

*IMPLEMENTATION and TESTING  
RANDOM NUMBER GENERATORS*

*SECOND MIXMAX NETWORK MEETING*

*4-5 July 2016*

*and*

*SUMMER RESEARCH WORKSHOP*

*6 July - 18 July*

*CERN, Geneva*

- 1. Demokritos National Centre for Scientific Research, Greece*
- 2. PH-SFT CERN, Switzerland*
- 3. Nanjing University, China*
- 4. Niels Bohr Institute, Copenhagen University, Denmark*
- 5. A. I. Alikhanyan National Science Laboratory, Armenia*

**Programme, July 4**

Morning section chair G.Savvidy

9:00-9:10 J.Harvey. Welcome.

9:10-10:00 P.Lecuyer. Random number generators: Design principles and statistical testing.

10:00-10:40 K.Savvidy. The Study of the MIXMAX Random Number Generator.

10:40-11:00 Coffe Break

11:00-11:30 F.James. Does MIXMAX have the same mixing properties  
as the continuous K-system?

11:30-12:00 L.Moneta. Tests of the MIXMAX generator  
and integration into the CERN software ROOT

12:00-12:30 J.Apostolakis. The integration of the MIXMAX generator  
into the CERN software GEANT.

12:30-14:00 Lunch

Evening section chair L.Moneta

14:00-15:00 A.Görllich. MIXMAX in Monte-Carlo Simulations of Quantum Gravity

15:00-15:30 Coffe Break

15:30-17:00 Round Table Discussion

## **Programme, July 5**

9:00-9:30 A.Howard. Tests of the MixMax generator and integration in CLHEP  
9:30-10:30 P.Lecuyer. Statistical testing of random number generators  
10:30-11:10 G.Savvidy. MIXMAX random number generators based on C-systems.  
11:10-12:10 Round Table Discussion

## **SUMMER RESEARCH WORKSHOP, July 6 - July 10**

July 6. MIXMAX as Generator of Periodic Trajectories of Continuous K-systems  
July 7. Implementation of the MIXMAX in ROOT.  
July 8. Implementation of the MIXMAX in GEANT.  
July 9. Implementation of the MIXMAX in CLHEP.  
July 10. C++ Implementation of the MIXMAX.

## **SUMMER RESEARCH WORKSHOP, July 10 - July 17**

July 10-11. Monte-Carlo Simulations in QFT and Gravity with MIXMAX  
July 11-12. Calculation of High Dimensional Integrals with MIXMAX  
July 12-14. The spectrum and entropy of the Anosov C-systems.  
July 14-17. Distribution of Periodic trajectories of C-systems and MIXMAX generator.