

NETWORKS OF LINEAR SYSTEMS AND OPERATOR THEORY

SDE BOKER, MARCH 19-24, 2017

WORKSHOP PROGRAMS

Sunday 19.3.17

10:30 Bus Leaves Tel-Aviv Hotel Leonardo Beach to Beer Sheva North (university) railway station

12:15 Bus leaves Beer Sheva North (university) railway station to Sde Boker (arrival 13:15)

13:30 Lunch

NETWORKS OF LINEAR SYSTEMS

Sunday 19.3.17

16:00 – 16:15 **Opening** Miriam Cohen, Director of the Center of Advanced Studies in Mathematics, BGU

16:15 – 17:15 **Lecture 1** Roger Brockett, Harvard
Title: Synchronization is not just for Oscillations

17:15 – 17:45 coffee break

17:45 – 18:30 **Lecture 2** Joseph Ball, Virginia Tech.
Title: Standard versus strict bounded real lemma with infinite-dimensional state space

19:00 Dinner

Monday 20.3.17

8:00 Breakfast

09:00 – 09:40 Lecture 3 Günther Dirr, Würzburg

Title: Parallel Connections of Bilinear Systems: the Simplest Case of a Network.

09:50 – 10:30 Lecture 4 Olof Staffans, Finland

Title: State/Signal Invariant Properties of Input/State/Output systems

10:30 – 11:00 Coffee

11:00 – 11:40 Lecture 5 Erik Verriest, Georgia Tech.

Title: Partial state reachability and observability of cascades of linear systems

11:50 – 12:30 Lecture 6 Patrick Dewilde, München

Title: Polynomial system models with a non-commuting shift

12:45 Lunch

14:30 – 15:10 Lecture 7 Lars Grüne, Bayreuth

Title: Controlling stochastic ensembles via model predictive control for the Fokker-Planck equation

15:20 – 16:00 Lecture 8 Malcolm Smith, Cambridge

Title: A new look at Ladenheim catalogue: tribute to U. Helmke and R. Kalman

16:00 – 16:30 Coffee break

16:30 – 17:10 Lecture 9 Diederich Hinrichsen, Bremen

Title: A Gershgorin approach to networks of linear systems

17:20 – 18:00 Lecture 10 Harry Trentelman, Groningen

Title: Model Reduction of Linear Multi-Agent Systems by Clustering and Associated Error Bounds

18:30 Dinner

Tuesday 21.3.17

8:00 Breakfast

09:00 – 09:40 Lecture 11 Andrea Gombani, Padova

Title: A general approach to multivariable recursive interpolation

09:50 – 10:30 Lecture 12 Damir Arov, Odessa

Title: Minimal passive state/signal realizations of passive behaviors with minimal scattering channel losses

10:30 – 11:00 Coffee

11:00 – 11:40 Lecture 13 Jian Hua Chen, Xiantan

Title: Time-varying multiplicative perturbations of well-posed linear systems

11:50 – 12:30 Lecture 14 Julia Lieb, Würzburg

Title: Probability estimates for networks of linear systems over finite fields and applications to convolutional codes

12:45 Lunch

14:30 – 15:10 Lecture 15 Joachim Rosenthal, Zürich

Title: Algebraic Systems Theory and Coding Theory

15:20 – 16:00 Lecture 16 Jochen Trunpf, Canberra

Title: A general necessary and sufficient condition for controllability of networks of linear systems

16:00 – 16:30 Coffee break

16:30 – 17:10 Lecture 17 Hua Cheng Zhou, Chinese academy

Title: proportional control based output tracking and disturbance rejection for 1-D anti-stable wave equation

17:20 – 18:00 Lecture 18 Paul Fuhrmann, BGU

Title: Thoughts on Optimal Control

18:30 Dinner

Wednesday 22.3.17

7:30 Breakfast

8:30 –13:00 Excursion

13:30 Lunch

14:30 Bus to Beer Sheva

OPERATORS AND SYSTEMS

15:00 –15:40 Lecture 19 Allen Tannenbaum, Stony Brook **CANCELLED**

15:50 – 16:30 Lecture 20 George Weiss, Tel-Aviv

Title: Systems described by very rapid switching two m -dissipative operators

16:30 – 17:00 Coffee break

17:00 – 17:40 Lecture 21 Izchak Lewkowicz, Beer Sheva

Title: Dissipative Systems – Convex Invertible Cones point of view

17:50 – 18:30 Lecture 22 Avraham Feintuch, Beer Sheva

Title: Asymptotic behavior of first and second order spatially invariant systems

19:00 Dinner.

Thursday 23.3.17

OPERATOR THEORY

8:00 Breakfast

09:00 – 09:40 Lecture 23 Guy Cohen, Beer-Sheva

Title: Rates of convergence of powers of contractions

09:50 – 10:30 Lecture 24 Eli Shamovich, Technion

Title: Dilation of semigroups of contractions and system theory

10:30 – 11:00 Coffee

11:00 – 11:40 Lecture 25 Baruch Solel, Technion

Title: Matrix convex sets, Dilations and CP maps

11:50 – 12:30 Lecture 26 Harry Dym, Weizmann Inst.

Title: Sampling Formulas in Vector Valued de Branges Spaces

12:45 Lunch

14:30 – 15:10 Lecture 27 Daniel Markiewicz, Beer Sheva

Title: Classification of C^ -envelopes of tensor algebras arising from stochastic matrices*

15:20 – 15:40 Lecture 28 Alexander Markus, Beer Sheva

Title: On the norm of linear combinations of projections and some characterizations of Hilbert space

15:40 – 16:10 Coffee break

16:10 – 16:50 Lecture 29 Orr Shalit, Technion

Title: Spaces of Dirichlet series with the complete Pick property

17:00 – 17:40 Lecture 30 Vladimir Goldshtein, Beer Sheva

Title: Conformal geometry and elliptic operators

17:50 – 18:30 Lecture 31 Adam Dor'on, Waterloo, CA

Title: Cuntz-Krieger dilations of Toeplitz-Cuntz-Krieger families via Choquet theory

19:00 Dinner

Friday 24.3.17

8:00 Breakfast

9:00 – 9:40 Lecture 32 Vadim Tkachenko, Beer Sheva

Title: Transformation operators on inverse problems of higher order ODE

9:50 – 10:30 Lecture 33 Victor Vinnikov, Beer Sheva

Title: Interpolation and Realization Theorems for non-commutative functions

10:30 – 11:00 Coffee break

11:15 Bus leaves Sde Boker to Beer Sheva, Tel-Aviv Airport and Tel Aviv

Expected arrivals: Beer Sheva – 12:15, Airport 13:45, Tel Aviv 14:30