

## Programme of the LightDyNAMics Introduction Week “ DNA Fundamentals”

<b>H2020 Project</b>	LightDyNAMics (no.765266)
<b>Date</b>	21-25 January 2019
<b>Schedule</b>	Day 1, 21 January 2019; 10:00 – 17:00h Day 2, 22 January 2019; 09:00 – 14:00h Day 3, 23 January 2019; 09:00 – 17:00h Day 4, 24 January 2019; 09:00 – 17:15h Day 5, 25 January 2019: 09:00 – 15:30h
<b>Location</b>	Lecture Room: Laboratorio Linguistico CESTEV (1 <sup>st</sup> floor)/Faculty “Scienze Biotecnologiche” Meeting Room: IBB-CNR (2 <sup>nd</sup> floor) – coffee breaks, lunch, MB meeting Via Tommaso De Amicis 95, Naples, Italy <a href="http://www.scienzebiotecnologiche.unina.it/sede">http://www.scienzebiotecnologiche.unina.it/sede</a>
<b>Arrival</b>	Individually
<b>Contact</b>	Roberto Improta; <a href="mailto:robimp@unina.it">robimp@unina.it</a> ; Mobile: +393495147879



<b>Programme Day 1 (21.01.2019):</b>		
<b>Time</b>	<b>Activity</b>	<b>Partner</b>
<b>Lecture Room: Laboratorio Linguistico CESTEV, 1st floor</b>		
10:00	Presentation of the School	R. Improta IBB-CNR
10:30	Short presentation of each ESR  Name, research experience/expertise, project within LightDyNAMics, previous knowledge on DNA.	All ESRs
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
13:00	Lunch break	
14:00	Nucleic Acids, a historical perspective: from the first understanding of the principle of genetics to the discovery of the duplex structure.	L. Vitagliano /IBB-CNR
14:45	Basic principles of genetics. DNA/RNA/protein synthesis	M. Müller/LMUM
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
15:30	Coffee break	
16:00	Basic principles of genetics. DNA/RNA/protein synthesis (continued)	M. Müller/LMUM
16:45	Feedback from the participants, curiosities, etc.	All participants
17:00	End of Day 1	
<b>Dinner: Pizzeria Palazzo Petrucci, Piazza San Domenico 5/7 (Pizza based)</b>		



<b>Programme Day 2 (22.01.2019):</b>		
<b>Time</b>	<b>Activity</b>	<b>Partner</b>
<b>Lecture Room: Laboratorio Linguistico CESTEV, 1st floor</b>		
09:00	Recap of the basic genetics & follow-up (including epigenetics)	M. Müller/LMUM
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
10:15	Coffee break	
10:45	RNA structural conformational behaviour	J. Sponer/MUNI
11:30	Basics of the photophysics of the isolated bases: Experiments	T. Gustavsson/CNRS
12.15	Basics of the photophysics of Polynucleotides: Experiments	D. Markovitsi/CNRS
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
13.00	Lunch break	
14:00	End of Day 2	
15:30	Guided tour of historic centre (Naples Greek-Roman)	
<b>Social Dinner: Osteria del Cerriglio, Via del Cerriglio 3 (meat based)</b>		



<b>Programme Day 3 (23.01.2019):</b>		
<b>Time</b>	<b>Activity</b>	<b>Partner</b>
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
09:00	Management Board	All MB members
11:00	Coffee break	
<b>Lecture Room: Laboratorio Linguistico CESTEV, 1st floor</b>		
11:30	Basics on the photophysics of the isolated bases: Calculations	M. Garavelli/UNIBO
12:15	Basics of DNA structure and conformational behaviour: Single strand, Duplex, Quadruplex	J. Plavec/KI
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
13:00	Lunch break	
14:00	Explanations of the exercises	CNR/LMUM
14:30	Simple Exercises on genetics. Exercises on DNA/RNA structures and short MD simulations	All ESRs
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
15:15	Coffee break	
15:45	Continued	All ESRs
16:30	Feedback from the participants, curiosities, etc.	All
17:00	End of Day 3	
<b>Dinner: Restaurant of the Lega Navale, Porticciolo del Molosiglio (fish based)</b>		



<b>Programme Day 4 (24.01.2019):</b>		
<b>Time</b>	<b>Activity</b>	<b>Partner</b>
<b>Lecture Room: Laboratorio Linguistico CESTEV, 1st floor</b>		
09:00	Experimental approaches for the characterization of DNA structure and energetics	S. Quinn/ UCD
09:45	DNA based nanomaterials	S. Quinn/ UCD
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
10:30	Coffee break	
11:00	Basics of the photochemistry of Polynucleotides: Experiments	D. Markovitsi/CNRS
11:45	Basics of the photophysics of Polynucleotides: Calculations	F. Santoro/ICCOM-CNR
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
12:30	Lunch break	
13:30	Explanation of the exercises	CNR/CNRS/MUNI
14:15	Team Exercises: QM calculations on the photophysics of nucleobases. Exercises on spectroscopy.	All ESRs
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
15:15	Coffee break	All
15:45	Team Exercises continued	All ESRs
16:45	Feedback from the participants, curiosities, etc.	All
17:15	End of Day 4	
<b>Dinner: Salumeria-Bistrot Upnea, Via San Giovanni Maggiore Pignatelli 34/35</b>		



<b>Programme Day 5 (25.01.2019):</b>		
<b>Time</b>	<b>Activity</b>	<b>Partner</b>
<b>Lecture Room: Laboratorio Linguistico CESTEV, 1st floor</b>		
09:00	Intervening with DNA in drug discovery	K. Herlihy/AstraZeneca
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
10:30	Coffee break	
11:00	Basics of the photochemistry of Polynucleotides: Calculations	R. Improta/IBB-CNR
11:45	Explanation of the exercises	CNR/CNRS
12.15	Team Exercises: QM calculations on the photophysics and photochemistry of oligonucleotides	All ESRs
<b>Meeting Room: IBB-CNR, 2nd floor</b>		
13:00	Lunch break	
14:00	Team Exercises continued	All ESRs
15.00	Closing remarks	All
15:30	End of meeting	

LMUM: Ludwig-Maximilians-Universität München, Germany  
 MUNI: Masaryk University, Czech Republic  
 CNRS: Centre National de la Recherche Scientifique, LIDYL,CEA, France  
 UNIBO: University of Bologna, Italy  
 KI: Kemijski inštitut, Slovenia  
 IBB-CNR: Institute of Biostructures and Bioimaging, CNR, Italy  
 ICCOM-CNR: Institute of Chemistry of Organometallic Compounds, CNR, Italy  
 UCD: University College Dublin, Ireland  
 AstraZeneca: AstraZeneca Ltd, United Kingdom

