

Research Master in Cognitive and Clinical Neuroscience

Drug Development and Neurohealth

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Specialisation
Coordinator



Drug Development and Neurohealth (DN)

- Started in 2016
- DN teaches how to find and make new treatments for mental & neurologic disorders



Class of 2018



Class of 2019

The Medical Need is HUGE

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#1: Lower Back Pain

#2: Major Depression

#4: Neck Pain

#9: Anxiety Disorders

#6: Migraine

#11: Schizophrenia

#17: Bipolar Disorder

#19: Other Mental and Substance disorders

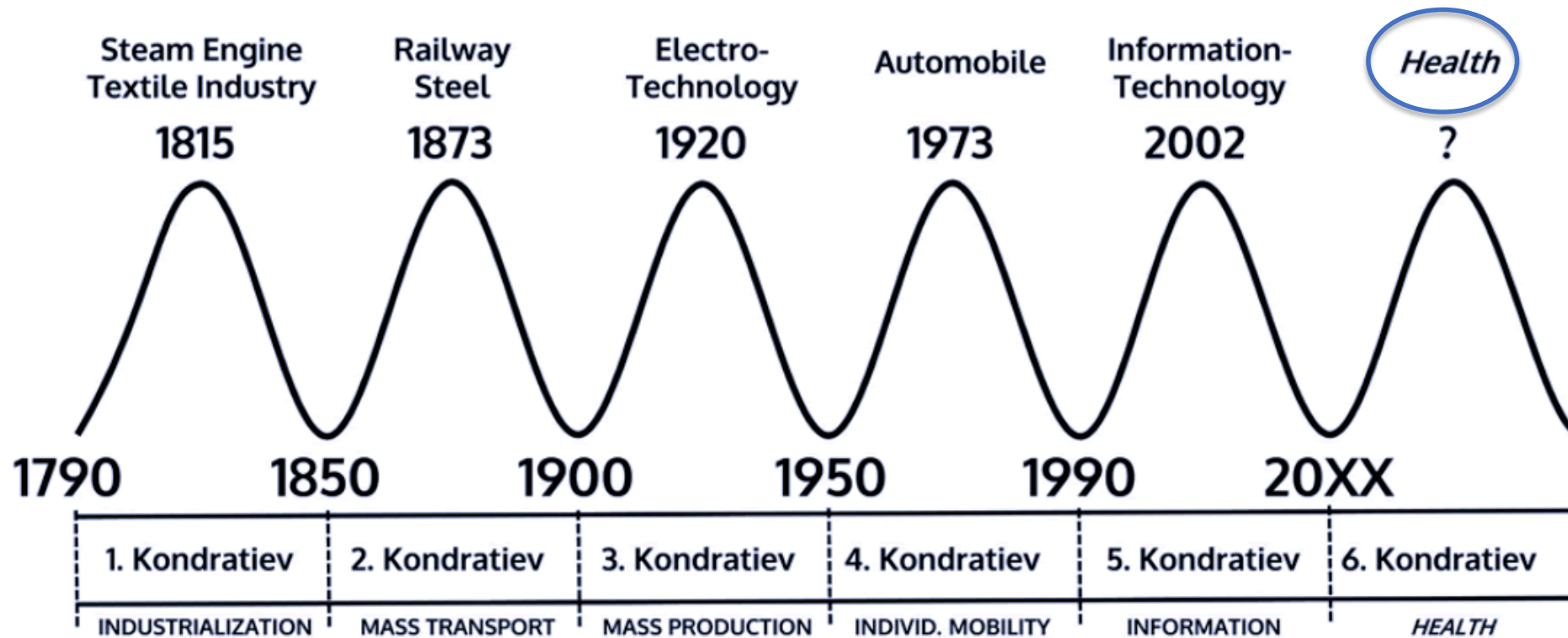
#21: Alzheimer's Disease

#22: Alcohol Abuse Disorder

#23: Epilepsy

The Timing is Perfect

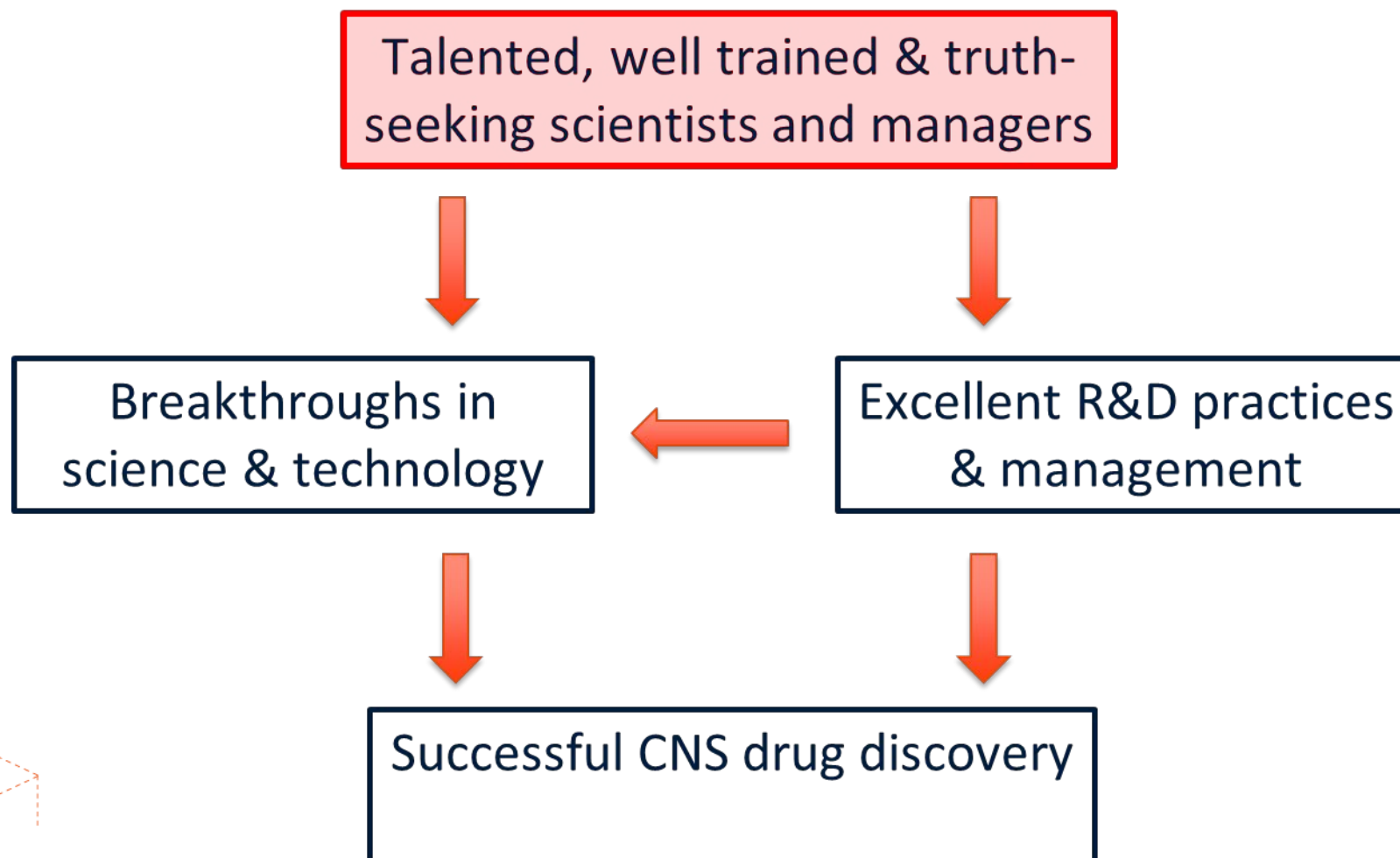
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Kondratiev cycles for socio-economic revolutions

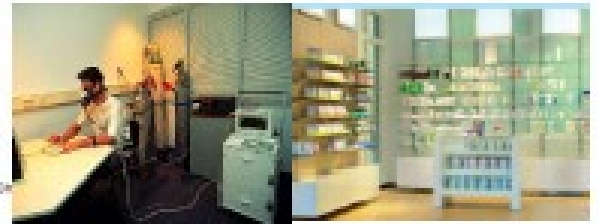
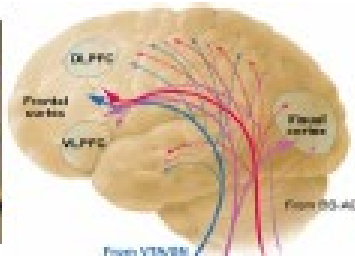
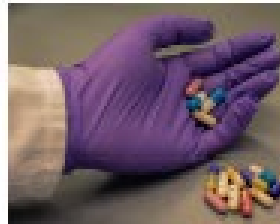
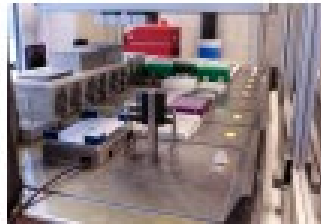
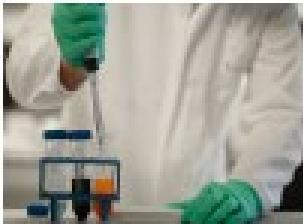
Our Path is Clear

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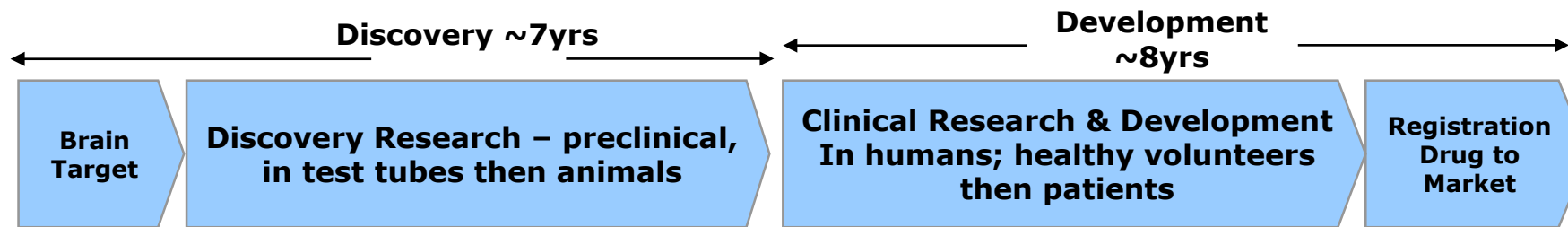
What Drug Development and NeuroHealth is about

- Research on new treatments for CNS disorders
 - Including neurochemical brain targets
- **Multidisciplinary:** neuroscience, toxicogenomics, (psycho-)pharmacology, biological psychiatry, entrepreneurship
- **Wide range of topics:** from “cells in tubes” to “new medicines in patients”
- **Excellent career perspectives:** academia, industry, government



Courses aligned to drug research & development pipeline

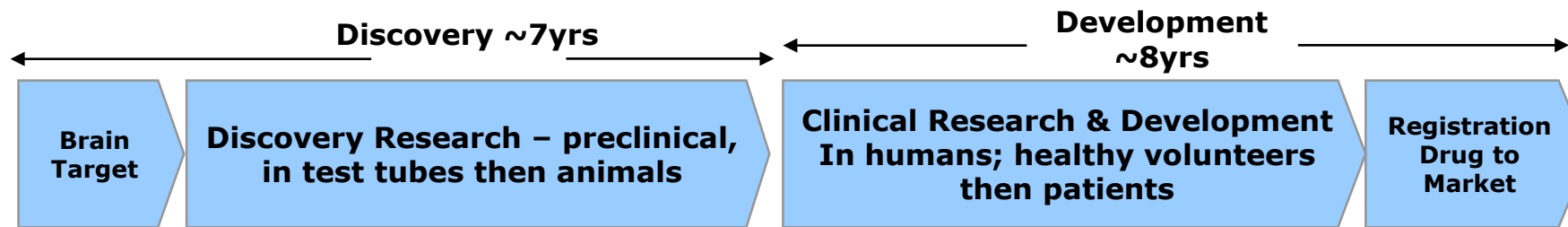
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This is about finding new medicinal drugs and making them work for dementia, depression, schizophrenia, autism, ADHD,, basically all neuropsychiatric diseases that can be targeted

Development of essential capabilities for the future drug discovery research scientist

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Target Discovery Drug Discovery Safety & Drug Metabolism Clinical Development Pharmacoepidemiology
 Genetics Psychiatric Neuroscience Neuropsychopharmacology Applied Therapeutics
 Big Data in Drug Discovery Animal Models Electrophysiology Biomedical Brain Imaging
 Introduction to: Molecular & Biochemical Techniques / Psychology Project management Valorisation
 Robot-based high-throughput screening In silico Drug Discovery Western Blotting Neuroanatomy
 Advanced Statistics I and II, SPSS, LISREL, Colloquia, Scientific Writing, Grant Writing, Electives

Core Courses Practicals Workshops Parallel Courses

Curriculum provides early exposure to industry *company excursions*

- UCB (Brussels, Belgium)
- Johnson & Johnson (Beerse, Belgium)
- Bayer (Wuppertal, Germany)
- Grünenthal (Aachen, Germany)



Staff from different Faculties and Departments

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Health, Medicine & Life Sciences

Pharmacology

Toxicogenomics

Neuroscience



Psychology & Neuroscience

Neuropsychology & Psychopharmacology



University Hospital

Clinical Pharmacy & Toxicology



Flexibility to develop your own profile

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- Choose your position in the pipeline
 - Preclinical
 - In Vitro, Cell lines, Cell cultures
 - Big Data Neurogenomics, In-Silico Discovery
 - Preclinical Discovery, Animal Models, Psychopharmacology
 - Clinical
 - Test drugs or nutrients in volunteers or patients
 - Experimental Clinical Human Psychopharmacology
 - Clinical effects of medicines: Pharmacoepidemiology
- Electives – 5% of curriculum you choose yourself
- **Internship – 42% of your curriculum in Academia or Industry**



COLUMBIA
UNIVERSITY



CHDR
Centre for Human Drug Research



Boston
Children's
Hospital

Until every child is well™



uOttawa



CEDARS-SINAI®



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Many career paths for DN graduates

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academia

nutrition industry

pharmaceutical industry

consultancy

healthcare

contract research organizations

life sciences venture capitalists

governmental regulatory office

research consortia in EU or US

Who can apply

Students with a BA in:

- Neuroscience
- Psychology
- Biomedical Science
- Pharmacy
- Medicine
- Life Sciences
- Bioengineering
- University College
- Science College
- ...

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FN & DN Class of 2021

For more information

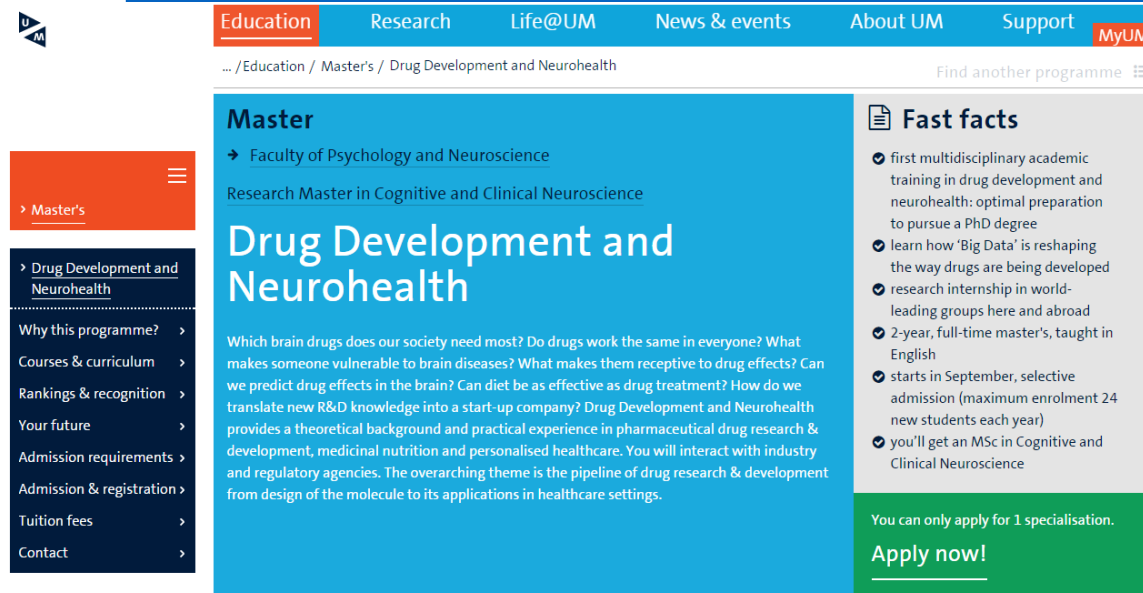
- Talk with student and coordinator after the presentation

- Contact DN coordinator: rudy.schreiber@maastrichtuniversity.nl

- Visit UM website:

Google:

Drug Development
Maastricht



The screenshot displays the Maastricht University website. At the top, a navigation bar includes links for Education, Research, Life@UM, News & events, About UM, and Support, with a 'MyUM' button on the right. Below this, a breadcrumb trail reads: ... / Education / Master's / Drug Development and Neurohealth. The main content area is titled 'Master' and 'Research Master in Cognitive and Clinical Neuroscience'. The program name 'Drug Development and Neurohealth' is prominently displayed. A sidebar on the left lists various program details like 'Why this programme?', 'Courses & curriculum', and 'Admission requirements'. On the right, a 'Fast facts' section lists key features: first multidisciplinary academic training, learning about 'Big Data', research internship, 2-year full-time duration, and selective admission. A green banner at the bottom right encourages users to 'Apply now!'.

- Facebook site: <https://www.facebook.com/MaastrichtRMDN/>

Newsletters

Contact DN coordinator: r.schreiber@maastrichtuniversity.nl



INSIDE THIS ISSUE

1. Welcome!
2. Experiencing the Dutch Neuroscience Meeting I
3. Experiencing the Dutch Neuroscience Meeting II
4. Life after NeuroHealth
5. Drughunter's corner
6. End of year 1 BBQ

*"I like maverick
approaches"*
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The Medical Need is Huge

2013 leading causes	Mean rank (95% UI)	Mean YLDs (×1000)	Median percentage change
1 Low back pain	1.0 (1-1)	72 318	57% (53 to 61)
2 Major depression	2.1 (2-4)	51 784	53% (49 to 59)
3 Iron-deficiency anaemia	3.6 (2-6)	36 663	-9% (-10 to -7)
4 Neck pain	4.3 (3-6)	34 348	54% (49 to 60)
5 Other hearing loss	5.3 (3-9)	32 580	51% (45 to 55)
6 Migraine	6.6 (3-10)	28 898	46% (41 to 50)
7 Diabetes	6.7 (5-9)	29 518	136% (127 to 144)
8 COPD	7.8 (4-10)	26 131	72% (67 to 79)
9 Anxiety disorders	8.5 (5-10)	24 356	42% (36 to 47)
10 Other musculoskeletal	9.2 (7-10)	22 644	79% (75 to 83)
11 Schizophrenia	11.5 (11-15)	15 204	52% (50 to 54)
12 Falls	12.7 (12-14)	12 818	23% (14 to 35)
13 Osteoarthritis	12.8 (11-15)	12 811	75% (73 to 78)
14 Refraction and accommodation	15.5 (11-22)	11 257	44% (40 to 47)
15 Asthma	16.1 (12-21)	10 596	32% (29 to 35)
16 Dysthymia	17.4 (14-21)	9 849	55% (52 to 57)
17 Bipolar disorder	17.5 (12-25)	9 911	49% (46 to 53)
18 Medication overuse headache	17.8 (12-27)	9 846	120% (109 to 134)
19 Other mental and substance	18.5 (14-24)	9 257	52% (50 to 54)
20 Dermatitis	18.8 (15-25)	9 278	37% (35 to 39)
21 Alzheimer's disease	22.2 (18-26)	7 774	92% (85 to 99)
22 Alcohol use disorders	23.0 (18-28)	7 654	34% (32 to 37)
23 Epilepsy	23.2 (18-30)	7 544	41% (28 to 57)
24 Edentulism	25.9 (21-31)	6 856	46% (43 to 48)
25 Diarrhoeal diseases	26.1 (23-30)	6 854	-7% (-9 to -5)

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Pain, psychiatric and neurologic disorders make up for 11 of the top 25 causes of global years lived with disability in 2013