Shikhar Kumar Gupta

Personal Information

Date and Place of Birth:	October 22, 1991 | Kanpur, India
Homepage:	www.guptalab.org/shikharg
e-mail:	gupta.shikhar [at] hotmail [dot] com
Contact No. :	+91-80522-75705

Experiences and Internships

Center for Advancing Electronics Dresden: June, 2015- present
A three month internship to extend the design and synthesis of triangulated DNA tile/origami structures. The main purpose of the internship is to design new motifs/ origami routes that may help to stiffen the triangulated DNA Origami structures.

Fraunhofer-Institut für Zelltherapie und Immunologie: August, 2014-November, 2014
Research internship to implement and improve software 3DNA in accordance with the lab facilities at the institute. New modules were added to create nano-scale structures, based on the feedback obtained by conducting lab experiments.

Research Internship: Dr. Prof. Manish K Gupta: May, 2013-July, 2013
A two month internship to get familiarized with research in the field of computational biology. Software DNA Pen was developed during the course of this internship, designed to aid creation of 2 dimensional nano-sized shapes using single stranded DNA Tiles.

Lupin Human Welfare and Research Foundation, Dr. Ganesh Devi: December, 2011
Rural internship to understand problems faced by rural population in India. Performed social analysis and suggested solutions pertaining to women Empowerment, health, education, and skill development.

Education

B. Tech 2010-2014 — **Dhirubhai Ambani Institute of Information and Communication Technology**
Information and Communication Technology
Cumulative Performance Index: 7.3/10

Courses

Core CS:	Software Engineering, Introduction to Algorithms, Data Structures and Algorithms, Database Management System, Operating Systems, Computer Networks
Applied CS:	Computer Graphics, Introduction to Animation, Web Programming
Interdisciplinary:	Introduction to Biotechnology, Natural Computing, Coding Theory and Applications

Skills

Computer Languages:	Java, C, Python, HTML & CSS, Javascript, JOGL (Java 3D), LaTeX
Biotechnology Tools:	Cadnano, vHelix (Autodesk Maya Plugin), Xgrow, Jalview
Programming Tools:	Intelli J Idea, Autodesk Maya, Vim, Bash shell, PyCharm

Projects

3DNA: A tool for DNA Sculpting
Description: 3DNA is a software suite that can be used to model/design/visualize complex shapes with nano level precision using single stranded DNA bricks. 3DNA comes with a molecular canvas, an integrated sequence generator and an interactive visualization module, thus providing a one-stop shop for creating 3D nano structures using DNA Bricks.

DNA Pen: A tool for drawing on a Molecular Canvas
Description: The software interface provides a user friendly interactive environment to aid scientists and users in making 2 D shapes at nano-scale using single stranded DNA tiles. The software generates error free random DNA sequences which can be used to envisage the shape drawn at nano-scale.

Acclivia: Group management portal
Description: A group activity management website, the platform can be used in academics/ businesses/ industry to monitor and enhance the performance of a team.

Poster Publications

1. SK Gupta, F Joshi, D Limbachiya and Manish K. Gupta 3DNA: A Tool for DNA Sculpting April 2014, published in FNANO14 proceedings, Duke University, USA
2. A Goyal, D Limbachiya, S K Gupta, F Joshi, S Pritmani, A Sahai and Manish K. Gupta DNA Pen: A Tool for Drawing on Molecular Canvas September 2013, published in DNA19 proceedings, Arizona State University, USA

Conferences and Workshops

Conferences:
1. 11th Annual Conference on Foundations of Nanoscience (FNANO14), April-2014, Duke University, Snowbird, Utah, USA
2. Frontiers in Chemistry & Biology of Oligosaccharides, January-2014, IISER, Pune, India
3. 19th International Conference on DNA Computing and Molecular Programming (DNA19), September-2013, Arizona State University, Tempe, AZ, USA

Workshops:
1. Workshop on Superresolution Fluorescence Imaging, FNANO14, January-2014, Duke University, Snowbird, Utah, USA
2. DNA Nanotechnology Mitteldeutschland Workshop, September-2014, Technische Universität Dresden, Germany

Awards and Achievements

Microsoft Research Travel Grant for presenting a poster at the 19th International Conference on DNA Computing and Molecular Programming (DNA19), September-2013, Arizona State University, Tempe, AZ, USA