

20th Annual

Baltimore Limb Deformity Course

Friday, September 3 – Monday, September 6, 2010

Marriott Waterfront Hotel

Baltimore, Maryland, United States of America



Final Program

COURSE CHAIR

John E. Herzenberg, MD

COURSE DIRECTORS

Shawn C. Standard, MD

Janet D. Conway, MD

Bradley M. Lamm, DPM

LECTURE AND LAB FACULTY

<i>Anil Bhave, PT</i>	Baltimore, Maryland
<i>James C. Binski, MD</i>	Dayton, Ohio
<i>Alexander M. Cherkashin, MD</i>	Dallas, Texas
<i>Richard S. Davidson, MD</i>	Philadelphia, Pennsylvania
<i>Gavin de Kiewiet, MD</i>	Sunderland, United Kingdom
<i>Mark Eidelman, MD</i>	Haifa, Israel
<i>J. Eric Gordon, MD</i>	St. Louis, Missouri
<i>Stuart A. Green, MD</i>	Long Beach, California
<i>Reggie C. Hamdy, MD</i>	Montreal, Canada
<i>Etienne Heijens, MD</i>	Wiesbaden, Germany
<i>Christopher Iobst, MD</i>	Miami, Florida
<i>Alexander Kirienko, MD</i>	Milan, Italy
<i>Guido A. LaPorta, DPM</i>	Dunmore, Pennsylvania
<i>L. Scott Levin, MD</i>	Philadelphia, Pennsylvania
<i>Scott Nelson, MD</i>	Loma Linda, California
<i>Trevor Owen, MD</i>	New Orleans, Louisiana
<i>Christof Radler, MD</i>	Vienna, Austria
<i>S. Robert Rozbruch, MD</i>	New York, New York
<i>Sanjeev Sabharwal, MD</i>	Newark, New Jersey
<i>Eitan Segev, MD</i>	Tel Aviv, Israel
<i>J. Charles Taylor, MD</i>	Memphis, Tennessee
<i>William D. Terrell, MD</i>	Marietta, Georgia
<i>Frederic B. Wilson, MD</i>	New Orleans, Louisiana
<i>Gerald Wozasek, MD</i>	Vienna, Austria

LAB ASSISTANTS

<i>Jossie Abraham, DPM</i>	Baltimore, Maryland
<i>Noam Bor, MD</i>	Afula, Israel
<i>Reid Boyce Nichols, MD</i>	Baltimore, Maryland
<i>Rolf D. Burghardt, MD</i>	Munich, Germany
<i>Francisco Downey-Carmona, MD</i>	Sevilla, Spain
<i>Mahmoud Felafel, MD</i>	Baltimore, Maryland
<i>Rudolf Ganger, MD</i>	Vienna, Austria
<i>H. David Gottlieb, DPM</i>	Baltimore, Maryland
<i>Monique Gourdine-Shaw, DPM</i>	Baltimore, Maryland
<i>Ali Khosrowabady, DPM</i>	Los Angeles, California
<i>Florian Kovar, MD</i>	Vienna, Austria
<i>Salih Marangoz, MD</i>	Ankara, Turkey
<i>Monica Nogueira, MD</i>	São Paulo, Brazil
<i>Sandi Pollard, DPM</i>	Baltimore, Maryland
<i>Matthew Testani, DPM</i>	Harrisburg, Pennsylvania
<i>Rishi Thakral, MD</i>	Baltimore, Maryland
<i>Francisco H. Violante, MD</i>	São Paulo, Brazil
<i>Jeffrey Young, MD</i>	Baltimore, Maryland
<i>Shirin Zamani, MD</i>	Baltimore, Maryland

Day 1: Friday, September 3

6:00–7:00	<u>Registration and Breakfast</u>	<i>Harborside Foyer</i>
7:00–7:15	Welcome <i>John E. Herzenberg, MD</i>	<i>Harborside Salons C/D/E</i>
7:15–7:30	Normal Lower Limb Alignment and Joint Orientation <i>John E. Herzenberg, MD</i>	
7:30–7:40	Deformity Planning Nomenclature <i>Sanjeev Sabharwal, MD</i>	
7:40–8:00	Frontal Plane Malalignment and Joint Orientation (Planning Workshop) <i>Janet D. Conway, MD</i>	
8:00–8:15	Radiology of Lower Limb Deformities <i>Frederic B. Wilson, MD</i>	
8:15–9:15	Tibial Uniapical Deformities (Planning Workshop) <i>John E. Herzenberg, MD</i>	
9:15–9:45	<u>Health Break and Visit with Corporate Partners</u>	<i>Harborside Foyer</i>
9:45–10:00	Osteotomy Rules <i>Shawn C. Standard, MD</i>	<i>Harborside Salons C/D/E</i>
10:00–10:45	Femoral Uniapical Deformities (Planning Workshop) <i>John E. Herzenberg, MD</i>	
10:45–11:45	Tibial and Femoral Osteotomies (Planning Workshop) <i>Shawn C. Standard, MD</i>	
11:45–12:00	Discussion and Evaluation of Morning Session	
12:00–12:30	<u>Boxed Luncheon</u>	<i>Harborside Foyer</i>

Friday Afternoon Labs

12:30–5:15	<u>Group A:</u>		
	12:30–1:30	Modular Rail System Lab Facilitator: <i>Christopher Iobst, MD, and John E. Herzenberg, MD</i> Lab Assistants: <i>Mahmoud Felafel, MD, Salih Marangoz, MD, and Reid Boyce Nichols, MD</i>	<i>Harborside Salon C</i>
	1:45–5:15	Cadaver Lab Facilitators: <i>Bradley M. Lamm, DPM, and L. Scott Levin, MD</i> Lab Assistants: <i>Sandi Pollard, DPM, Florian Kovar, MD, and Mahmoud Felafel, MD</i>	
	1:45	Bus to Cadaver Lab	<i>Hotel Lobby</i>
	2:15–4:45	Cadaver Lab Exercises	<i>University of Maryland</i>
	5:00	Bus to Marriott Waterfront Hotel	

- 12:30–5:15 Group B:
- 12:30–1:30 Callus Distraction and Arthrodiastasis Lab *Waterview C/D*
Facilitators: *Bradley M. Lamm, DPM, and Guido A. LaPorta, DPM*
Lab Assistants: *Ali Khosrowabady, DPM, H. David Gottlieb, DPM, and Matthew Testani, DPM*
- 1:45–5:15 Digital Planning Lab *Kent A/B/C*
Facilitators: *Shawn C. Standard, MD, and Trevor Owen, MD*
Lab Assistants: *Monique Gourdine-Shaw, DPM, and Rolf D. Burghardt, MD*
- 12:30–5:15 Group C:
- 12:30–1:30 Still Stumped? Planning Review *Falkland Room*
Facilitators: *Shawn C. Standard, MD, Gavin de Kiewiet, MD, and William D. Terrell, MD*
- 1:45–5:15 Taylor Spatial Frame (TSF) Lab *Laurel A/B/C/D*
Facilitators: *J. Charles Taylor, MD, and Eitan Segev, MD*
Lab Assistants: *Francisco H. Violante, MD, Frederic B. Wilson, MD, Salih Marangoz, MD, and Christof Radler, MD*
- 12:30–5:15 Group D:
- 12:30–1:30 External Fixation and Locking Compression Plate (Fixator-Assisted Plating) Lab *Waterview A/B*
Facilitator: *Janet D. Conway, MD*
Lab Assistants: *Francisco H. Violante, MD, Frederic B. Wilson, MD, and Christof Radler, MD*
- 1:45–5:15 TRUE/LOK Ring Fixation System and Limb Reconstruction System (LRS ADVanced) Lab *Essex A/B/C*
Facilitators: *Alexander Kirienko, MD, Alexander M. Cherkashin, MD, and John E. Herzenberg, MD*
Lab Assistants: *Janet D. Conway, MD, William D. Terrell, MD, Gavin de Kiewiet, MD, and Reid Boyce Nichols, MD*
- Lecture: Limb Lengthening and Deformity Correction with TRUE/LOK Ring Fixation System
Hands-On Lab 1: Ankle Valgus Deformity Correction
Hands-On Lab 2: Distal Femoral Valgus Deformity Correction
Hands-On Lab 3: Congenital Femoral Deficiency Hinged Knee Construct
- 6:00–10:30 Opening Reception at the Maryland Science Center
- 6:00 Buses depart to the Maryland Science Center *Hotel Lobby*
- 6:15–7:30 Reception at the Maryland Science Center Rooftop Terrace
- 7:45–8:00 Welcome and Introduction
John E. Herzenberg, MD

Opening Reception at the Maryland Science Center (continued)

- 8:00–9:00 Guest Lectures: “A Celebration of Space”
*Robert L. Satcher, Jr., MD, PhD, Orthopedic Surgeon and
NASA Astronaut*
*Zoltan Levay, Senior Imaging Specialist, Space
Telescope Science Institute*
*Mario Livio, PhD, Senior Astrophysicist and Head of the Office
of Public Outreach, Space Telescope Science Institute*
*John Grunsfeld, PhD, Deputy Director, Space Telescope
Science Institute and NASA Astronaut*
- 9:00–9:45 IMAX Film: “Hubble 3D”
- 9:45–10:00 Question and Answer Session
- 10:15 Buses depart from the Maryland Science Center *Science Center Lobby*
to the Marriott Waterfront Hotel

Day 2: Saturday, September 4

6:30–7:00	<u>Breakfast</u>	<i>Harborside Foyer</i>
7:00–7:15	Announcements <i>John E. Herzenberg, MD</i>	<i>Harborside Salons C/D/E</i>
7:15–8:15	Tibial Multiapical Deformities (Planning Workshop) <i>Janet D. Conway, MD</i>	
8:15–8:45	Navigation as Intraoperative Tool for Osteotomies <i>Etienne Heijens, MD</i>	
8:45–9:00	High Tibial Osteotomy: Internal versus External Fixation <i>Etienne Heijens, MD</i>	
9:00–9:10	Discussion	
9:10–10:10	Femoral Multiapical Deformities (Planning Workshop) <i>John E. Herzenberg, MD</i>	
10:10–10:40	<u>Health Break and Visit with Corporate Partners</u>	<i>Harborside Foyer</i>
10:40–10:55	Upper Extremity Deformity Correction with External Fixation <i>Christopher Iobst, MD</i>	<i>Harborside Salons C/D/E</i>
10:55–11:15	Fixator-Assisted Nailing <i>Shawn C. Standard, MD</i>	
11:15–11:30	Fixator-Assisted Plating <i>John E. Herzenberg, MD</i>	
11:30–11:45	Lengthening and then Plating <i>Christopher Iobst, MD</i>	
11:45–12:00	Discussion and Evaluation of Morning Session	
12:00–1:30	<u>Lunch on Own</u>	

Saturday Afternoon Labs

1:30–6:15	<u>Group A:</u>		
	1:30–2:30	External Fixation and Locking Compression Plate (Fixator-Assisted Plating) Lab Facilitator: <i>Janet D. Conway, MD</i> Lab Assistants: <i>Noam Bor, MD, Trevor Owen, MD,</i> <i>and Eitan Segev, MD</i>	<i>Waterview A/B</i>

Group A (continued):

2:45–6:15 TRUE/LOK Ring Fixation System and *Essex A/B/C*
Limb Reconstruction System (LRS ADVanced) Lab
Facilitators: *Alexander Kirienko, MD, Alexander M. Cherkashin, MD,*
and John E. Herzenberg, MD
Lab Assistants: *William D. Terrell, MD, Florian Kovar, MD, and*
Francisco Downey-Carmona, MD
Lecture: Limb Lengthening and Deformity Correction with TRUE/LOK Ring
Fixation System
Hands-On Lab 1: Ankle Valgus Deformity Correction
Hands-On Lab 2: Distal Femoral Valgus Deformity Correction
Hands-On Lab 3: Congenital Femoral Deficiency Hinged Knee Construct

1:30–6:15

Group B:

1:30–2:30 Modular Rail System Lab *Harborside Salon C*
Facilitators: *Christopher Iobst, MD, and John E. Herzenberg, MD*
Lab Assistants: *Rudolf Ganger, MD, Francisco Downey-Carmona, MD,*
and Monica Nogueira, MD
2:45–6:15 Cadaver Lab
Facilitators: *Bradley M. Lamm, DPM, and L. Scott Levin, MD*
Lab Assistants: *Monique Gourdine-Shaw, DPM,*
Rolf D. Burghardt, MD, and Rudolf Ganger, MD
2:45 Bus to Cadaver Lab *Hotel Lobby*
3:15–5:45 Cadaver Lab Exercises *University of Maryland*
6:00 Bus to Marriott Waterfront Hotel

1:30–6:15

Group C:

1:30–2:30 Callus Distraction and Arthrodiastasis Lab *Waterview C/D*
Facilitators: *Bradley M. Lamm, DPM, and Guido A. LaPorta, DPM*
Lab Assistants: *Jossie Abraham, DPM, and Jeffrey Young, MD*
2:45–6:15 Digital Planning Lab *Kent A/B/C*
Facilitators: *Shawn C. Standard, MD, and Trevor Owen, MD*
Lab Assistants: *Janet D. Conway, MD, Jossie Abraham, DPM, and*
Jeffrey Young, MD

1:30–6:15

Group D:

1:30–2:30 Still Stumped? Planning Review *Iron Room*
Facilitators: *Shawn C. Standard, MD, and Christof Radler, MD*
2:45–6:15 Taylor Spatial Frame (TSF) Lab *Laurel A/B/C/D*
Facilitators: *J. Charles Taylor, MD, and Eitan Segev, MD*
Lab Assistants: *James C. Binski, MD, Noam Bor, MD,*
Monica Nogueira, MD, and Christof Radler, MD

7:00–10:30

Crab Feast: Faculty and Former Fellows (*by invitation only*)

Day 3: Sunday, September 5

6:30–7:00	<u>Breakfast</u>	<i>Harborside Foyer</i>
7:00–7:15	Announcements	<i>Harborside Salons C/D/E</i>
7:15–7:45	Sagittal Plane Analysis <i>Shawn C. Standard, MD</i>	
7:45–8:30	Sagittal Plane (Planning Workshop) <i>Shawn C. Standard, MD</i>	
8:30–8:45	Physical Therapy for Knee Contractures <i>Anil Bhave, PT</i>	
8:45–9:00	Surgery for Knee Flexion Contractures <i>John E. Herzenberg, MD</i>	
9:00–9:15	Surgery for Extension Contractures <i>Shawn C. Standard, MD</i>	
9:15–9:30	Oblique Plane Deformity Including Angulation-Translation <i>Stuart A. Green, MD</i>	
9:30–9:40	Discussion	
9:40–10:10	<u>Health Break and Visit with Corporate Partners</u>	<i>Harborside Foyer</i>
10:10–10:30	Oblique Plane Deformity (Planning Workshop) <i>Christof Radler, MD</i>	<i>Harborside Salons C/D/E</i>
10:30–10:45	Correcting Malunions <i>William D. Terrell, MD</i>	
10:45–11:00	Lever Arm Dysfunction: A Consequence of Rotation Deformities <i>Anil Bhave, PT</i>	
11:00–11:15	Rotation Deformities: Osteotomy Treatment Methods <i>John E. Herzenberg, MD</i>	
11:15–11:30	Acute versus Gradual Correction <i>Janet D. Conway, MD</i>	
11:30–11:45	Rotational Problems in the Hip <i>Gavin de Kiewiet, MD</i>	
11:45–12:00	Discussion and Evaluation of Morning Session	
12:00–1:30	<u>Lunch on Own</u>	

Sunday Afternoon Labs:

- 1:30–6:15 Group A:
- 1:30–2:30 Still Stumped? Planning Review *Iron Room*
Facilitators: *Shawn C. Standard, MD, Scott Nelson, MD,*
and S. Robert Rozbruch, MD
- 2:45–6:15 Taylor Spatial Frame (TSF) Lab *Laurel A/B/CD*
Facilitators: *J. Charles Taylor, MD, and Eitan Segev, MD*
Lab Assistants: *Janet D. Conway, MD, Francisco H. Violante, MD,*
Frederic B. Wilson, MD, and Christof Radler, MD
- 1:30–6:15 Group B:
- 1:30–2:30 External Fixation and Locking Compression Plate
(Fixator-Assisted Plating) Lab *Waterview A/B*
Facilitator: *Janet D. Conway, MD*
Lab Assistants: *Francisco H. Violante, MD, Frederic B. Wilson, MD,*
and Christof Radler, MD
- 2:45–6:15 TRUE/LOK Ring Fixation System and *Essex A/B/C*
Limb Reconstruction System (LRS ADVanced) Lab
Facilitators: *Alexander Kirienko, MD, Alexander M. Cherkashin, MD,*
and John E. Herzenberg, MD
Lab Assistants: *William D. Terrell, MD, Ali Khosrowabady, DPM,*
Matthew Testani, DPM, and Gavin de Kiewiet, MD
- Lecture: Limb Lengthening and Deformity Correction with TRUE/LOK Ring
Fixation System
Hands-On Lab 1: Ankle Valgus Deformity Correction
Hands-On Lab 2: Distal Femoral Valgus Deformity Correction
Hands-On Lab 3: Congenital Femoral Deficiency Hinged Knee Construct
- 1:30–6:15 Group C:
- 1:30–2:30 Modular Rail System Lab *Harborside Salon C*
Facilitators: *Christopher Iobst, MD, and John E. Herzenberg, MD*
Lab Assistants: *S. Robert Rozbruch, MD, Mahmoud Felafel, MD,*
Salih Marangoz, MD, and Reid Boyce Nichols, MD
- 2:45–6:15 Cadaver Lab
Facilitators: *Bradley M. Lamm, DPM, and L. Scott Levin, MD*
Lab Assistants: *Jossie Abraham, DPM, Jeffrey Young, MD, and*
Mahmoud Felafel, MD
- 2:45 Bus to Cadaver Lab *Hotel Lobby*
- 3:15–5:45 Cadaver Lab Exercises *University of Maryland*
- 6:00 Bus to Marriott Waterfront Hotel

1:30–6:15

Group D:

1:30–2:30 Callus Distraction and Arthrodiastasis Lab *Waterview C/D*
Facilitators: *Bradley M. Lamm, DPM, and Guido A. LaPorta, DPM*
Lab Assistants: *Ali Khosrowabady, DPM, H. David Gottlieb, DPM, and Matthew Testani, DPM*

2:45–6:15 Digital Planning Lab *Kent A/B/C*
Facilitators: *Shawn C. Standard, MD, and Trevor Owen, MD*
Lab Assistants: *Rishi Thakral, MD, and Shirin Zamani, MD*

7:00–7:45

Seated Dinner

Harborside Salons D/E

7:45–9:30

Case Presentation Sessions:

Pediatric Cases

Moderator: *Sanjeev Sabharwal, MD, and Shawn C. Standard, MD*

Harborside Salon C

Adult Cases

Moderators: *Frederic B. Wilson, MD, and Gavin de Kiewiet, MD*

Iron Room

(Please bring your presentation in PowerPoint format on CD or flash drive—no laptops, please)

Day 4: Monday, September 6

6:30–7:00	<u>Breakfast</u>	<i>Harborside Foyer</i>
7:00–7:10	Announcements <i>John E. Herzenberg, MD</i>	<i>Harborside Salons C/D/E</i>
7:10–7:35	Ankle and Ankle Arthrodesis Deformities <i>Bradley M. Lamm, DPM</i>	
7:35–7:45	External Fixation versus Fixator-Assisted Nailing and Fixator-Assisted Plating <i>S. Robert Rozbruch, MD</i>	
7:45–8:05	Monolateral External Fixation for Deformity Correction <i>Richard S. Davidson, MD</i>	
8:05–8:15	Hemiepiphyodesis for Angular Deformities <i>John E. Herzenberg, MD</i>	
8:15–8:25	Radiographic Assessment of Length Discrepancy <i>Shawn C. Standard, MD</i>	
8:25–8:45	Multiplier Method for Predictions of Height and Limb Length Discrepancy <i>Shawn C. Standard, MD</i>	
8:45–9:05	Multiplier Exercises (Planning Workshop) <i>Shawn C. Standard, MD</i>	
9:05–9:20	Ground Reaction Force Vector versus the Mechanical Axis <i>Anil Bhave, PT</i>	
9:20–9:40	Discussion	
9:40–10:10	<u>Health Break and Visit with Corporate Partners</u>	<i>Harborside Foyer</i>
10:10–11:40	My Favorite Talk: A Potpourri of Ten-Minute Lectures by Selected Members of the Distinguished Faculty	<i>Harborside Salons C/D/E</i>
10:10–10:20	The Role of Ligament Tightening as an Additional Technique in High Tibial and Distal Femoral Osteotomies: Indications, Techniques, and Results <i>Etienne Heijens, MD</i>	
10:20–10:30	Enhancing Bone Healing <i>Reggie C. Hamdy, MD</i>	
10:30–10:40	Nailing after Lengthening <i>Gerald Wozasek, MD</i>	
10:40–10:50	Hip Impingement <i>Gavin de Kiewiet, MD</i>	
10:50–11:00	Foot Correction <i>Alexander Kirienko, MD</i>	
11:00–11:10	Taylor Spatial Frame for Kids <i>Mark Eidelman, MD</i>	

11:10–11:20 Bone Transport with the Taylor Spatial Frame

James C. Binski, MD

11:20–11:30 Evolution of Six-Axis Deformity Correction

J. Charles Taylor, MD

11:30–11:45 Final Announcements, Evaluation of Morning Session, and Evaluation of Afternoon Lab Sessions

John E. Herzenberg, MD

11:45–1:15 Closing Luncheon: Special Guest Speaker, *Scott Nelson, MD*

“Potential Role for Limb Reconstruction Surgeons in the Long-Term Haitian Relief Effort”

Monday Afternoon Labs:

1:30–6:15

Group A:

1:30–2:30 Callus Distraction and Arthrodiastasis Lab *Waterview C/D*
Facilitators: *Bradley M. Lamm, DPM, and Guido A. LaPorta, DPM*
Lab Assistants: *Sandi Pollard, DPM, and Florian Kovar, MD*

2:45–6:15 Digital Planning Lab *Kent A/B/C*
Facilitators: *Shawn C. Standard, MD, and Trevor Owen, MD*
Lab Assistants: *Sandi Pollard, DPM, and Florian Kovar, MD*

1:30–6:15

Group B:

1:30–2:30 Still Stumped? Planning Review *Iron Room*
Facilitators: *Shawn C. Standard, MD, and Gerald Wozasek, MD*

2:45–6:15 Taylor Spatial Frame (TSF) Lab *Laurel A/B/C/D*
Facilitators: *J. Charles Taylor, MD, and Eitan Segev, MD*
Lab Assistants: *James C. Binski, MD, Noam Bor, MD, Monica Nogueira, MD, and Reid Boyce Nichols, MD*

1:30–6:15

Group C:

1:30–2:30 External Fixation and Locking Compression Plate (Fixator-Assisted Plating) Lab *Waterview A/B*
Facilitator: *Janet D. Conway, MD*
Lab Assistants: *Noam Bor, MD, Trevor Owen, MD, and Eitan Segev, MD*

2:45–6:15 TRUE/LOK Ring Fixation System and Limb Reconstruction System (LRS ADVanced) Lab *Essex A/B/C*
Facilitators: *Alexander Kirienko, MD, Alexander M. Cherkashin, MD, and John E. Herzenberg, MD*
Lab Assistants: *William D. Terrell, MD, Jeffrey Young, MD, H. David Gottlieb, DPM, and Francisco Downey-Carmona, MD*

Lecture: Limb Lengthening and Deformity Correction with TRUE/LOK Ring Fixation System

Hands-On Lab 1: Ankle Valgus Deformity Correction

Hands-On Lab 2: Distal Femoral Valgus Deformity Correction

Hands-On Lab 3: Congenital Femoral Deficiency Hinged Knee Construct

1:30–6:15

Group D:

1:30–2:30 Modular Rail System Lab *Harborside Salon C*
Facilitators: *Christopher Iobst, MD, and John E. Herzenberg, MD*
Lab Assistants: *S. Robert Rozbruch, MD, J. Eric Gordon, MD,*
Francisco Downey-Carmona, MD, and
Monica Nogueira, MD

2:45–6:15 Cadaver Lab
Facilitator: *Bradley M. Lamm, DPM*
Lab Assistants: *Janet D. Conway, MD, Rishi Thakral, MD,*
Shirin Zamani, MD, and Rudolf Ganger, MD

2:45 Bus to Cadaver Lab *Hotel Lobby*

3:15–5:45 Cadaver Lab Exercises *University of Maryland*

6:00 Bus to Marriott Waterfront Hotel

6:15

Adjourn