



DRAFT AGENDA

**Mathematics and Science for Schools in Sub-Saharan Africa:
A World Bank Initiative to Improve Student Learning in Africa**

Conference (May 15 and May 16, 2017)

and

Training Program (May 17- May 26, 2017)

Overview of Conference Agenda:

Week 1:

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
MS4SSA Conference		MS4SSA Follow-Up Workshop				
Introduction and Vision for Mathematics and Science in SSA Overview of the MS4SSA Initiative Global Experiences	Global Best Practices Curriculum Design: The MS4SSA Approach Including Teacher Support Challenges	Introduction to MS4SSA Pedagogy	MS4SSA Math and Physics	MS4SSA Biology and Chemistry	Visit to the Battle Cry Competition for High Schools at WPI	Visit to the Finale of the Battle Cry I8 Robotics Competition for High Schools at WPI

Note: Day 1 to Day 2: Main Conference; Day 3 PM to Day 12: Post Conference Workshop/Training Program for Country Teams

Week 2:

Day 8	Day 9	Day 10	Day 11	Day 12
MS4SSA Follow-Up Workshop				
Materials Science and Engineering Modules	Robotics Modules	Project-Based Learning Modules	Country Implementation and Reflections	Country Implementation and Reflections

Day 1: Monday, May 15

Welcome and Context for the MS4SSA Initiative

Time	Description
7:30 AM	Registration and Breakfast
8:30 AM	Welcome
	Chair: Bruce Bursten, Provost, Worcester Polytechnic Institute (WPI) https://www.wpi.edu/people/faculty/bbursten Speakers: Laurie Leshin, President, Worcester Polytechnic Institute (WPI) https://www.wpi.edu/offices/president/about Makhtar Diop, Vice President Africa Region, World Bank http://www.worldbank.org/en/about/people/m/makhtar-diop Lynne Sherburne-Benz, World Bank https://blogs.worldbank.org/team/lynne-sherburne-benz
9:00 AM	Conference Overview and Acknowledgement of Speakers and Participants
	Chair: Bruce Bursten, Provost, Worcester Polytechnic Institute (WPI) https://www.wpi.edu/people/faculty/bbursten Speaker: Wole Soboyejo, Worcester Polytechnic Institute (WPI) https://www.wpi.edu/people/faculty/wsoboyejo
9:15 AM	Keynote: Mathematics and Science Education in Sub-Saharan Africa
	Chair: Peter Materu, The MasterCard Foundation http://www.mastercardfdn.org/staff/peter-materu/ Speaker: Sajitha Bashir, Manager, Global Education Practice, World Bank http://blogs.worldbank.org/team/sajitha-bashir Discussant: Olushola Odusanya, Deputy Director of Sheda Science and Technology Complex, Nigeria
10:00 AM	Coffee/Tea Break and Group Photo
10:30AM	Motivating a New Generation of Scientists and Engineers
	Chair: Cagdas Onal, Worcester Polytechnic Institute https://www.wpi.edu/people/faculty/cdonal Speakers: Peter Materu, The MasterCard Foundation http://www.mastercardfdn.org/staff/peter-materu/ Neil and Cristina Heffernan, WPI www.assistments.org https://www.wpi.edu/people/faculty/nth Nichol Campana, ASM International http://www.asminternational.org/
12:00 PM	MS4SSA Advisory Committee Meeting
12:00 PM	Lunch Break
1:30 PM	Practitioners' Panel: The Reality of Mathematics and Science Education in SSA Today
	Chair: Lily Mulatu, Manager, Global Education Practice, World Bank Panelists: Pete Gange, Middlesex High School; Ismail Abdurashid, Auburn University; Doyin Odubanjo, The Nigerian Academy of Science; Lucien Kokou, Inspector of Mathematics, Ministry of Secondary Education and Vocational Training, Benin; Adama Jobe, Director of Science and Technology, Ministry of Basic and Secondary Education, Gambia and Ajay Ramful, Head of School, School of Science and Mathematics, Mauritius Institute of Education.
3:45 PM	Coffee/Tea Break
4:15 PM	Responding to SSA's Challenges in Mathematics and Science: MS4SSA and Expected Results
	Chair: Pradipta Banerji, Indian Institute of Technology Speakers: Wole Soboyejo, Worcester Polytechnic Institute

	https://www.wpi.edu/people/faculty/wsoboyejo Robert Goodman, Director, New Jersey Center for Teaching and Learning (NJCTL) https://njctl.org/
5:30 PM	Cocktail Reception and Dinner

Day 2: Tuesday, May 16

International Best Practices and the MS4SSA Initiative

Time	Description
7:30 AM	Breakfast
8:30 AM	Preview of the Day's Agenda
	Speaker: Jee-Peng Tan, World Bank https://blogs.worldbank.org/team/jee-peng-tan
8:45 AM	Global Best Practices – Perspectives from China and India
	Chair: Toby Linden, World Bank https://blogs.worldbank.org/team/tobias-linden Speakers: Huang Xingfeng, Shanghai Normal University, China Pradipta Banerji, Indian Institute of Technology
9:50 AM	Coffee/Tea Break
10:20 AM	Global Best Practices – Perspectives from Africa, the USA and Japan
	Chair: Doyin Odubanjo, The Nigerian Academy of Science Speakers: Aissa Wade, Africa Institute for Mathematical Sciences (AIMS-Senegal) http://www.math.buffalo.edu/mad/PEEPS/wade_aissa.html Nkem Khumbah, University of Michigan Shimpei Taguchi, Japan International Cooperation Agency (JICA)
12:00 PM	World Bank TTLs Meeting
12:00 PM	Lunch Break
1:30 PM	MS4SSA's Approach to Curriculum Design
	Chair: Lynne Sherburne-Benz, World Bank https://blogs.worldbank.org/team/lynne-sherburne-benz Speaker: Robert Goodman, NJCTL https://njctl.org/ Discussants: Martha Cyr, Worcester Polytechnic Institute https://www.wpi.edu/news/2010mcyr Aissa Wade, Africa Institute for Mathematical Sciences (AIMS-Senegal) http://www.math.buffalo.edu/mad/PEEPS/wade_aissa.html Pradipta Banerji, Indian Institute of Technology
3:00 PM	Coffee/Tea Break
3:30 PM	Math and Science in the Classroom: 'What' and 'How' under MS4SSA
	Chair: Suzanne Weekes, Worcester Polytechnic Institute (WPI) https://www.wpi.edu/people/faculty/sweekes Speakers: Robert Goodman, NJCTL https://njctl.org/ Nima Rahbar and Wole Soboyejo, WPI (Materials Science) https://www.wpi.edu/people/faculty/nrahbar and https://www.wpi.edu/people/faculty/wsoboyejo Paula Quinn, WPI (Project-Based Learning and Global Projects) http://wp.wpi.edu/projectbasedlearning/contact/leadership-team/ Tahar El-Korchi, WPI https://www.wpi.edu/people/faculty/tek Discussants: Doyin Odubanjo, The Nigerian Academy of Science Nkem Khumbah, University of Michigan
5:30 PM	Conference closing remarks: From Ideas to Action
	Chair: Wole Soboyejo, Worcester Polytechnic Institute (WPI) https://www.wpi.edu/people/faculty/wsoboyejo Speaker: Sajitha Bashir, World Bank http://blogs.worldbank.org/team/sajitha-bashir
6:00 PM	Cocktails and Conference Banquet

Day 3: Wednesday, May 17

Deep Dive into NJCTL Modules

Time	Description
8:30 AM	Continental Breakfast
9:00 AM	Background and Introduction of Workshop Expectations
	Speaker: Robert Goodman, NJCTL
9:30 AM	Introduction of Nodes and Country Participants
10:30 AM	Coffee Break
11:00 AM	Interactive Hands-on Introduction to NJCTL Pedagogy
	Leaders: Rosanna Satterfield and Robert Goodman, NJCTL
12:00 PM	Lunch
1:00 PM	Discussion and Open Session on NJCTL Modules
	Leaders: Robert Goodman and Rosanna Satterfield, NJCTL
1:45 PM	Discussion with NJCTL Panel and Group
	Leaders: Robert Goodman, Rosanna Satterfield, Janine Caffrey, William Scott, Josef Kariuki, Audra Crist, NJCTL
2:30 PM	Hands-on Group Activities on NJCTL Pedagogy
	Leaders: Gambian Representative and Rosanna Satterfield, NJCTL
3:30 PM	Coffee/Tea Break
4:00 PM	Group Discussion - Current Approaches compared to NJCTL Approach
	Leaders: Robert Goodman, Rosanna Satterfield, Janine Caffrey, William Scott, Josef Kariuki, Audra Crist, NJCTL
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of day

Day 4: Thursday, May 18

Global Best Practices and Deep Dive into Mathematics and Physics in the Classroom

Time	Description
8:30 AM	Breakfast
9:00 AM	Interactive Hands-on Introduction to Physics Modules
	Leaders: Rosanna Satterfield and Janine Caffrey, NJCTL
9:45 AM	Description of NJCTL Physics Modules
	Leaders: Rosanna Satterfield and Robert Goodman, NJCTL
10:30 AM	Coffee/Tea Break
11:00 AM	Discussion of NJCTL Physics Modules
	Leaders: Rosanna Satterfield, Janine Caffrey, Josef Kariuki and Robert Goodman, NJCTL
12:00 PM	Lunch
1:00 PM	Interactive Hands-on Introduction to NJCTL Mathematics Modules
	Leaders: Audra Crist and William Scott, NJCTL
1:45 PM	Description of NJCTL Mathematics Modules
	Leaders: Audra Crist, William Scott and Rosanna Satterfield, NJCTL
2:45 PM	Discussion on NJCTL Mathematics Modules
	Leaders: Robert Goodman, William Scott, Rosanna Satterfield and Audra Crist, NJCTL
3:30 PM	Coffee/Tea Break
4:00 PM	Group Discussion of Physics and Mathematics Modules
	Leaders: Robert Goodman, Rosanna Satterfield, Janine Caffrey, William Scott, Josef Kariuki, Audra Crist, NJCTL
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of day

Day 5: Friday, May 19

Deep Dive into Biology and Chemistry

Time	Description
8:30 AM	Breakfast
9:00 AM	Interactive Hands-on Introduction to NJCTL Chemistry Modules
	Leaders: Rosanna Satterfield and Josef Kariuki, NJCTL
9:45 AM	Description of NJCTL Chemistry Modules
	Leaders: Rosanna Satterfield and Josef Kariuki, NJCTL
10:30 AM	Coffee/Tea Break
11:00 AM	Discussion of NJCTL Chemistry Modules
	Leaders: Rosanna Satterfield, Josef Kariuki and Robert Goodman, NJCTL
12:00 PM	Lunch
1:00 PM	Interactive Hands-on Session on NJCTL Biology Modules
	Leaders: Rosanna Satterfield and Josef Kariuki, NJCTL
1:45 PM	Description of NJCTL Biology Modules
	Leaders: Rosanna Satterfield, Josef Kariuki and Robert Goodman, NJCTL
2:45 PM	Discussion on NJCTL Biology Modules
	Leaders: Robert Goodman, William Scott, Rosanna Satterfield and Audra Crist, NJCTL
3:30 PM	Coffee/Tea Break
4:00 PM	Group Discussion of All NJCTL Modules
	Leaders: Robert Goodman, Rosanna Satterfield, Janine Caffrey, William Scott, Josef Kariuki, Audra Crist, NJCTL
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of day

Day 8: Monday, May 22

Deep Dive into Materials Science

Time	Description
8:30 AM	Breakfast
9:00 AM	Introduction to MS4SSA Materials Modules
	Chair: Diran Apelian, Worcester Polytechnic Institute (WPI) Speaker: Wole Soboyejo, Worcester Polytechnic Institute (WPI)
9:45 AM	Discussion of the MS4SSA Materials Modules
	Chair: Rick Sisson, Worcester Polytechnic Institute (WPI) Speaker: Nima Rahbar, Worcester Polytechnic Institute (WPI)
10:30 AM	Coffee/Tea Break
11:00 AM	Interactive Session on MS4SSA Modules
	Chair: Brajendra Mishra, Worcester Polytechnic Institute (WPI) Speakers: Nima Rahbar, Worcester Polytechnic Institute (WPI) Jessica Rosewitz, Worcester Polytechnic Institute (WPI) Arvand Navabi, Worcester Polytechnic Institute (WPI) Sina Askarnejad, Worcester Polytechnic Institute (WPI) Habibeh Ashouri Choshali, Worcester Polytechnic Institute (WPI)
12:30 PM	Lunch
1:30 PM	Interactive Session with MS4SSA Materials Modules
	Chair: Makhlof Makhlof, Worcester Polytechnic Institute (WPI) Speakers: Nima Rahbar, Worcester Polytechnic Institute (WPI) Jessica Rosewitz, Worcester Polytechnic Institute (WPI) Arvand Navabi, Worcester Polytechnic Institute (WPI) Sina Askarnejad, Worcester Polytechnic Institute (WPI) Habibeh Ashouri Choshali, Worcester Polytechnic Institute (WPI)
3:00 PM	Coffee/Tea Break
3:30 PM	Interactive Session with MS4SSA Lab Modules
	Chair: Susan Roberts, Worcester Polytechnic Institute (WPI) Speakers: Nima Rahbar, Worcester Polytechnic Institute (WPI) Jessica Rosewitz, Worcester Polytechnic Institute (WPI) Arvand Navabi, Worcester Polytechnic Institute (WPI) Sina Askarnejad, Worcester Polytechnic Institute (WPI) Habibeh Ashouri Choshali, Worcester Polytechnic Institute (WPI)
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of day

Day 9: Tuesday, May 23

Deep Dive into Robotics

Time	Description
8:30 AM	Breakfast
9:00 AM	Introduction to MS4SSA Robotics Modules
	Chair: Wole Soboyejo, Worcester Polytechnic Institute (WPI) Speaker: Mike Gennert, Worcester Polytechnic Institute (WPI) Brad Miller, Worcester Polytechnic Institute (WPI)
10:00 AM	Coffee/Tea Break
10:30 AM	Hands-On Session on MS4SSA Robotics Modules
	Chair: Emmanuel Agu, Worcester Polytechnic Institute (WPI) Speakers: Brad Miller and Nick Bertozzi, Worcester Polytechnic Institute (WPI)
12:00 PM	Lunch
1:30 PM	Interactive Session on MS4SSA Robotics Modules
	Chair: David Cyganski, Worcester Polytechnic Institute (WPI) Speakers: Brad Miller and Nick Bertozzi, Worcester Polytechnic Institute (WPI)
3:00 PM	Coffee/Tea Break
3:30 PM	Interactive Session on MS4SSA Robotics Lab Modules
	Chair: Nick Bertozzi, Worcester Polytechnic Institute (WPI) Speaker: Kenekwukwu Mbanisi, Worcester Polytechnic Institute (WPI)
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of Day

Day 10: Wednesday, May 24

Deep Dive into Project-Based Learning

Time	Description
8:30 AM	Breakfast
9:00 AM	Introduction to MS4SSA Project-Based Learning Modules
	Chair: Diana Lados, Worcester Polytechnic Institute (WPI) Speaker: Rick Vaz, Worcester Polytechnic Institute (WPI)
10:30 AM	Coffee/Tea Break
11:00 AM	Assessment of MS4SSA Modules
	Chair: Rick Vaz, Worcester Polytechnic Institute (WPI) Speaker: Paula Quinn, Worcester Polytechnic Institute (WPI)
12:00 PM	Lunch
1:00 PM	Interactive Session on MS4SSA Project-Based Modules
	Chair: Chrysanthe Demetry, Worcester Polytechnic Institute (WPI) Speaker: Zebaze Kana, Worcester Polytechnic Institute and Kwara State University (KWASU)
3:00 PM	Coffee/Tea Break
3:30 PM	Interactive Session on MS4SSA Lab Modules
	Chair: Paula Quinn, Worcester Polytechnic Institute (WPI) Speaker: Pierre-Marie Nigay and John David Obayemi, Worcester Polytechnic Institute (WPI)
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of Day

Day 11: Thursday, May 25

Reflections and their Implications for MS4SSA and Next Steps

Time	Description
7:30 AM	Breakfast
8:30 AM	Preview of the Day's Agenda
	Speaker: Toby Linden, World Bank
8:45 AM	Reflections on the MS4SSA Approach: Country Group Work
	Country Group Work, supported by World Bank task team leaders/members for each country
10:00 AM	Coffee/Tea Break
10:30 AM	Reflections on the MS4SSA Approach: Report Back from the Country Group Work
	Chair: Toby Linden, World Bank Panel Discussion: one representative from each country delegation who will be called upon to offer selected results from the group work.
12:00 PM	Lunch
1:00 PM	From Ideas to Action
	Chair: Wole Soboyejo, Worcester Polytechnic Institute (WPI) Speaker: Sajitha Bashir, World Bank
1:00 PM	Interactions with Country Nodes
3:00 PM	Coffee/Tea Break
3:30 PM	Interactions with African Countries
5:00 PM	Country Reflections and Preparation of Country Action Plans
6:00 PM	End of Day

Day 12: Friday, May 26

Time	Description
7:30 AM	Breakfast
8:30 AM	Preview of the Day's Agenda
	Speaker: Toby Linden, World Bank
8:45 AM	Country Proposals for Implementing MS4SSA
	Chair: Hari Rasolonjatovo, World Bank
10:00 AM	Coffee/Tea Break
10:30 AM	Country Proposals for Implementing MS4SSA
	Chair: Hari Rasolonjatovo, World Bank
12:00 PM	Lunch
2:00 PM	Interactions with MS4SSA
	Chair: Ryoko Tomita, World Bank
3:45 PM	Workshop Summing Up
	Chair: Sajitha Bashir Speakers: Lily Mulatu, Wole Soboyejo, Bob Goodman and representatives from the African countries
4:30 PM	End of Post-Conference Workshop