but with high technology more and more of these tools are now becoming battery powered and very light weight.

18. In this trip I was able to meet quite a number of my IITK classmates. Thus in Columbus, Ohio we met Rajiv Shivpuri, Suresh Chand and Ashok Gupta and in Pittsburgh Lalit Agrawal. In Washington D.C. we stayed for a night in the house of Pradeep and Anu Wahi. Meeting all our friends and discussing our IITK days of late 1960s was enjoyable.



Ashok Gupta, Suresh Chand and Rajiv Shivpuri with their respective wives. Nandini is at far left.

19. During our Washington trip we also visited the Luray caves in Virginia. The scenic drive from Haymarket, VA, where we were staying with our friends Estellene and Jim Baarda, through Shenandoah National Park to visit these caves was wonderful. Luray caves are majestic but smaller compared to Carlsbad Caves in New Mexico that we had visited in the late 1970s.

20. Washington visit is not complete without a visit to the famed Smithsonian Museums. My dear friend Dr. Arthur Mollela who is the Director of National Museum of American History (a Smithsonian Museum) very kindly took us on a personal tour of his latest exhibit on the history of the museum.



21. In New Jersey we stay with our daughter Noorie and her husband Navin in the lovely township of Lawrenceville. During our early morning walks everyday we saw children being taken by the yellow buses to their schools. What surprised us (we had not observed it earlier) was that the school buses are not air conditioned. In a society where buildings, cars and other modes of transport are all air-conditioned it is quite odd to see the school buses still part of an old pre A/C era.

22. In U.S., when we were students in 1970s, we always drank water from taps. That habit has still continued and in this trip also we drank water straight from the taps every where since the water is clean and potable. Hence we are dismayed by the sale and use of huge amount of bottled water in U.S. I guess that could be because of tremendous TV advertising by bottled water companies or the strong smell of chlorine is not liked by many.

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### Photo montage



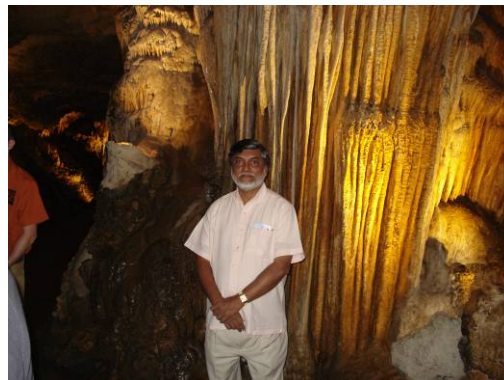
Drone in orange groves, Florida



Autonomous tractor at OSU



Robotics lab at CMU



Luray caves



Proud gator family and all Ph.Ds from UF.  
Nandini, Anil, Noorie and Navin at  
President Machen's house



Mighty cold at the top of  
Clingmans Dome



Pradeep and Anu Wahi with Nandini



Receiving the Gator trophy from  
Dean Camy Abernathy

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