



**2019 NPIRI Summer Course Program  
Sonoco Institute – Clemson University  
July 14 - 19, 2019**

**Paste Session 7/14/2019-7/17/2019  
Liquid Session 7/16/2019 (noon) – 7/19/2019  
Combined Sessions 7/14/2019 – 7/19/2019**

Date	Time	Tab	Lecture	Location	Duration	Speaker
<b>PASTE</b>						
Sun.	5:00p		Check-in	HI		
7/14	6:30p	<b>01a</b>	Introductions, Review of Syllabus, Overview	HI	½	NAPIM
	7:00p	<b>01b</b>	Dinner	HI	1	NAPIM
<b>PASTE</b>						
Mon.	8:00a	<b>02</b>	Lithographic Print Process	SI	1	Les Watkins
7/15	9:00a	<b>03</b>	Litho Paste Ink Vehicle Composition	SI	1	David Aynessazian
	10:00a	<b>04</b>	Litho Paste Ink Composition	SI	1½	Les Watkins
	11:30a	<b>05</b>	Energy Curable Paste Inks – Part I	SI	1	Jo Ann Arceneaux
	12:30p		LUNCH	SI	1	
	1:30p	<b>05</b>	Energy Curable Paste Inks – Part II	SI	1	Jo Ann Arceneaux
	2:30p	<b>06</b>	New Tech/Inkjet	SI	1	Douglas Bugner
	3:30p	<b>06a</b>	Offset Press Demo	GC	1	Pat Rose
	4:30p	<b>06b</b>	Digital Printing Substrates	SI	1	Jim Niemiec
	6:30p		OPEN EVENING – DINNER ON YOUR OWN	HI		
<b>PASTE/LIQUID PM</b>						
Tues.	7:45a	<b>07</b>	Substrates – Paper Properties & Printability	SI	1	Jim Niemiec
7/16	9:15a	<b>08</b>	Fountain Solution & Press Room Chemicals	SI	1½	Victor Lewis
	10:45a	<b>09</b>	Formulating Litho Inks & Vehicles	SI	1	Watkins & Aynessazian
	11:30a		LUNCH	SI	¾	
	12:15p	<b>10a</b>	Viscosity Demo	SI	1	Borpit Intawiwat
	1:15p	<b>10b</b>	Printability and Proofing Demo	SI	¾	Paul Sopkin
	2:00p	<b>10c</b>	Inkometer Tack Measurements Demo	SI	¾	Dean Kershaw
	2:45p	<b>10d</b>	Printed Electronics/eInk/Sonoco Inst. Tour	SI	2¼	Liam O'hara/Bobby Congdon
	6:00p	<b>11</b>	Repeat of Intro for Liquid Ink Attendees	HI	½	NAPIM
	6:30p		COMBINED PASTE & FLUID ATTENDEES DINNER	HI		
<b>PASTE/LIQUID</b>						
Wed.	8:00a	<b>12</b>	Principles of Rheology & Practical Applications	SI	1½	Charlie Hsu
7/17	9:30a	<b>13</b>	Organic/Inorganic Pigments, Metallic & Special Effect Colorants	SI	1½	Mike Oberski
	11:00a	<b>14</b>	Regulatory Overview for Ink Manufacturers	SI	¾	George Fuchs
	11:45a		GROUP PHOTO	SI	¼	
	12:00p		LUNCH		1	
	1:30p	<b>15</b>	Fundamentals of Carbon Black	SI	¾	John Foster
	2:15p	<b>16</b>	Introduction to Color Matching and Color Management	SI	1½	Bobby Congdon
	3:45p	<b>17</b>	Principles of Dispersion	SI	1	Charles Douglas
	5:00p	<b>18</b>	Manufacturing Dispersions for Paste & Fluid Inks – QC	SI	1	Charles Douglas
	6:00p		OPEN EVENING – DINNER ON YOUR OWN			
<b>LIQUID</b>						
Thurs.	8:00a	<b>19</b>	Flexo & Gravure Solvent Vehicle Composition	SI	1	Charlie Hsu
7/18	9:00a	<b>20</b>	Flexo & Gravure Water Based Ink & Vehicle Composition	SI	1½	David Tappa
	10:30a	<b>21</b>	Energy Curable Fluid Inks	SI	1½	Mike Oberski
	12:00p		LUNCH	SI	¾	
	1:00p	<b>22</b>	Flexo & Gravure Printing, Lamination, Converting Processes	SI	1½	Brian Chwierut
	2:30p	<b>23a</b>	Flexo Press Run	SI	¾	Kariahlyn Lindsey
	3:15p	<b>23b</b>	Digital Press Demo	GC	¾	Brian Frederick
	4:00p	<b>23c</b>	Flexo Plate Making/Mounting	SI	¾	Brad Gasque
	6:00p		DINNER	HI		
<b>LIQUID</b>						
Fri.	7:30a	<b>24a</b>	Anilox Discussion/Application	SI	¾	Sean Teufler
7/19	8:15a	<b>24b</b>	Proofing & Printability Demo	SI	¾	Paul Sopkin
	9:00a	<b>25</b>	Substrates for Surface & Reverse Printing and Lamination	SI	¾	Brian Chwierut
	9:45a	<b>26</b>	Flexo & Gravure Ink Composition	SI	¾	Brian Chwierut
	10:15a	<b>27</b>	Formulating Flexo & Gravure Vehicles and Inks	SI	¾	Brian Chwierut
	11:15p		LUNCH		½	
	11:45p	<b>28</b>	Flexo & Gravure Ink Testing	SI	¾	Brian Chwierut
	12:30p		END			