Crafting Your Career (CYC)

Science Career Talks

April 28, 2019, Mumbai

IndiaBioscience

ENGAGING COMMUNITIES ENABLING CHANGE

Savita Ayyar, Jaquaranda Tree
Vishaka Mangale, OmiX Research and Diagnostics Pvt. Ltd
Debjani Paul, IIT-Bombay
Lipika Sahoo, LifeIntellect
Subhojit Sen, CEBS UM-DAE
Swagatha Chakraborty, Educational Trust Initiative
Cheryl Travasso, Edelman India

RESEARCH MANAGEMENT CAREERS

SAVITA AYYAR

JAQUARANDA TREE

APRIL 2019

Jaquaranda Tree

THE WORLD OF RESEARCH

For researchers: juggling time between research and other priorities

Jaquaranda Tree

RESEARCH AND INNOVATION MANAGEMENT

GRANT MANAGEMENT- PREAWARD

GRANT MANAGEMENT- POSTAWARD

PROGRAM MANAGEMENT

INTERNATIONAL EXCHANGE

ACADEMIC PROGRAMS

RESEARCH ETHICS

INNOVATION MANAGEMENT

PUBLIC ENGAGEMENT

POLICY

BUILDING PARTNERSHIPS

Jaquaranda Tree

Funding agencies

Publishing houses

International activities

MY CAREER PATH: THE JOY OF SCIENCE

Bachelors in Biochemistry, Sri Venkateswara College, New Delhi

Masters in Biotechnology, AIIMS, New Delhi

PhD in Developmental Biology, Downing College, University of Cambridge

Postdoctoral research, Department of Zoology, University of Cambridge

MY CAREER PATH: WORKING AT THE WELLCOME TRUST, LONDON

Decisions:

- My science versus facilitating someone else's science
- New learning
- Impact

Steps:

- Good background in science
- Grasping the importance of research funding
- Some administrative experience

https://indiabioscience.org/columns/indian-scenario/exploring-alternative-careers-in-science-a-personal-account

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MY CAREER PATH: WORKING AT THE WELLCOME TRUST, LONDON

Responsibilities:

- Grant management
- Committees
- Researcher engagement
- Team working
- Stakeholder relations

Typical work day:

- Some planned activities
- Some unplanned opportunities
- Deadlines, pressures

Like:

- Seeing good science funded

Dislike:

- Conveying bad news

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MY CAREER PATH: WORKING AT THE BANGALORE LIFE SCIENCE CLUSTER

Decisions:

- Working at a funding agency versus offering institutional support
- Building from ground up

Steps:

- Good background in science
- Grasping the importance of research funding
- Strong administrative training at WT

Jaquaranda Tree

MY CAREER PATH: WORKING AT THE BANGALORE LIFE SCIENCE CLUSTER

Responsibilities:
- Grant management
- Committees
- Researcher engagement
- Team working and team building
- Stakeholder relations

Typical work day:
- Some planned activities
- Some unplanned opportunities
- Deadlines, pressures

Like:
- Seeing good science funded

Dislike:
- Conveying bad news

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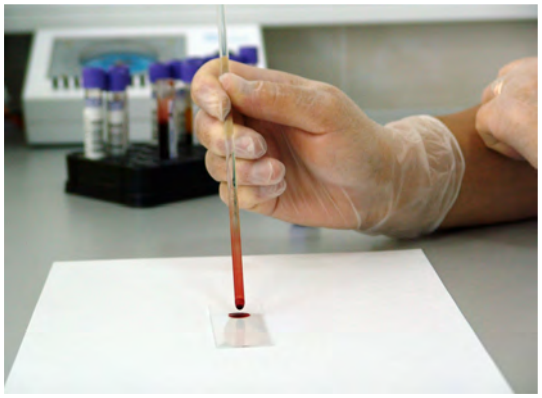
RESEARCH MANAGEMENT: STAKEHOLDERS



Scientific leadership
Researchers
Early career researchers
Facility managers

Research Managers and Administrators (RMAs)

External organizations

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IndiaAlliance
DBT wellcome

The India Alliance is pleased to launch the

India Research Management Initiative (IRMI)

Strengthening research ecosystems in India

Check for updates

OPEN LETTER

REVISED **India Research Management Initiative (IRMI) – an initiative for building research capacity in India [version 2; peer review: 2 approved, 2 approved with reservations]**

Savita Ayyar [1], Shahid Jameel [2]

Author details

This article is included in the Wellcome Trust/DBT India Alliance gateway.

Abstract

Research and innovation are growing in India with significant investments being made towards institutions, researchers and research infrastructure. Although still under 1% of GDP, funding for science and technology in India has increased each year for over two decades. There is also increasing realization that public funding for research should be supplemented with that from industry and philanthropy.

Like their counterparts worldwide, Indian researchers require access to professional research management support at their institutions to fully leverage emerging scientific opportunities and colla there are currently significant gaps in the research management support available to these research implications for research in India.

https://doi.org/10.12688/wellcomeopenres.15073.2

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RESEARCH MANAGEMENT- TRAINING

https://indiabioscience.org/events/workshop-for-women-in-science-administration-and-management

https://www.asci.org.in/index.php/uncategorised/225-science-administration-research-management-2018

LEARN CONSTANTLY AND STEP OUT OF YOUR COMFORT ZONE!!!

"It's OK to say "I don't know". The pleasure is in finding things out."
Prof Richard Feynman

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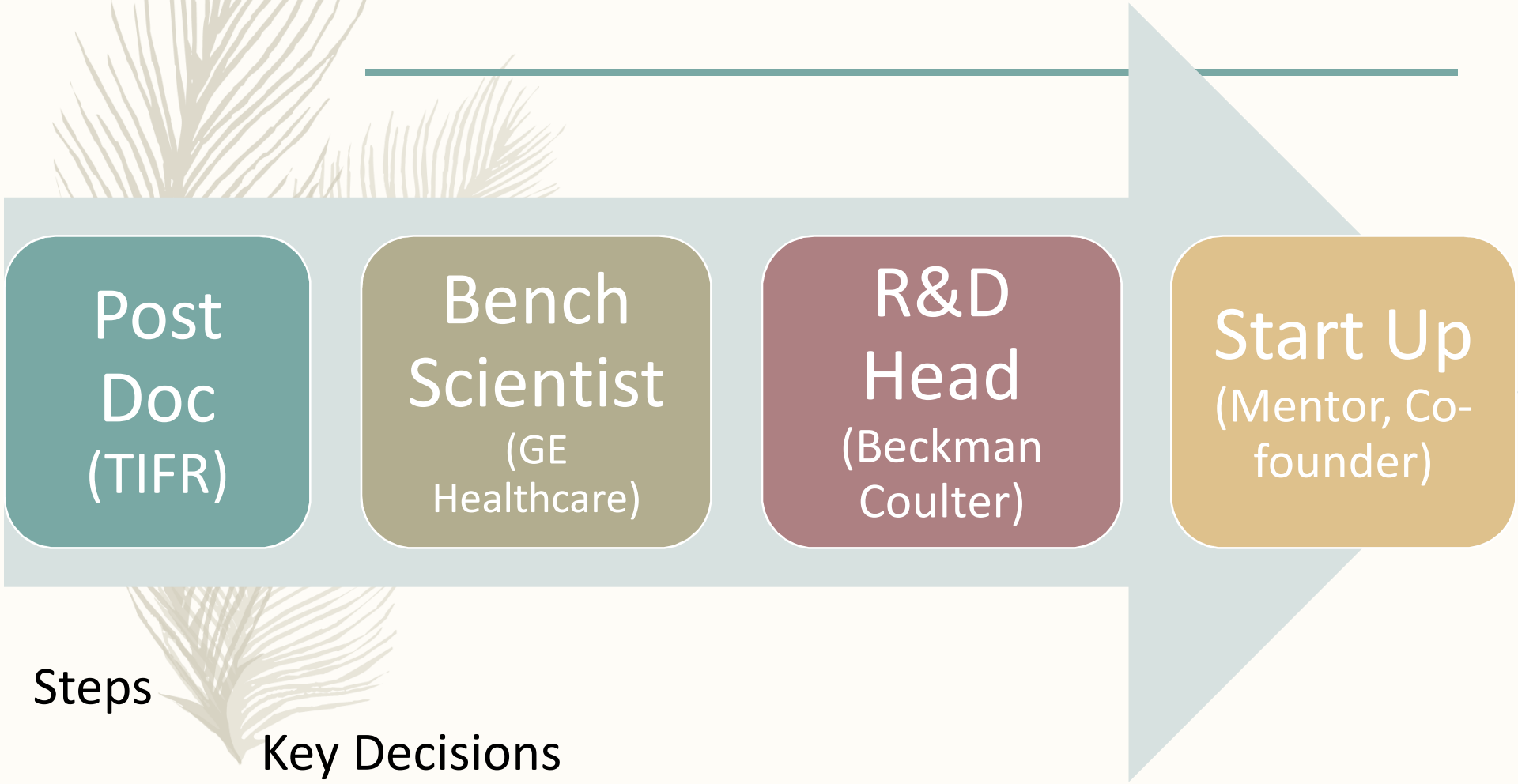
What's Outside the Box

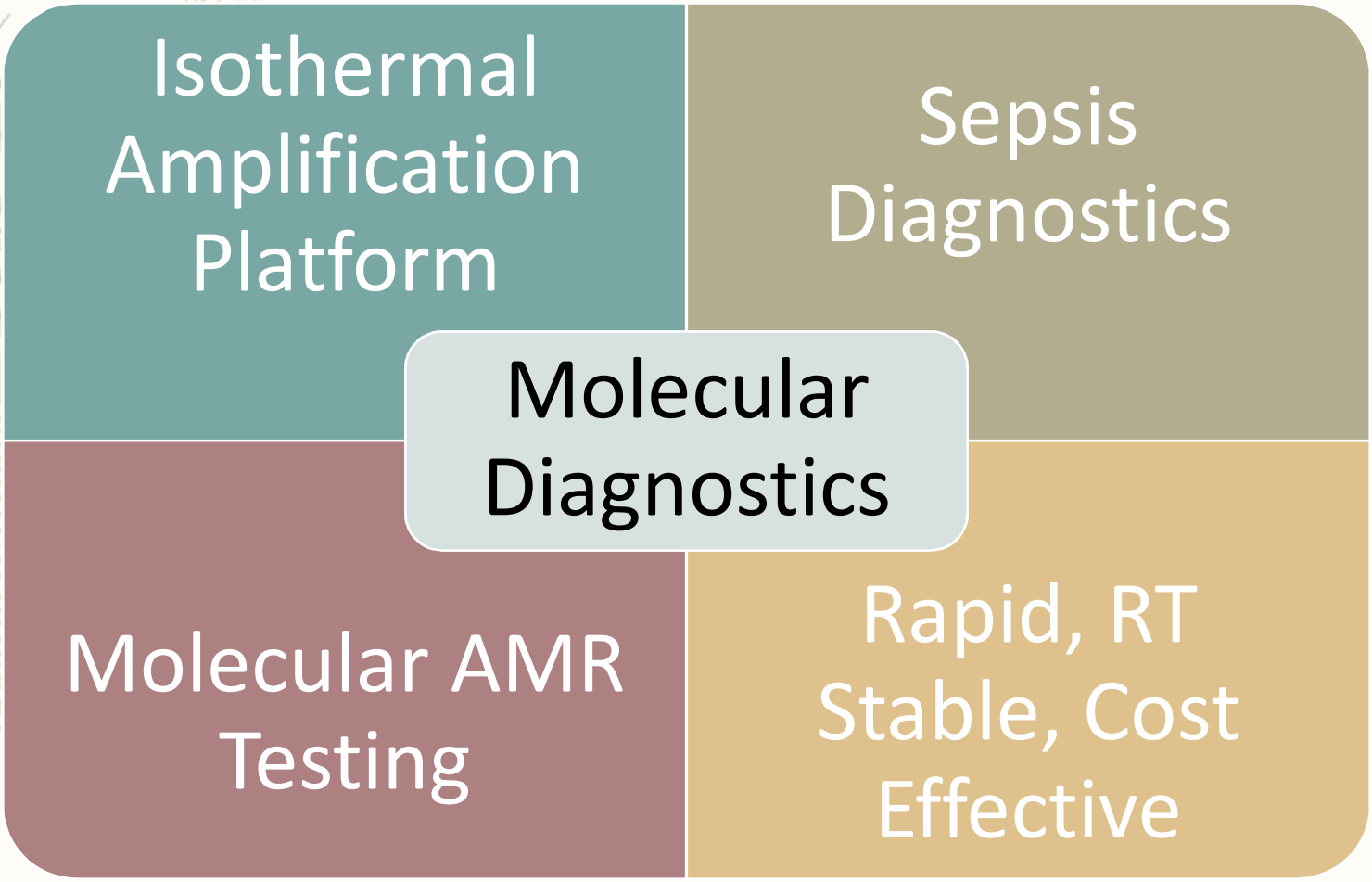
Dr Vishakha Mangale

Cofounder OmiX Labs

The Journey


Post Doc (TIFR)
Bench Scientist (GE Healthcare)
R&D Head (Beckman Coulter)
Start Up (Mentor, Co-founder)
Steps
Key Decisions
Circumstances

What do we do at OmiX Labs?



What do I do at OmiX Labs?

- Lead R&D Function
- Product Development (ISO 13485 Standards)
- Work with Clinical Partners
- Develop Quality Processes for all functions
- Manage Day to Day Operations

Best Part and Worst Part

Best Part

- Launching Product
- Social Impact

Worst Part

- Bureaucratic hurdles
- Raising Money

Challenges

Technical

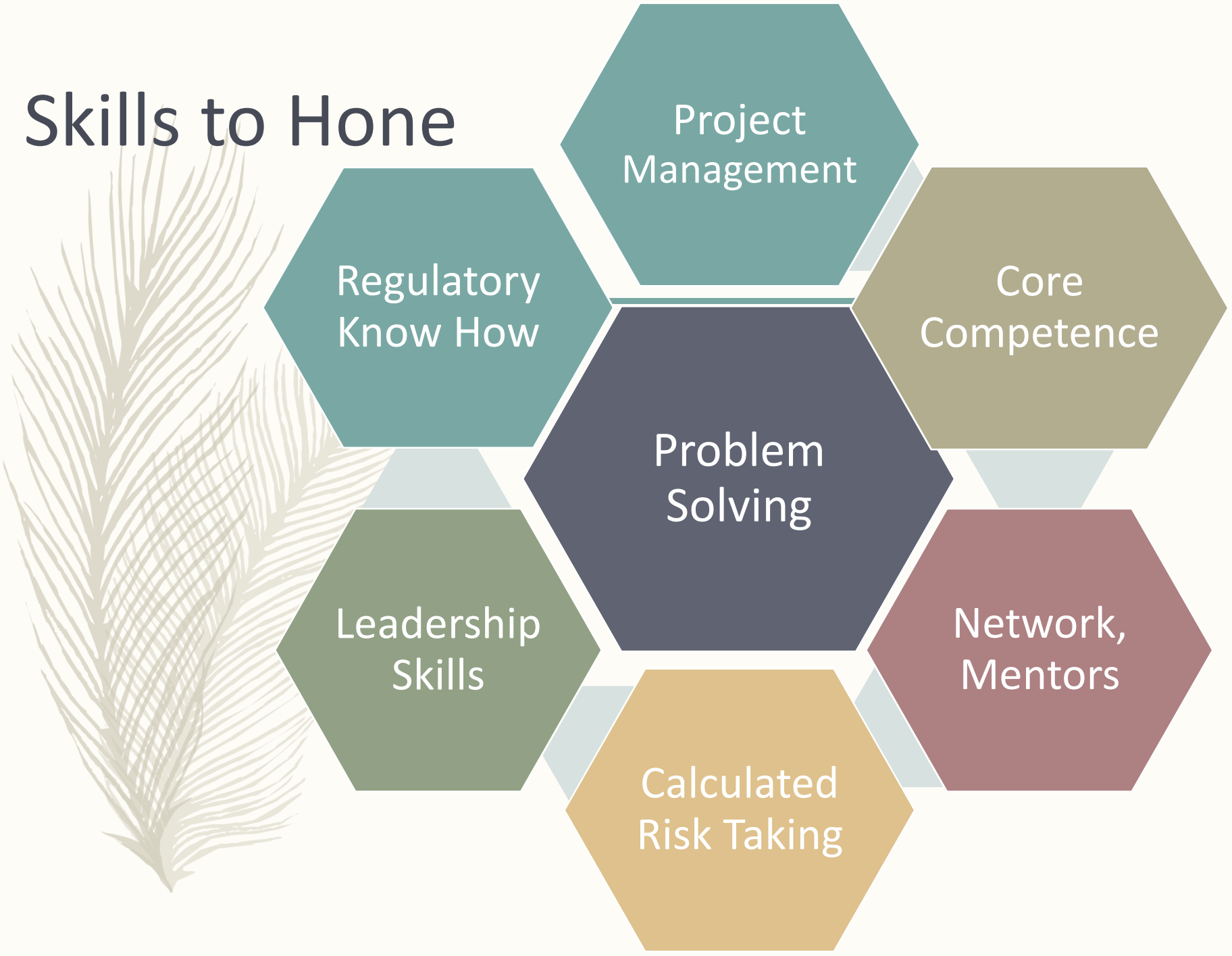
Supply Chain

Cash Flow

Attrition

Customer Acquisition

Skills to Hone



Jobs in Healthcare

- Qualifications: Masters, PhD, PDF Biotech/Medtech/Genetics/Microbiology/Biochemistry/ Bioinformatics Degree
- Job Opportunities: Clinical Scientist, Data Scientist, Product Developers, Quality Control, Product Specialist, Application Specialist, Technical Sales specialist, Contract Researchers
- Internship/Apprenticeship which will teach you more
- Gain more peripheral skills: Regulatory courses/clinical data management/project management/Bioinformatics

Peripheral Skill Development

- CDSCO Workshops and Trainings
- Biocon Academy for Bridging the Gap
- Informatics Course Workshops at IBAB
- Mentoring for Start ups from BIRAC Venture Centre Pune, C-CAMP
- IP Skills
- PMP
- Executive MBA (part time)

Industry trends

Startups Trending: Opportunity to learn. Entrepreneurship opportunities.

Push and support from Govt: Skill India, Funding, Incubators, Accelerators

India Market: Investor Traction

Incubation and Funding opportunities for BioTech/MedTech Startups

- 16 Bioincubators in India. Eg: IKP, BBC, CCAMP, Venture Centre, IITs
- BIRAC Schemes: BIG, SBIRI, BIPP
- Other Govt Grants: Idea to PoC, Elevate 100
- Other Grants: Villgro Foundation, Grand Challenges, BIRAC-TIE
- Soft Loans: DST-TDB

Lessons learnt

Don’t be afraid to let go

There is no short cut to success

Don’t get into a Job Jail

Take calculated risks

Thank You

Crafting my career: from physics to healthcare research

Debjani Paul

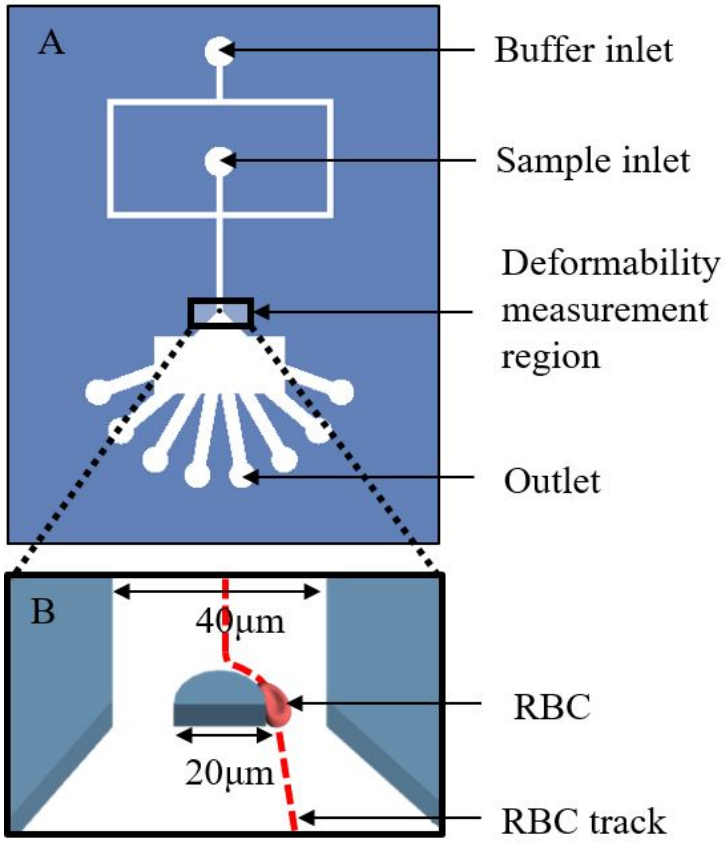
Associate Professor
Department of Biosciences and Bioengineering
Indian Institute of Technology Bombay

What does my lab work on?

Using microfluidics for

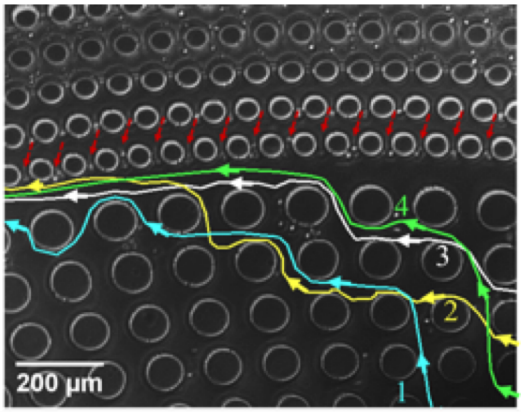
- point-of-care diagnostics (e.g. TB, malaria, sickle cell disease)
- biological physics

Biological physics

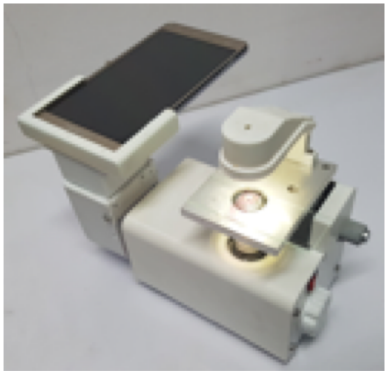


Measure elastic constants of single cells

Diagnostics



Cell sorter



Mobile phone microscope

A winding path through different disciplines

B. Sc. (3 years; physics)

Integrated PhD (8 years; physics, bioinstrumentation)

Postdoc (6 years; microfluidics, electronic devices & sensors, biological physics)

Industry (1 year; diagnostics and drug delivery)

Academic (since 2012; biomedical engineering)

How did I decide upon academia?

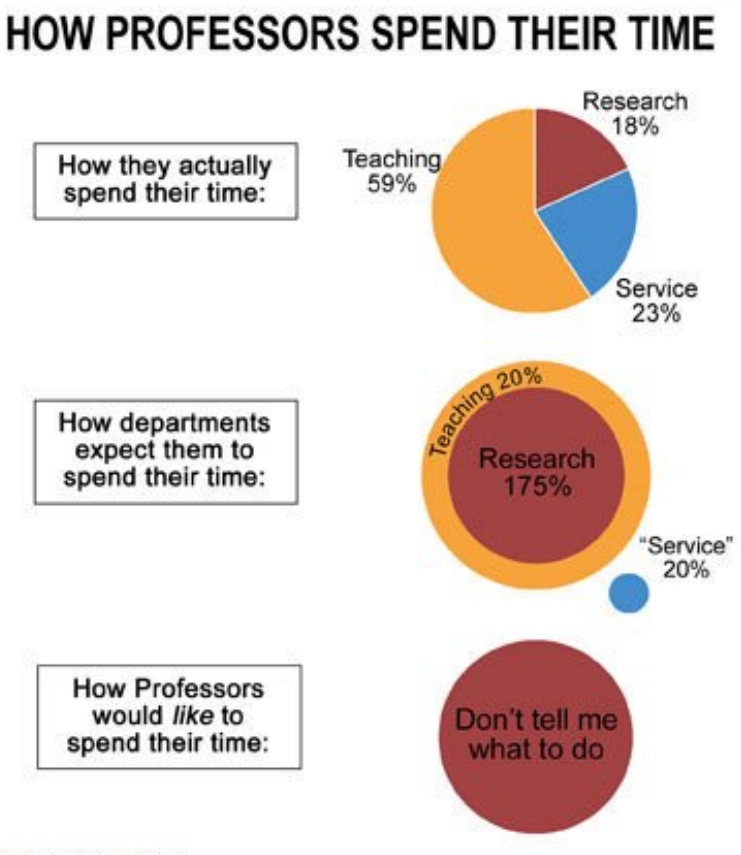
http://www.careers.cam.ac.uk

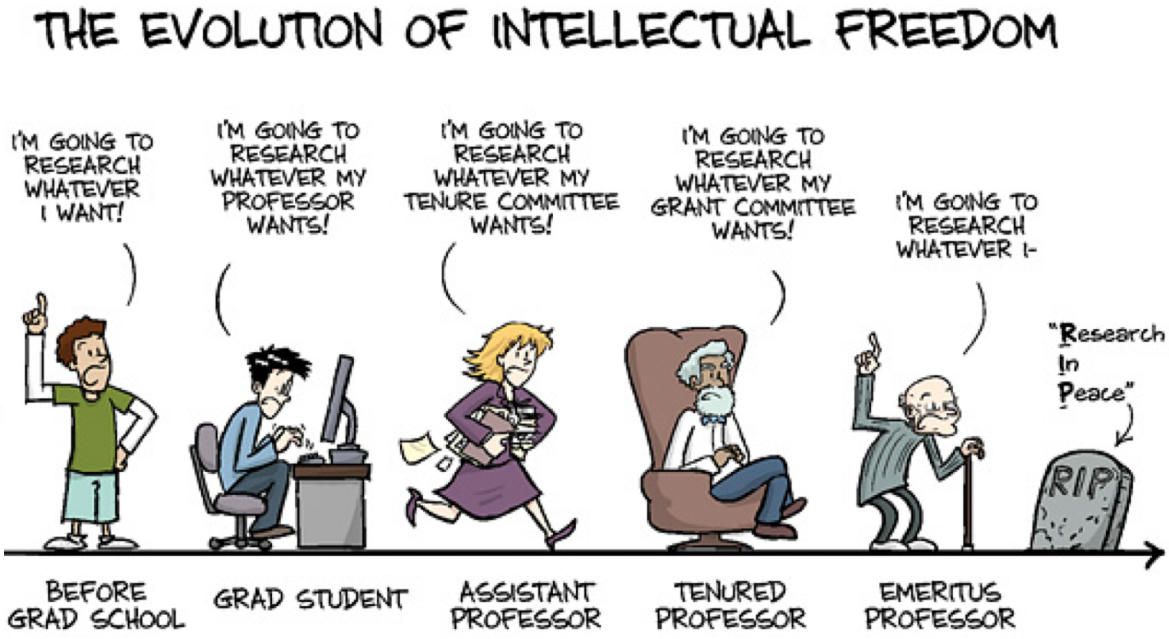
- During postdoctoral stint
- Different career workshops (media, non-profit sectors, industry, academia)
- Spoke to many people

Specific to academia

- Day-long workshop on jobs in academic sector for postdocs.
- One-on-one chats with other academics, and university's career counsellors
- Support from advisors and mentors

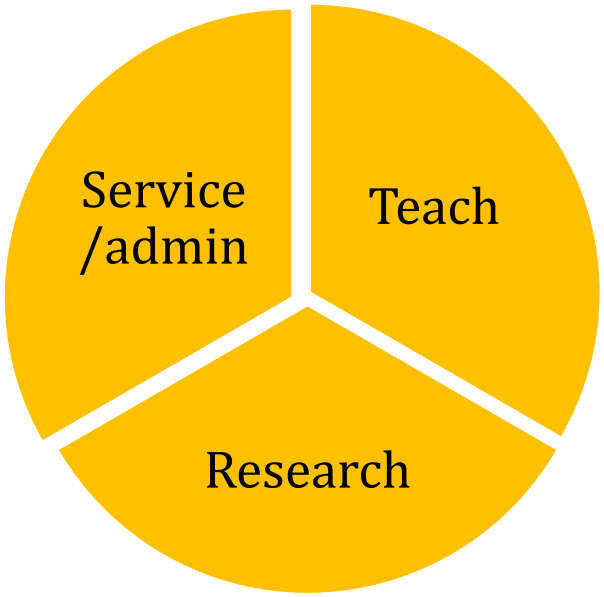
What is my typical day like?





www.phdcomics.com

What is my day *really* like?



No typical day.
Highly flexible.

- Teach classes & lab; prepare for lectures; exams
- Outreach
- Mentor my students in their projects
- Write grant proposals, progress reports to funding bodies
- Write manuscripts with my students
- Learn, think
- Review others' manuscripts, grant proposals
- Sit on other students' committees
- Manage teaching and research facilities
- Serve on departmental and institutional committees
- Deal with purchase and other paperwork
- Manage lab budget and plan finances
- Interview and hire people for the lab
- Masters and PhD admissions

What do I like/dislike about my job?

- Love to teach
- New ideas
- Flexibility
- Trying to understand new data with students
- Sharing our work in talks + manuscripts
- Hands-on work in the lab

- Paperwork, long processes
- Worry about lab finances
- Too many meetings
- A never-ending to-do list

What skills and qualifications do I need?

- PhD + publications (Assistant Professor positions need three years of postdoc/post-PhD experience in IITs). Tailor your application to the institute's advert.

- Giving good talks prepares you for classroom teaching.
- Learn to write research proposals.
- Offer to teach a tutorial.

Present academic job market in India

- 24,000 PhDs in all disciplines from about 900 institutions in 2017
- About 800 chemistry PhDs in a year
- IIX/NIT/CSIR/DAE institutes employ ~ 200 chemistry PhDs in a year. Similar numbers in other sciences.
- Many institutes have an upper age limit (35 with a little flexibility) for assistant professor positions

COMMENT

How far does a PhD go?

T. Pradeep

SEPTEMBER 20, 2018 00:15 IST

UPDATED: SEPTEMBER 19, 2018 22:30 IST

Lessons learnt from my journey

- Keep an open mind about different career options. There is no single correct career path.
- Not joining academia after a PhD is not a failure.
- A PhD training gives you many transferrable skills. Highlight them.
- Training in a particular discipline does not matter today. Be open to learning from other disciplines.
- What do you like to do? What are you good at? Talk to lots of people about their jobs to find out where you fit.

Crafting your Career

A winding path

28th April 2019

Lipika Sahoo PhD, PGDIPRL, PGCBM, MPWE.
Indian Patent & Trademark Agent
Founder & CEO
Lifeintelect Consultancy Pvt. Ltd.
www.lifeintelect.com
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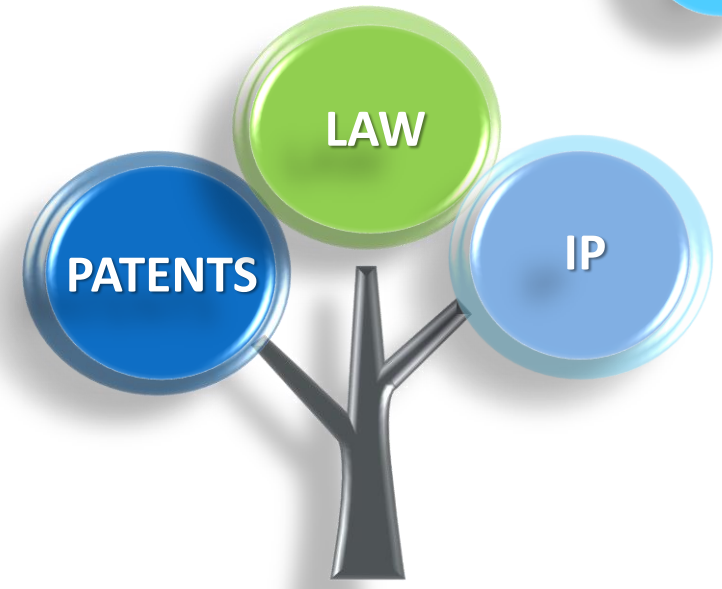
Victor Menezes Convention Centre,
IITB Campus, Powai, Mumbai 400076

JOURNEY/ DECISION

1

2

3



CIRCUMSTANCES

NLSIU

XIMB

LAW

MANAGEMENT

TEAM

AWARD

CONSULTING

COMPANY

WHY IP

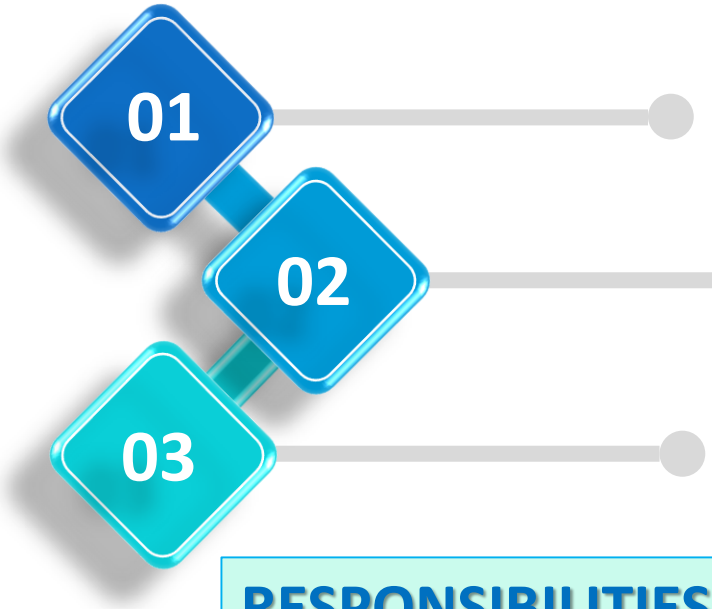
Exclusive rights related to creations of the mind: inventions, literary and artistic works, symbols, names, images, and designs-monopoly is assigned to designated owner by the state

1. **WORK WITH: Great professor, Writers, Painter, Artists, Established companies …..**
2. **PRODUCTS/ SERVICES**
   Cancer drugs to blockchain to computer vision to drone technology
3. **ALWAYS LEARNING NEW: NOVEL & INNOVATIVE IDEAS**
4. **OPPORTUNITY TO HELP INDIVIDUALS, COMPANIES**

IP POFESSIONAL

JOB INVOLVE

- Search, Drafting, Filing, Prosecution & Maintenance Of IP
- Agreements, IP Due Diligence



DUTIES

- Understanding Client's Business, Simple To **Complex Technologies, Advising Innovators**
- Suggest Adequate Protection

RESPONSIBILITIES

Protecting IP Rights: Patent, Trademark, Copyrights, Design, Geographical Indication

A TYPICAL WORK DAY

- Client Consultation
- Drafting & Reviewing
- Filing Applications, IP Office Actions
- Coordinating With Foreign Councils
- Speaking Engagements

THINGS LIKE MOST

- **Analysis & Strategic** Inputs
- Helping Clients To **Grow Their Businesses**
- Getting A **Patent Grant**, Registering TM & Design
- **Value We Add**

THINGS LIKE LEAST

- Lots Of **Paper Work**

- Lots Of **Deadlines**

MAIN CHALLENGES

Time

Getting Information

Changing dynamics of IP Law

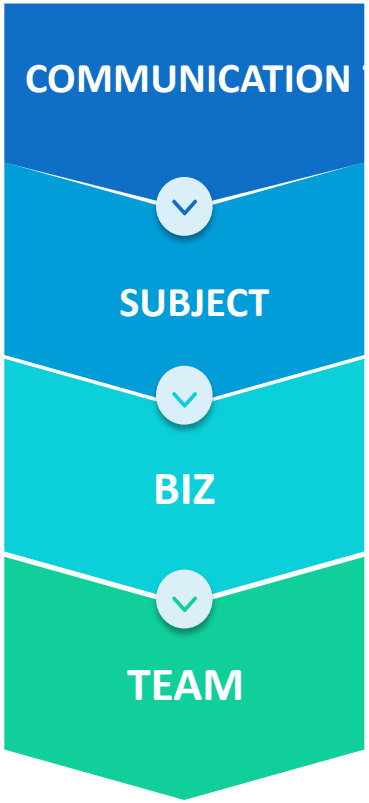
Resource

With necessary knowledge & skills

SKILLS WE APPLY MOST

GOOD COMMUNICATION SKILL

SUBJECT MATTER EXPERTISE



UNDERSTATING IDEA & BUSINESS

DELEGATION & TEAMWORK

HOW CAN ONE GAIN THESE SKILLS

COMUNICATION & UNDERSTANDNGS

- More Of Reading **Variety Of Topics, Practice Listen, Ask Questions**
- Be Precise, Be Specific, Each And Every Word Counts

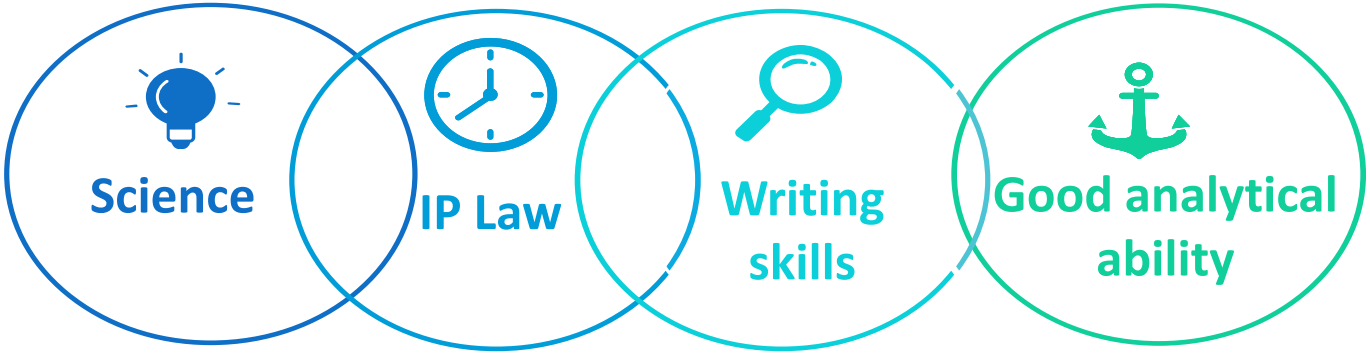
SUBJECT MATTER EXPERT

- Build A **Foundation** Of Knowledge
- **Continue** Educating Yourself

TEAMWORK

- **Strong Sense Of Group Commitment**
- Understand **Team Culture, Norms Of Group**

EDUCATIONAL QUALIFICATIONS AND WORK EXPERIENCE



Graduate In Science	Patent Law	Patent Drafting, Blog, Content	IP Analytics
BSc, BTech, MSc, MTech, PhD	LLB, PAE	Freelancer, Law Firm	Internship: Real World Exposure

COURSES & WORKSHOPS

01 ONLINE

The World Intellectual Property Organization

WIPO

FICCI

FICCI Industry's Voice for Policy Change
ISO 9001: 2008 Certified
Federation of Indian Chambers of Commerce and Industry

02 DISTANCE LEARNING/FULLTIME

(Basic, Advance, Skill Development)

NLSIU, NALSAR I MUMBAI: GNA Patent Gurukul, KPMSOL, The Academy Of Intellectual Property Studies (AIPS)

03 LLB/LLM/ SECIAL PROGRAMS

- Patent Drafting
- LLB: Litigation, Agreement Drafting
- IP/Patent Valuation
- IP Audit
- Technology Transfer
- Competition Law

PRESENT JOB MARKET

JOB MARKET

CAREER SCOPE & JOB PROSPECTS

Various Global/ National organizations, Law firms

INDUSTRY IS EXPONENTIALLY GROWING

Outsourced Job: Global Market. Patent Docketing, Patent Searching, Paralegal

GROWTH IS EASY, SALARY IS GOOD

But getting a job initially is not very easy: necessary skills & experience.

YOU CAN WORK IN YOUR CORE AREA

Most Graduates: Job not aligned with degree. In IPR mostly you work in core area of your technological expertise.

START-UPS & IP

India is becoming a hub for start-ups and R&D centres.

#startupindia

Numerous Funding options by Govt & Pvt sector. First track patent examination.

More are more companies are filing patents and creating valuable IPs.

IP JOURNEY (DOS AND DON'TS)

IP law has **broad spectrum and dynamic**. Unless you plan to start your own IP consulting firm in IPR, it is advisable you **pick your element**, build your expertise.

First **get a real world experience** of how is it to work in a law firm/ corporate IP division.

First **start small**: online course, small internship etc.
If you like it then plan big investment.

YOUR PATH YOUR CRAFT

- Have a creative hobby: Dancing, Music, Painting.
- Carve out your niche.
- If you want to have a career choice of Technology, Law, Patent, Innovation and dealing with people:

  IP is a great fit & challenging career option.

THANK YOU

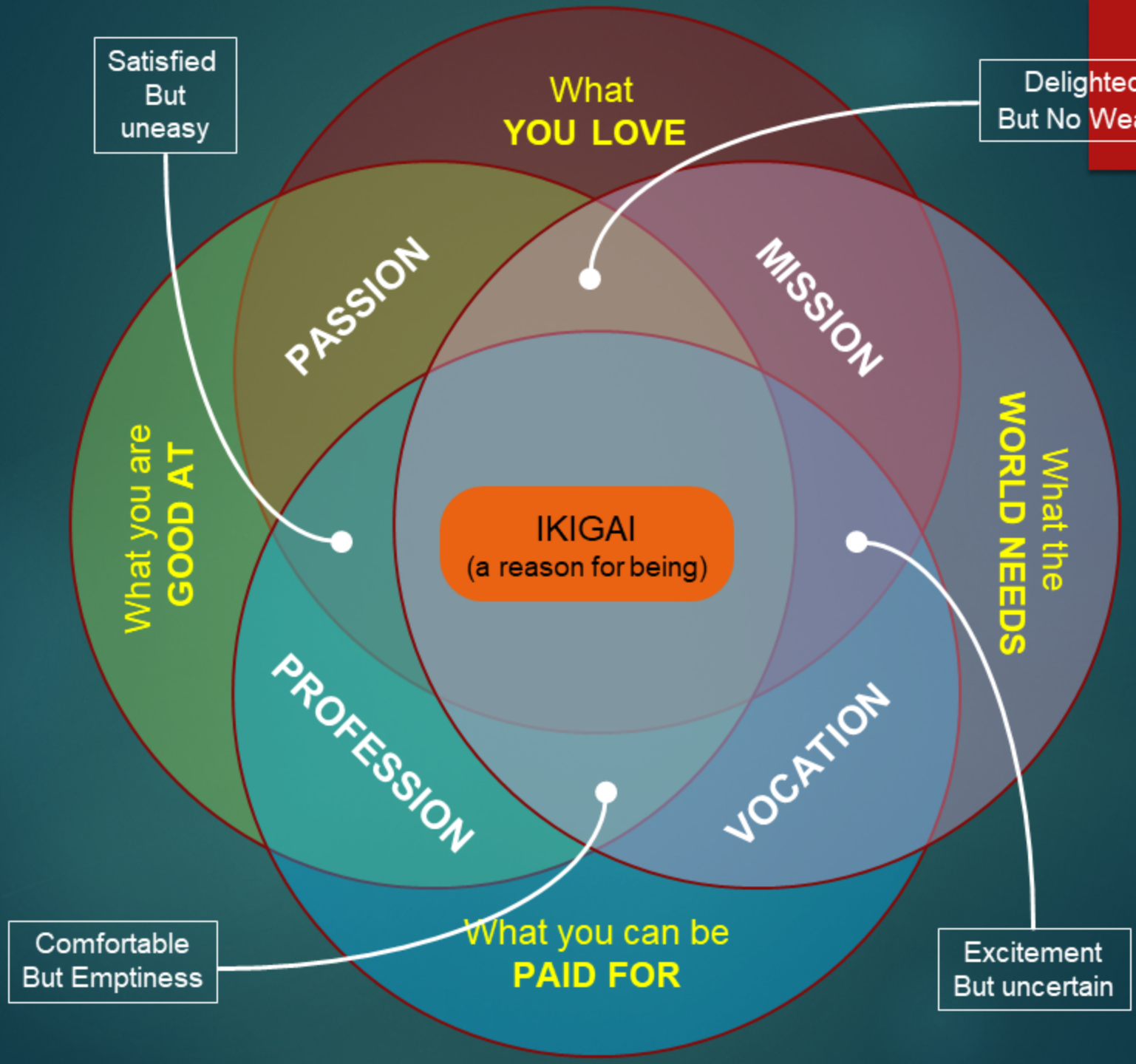
(What) to be or not to be:
Finding the intersection of interest and worth

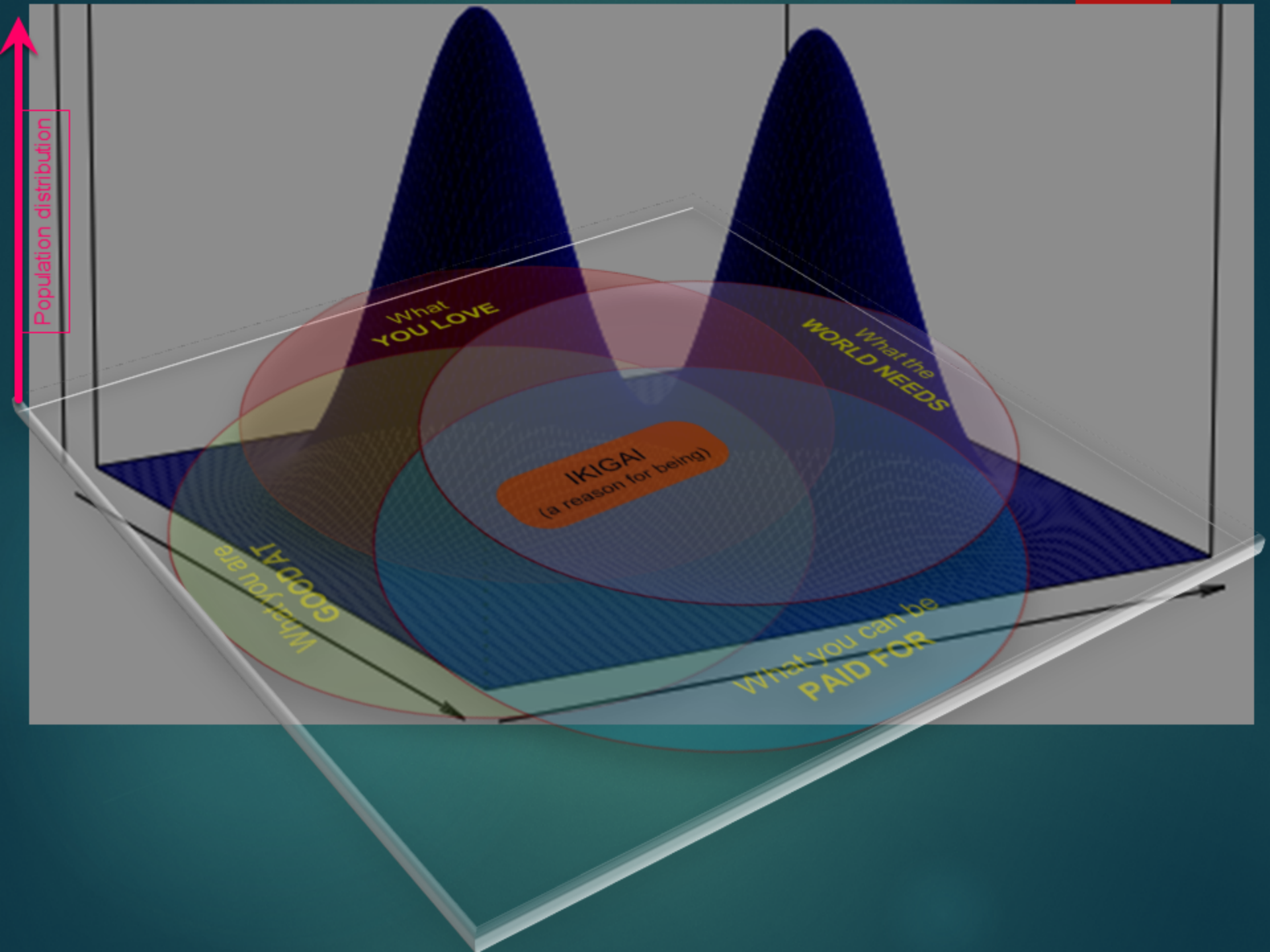
SUBHOJIT SEN, PhD SUBHOJIT.SEN@CBS.AC.IN

RAMALINGASWAMI FELLOW

UM-DAE CEBS (CENTRE FOR EXCELLENCE IN BASIC SCIENCES).

MUMBAI UNIVERSITY, KALINA CAMPUS, SANTACRUZ E. MUMBAI 400098


Satisfied
But
uneasy
What
YOU LOVE
Delighted
But No Wealth
PASSION
MISSION
What you are
GOOD AT
What the
WORLD NEEDS
IKIGAI
(a reason for being)
PROFESSION
VOCATION
Comfortable
But Emptiness
What you can be
PAID FOR
Excitement
But uncertain
Source: Dreamstime

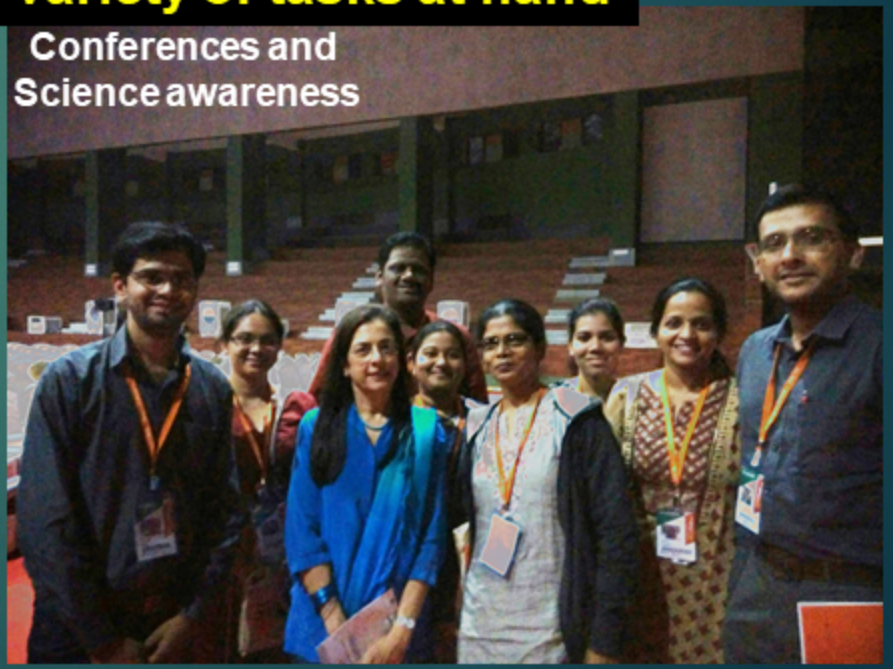

Population distribution
What
YOU LOVE
What the
WORLD NEEDS
IKIGAI
(a reason for being)
What you are
GOOD AT
What you can be
PAID FOR

My Journey so far….

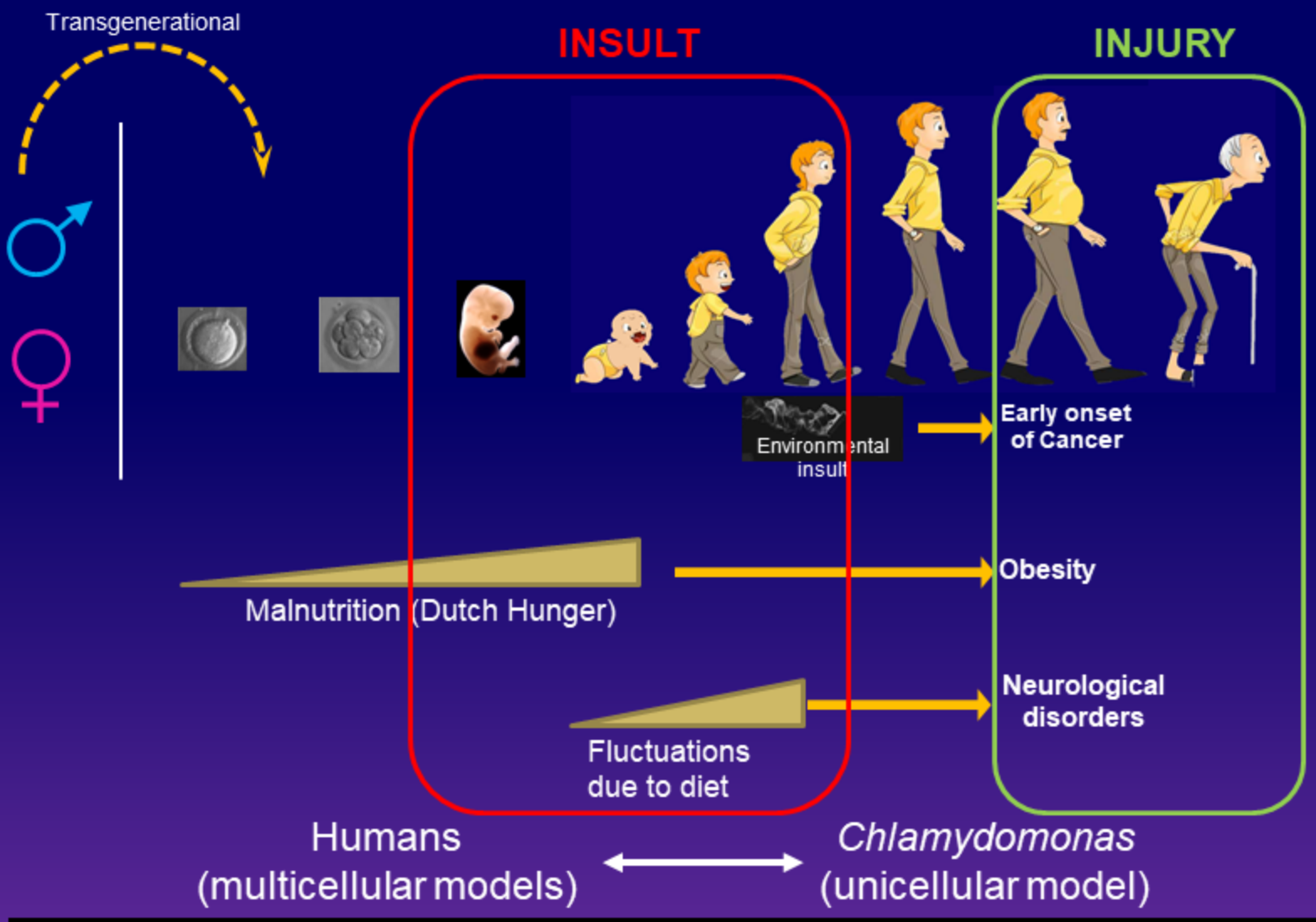
Take-home message:
Picking a career is a lifelong never-ending process

Source: Dreamstime

What do I do – ensure a variety of tasks at hand



HYPOTHESIS - A TRANSMISSIBLE CELLULAR MEMORY

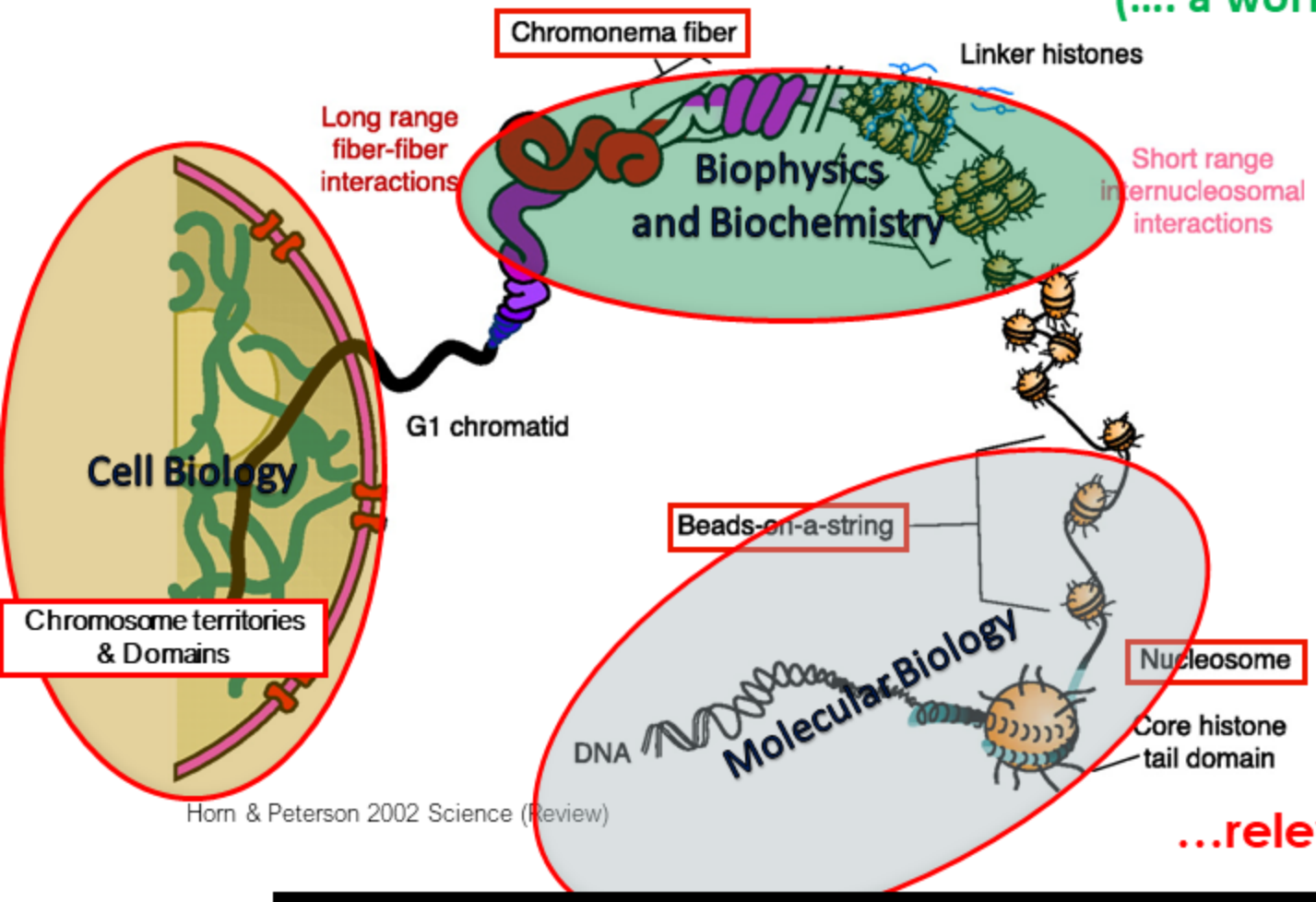


For Researchers:
Take-home message: Identify a broader problem of interest!

How effectively have we been studying this problem ?

Relating *in vivo* Chromatin structure to Gene expression

(.... a work in progress)



Horn & Peterson 2002 Science (Review)

Genes OFF Silent

TRANSITIONS ?

Genes ON Active

…relevance to Cancer?

Take-home message: Multi-pronged approach
Evolve your tools with the problem! Do not stagnate!

Playing detective with yourself

Not Just Work

Integrated Scientific and Holistic Approach

Rational Thinking

Challeneging Involves **Teaching Education Research**

Passion+Mission

Why do I love what I do

Upcoming Challenges:

(challenges my creativity)

- The changing face of 'Information' gathering and consumption.
- How Social Media affects inter-personal interactions
- Increasing shorter attention span within millennials.
- Helping to fertilize ideation to technology.

Gathering Skills from Scientific Research

Aided Learning Portals:

- ONLINE COURSES by Universities in USA, Germany, Italy, Europe etc. including ventures like *Coursera*.
- Short Diplomas or MPhil courses for specialisations.
- Youtube (informal), TEDx, Online Coaching Classrooms.
- Extramural and Correspondence courses run by multiple Universities.
- Workshops arranged by multiple Science Academies, Societies, and Institutions.

Job Avenues

BSc / Btech

Academic job market slower
Professional job market relatively stronger

MSc / MTech

PhD

Paper writing and edting

Science Policy and Management

Science Awareness (NGO/Environment sector)

Project Management/Implementation

Education Research

Science Journalism

Scientific writing and editing

Educators for STEM

Curriculum design/research

Independent Venture Capitalism

Consultants in Bio-tech/Pharma

Scientific Art/Animation

Scientific Documentaries and Biographies

Life Coach - Science in daily lives

Independent/collaborative entrepreneurship (BIG-DBT grants / Start-ups govt/pvt aided)

Teaching – Higher education

Online Laboratory/Course designs

Grant Writing Services.

Big Data Science

Lessons learnt (Dos and Don'ts)

- **TAKE A BREAK:**

Take an academic break if necessary to figure out what's next.
(but do something CONSTRUCTIVE to add to your CV).

- **Maintain DIVERSITY in profile:**

Try out multiple avenues, Do not pursue a career because someone else told you so.

- **PASSION:**

Feel passionate about whatever you do, lest work starts to feel like a "job"!

- **AWARENESS of self-worth:**

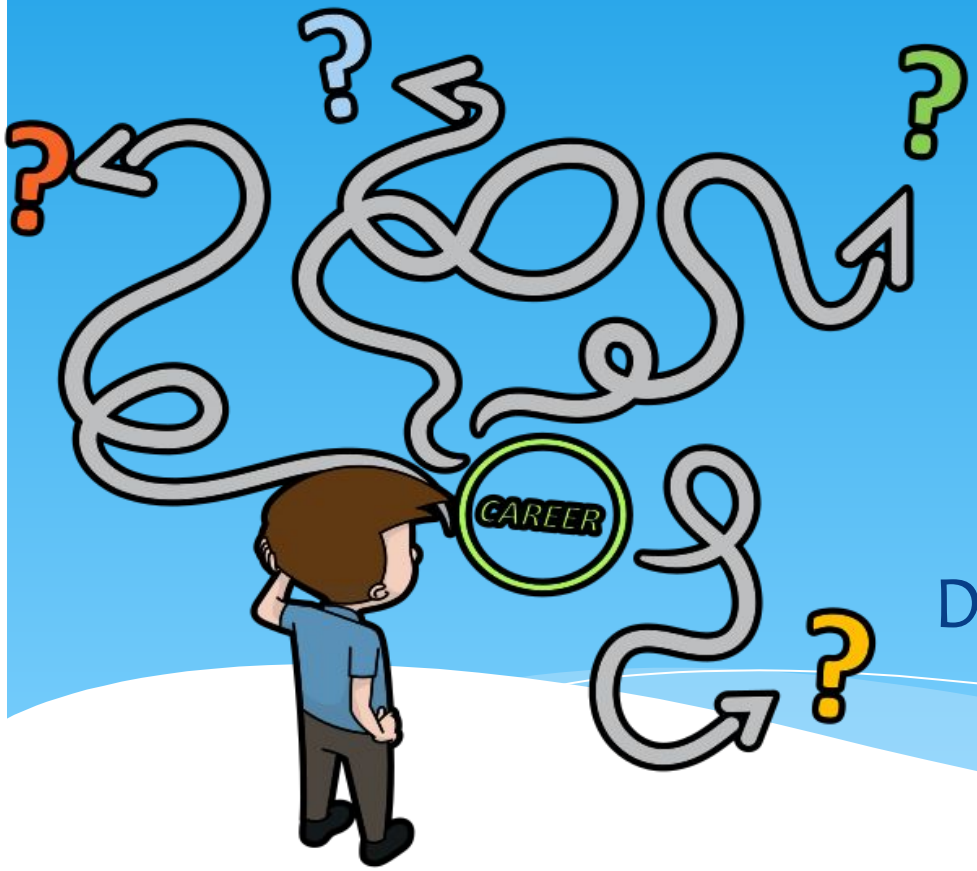
Choose your field/venn wisely, it will decide what remedial measures to take to feel 'complete'.

- **FINANCIAL SECURITY:**

Make a financial plan for time line of work versus investments, to help you decide what path might be the one suitable forward.

Learn from your mistakes – Evolve with the system

Researcher to educator: A quest for life-long learning



Dr. Swagata Chakraborty

For Crafting your Career Workshop

@IIT Mumbai, 28-04-19

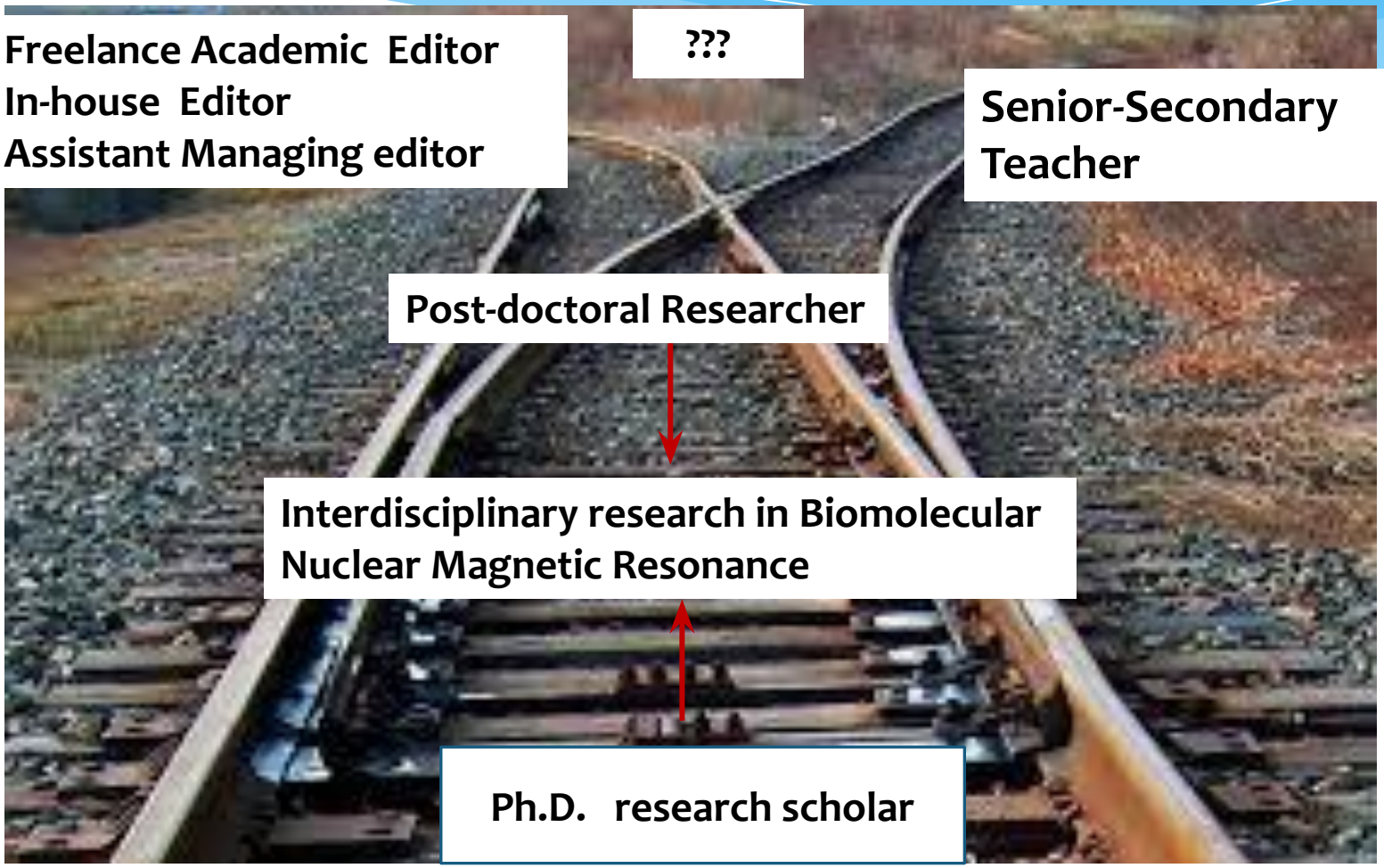
https://commons.wikimedia.org/wiki/File:Career_Change_Confusion_Cartoon.svg

Urban Dictionary's definition : ***"an affliction whose symptoms are loss of life & liberty, general purpose misery, and resentment towards those who are unaffected" and "an euphemism for 'professional labor camp."***

The challenge of life, I have found, is to build a resume that doesn't simply tell a story about what you want to be, but it's a story about who you want to be.

Oprah Winfrey

My career track so far……



CACTUS COMMUNICATIONS PVT LTD

- Provides publication support and academic editing solutions to help researchers navigate the complex world of scholarly publishing.

- High-impact medical communication solutions for pharma, device, and biotech, globally.

https://www.cactusglobal.com/services

Job Responsibilities

- **Editing and reviewing research manuscripts intended for publication, research grant proposals, and other scientific documents of high strategic value**
- **Overseeing a multicultural team comprising in-house editors and highly skilled freelance editors based across the world**
- **Supervising timely turn around of jobs, managing team performance, ensuring target compliance**
- **Mentoring team members and managing knowledge resources**
- **Analyzing root causes for service failure and implementing strategies to improve service quality**

Skills acquired/honed

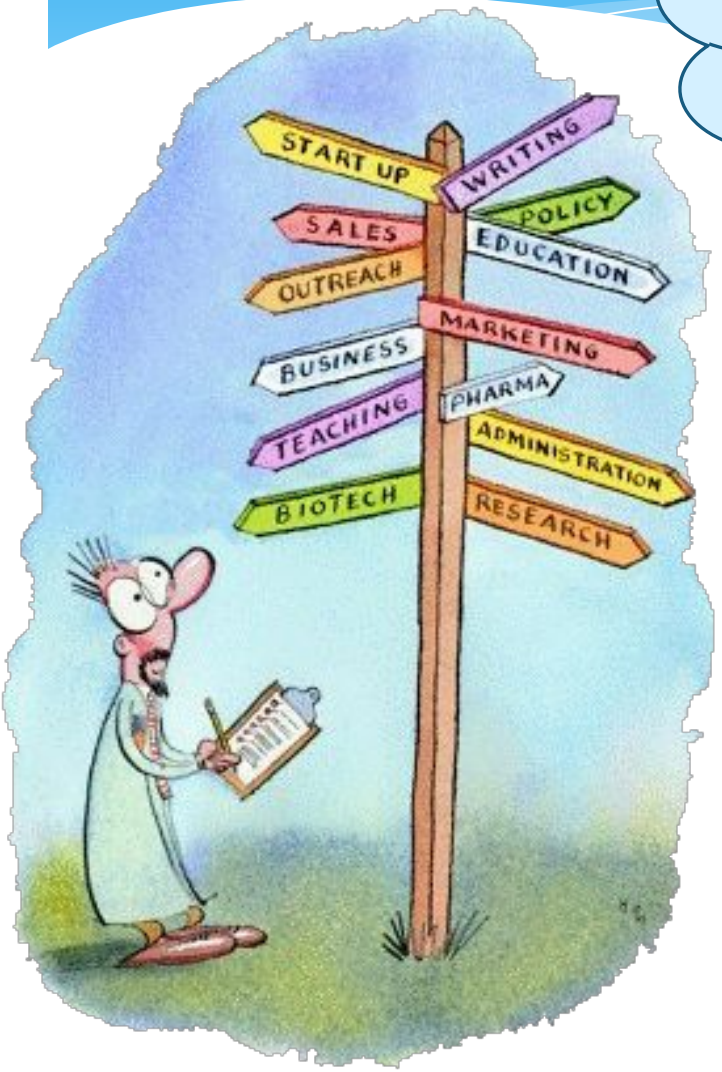
* Technical writing
* Attention to detail
* Communication
* Time management
* Leadership
* Problem-solving
* Adaptability
* Multi-tasking
* Interpersonal

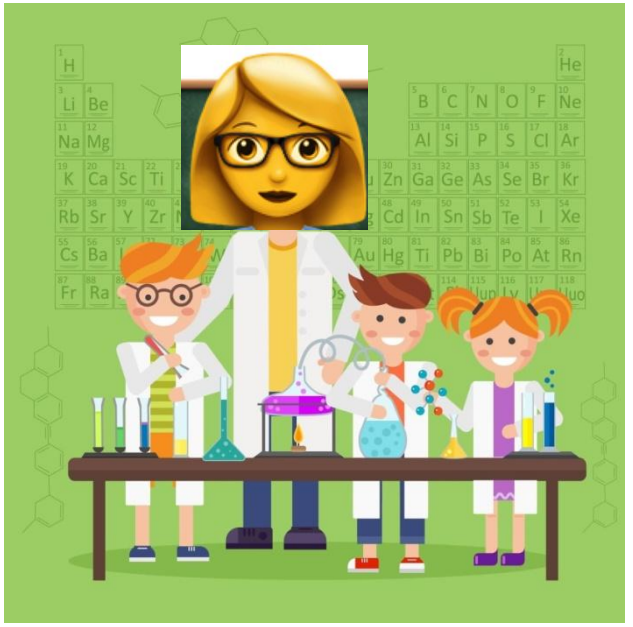
Organizations:

* Cactus Communications Pvt Ltd, Mumbai
* Novartis, Hyderabad
* Crimson Interactive Pvt Ltd, Mumbai
* Indegene, Bengaluru
* Tata Consultancy Services (Life Sciences & Healthcare)
* Rehoboth Academic Services, Bengaluru
* CBCC Global Research, Gujarat

Pause and reflect

Creativity
Research
Reading about concepts and advancements in science
Continued learning and self-development
Social interactions





Why IBDP curriculum?

The curriculum

- is application-based and research driven
- is based on inquiry
- focuses on conceptual understanding
- provides scope for creativity in classroom

Steps toward my goal

Understanding the effective approach for application

Prepared a well-crafted resume

Proactively made contacts with IBDP teachers and shared my resume

Interview call from Bombay International School

Interview and demo lesson delivery

Job offer

Job Responsibilities

- Teaching DP Chemistry curriculum to Grade 11 and 12 students through enquiry-based and multimodal instruction
- Supervising independent research projects in Chemistry

: Extended Essay and Internal Assessments

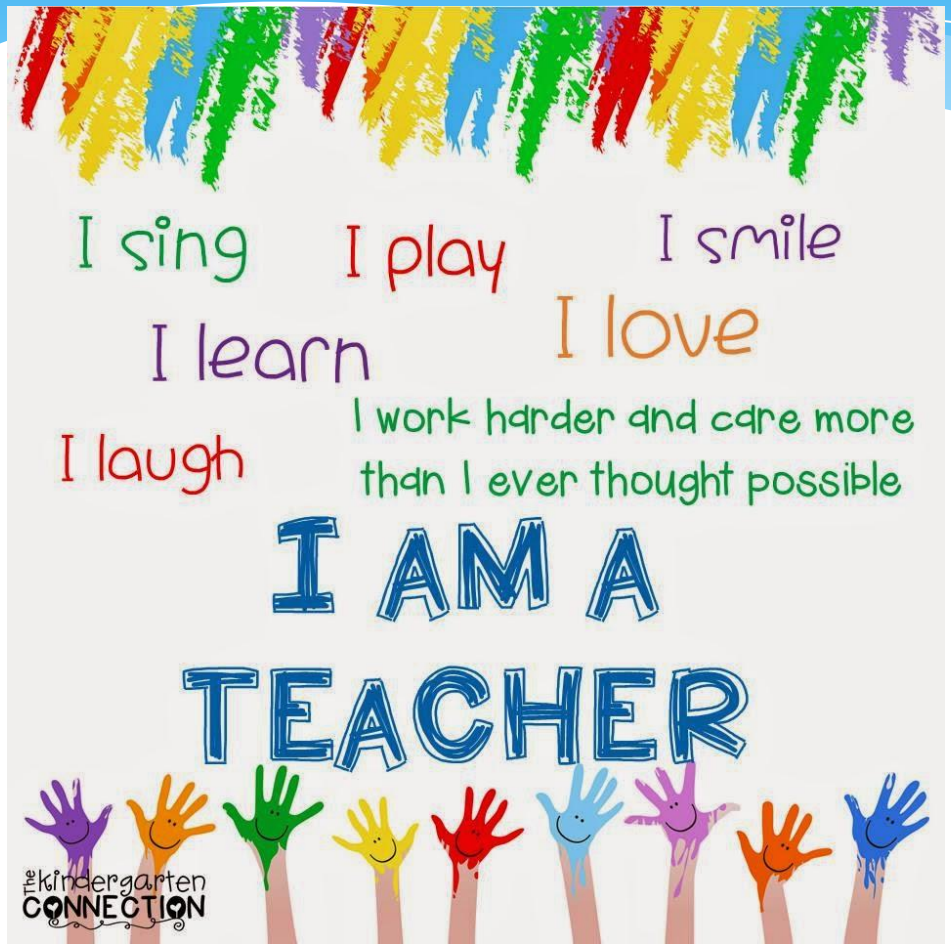
- Conducting skill building sessions and practical investigations for developing scientific research skills in students
- Mentoring students in the capacity of a homeroom advisor and overseeing their holistic progress and well-being
- Supervising student involvement in CAS (Creativity, Activity, Service)

Being a teacher is NOT an easy job

Challenges

* Understanding the diverse learning needs of individual students in a class
* Finding suitable sources to design innovative and enquiry-based lesson plans
* Deconstructing criteria for assessment
* Understanding the emotional needs of the students

Rewards of the profession



"A teacher affects eternity; he can never tell where his influence stops."
Henry Brooks Adams

Essential transferrable skills acquired during doctoral-level scientific training

* **Research and analytical skills**
* **Critical thinking skills**
* **Technology skills**
* **Written Communication skills**
* **Project Management**
* **Collaboration**
* **Public speaking**
* **Resilience and perseverance**

Desirable Qualities/Skills of an Educator in International Curricula

- Content expertise
- Research skills
- Critical Thinking
- Passion and Creativity
- Technology skills
- Open-mindedness
- Communication
- Organization
- Collaboration
- Leadership
- Risk-taking
- Empathy

Job Market in India

Cambridge International Examination (CIE)
Edexcel Examination Board
International Baccalaureate (IB)

Currently there are **469** international schools located throughout the country, attended by **268,500** students.

The international schools market in India is on the cusp of significant expansion, creating a need for better teachers.

In the last five years, the number of international schools in India has grown by over **45%**, while student enrolment has increased by over **70%**.

(IS_magazine_-_India_all_set_for_international_education_expansion_-_2018.pdf)

IB Schools in India

151 IB World schools in India currently offer one or more of four IB programmes

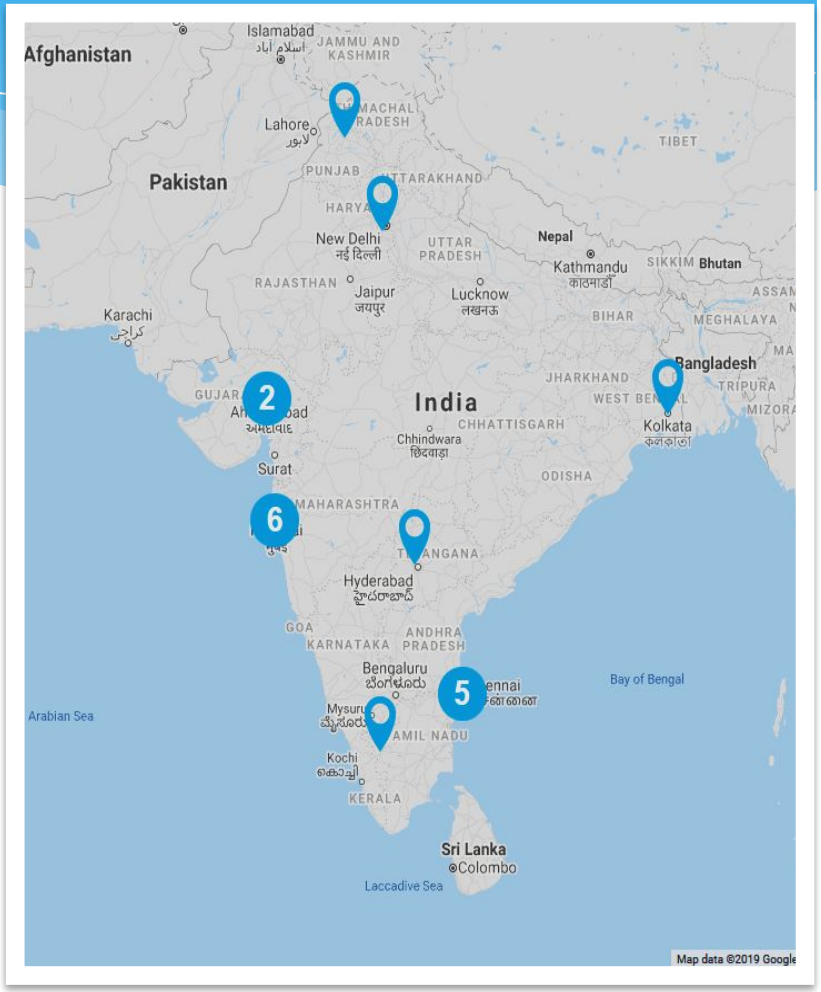
Primary Years Programme — offered by 80 schools

Middle Years Programme — offered by 32 schools

Diploma Programme — offered by 125 schools

Career-related Programme — offered by 1 school

www.ibo.org/jobs-and-careers/



Geographical distribution of schools offering IBDP curriculum in India

"Find out what you like doing best, and get someone to pay you for it."—Katharine Whitehorn

- ✔ **Build a concise, well-crafted resume**
- ✔ **Get involved in education initiatives such as science fairs, Olympiads or Teach for India**
- ✔ **Make connections with professionals in the field**
- ✔ **Stay updated on job opportunities in the field (Recruitment period for IB schools: November – February)**
- ✔ **Recruitment specialists: The Head Hunters, Search International**

* Apply with a well-drafted cover letter highlighting your enthusiasm and suitability for the position
* Follow up on the application
* Prepare for interviews
* Be confident about your capabilities and skills
* Stay positive and motivated throughout the process

Online courses on pedagogy:

Harvard Project Zero Online Courses (*www.pz.harvard.edu*)

- *Creating Cultures of Thinking: Learning to Leverage the Eight Forces that Shape the Culture of Groups, Classrooms, and Schools*
- *Making Learning Visible: The Power of Group Learning and Documentation in Classrooms and Communities*
- *Teaching for Understanding: Educating for the Unknown*
- *Thinking and Learning in the Maker-Centered Classroom*
- *Visible Thinking: Building Understanding through Thinking Routines and Dispositions*

TES (formerly Times Educational Supplement) www.tes.com

Educational materials, jobs, news and courses for teachers and school leaders.

Masters in Education offered by:

* Stanford University, USA
* Harvard University, USA
* University of Oxford, UK
* University of Hong Kong, Hong KOng
* University of Cambridge, UK
* Murdoch University, Australia
* Edith Cowan University (ECU), Australia
* **University of the People, USA**

(IB recognized online M.Ed. Course; free registration)

“The only way to do great work is to love what you do. As with all matters of the heart, you'll know when you find it. And, like any great relationship, it just gets better and better as the years roll on. So keep looking until you find it. If you haven’t found it yet, keep looking. Don’t settle.”—Steve Jobs

A Career in Science Communication

Notes from the Workshop

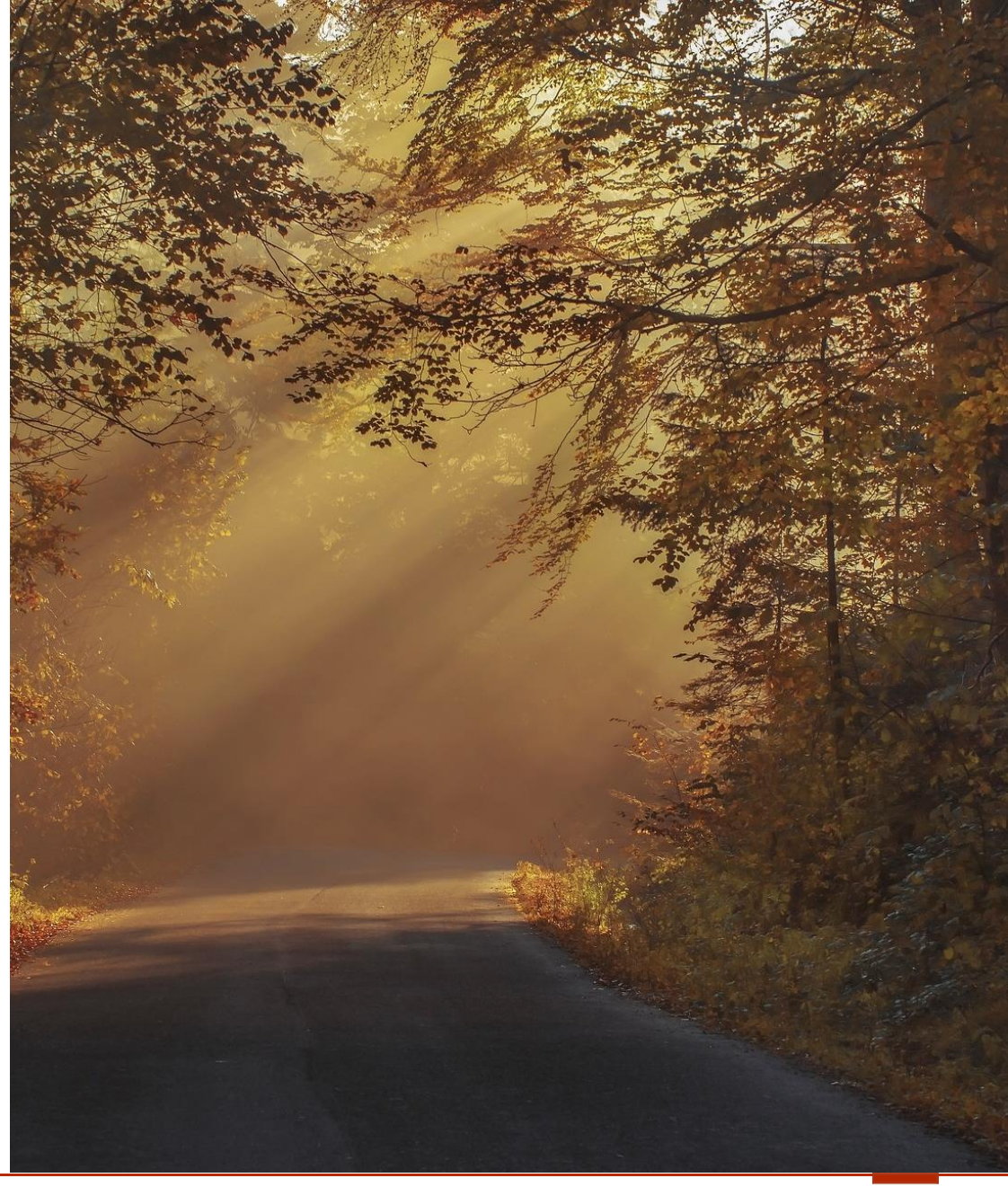
Cheryl Travasso, Ph.D.

Content writer and Health strategist

Most people association science communication only with manuscript writing and science journalism.

While both of these are important facets of science comms., they represent only a part of this developing field.

My journey so far



Careers can take interesting detours **sometimes… just like an experiment**

- You plan an experiment, thinking you know what the outcome will be
- The experiment gives you an unexpected finding
- You find the observations reproducible
- You decide to see where the findings lead!

The beauty of science communication:
variety

- The variety of clients with whom you can work
- The variety of subjects on which you work
- The variety of audiences for whom you write

Content for different audiences, to serve multiple purposes

PHARMA & ASSOCIATIONS	CONSUMERS | PUBLIC | PATIENTS	DOCTORS	HEALTHCARE PROFESSIONALS
Press releases and notes	Newspaper articles and advertorials	News updated on doctor portals	Newsletters
Narratives	Website news stories (bylined)	Visual aids and detail aids	Training slide decks
Briefing documents	Consumer-friendly website content	Publication summaries	
Communications and brand strategy	Blogs	Website content	
	Social media posts		
	Patient cards		
	Brochures		

*Content is co-created with the client and other experts and must receive all the necessary approval before being available in the public domain

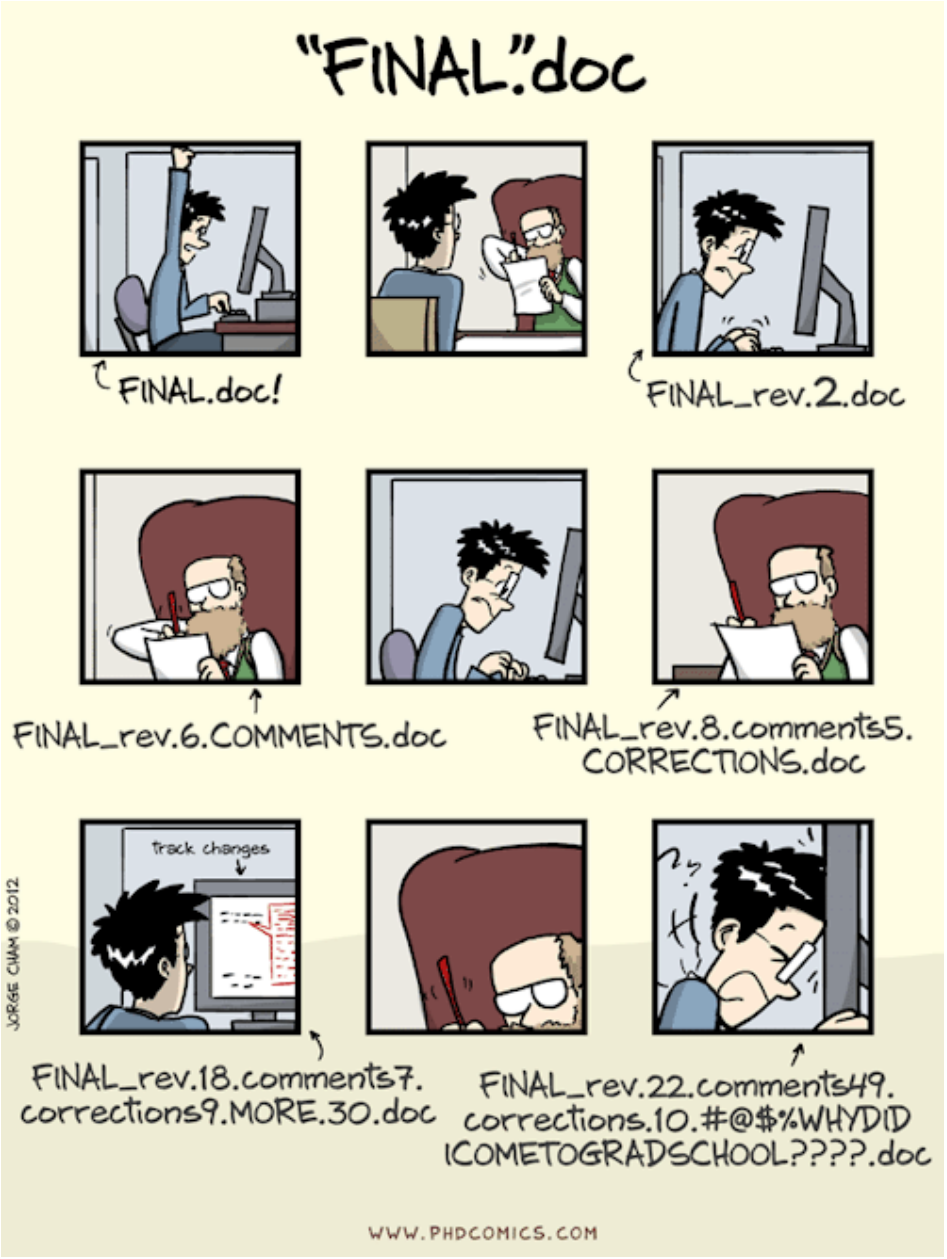
Perks of a career in this field

- A combination of science with communication and expression
- Opportunity for creativity
- Opportunities to pitch an idea/ strategy
- Intense, but a more proportional balance between effort and results

What may seem challenging

- Tight deadlines, multiple stakeholders
- Having to delve into issues that are initially completely new to you
- Being required to switch communication styles many times a day, depending on your audience
- Knowing exactly what you need to communicate

Then again,
some challenges stay the same
no matter where you go! ☺



Skills and Qualifications

A science communicator’s toolkit

A strong scientific background*

A passion for research

Scientific accuracy

An ability to simplify complex scientific concepts

Readiness to work on diverse topics

Language skills

Strong vocabulary

An an eye for detail#

*Personal opinion

#Did you catch the typo?

Tips to sharpen your skills

Read as much as you can about the subject

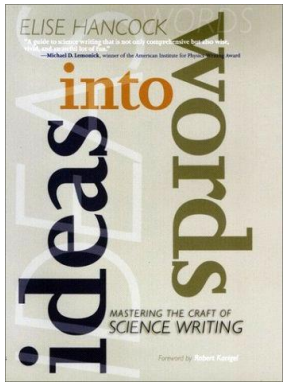
Just – read!

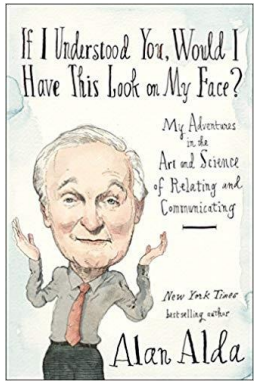
Never neglect grammar

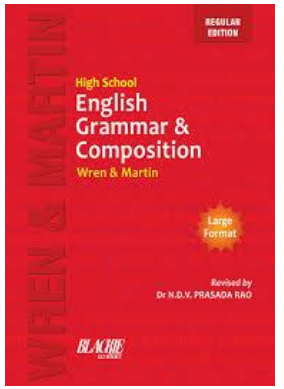
Do an online course or a formal course

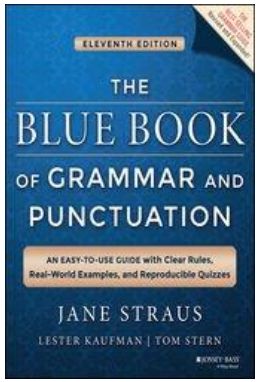
Practice

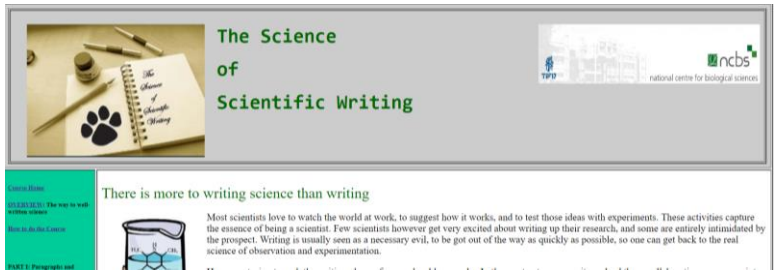
Find a mentor

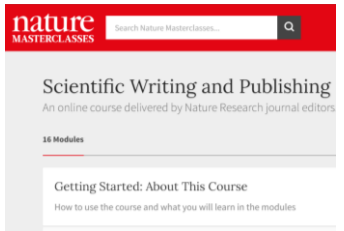












Qualifications

Any Masters or Ph.D. degree in science

Any medical degree

Then again, there is no rule here. There are brilliant science communicators who do not have a science degree but effectively communicate science with clarity, accuracy and simplicity.

A high science degree e.g. a Ph.D. is valuable…

… for the following reasons:

- It teaches you to think, critique, troubleshoot, problem solve and grasp new information quickly
- It teaches you to be scientifically accurate
- You know where to look for credible information
- The degree lends credibility to the work you do.
- You can easily interact with the experts in your client team

Jobs to Consider

Some job openings to consider

Medical communication agency

Develop collateral largely for in-clinic use, doctors, healthcare professionals; may also include patients and consumers.

Public Relations agency

Work with clients to strategically communicate with various stakeholders, primarily through media.

Newspaper or News portal

Write news stories for newspapers; or news portals of popular journals/ scientific websites.

Publication support firm

Support the communication of research findings and clinical data to the scientific community.

Pharmaceutical writer

Develop non promotional medical content to support clinical trials; may include some promotional material too.

Journal publication

Plan journal and magazine themes and topics and take part in the review process.

In recent years particularly, there has been quite a bit of overlap between these careers

Points to remember

- Careers are not set in stone. It is ok to shift tracks. It is also ok if things don’t work out.
- Know what you’re good at. It helps to have a second opinion.
- Look for the right kind of mentor.
- It’s ok not to have a 10-year plan at the start of something new. Go where the “results lead you”.
- If you have the necessary skill set and mindset, then a career in science comms may be just what the **‘doctor’ ordered!**