

N-FO-Master's Thesis Topic, Form and Registration

General Information	
Student name	Eric Gericke
Start date of studies	22 February 2022
Course type	<input checked="" type="checkbox"/> Full-time <input type="checkbox"/> Part-time
Specialisation	<input type="checkbox"/> V1: Food and Beverage Innovation <input type="checkbox"/> V2: Pharmaceutical Biotechnology <input type="checkbox"/> V3: Chemistry for the Life Sciences <input checked="" type="checkbox"/> V5: Applied Computational Life Sciences
Institute / workplace	ICLS Institute of Computational Life Sciences /
Thesis title	Flood Modeling With Neural Cellular Automata
Centre / group	Center of Cognitive Computing in Life Sciences
Confidential	Confidential storage/correction <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Confidentiality agreement <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Confidential poster * <input type="checkbox"/> yes <input checked="" type="checkbox"/> no * If the poster is not confidential, we will hang it up at your graduation ceremony.
V1, V2 or V3: Timetable Master's Thesis (40 ECTS)	Milestone 1: proposal / literature research (10 ECTS) <input type="checkbox"/> AS <input type="checkbox"/> SS Milestone 2: experimental strategy I (10 ECTS) <input type="checkbox"/> AS <input type="checkbox"/> SS Milestone 3: experimental strategy II (10 ECTS) <input type="checkbox"/> AS <input type="checkbox"/> SS Milestone 4: final conclusions (10 ECTS) <input type="checkbox"/> AS <input type="checkbox"/> SS
V5: Timetable Master's Thesis (30 ECTS)	Milestone 1: proposal / literature research (10 ECTS) <input checked="" type="checkbox"/> AS <input type="checkbox"/> SS Milestone 2: experimental strategy (10 ECTS) <input checked="" type="checkbox"/> AS <input type="checkbox"/> SS Milestone 3: final conclusions (10 ECTS) <input checked="" type="checkbox"/> AS <input type="checkbox"/> SS
Thesis deadline (corresponds to Milestone 3 or 4)	CW 2 <input type="checkbox"/> , Year: Monday at 12:00 o'clock (Admissions Office Grüental Campus) CW 27 <input checked="" type="checkbox"/> , Year: 2023 Friday at 12:00 o'clock (Admissions Office Grüental Campus) Please note: the deadline can only be changed for justifiable reasons. A written request for extension must be sent to and approved by the programme director. The costs amount to a reduced semester fee (see brochure for Master's Thesis MSLS).
Thesis supervisors	1. Zurich University of Applied Sciences Name: Martin Schüle Address: <input checked="" type="checkbox"/> Grüental <input type="checkbox"/> Reidbach Postfach, 8820 Wädenswil Phone: 058 934 058 934 57 84 Email: scli@zhaw.ch 2. Name: Joao Paulo Leitao Address: Eawag, Überlandstrasse 133, 8600 Dubendorf Phone: +41 (0)58 765 67 14 Email: joaopaulo.leitao@eawag.ch

N-FO-Master's Thesis Topic, Form and Registration



Compensation for second supervisor (if external)	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Topic description	
Topic description <ul style="list-style-type: none"> • Background • Objectives (for example planned experiments, investigations) • Equipment 	<p>Climate change and urbanization are increasing the risk of pluvial floods. Fast modeling tools are required to predict these events.</p> <p>Objectives: explore model / data driven approaches (cellular automata (CA) models, LG-CA models, stochastic models thereof, CNNs, neural CAs).</p> <p>Developing a fast flood model to predict flood hazard, flood depth, velocity, with high resolution data. Utilizing AI technologies and frameworks.</p> <p>Data, computer, high performance cluster.</p>
Comments (for example necessary purchases, budget plan, additional conditions)	
General Terms and Conditions	
Formal requirements	<p>In addition to a written composition, the following requirements must also be fulfilled, in accordance with the brochure for Master's Thesis MSLS (Merkblatt zur Masterarbeit):</p> <ul style="list-style-type: none"> • Poster: as an alternative (agreed upon in writing with the supervisors) a web site or publication may be submitted. • Oral examination in form of a presentation of the work in a colloquium or to a panel composed of the partners involved: <ul style="list-style-type: none"> - the format will be determined by the supervisor; - the examination will take place until CW 04 or CW30 after the submission date; - the oral examination is not graded, it will be assessed as "pass" or "fail".
Important information and guidelines	<p>The document Guidelines for writing semester project work, literature reviews, semester assignments, Bachelor's and Master's theses must be read.</p> <p>The requirements within the brochure for Master's Thesis MSLS must be fulfilled.</p> <p>Plagiarism violates copyright. Violations of copyright will be dealt with in accordance with subsection 39 of the General examination regulations for Bachelor and Master programmes at the Zurich University of Applied Sciences (Rahmenprüfungsordnung für Bachelor- und Masterstudiengänge der ZHAW), 29.01.08.</p>
Grading deadline	3 weeks after the actual delivery of the Master's thesis, if it was submitted to the Master's Administration Office on time: CW30 (SS) / CW04 (AS).
Deadline topic form	The topic form must be delivered to the Administration Office the latest two weeks before the start of the semester in which the thesis is to be submitted.

N-FO-Master's Thesis Topic, Form and Registration



**Life Sciences und
Facility Management**

Stabsbereich Bildung

<p>Signature supervisor 1</p> <p></p> <p>-----</p> <p>Place, date Zurich, 5.2.2023</p>	<p>Signature student</p> <p></p> <p>-----</p> <p>Place, date Staefa, 8712, Switzerland, 8.2.2023</p>
--	--

Erlassverantwortliche/-r		Leiter/in Stabsbereich Bildung		Ablageort	2.05.00 Erlasse Lehre Studium
Beschlussinstanz		Leiter/in Stab		Publikationsort	Public
Genehmigungsinstanz					
Version	Beschluss	Beschlussinstanz	Inkrafttreten	Beschreibung Änderung	
1.0.0	01.07.2021	Leiter/in Stab	01.07.2021	Überführung ins GPM	
1.1.0	01.07.2021	LeiterIn Stab	01.07.2021	Inhaltliche Änderungen	