

# Introduction of the first year Ph.D. student

**Risha Rufaqua**

Institute of Machine and Industrial Design

Faculty of Mechanical Engineering

Brno University of Technology

Seminar of the Institute of Machine and Industrial Design  
26th October 2016



Institute of Machine  
and Industrial Design

# Content

- Introduction of myself
- Education
- Master's thesis
- Career Growth
- PhD study
- Learning



# Introduction



Introduction



I am from Dhaka, the capital city of Bangladesh. Bangladesh is a South Asian Country, located on the northern coast of the Bay of Bengal.



## Risha Rufaqa

- A4/401
- Tribology group



Parliament House of Bangladesh



National Martyrs' Memorial



Bangladesh Textile Industry



Jute Products of Bangladesh


# Introduction




## Personal Interests:

 Travelling

 Photography

 Reading Books

 Watching Movies



# Education



**Higher Secondary Certificate**  
**Graduated Year: 2001**

**Viqarunnisa Noon School and College, Dhaka, Bangladesh**

**Bachelor of Science (Honors) in Chemistry**  
**Graduated Year: 2005**  
**Masters of Science in Chemistry**  
**Graduated Year: 2007**

**Jahangirnagar University, Dhaka, Bangladesh**



**Masters of Business Administration in Marketing**  
**Graduated Year: 2012**

**East West University, Dhaka, Bangladesh**



The presentation of the first-year Ph.D. students



# Master's thesis

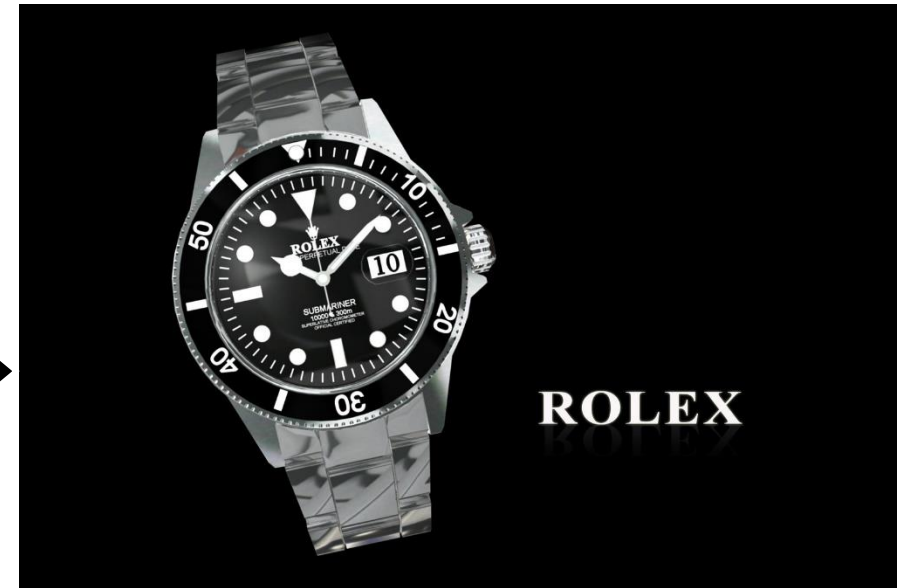
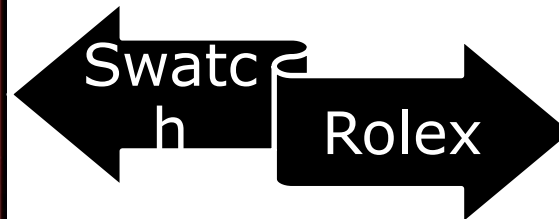
**Masters of Business Administration in Marketing**  
Completed Year: 2012

Title of the Thesis:

**Brand comparison and SWOT analysis between the Brands Rolex watch and Swatch watch**

Supervisor:

**Dr. Md. Humayun Kabir Chowdhury, PhD.**



# Career Growth

**In Plant Training:**

**Venue of Training:**

INCEPTA Pharmaceuticals Ltd. Dhaka Bangladesh

**Training Duration:**

16<sup>th</sup> January to 15<sup>th</sup> February, 2007

**Description of Training**

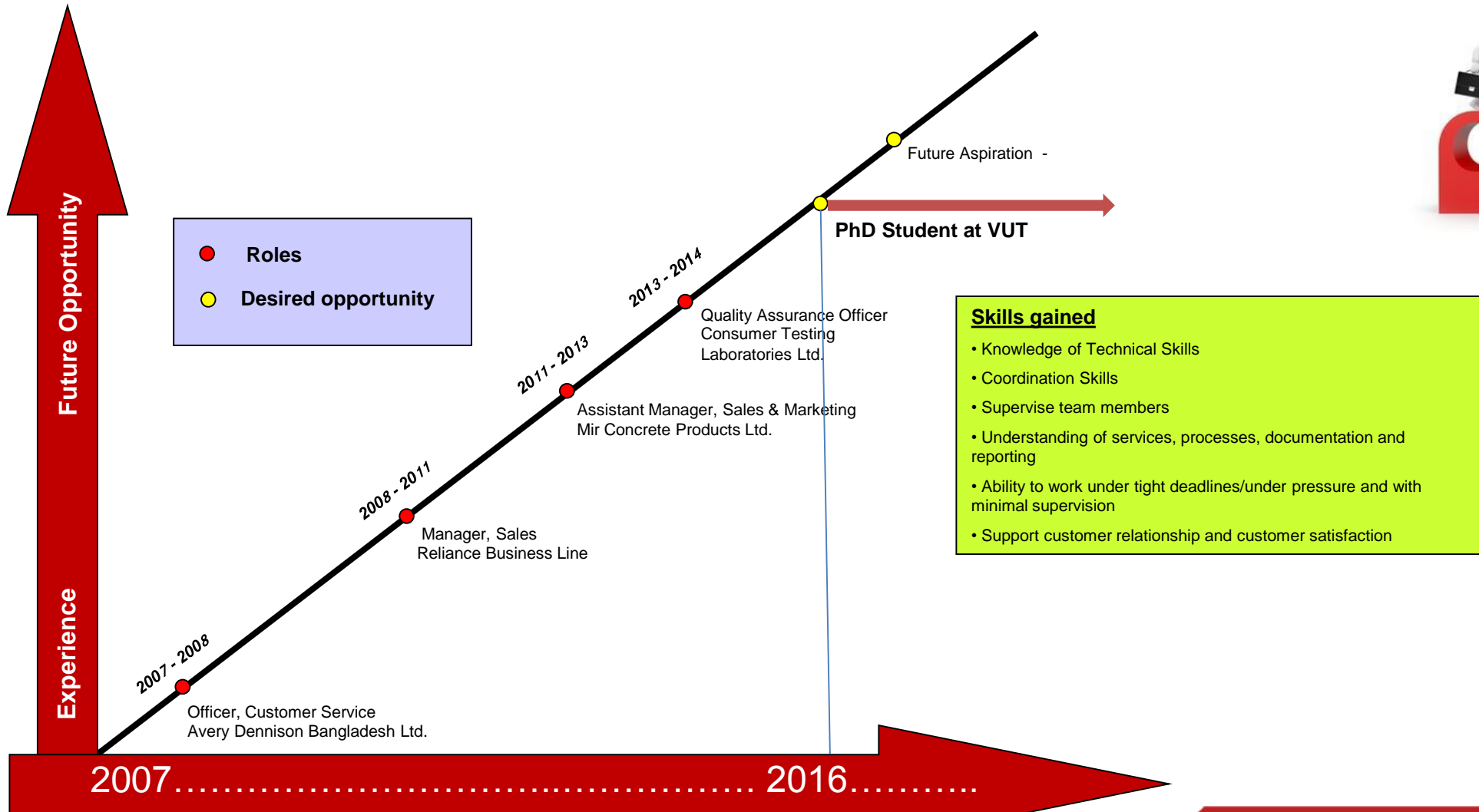
- Operational and Technological Management of Production
- Quality Assurance and Quality Control
- Warehouse
- Engineering Departments



Some Products of Incepta Pharmaceuticals

# Career Growth

## Career Progression and Future Plan



The presentation of the first-year Ph.D. students

# Career Growth

## Previous Job Roles

### Quality Assurance Officer in Consumer Testing Laboratories Ltd.

This Laboratory is accredited by A2LA (American Association of Laboratory Accreditation) and American Society for Testing and Materials (ASTM) by Annual Audit and Inter Laboratory and Proficiency Testing.

Responsibilities includes handling technical issues as well as administrative part:

Calibration of Equipment and Preservation of Calibration Certificats.

Audit and Proficiency Testing

Maintain ISO/IEC 17025:2005 and Quality Management System



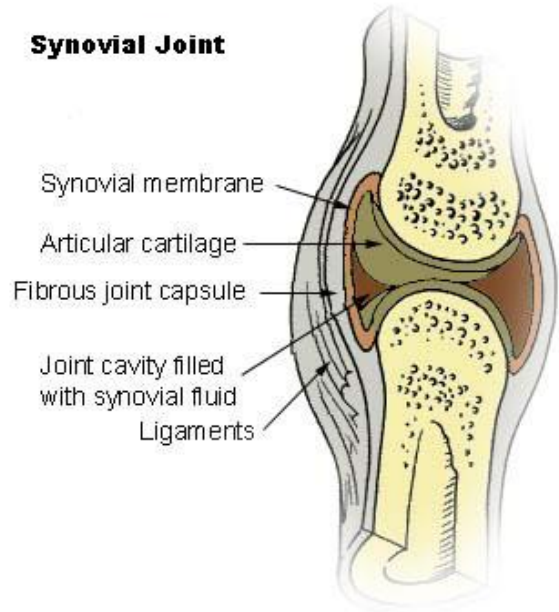
# Ph.D. study

**Title:** Biochemical Mechanism of Lubricant film formation in Joint Replacement

**Supervisor:** Doc. Ing. Martin Vrbka, PhD.

**Expert consultant:** Doc. Dipankar Choudhury, PhD.

**Aim of thesis:** To Clarify the Biochemical Mechanisms of the formation of the lubricating film between head and the cup of the joint replacement depending on the composition of synovial fluid.



# Ph.D. study

## Process:

- The analysis of developing method of lubricant film formation in hip replacement.
- SEM (Scanning Electron Microscopy) and EDS (Energy Dispersive X ray Spectroscopy) application for Elemental Analysis of the Chemical.
- Raman Spectroscopy usage to measure non-polar bonds among the protein of synovial liquid.



Raman Spectroscopic machine

# Learning

## Courses

- 9MOP** Methods and Organization of Scientific Work
- 9VPR** Research Project and its Management.
- 9EHD** Elastohydrodynamics
- 9EXT** Experimental Methods in Tribology
- 9AJ** English for Doctoral Studies





**Risha Rufaqua**

[Risha.Rufaqua@vut.cz](mailto:Risha.Rufaqua@vut.cz)

<http://uk.fme.vutbr.cz/>



Institute of Machine  
and Industrial Design