

Adhesion Science Short Course Program

May 20-24, 2019

Hilton Garden Inn

Blacksburg, Virginia

(please note: schedule is subject to change)

Monday, May 20

7:30 - 8:00 a.m.	Registration <i>Hilton Garden Inn</i>
8:00 - 8:15 a.m.	Short Course Introduction
8:15 - 9:25 a.m.	Introduction to Adhesion and Mechanical Properties <i>D.A. Dillard & R. De Vita</i>
9:25 - 9:40 a.m.	Break
9:40 - 10:50 a.m.	The Polymer Parameters and Adhesive Design <i>T.E. Long</i>
10:50 - 11:05 a.m.	Break
11:05 a.m. - 12:15 p.m.	Adsorption on Surfaces/Surface Energy <i>A.R. Esker</i>
12:15 - 1:15 p.m.	Lunch <i>Hilton Garden Inn</i>
1:15 - 2:25 p.m.	Stresses in Bonded Joints <i>R. De Vita & D.A. Dillard</i>
2:25 - 2:40 p.m.	Break
2:40 - 3:50 p.m.	Viscoelasticity, its Importance and its Applications to Adhesives <i>M.J. Bortner</i>
3:50 - 4:05 p.m.	Break
4:05 - 5:15 p.m.	Surfaces and Surface Preparation <i>A.R. Esker</i>
5:15 - 7:30 p.m.	Dinner (<i>on your own</i>)
7:30 - 9:00 p.m.	Fracture of Adhesive Bonds <i>D.A. Dillard</i> <i>Break included</i>



Macromolecules
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Tuesday, May 21

- 8:00 - 9:10 a.m. **Adhesive Classes and Chemistries**
J.B. Matson
- 9:10 - 9:25 a.m. **Break**
- 9:25 - 10:35 a.m. **Adhesive, Sealant and Waterborne Rheology I**
R.M. Davis
- 10:35 - 10:55 a.m. **Van shuttle to labs**
- 10:55 a.m. - 12:25 p.m. **Red Lab Team (a) -- Peel Testing of Adhesives**
(MMDC, ICTAS II)
- Red Lab Team (b) -- PhotoDSC**
(MMDC, ICTAS II)
- Blue Lab Team -- Surface Preparation / Bonding**
A. R. Esker (1002 Hahn South)
- 12:25 - 1:40 p.m. **Lunch**
Hilton Garden Inn
- 1:40 - 2:50 p.m. **Adhesive Test Methods**
D.A. Dillard
- 2:50 - 3:10 p.m. **Van shuttle to labs**
- 3:10 - 4:40 p.m. **Blue Lab Team (a) -- Peel Testing of Adhesives**
(MMDC, ICTAS II)
- Blue Lab Team (b) -- PhotoDSC**
(MMDC, ICTAS II)
- Red Lab Team -- Surface Preparation / Bonding**
A. R. Esker (1002 Hahn South)
- 4:40 p.m. **Dinner** *(on your own)*



Wednesday, May 22

- 8:00 - 9:10 a.m. **Adhesive, Sealant and Waterborne Rheology II**
R.M. Davis
- 9:10 - 9:25 a.m. **Break**
- 9:25 - 10:35 a.m. **Free Volume, DSC and Intro to Time-Temp Superposition TTS**
M.J. Bortner
- 10:35 - 10:55 a.m. **Van shuttle to labs**
- 10:55 a.m. - 12:25 p.m. **Red Lab Team -- Rheological Testing**
R. M. Davis (240 ICTAS I)
- Blue Lab Team -- Adhesive Bond Testing**
D. A. Dillard (420 ICTAS I)
- 12:25 - 1:40 p.m. **Lunch**
Hilton Garden Inn
- 1:40 - 2:50 p.m. **Analysis of Surfaces**
A.R. Esker
- 2:50 - 3:10 p.m. **Van shuttle to labs**
- 3:10 - 4:40 p.m. **Blue Lab Team -- Rheological Testing**
R. M. Davis (240 ICTAS I)
- Red Lab Team -- Adhesive Bond Testing**
D. A. Dillard (420 ICTAS I)
- 5:00 - 6:30 p.m. **Introduction to Dynamic Mechanical Methodology and Application to Adhesives**
M.J. Bortner
- 6:30 p.m. **Dinner (on your own)**





Thursday, May 23

- 8:00 - 9:10 a.m. **PSA Performance and Testing**
D.A. Dillard
- 9:10 - 9:25 a.m. **Break**
- 9:25 - 10:35 a.m. **Demo Interpretation (All)**
Bonding-Failure Analysis -- A. R. Esker
- 10:35 - 10:40 a.m. **Group Picture**
- 10:40 - 10:50 a.m. **Break**
- 10:50 - 11:50 a.m. **Frontiers in Adhesion Science**
MII Faculty
- 11:50 a.m. - 12:50 p.m. **Lunch**
Hilton Garden Inn
- 12:50 - 2:00 p.m. **Adhesive, Sealant and Waterborne Rheology III**
R.M. Davis
- 2:00 - 2:15 p.m. **Break**
- 2:15 - 3:25 p.m. **Wood Adhesion**
C. Frazier
- 3:25 - 3:40 p.m. **Break**
- 3:40 - 4:40 p.m. **Durability and Design**
D.A. Dillard
- 6:30 - 8:00 p.m. **Group Dinner**

Friday, May 24

- 8:00 - 8:55 a.m. **Phase Separation and Interdiffusion**
A.R. Esker
- 8:55 - 10:00 a.m. **Demo Interpretation (All)**
Fracture Analysis -- D.A. Dillard
Master Curves and Superposition -- D.A. Dillard / M.J. Bortner
- 10:00 - 10:25 a.m. **Case Study Overview (All)**
- 10:25 - 10:35 a.m. **Break**
- 10:35 - 11:35 a.m. **Case Study Team Solutions (All)**
- 11:35 - 12:00 noon **Wrap-up; collect evaluations; receive certificates**

