

General Relativity, Quantum Mechanics and Everything in Between
Celebrating 92 Springs of Professor Lawrence Paul Horwitz



April 24, 2022

Dear Friends & Colleagues,

Thank you for accepting our invitation, and for suggesting interesting topics for lectures in the conference. The final conference program is given below:

First Day (Monday April 25)

General Plan:

| Time | |
|-------|-----------------------------|
| 08:15 | Get Together |
| 08:30 | Morning Session – Part I |
| 10:00 | Coffee Break |
| 10:30 | Morning Session – Part II |
| 12:30 | Lunch |
| 14:30 | Afternoon Session – Part I |
| 16:30 | Afternoon Tea |
| 17:00 | Afternoon Session – Part II |
| 19:00 | Banquet |

Lectures (all lectures are 30 minutes including questions):

| Time | Speaker | Title | |
|-------|------------------------------|---|--------------------------------|
| 08:30 | Asher Yahalom | Retardation Effects in Galaxies | |
| 09:00 | Barak Kol | Cracking the Newtonian Three-Body Problem | |
| 09:30 | B. G. Sidharth | A New Spin on Spin | |
| 10:30 | Lawrence Paul Horwitz | Concepts in Relativistic Mechanics | Plenary Opening Lecture |
| 11:00 | Martin Land | A Vielbein Formalism for Stueckelberg-Horwitz-Piron | |

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|-------|-----------------------------|---|------------------------|
| | | General Relativity | |
| 11:30 | Utkarsh Kumar | Banks Zaks Cosmology | |
| 12:00 | David Benisty | Test of Dark Energy outside cosmology | |
| 14:30 | Yakov Itin | Extension of GR with Gravitational Constitutive Tensor | |
| 15:00 | Shmuel Gurvitz | Does the Measurement Take Place when Nobody Observes It? | |
| 15:30 | Paul O'Hara | Answering Larry's Question Twenty-Four Years Later: Entanglement and Microcausality | |
| 16:00 | Philip Mannheim | How to Quantize Gravity and How to Not Quantize Gravity | Plenary Lecture |
| 17:00 | G. Bruce Mainland | Electromagnetic Properties of the Quantum Vacuum Calculated From its Structure | |
| 17:30 | Israel Michael Sigal | Magnetic Vortex Lattices and Riemann Surfaces | Plenary Lecture |
| 18:00 | Stephen Adler | Interactions with Larry and links to my recent work | Plenary Lecture |
| 18:30 | Lane P. Hughston | Energy-Based Models for Collapse of the Wave Function | Plenary Lecture |

Second Day (Tuesday April 26)

General Plan:

| Time | |
|-------|-----------------------------|
| 08:15 | Get Together |
| 08:30 | Morning Session – Part I |
| 10:00 | Coffee Break |
| 10:30 | Morning Session – Part II |
| 12:30 | Lunch Break |
| 14:00 | Afternoon Session – Part I |
| 16:30 | Afternoon Tea |
| 17:00 | Afternoon Session – Part II |
| 19:00 | Farewell Dinner |

Lectures (all lectures are 30 minutes including questions):

| Time | Speaker | Title | |
|-------|---------------------|---|------------------------|
| 08:30 | Nadav Shnerb | Gibbs paradox and the time-identity tradeoff | Plenary Lecture |

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|-------|----------------------------|--|------------------------|
| 09:00 | Netsivi Ben-Amots | Why Matter is Arranged in Particles? Exponential Electric Forces | |
| 09:30 | Aharon Friedman | Interaction of Relativistic Free Electrons with Matter | |
| 10:30 | Victor Berezin | Notes on Weyl Cosmology and Particle Creation | |
| 11:00 | Ed Seidewitz | Probability, Measurement, and the State of the Universe | |
| 11:30 | Eliahu Cohen | Quantum Time - Flow, Symmetries and Nonlocal Phenomena | |
| 12:00 | Aharon Davidson | Mini Super Spacetime | Plenary Lecture |
| 14:00 | Avraham Soffer | General Theory of Scattering for Dispersive equations | Plenary Lecture |
| 14:30 | Tepper Gill | The Historical Clock of Horwitz, Piron, and Fanchi, and the Complete Big Bang | Plenary Lecture |
| 15:00 | Jacob Levitan | Application of Chaos, Chaos obtained by Generic Perturbations | |
| 15:30 | Yossi Bachar | Geometric Phase Induced by Gravity | |
| 16:00 | Tzvi Scarr | The Extended Principle of Inertia and the Unification of Relativistic Dynamics | |
| 17:00 | Marcelo Schiffer | Quantum Probability distribution for Black Hole Area-Eigenstates | |
| 17:30 | Valeriy Dvoeglazov | Weyl and Majorana for "Neutral Particles" | |
| 18:00 | Yaakov Friedman | A Novel Approach to Electrodynamics and Gravitation | |
| 18:30 | Udaykrishna Thattarampilly | Sourced Perturbations in Bounce Cosmology | |

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Please do not hesitate to contact us by e-mail or phone if you have any questions.

Looking forward to seeing you in Israel and celebrating Larry's birthday with us.

Best Regards

The Organizing Committee