



## Individual study plan for doctoral students at the ArcInTexETN at Marie Skłodowska-Curie Action, European Training Network (ETN)

For doctoral studies during the period 2014 – 2019

Year 1	Year 2	Year 3
Created (27,09,2015)	Revised (date)	Revised (date)
Revised (11,7,2016)	Revised (date)	Revised (date)

Year 4  
Revised (date)  
Final Individual Study plan (date)

1. PERSONAL DETAILS		
Surname Nachtigall	First name Troy Robert	Social security number 567265195
Home address 275 B Grotestraat	Postcode and City 5141JT Waalwijk	Work phone +31611391482
Home phone +31 416 85 31 52	E-mail address t.r.nachtigall@tue.nl	

2. GENERAL INFORMATION ABOUT DOCTORAL STUDIES	
Doctoral studies subject Designing Adaptive and Responsive Clothing, Fashion Design	University/Department Industrial Design
Date of admission Aug 3, 2015	Date of intended degree (lic and PhD) Aug 2, 2019
WP: 4 – Textile Thinking, Adaptive and Responsive Wearables - On the scale of body.  Specialisation: The PhD is looking at the negotiation of product features in Ultra Personalized Product Service Systems and how they might be achieved with 3D Printing, Knitting, and other forms of Digital Fabrication. What is the role of design in the creation of shoes in a mass personalization systems? Models of Human Technology interaction are being developed to evaluate the future of Ultra Personalization and the tools required to design it. How can we create shoes as an artefact to demonstrate this negotiation.	

<b>3. SUPERVISION</b>	
Principal supervisor: Name and title Ass. Prof. Dr. Oscar Tomico (TUE)	Examiner: Name and title Prof. Dr. Ron Wakkary (TUE)
Assistant supervisor: Name, title and university/company Prof Dr. Clemens Thornquist (Swedish School of Textiles)	Assistant supervisor: Name, title and university/company
3.1 Planned supervision: extent and frequency according to the ETN agreement Bi-weekly with Professors Tomico and Wensveen	
3.1.1 Principal supervisor Bi-weekly with Ass. Prof. Dr. Oscar Tomico (TUE)	
3.1.2 Assistant supervisor Bi-weekly with Prof Ron Wakkary	
3.1.3 Assistant supervisor Quarterly with Prof Dr. Clemens Thornquist	
3.1.4 WP leader: collaborative projects Prof Dr. Clemens Thornquist	
3.2 Completed supervision: Bi-Weekly with Prof Ron Wakkary, Prof Tomico, Prof. Wensveen where committed research was reviewed and the structure of forthcoming research was defined, writing goals were set and accomplishments/failures were reviewed. At the Summer School, Common Course and Workshop I have had meeting with supervisors Prof. Dr. Lars Hallnas, Prof. Dr. Clemens Thornquist, Dr. Delia Dumitrescu and Agneta Nordlund Anderson. Prof. Dr. George Sylos joined this past summer school at RCA. Prof Dr. Clemens Thornquist and Agneta Nordlund Anderson visited TU Eindhoven this past December and we held a research meeting with Prof. Dr. Ron Wakkary. So far these reviews have involved framing and positioning the research while remaining novel. We have discussed the scope of the research and its position in the ArcInTexETN project. Future research was also discussed.	
3.3 Content of supervision Plan for Research, 1st Study into the creation of an Ultra Personalized Shoe for a Public Figure, 2nd study of personalization of the shoe via Kickstarter. 3rd Study of creating a algorithmic system for shoe generation, Iterative experiments for each study. Writing, Readings and Literature review. One Year review.	

<b>4. ROUGH PLAN FOR THE ENTIRE DURATION OF THE DOCTORAL STUDIES INCLUDING NETWORK TRAINING ACTIVITIES</b>			
<b>4.1 Year 1</b>			
<b>4.1.1 Summer School 1: <i>Research methods, artistic research, practice-based design research</i> (5 ECTS, if applicable)</b>			
Examiner(for the course)	Planned(semester)	Completed(semester)	Reported(date)

Dr. Katernia Bredies	21st Sept 2015	3 Oct 2015	17 Oct 2015
<b>4.1.2 Common Course 1: Textile Architecture (5 ECTS, if applicable)</b>			
Examiner(for the course)	Planned(semester)	Completed(semester)	Reported(date)
Dr. Norbert Palz	Feb 2016	29 Feb 2016	8 Mar 2016
<b>4.1.3 Workshop 1: Innovation Module (5 ECTS, if applicable)</b>			
Examiner(for the course)	Planned(semester)	Completed(semester)	Reported(date)
Dr.Oscar Tomico	April 2016	20 April 2016	30 Apr 2016
<b>4.1.4 Other research activities(courses, lectures, seminars, workshops, etc.)</b>			
Physical, Kinetic, Behavioral and Social FIT in 3D Printed Shoes Wear It 2015 Conference Berlin, CRTTT Workshop Barcelona, RCA 3D Printing Conference, Mind the Step – Dutch Design Week, eTextile Summer Camp 2016, Presentations by fellow PhD's at TU/e			
<b>4.2 Year 2</b>			
<b>4.2.1 Summer School 2: Research entrepreneurship in the academic and non-academic area (5 ECTS, if applicable)</b>			
Examiner(for the course)	Planned(semester)	Completed(semester)	Reported(date)
Claire	Summer 2016	July 22 2016	18 Aug 2016
<b>4.2.2 Common Course 2:Embodied Textile Interaction (5 ECTS, if applicable)</b>			
Examiner(for the course)	Planned(semester)	Completed(semester)	Reported(date)
<b>4.2.3 Secondments 1</b>			
Secondment to UDK Berlin will start the 5 <sup>th</sup> of September and run up to the winter break on the 17 <sup>th</sup> of December 2016			
<b>4.2.4 Other research activities(courses, lectures, seminars, workshops, etc.)</b>			
<b>4.3 Year 3</b>			
<b>4.3.1 Summer School 3: Research career, development and business plan (5 ECTS, if applicable)</b>			

Examiner(for the course)	Planned(semester)	Completed(semester)	Reported(date)
<b>4.3.2 Secondments 2</b>			
<b>4.3.3 Other research activities</b>			
<b>4.4 Year 4</b>			
<b>4.4.1 Other research activities(courses, lectures, seminars, workshops etc.)</b>			
<b>4.4.2 ArcIntexETN research conference</b>			

<b>5. PLANNED RESEARCH</b>	
Year 1	Courses
	Research Projects that embody the Ultra Personalized Product Service System, Projects with Ultimaker to explore the digital fabrication aspects of the research.
Year 2	Courses
	Research Secondment to Berlin to work closely with the Work Package and develop a theoretical background apart from my home University. Research with more stakeholders. Digital Craftsmanship study into negotiating product features.
Year 3	Courses
	Research
Year 4	Courses
	Research
<b>6. COMPLETED RESEARCH</b>	
Year 1	Courses
	Research  In meeting with and creating projects with companies such as Philips,

	<p>Ultimaker, PLT, Ecco and Slem I've learned what is needed to create an Ultra Personalized Product Service System from the perspective of industry stakeholders. In creating a Kickstarter project, holding multiple workshops, and working with the students of digital craftsmanship the needs of the designers and makers has been analyzed. Discussions and projects with colleagues from Fashion, Architecture and Industrial Design have given insight as to what the stakes of academia are. This has lead to literature review of relevant literature and discussions on the future of digital manufacturing in Ultra Personalized Product Service Systems.</p> <p>The research through design projects that were undertaken in this period are:</p> <ol style="list-style-type: none"> <li>1. 3D Printed Platform High Heel – Project J</li> <li>2. ONEDAY.shoes Open Source Shoes</li> <li>3. Shoe Sensors</li> <li>4. Creation of software for shoe sole development - Sole Maker</li> <li>5. Digital Craftsmanship design study</li> <li>6. FSMT 3TU Textile Experiments</li> </ol>
Year 2	Courses
	Research
Year 3	Courses
	Research
Year 4	Courses
	Research

7. LIST OF PUBLICATIONS (articles, conferences, exhibitions, workshops, patents, prizes etc.)	
Name of publication	date
Wear It Exhibition, Berlin 2015	20-09-2015
Mind the Step at Dutch Design Week	24-10-2015
Soft Wearables Conference and Workshop Eurocat/CRTTT Barcelona Speaker	18-11-2015
RCA 3D Printing Conference Speaker	19-05-2016
"Lezione di Design" Speaker	08-06-2106
L. Feijs, T.Nachtigall, O.Tomico (24 July 2016) Sole Maker: Towards Ultra- personalised Shoe Design Using Voronoi Diagrams and 3D Printing. FASE 2016 <a href="http://www.geometrysummit.org/proceedings/fase2016/papers/1.pdf">http://www.geometrysummit.org/proceedings/fase2016/papers/1.pdf</a>	
<ul style="list-style-type: none"> <li>S. Wensveen and T. Nachtigall (23 February, 2016) 'Ultra Personalized Products &amp; Services in Fashion' at Munich Creative Business Week, Munich, Germany</li> </ul>	23-02-2016



<ul style="list-style-type: none"> <li>T. Nachtigall Presentation Maker Lunch at TU Delft  <a href="http://makerlunch.weblog.tudelft.nl/2015/11/16/makerlunch-guest-troy-nachtigall-on-3d-printed-shoes-and-wearable-senses">http://makerlunch.weblog.tudelft.nl/2015/11/16/makerlunch-guest-troy-nachtigall-on-3d-printed-shoes-and-wearable-senses</a> </li> </ul>	25-11-2015

<b>8. EMPLOYMENT AND COMMITMENTS</b>		
<b>8.1 Employment plan</b>		
Please indicate activity level		
Year	Level of activity (in procent)	
Year 1	100%	
Year 2	100%	
Year 3	100%	
Year 4	100%	
<b>8.2 ArcInTexETN follow up meetings</b>		
Date and participants: 9 Dec 2015, Dr. Ron Wakkary, Dr. Clemens Thornquist,, Agneta Nordlund Andersson, 16 Feb 2016 Dr. Oscar Tomico, Dr.Deilia Dumitrescu, Agneta Nordlund Andersson, 14 July 2016		
Next planned meeting: 18-11-2016, Boras		
<b>8.3 Planned Marie Skłodowska-Curie ambassadors actions (e.g.teaching activities, workshops, lectures, seminars)</b>		
Semester (autumn/spring and year.)	Nature of action	Date
<b>Sole Maker Demonstrator (Exhibition of Secondment)</b>	<b>Dutch Design Week</b>	<b>Oct 2016</b>
<b>8.4 Completed Marie Skłodowska-Curie ambassadors actions (e.g. teaching activities, workshops, lectures, seminars)</b>		
Semester (autumn/spring and year.)	Nature of action	Date
<b>Presence and Pressure Workshop 3D Scanning Workshop</b>	<b>TU/e Workshop on capacitive and TU/e Workshop</b>	<b>19-02-2016 13-09-2015</b>
<b>8.5 Updated ArcInTexEtn web information on on-going research</b>		
Nature of assignment	Date	
Project J	14-01-16	
Sensing the Body	20-02-16	
TU Eindhoven Wearable Senses	06-02-16	
FASE 2016 Geometry Summit Paper	28-06-16 (Add more)	
<b>8.6 Planned commitments, assignments, parental leave etc.</b>		



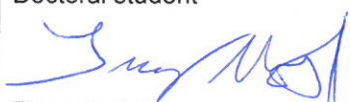
Semester (autumn/spring and year.)	Nature of commitment/assignment	Extent in % of full-time employment/ number of days or equivalent	Date

**8.7 Completed commitments, assignments, parental leave etc.**

Semester	Nature of commitment/assignment	Extent in % of full-time employment/ number of days or equivalent	Date

**8. SIGNATURES**

Note! For the study plan to be valid, signatures\* are required. Please also indicate place and date

Principal supervisor*	ArcintexEtn Network Coordinator*
 Place and date <u>Eindhoven, Aug 30, 2014</u>	Place and date
Local Director of studies *	ArcintexEtn Network Director of studies*
 Place and date <u>Eindhoven, 16/09/2015</u>	Place and date
Doctoral student*	ArcintexEtn Network Manager*
 Place and date <u>Eindhoven, Aug 30 2016</u>	Place and date

