

The energy-momentum current for gravity

Read *The Problems of Time and Observables*, [arXiv:gr-qc/9404029v1](https://arxiv.org/abs/gr-qc/9404029v1), by C. G. Torre, from 14 April 1994: "To summarize, we have ruled out the simplest putative resolutions of the problems of time and observables. We cannot use parametrized field theory to solve the problem of time because, strictly speaking, general relativity is not a parametrized field theory. And we have seen that there are essentially no local observables for vacuum spacetimes."

Yet on p. 230 in C. G. Torre's *Introduction to Classical Field Theory*, Version 1.2, August 2019, <http://www.god-does-not-play-dice.net/Torre.pdf>,

he wrote: "there is no useful way to define gravitational energy-momentum *densities* — there is no suitable energy-momentum current for gravity."

May I suggest an important correction: there is *no way* to define gravitational energy-momentum densities — there is no energy-momentum current for gravity *whatsoever*.

NB: If the reader can show any 'energy-momentum current for gravity', my theory of gravitational energy will be refuted: check out p. 4 in *Gravitational Energy* at <http://www.god-does-not-play-dice.net/wegtransformierbar.pdf>

But hold on: how come there are no *local* observables for vacuum spacetimes? How can Nature make the non-local observables **localizable**? To quote [Hermann Bondi](#): "In relativity a non-localizable form of energy is inadmissible, because any form of energy contributes to gravitation and so its location can in principle be found."

Yes, "its location can in principle be found" — once-at-a-time denoted with τ ([C. Rovelli](#)). Check out the "quantization" of spacetime in Fig. 3 on p. 4 in *Gravitational Energy*, in which the **infinitesimal dt** is set to 1 cm. Why? To show the *atemporal*, **not-yet**-squared, **wegtransformierbar Platonic gravity**. Which is why [A. Rendall](#) cannot define the jabberwocky "sufficiently small neighborhood of **p**", and G. T. Horowitz and his colleagues are **dead silent**. Don't expect to hear from them, [ever](#).

Can Penguins Drink Warm Water?
<http://www.god-does-not-play-dice.net/Unruh.pdf>
(2 July 2020, 5 pages, 7 illustrations)

Can Geometry Produce Work? (48 pages)
http://www.god-does-not-play-dice.net/GR_textbook.pdf

Gravitational Energy (13 pages),
<http://www.god-does-not-play-dice.net/wegtransformierbar.pdf>

Über Die Gravitationsfeldrelativitätstheorie (16 pages)
<http://www.god-does-not-play-dice.net/synopsis.pdf>

[D. Chakalov](#)

5 February 2020

Last update: 2 July 2020, 15:42 GMT

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Subject: **Elements of General Relativity**

Date: Thu, 2 Jul 2020 13:59:20 +0100

Message-ID: <CAM7Ekxn0ddN6eo7vkeDe3tu=cuyMZcD1s4CDUMapS0QN+LbROA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: unruh@physics.ubc.ca, piotr.chrusciel@univie.ac.at,
robert.beig@univie.ac.at, bernhard.baumgartner@univie.ac.at,
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joakim.arnlind@liu.se, gerhard.huisken@uni-tuebingen.de,
arnold@umn.edu, jeremie.joudioux@aei.mpg.de

Dear colleagues,

I invite you to read my essay
<http://www.god-does-not-play-dice.net/Unruh.pdf>
(2 July 2020, 5 pages, 7 illustrations)

The issues are strictly mathematical. Detailed info upon request.

Yours sincerely,

Dimi Chakalov
chakalov.net

=====

Subject: **Elements of General Relativity**

Date: Thu, 2 Jul 2020 15:25:54 +0100

Message-ID: <CAM7EkxnY--+_X=9k4j6ceEu5D9siR-E6A+0zCeSUnWTDcck2zA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Robert Powell <robertmaxpowell@gmail.com>, Alejandro Rojas <alejandrotrojas@gmail.com>, Gary <gary@physics.ucsb.edu>, Robert <geroch@uchicago.edu>, John <baez@math.ucr.edu>, Ioannis <yraprtis@central.ntua.gr>, Ntina <ksavvidou@upatras.gr>, Charis <anastop@upatras.gr>, Adam Helfer <helfera@missouri.edu>, Alain Blanchard <alain.blanchard@ast.obs-mip.fr>, Alan Rendall <rendall@uni-mainz.de>, Alessandro Teta <teta@mat.uniroma1.it>, Andreas <andreas.doering@comlab.ox.ac.uk>, Andrzej Mariusz Trautman <amt@fuw.edu.pl>, Anthony Zee <zee@kitp.ucsb.edu>, Bernard J Carr <b.j.carr@qmul.ac.uk>, Brandon Carter <brandon.carter@obspm.fr>, Carla Cederbaum <cederbaum@math.uni-tuebingen.de>, Catherine Meusburger <catherine.meusburger@gmail.com>, Chris Isham <c.isham@imperial.ac.uk>, Clay Mathematics Institute <president@claymath.org>, Daniel Gottesman <dgottesman@perimeterinstitute.ca>, Daniel Kenefick <danielk@uark.edu>, Daniele Oriti <doriti@aei.mpg.de>, David B Malament <dmalamen@uci.edu>, David Garfinkle <garfinkl@oakland.edu>, David J Miller <djm@hep.ucl.ac.uk>, David Robinson <david.c.robinson@kcl.ac.uk>, David Spergel <dns@astro.princeton.edu>, Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>, Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>, Erik Curiel <erik@strangebeautiful.com>, ESA <esa.conference.bureau@esa.int>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Evangelos Melas <emelas@econ.uoa.gr>, Ezra Newman <newman@pitt.edu>, Fabio Favata <fabio.favata@esa.int>, Fermilab Talks <fermilab@fnal.gov>, Frank <wilczek@mit.edu>, Frank Tipler <tipler@math.tulane.edu>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Greg Galloway <galloway@math.miami.edu>, Gregory Brumfiel <brumfiel@math.stanford.edu>, Gustav <g.holzegel@imperial.ac.uk>, Hans Peter Nilles <nilles@th.physik.uni-bonn.de>, Hans Ringström <hansr@kth.se>, Harvey S Reall <H.S.Reall@damtp.cam.ac.uk>, Henk van Elst <hvanelst@karlshochschule.de>, Ignatios Antoniadis <antoniadis@itp.unibe.ch>, Isaac Newton Institute for Mathematical Sciences <info@newton.ac.uk>, James Peebles <pjep@princeton.edu>, Jean-Pierre Bourguignon <jpb@ihes.fr>, Jean-Pierre Derendinger <derendinger@itp.unibe.ch>, Jeremiah P Ostriker <ostriker@princeton.edu>, Joan Sola <sola@ecm.ub.edu>, Jorge Rueda <jorge.rueda@icra.it>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Karel V Kuchar <kuchar@physics.utah.edu>, Kip <kip@tapir.caltech.edu>, Lars Andersson <laan@aei.mpg.de>, Luc Blanchet <blanchet@iap.fr>,

Luca Bombelli <luca@phy.olemiss.edu>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Niall Murchadha <niall@ucc.ie>, Norbert Straumann <norbert.straumann@gmail.com>, Patrick Das Gupta <patrick@srb.org.in>, Paul <p.k.townsend@damtp.cam.ac.uk>, Paul Davies <deephought@asu.edu>, Paul McNamara <paul.mcnamara@esa.int>, Paul Steinhardt <steinh@princeton.edu>, Paul Tod <tod@maths.ox.ac.uk>, Peter Stein <pcs1@cornell.edu>, Remo <ruffini@icra.it>, Richard M Schoen <schoen@math.stanford.edu>, Richard Price <rprice.physics@gmail.com>, Rituparno Goswami <vitasta9@gmail.com>, Robert Kirshner <rkirshner@cfa.harvard.edu>, Robert M Wald <rmwa@midway.uchicago.edu>, Roger Penrose <rouse@maths.ox.ac.uk>, Roland Omnes <roomnes@wanadoo.fr>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Sascha Husa <sascha.husa@gmail.com>, Saul Perlmutter <saul@lbl.gov>, Saul Teukolsky <saul@astro.cornell.edu>, Sergiu Klainerman <seri@math.princeton.edu>, Shuang Nan Zhang <zhangsn@ihep.ac.cn>, Stefan Hollands <stefan.hollands@itp.uni-leipzig.de>, Stefano Vitale <vitale@science.unitn.it>, Thibault Damour <damour@ihes.fr>, Thomas Thiemann <thiemann@theorie3.physik.uni-erlangen.de>, Tomohiro Nakama <tomohiro.nakama@gmail.com>, Valerie Connaughton <valerie@nasa.gov>, Xiao Zhang <xzhang@amss.ac.cn>, Yuan K Ha <yuanha@temple.edu>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, info@templeton.org, info@nourfoundation.com, Gerardus <g.thoof@uu.nl>

Dear colleagues,

I invite you to read my essay
<http://www.god-does-not-play-dice.net/Unruh.pdf>
(2 July 2020, 5 pages, 7 illustrations)

The issues are strictly mathematical. Detailed info upon request.

Yours sincerely,

Dimi Chakalov
chakalov.net

=====

Subject: **Re: Invitation to GRAVITY21**

Date: Wed, 6 May 2020 06:56:42 +0100

Message-ID: <CAM7Ekxn8nA5gJTsxDb_JJLaZxgY7FoPiNCKQCEy12Z=nn77m-Q@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Domenico Giulini <giulini@itp.uni-hannover.de>

Cc: alexander.wanner@quest.uni-hannover.de, manfred.lein@itp.uni-hannover.de, klemens.hammerer@itp.uni-hannover.de, lark1@cassiopaea.org, kairos@quantumfuture.net, erik@strangebeautiful.com, hvanelst@karlshochschule.de, teta@mat.uniroma1.it, s.hartmann@lmu.de, rendall@uni-mainz.de, vrovenski@univ.haifa.ac.il, yuyuetony@gmail.com, kiefer@thp.uni-koeln.de, nicolini@fias.uni-frankfurt.de, kaschube@fias.uni-frankfurt.de, spp2041@fias.uni-frankfurt.de, triesch@fias.uni-frankfurt.de, nester@phy.ncu.edu.tw, yraptis@central.ntua.gr, c.isham@imperial.ac.uk, dmalamen@uci.edu, gfrellis@gmail.com, charles.torre@usu.edu, kuchar@physics.utah.edu, hohanian@uvm.edu, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, piotr.chrusciel@univie.ac.at, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de

Dear Professor Giulini,

Regarding my preceding email (printed below), I wonder if you and your colleagues would like to participate in GRAVITY 21 on 26-27 March 2021 in Munich -- please see p. 14ff in 'Can Geometry Produce Work?' at http://www.god-does-not-play-dice.net/GR_textbook.pdf

Details at pp. 21-23 therein. I will refer to three issues in your

'The Rich Structure of Minkowski Space' ([arXiv:0802.4345v1 \[math-ph\]](https://arxiv.org/abs/0802.4345v1), 29 Feb 2008), namely: (i) "picking one of the two possible time orientations is then equivalent to specifying a single timelike reference vector, v^* , whose equivalence class of directions may be called the future" (p. 7), (ii) "some additional structure X " (p. 28), and (iii) the lattice of propositions in Quantum Mechanics (pp. 34-35), after the Kochen-Specker Theorem.

Yours sincerely,

Dimi Chakalov

On Mon, 4 May 2020 13:35:14 +0100, Dimi Chakalov <dchakalov@gmail.com> wrote:

>
> Dear Colleagues,
>
> Please see my invitation (attached), at p. 23 (last) in
> http://www.god-does-not-play-dice.net/GR_textbook.pdf
>
> Yours sincerely,
>
> Dimi Chakalov
> chakalov.net
>

=====

Subject: **Invitation to GRAVITY21**

Date: Mon, 4 May 2020 13:35:14 +0100

Message-ID: <CAM7EkxkEUoyYNGzkaVUimRRBaAYTnapCO8DVtmV698g34TkzLQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: gfrellis@gmail.com, charles.torre@usu.edu, kuchar@physics.utah.edu, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalaman@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, gary@physics.ucsb.edu, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, jpereira@ift.unesp.br, winicour@pitt.edu, teta@mat.uniroma1.it, galloway@math.miami.edu, depththought@asu.edu, may@math.uchicago.edu, lee@math.washington.edu, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de, michal.p.heller@aei.mpg.de, gerhard.heinzl@aei.mpg.de, Georgi.Dvali@physik.uni-muenchen.de, s.hartmann@lmu.de, rendall@uni-mainz.de, jahed.abedi@aei.mpg.de, christoph.affeldt@aei.mpg.de, steffen.aksteiner@aei.mpg.de, danielk@uark.edu, doriti@aei.mpg.de, ostriker@princeton.edu, sola@ecm.ub.edu, yuanha@temple.edu, zhaoyanwu2000@yahoo.com, cmchen@phy.ncu.edu.tw, nester@phy.ncu.edu.tw, yraptis@central.ntua.gr, ksavidou@upatras.gr, anastop@upatras.gr, vrovenski@univ.haifa.ac.il, yuyuetony@gmail.com, irod@princeton.edu, kiefer@thp.uni-koeln.de

Dear Colleagues,

Please see my invitation (attached), at p. 23 (last) in
http://www.god-does-not-play-dice.net/GR_textbook.pdf

Yours sincerely,

Dimi Chakalov
chakalov.net

Attachment:

<http://www.god-does-not-play-dice.net/GRAVITY21.jpg>

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Subject: **GRAVITY 21, 26-27 March 2021, Munich**

Date: Sat, 18 Apr 2020 15:26:58 +0100

Message-ID: <CAM7EkxnCZPXZVMwwz9KP6c3Dd-TBQGNgtvAFSiOR_j3uDGCm3w@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: gfrellis@gmail.com, charles.torre@usu.edu, kuchar@physics.utah.edu, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalaman@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, gary@physics.ucsb.edu, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, jpereira@ift.unesp.br, winicour@pitt.edu, teta@mat.uniroma1.it, galloway@math.miami.edu, depththought@asu.edu, may@math.uchicago.edu, lee@math.washington.edu, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de, michal.p.heller@aei.mpg.de, gerhard.heinzl@aei.mpg.de, Georgi.Dvali@physik.uni-muenchen.de, s.hartmann@lmu.de, rendall@uni-mainz.de, jahed.abedi@aei.mpg.de, christoph.affeldt@aei.mpg.de, steffen.aksteiner@aei.mpg.de, danielk@uark.edu, doriti@aei.mpg.de, ostriker@princeton.edu, sola@ecm.ub.edu, yuanha@temple.edu, zhaoyanwu2000@yahoo.com, cmchen@phy.ncu.edu.tw, nester@phy.ncu.edu.tw, yraptis@central.ntua.gr, ksavvidou@upatras.gr, anastop@upatras.gr, vrovenski@univ.haifa.ac.il, yuyuetony@gmail.com, irod@princeton.edu

Dear colleagues,

I am organizing two-day conference GRAVITY 21 on 26-27 March 2021 in Munich (EU), and will present my theory of gravity (reference below). Please let me know if you would like to attend and offer your theories and insights.

Looking forward to hearing from you,

Yours sincerely,

Dimi Chakalov
chakalov.net

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D. Chakalov, Can Geometry Produce Work? viXra: 2003.0425, 2020-04-17.

<https://vixra.org/abs/2003.0425>

[vD] 2020-04-17 16:47:12

Unique-IP document downloads: 20 times

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Subject: **Re: Über Die Gravitationsfeldrelativitätstheorie: Gedankenexperiment**

Date: Mon, 16 Mar 2020 05:05:38 +0000

Message-ID: <CAM7Ekxkcy5D7L2htGfvRGtn1kF3=D4P+aFCBHx5rmcC+ymuavw@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: gfrellis@gmail.com, charles.torre@usu.edu, torre@cc.usu.edu, kuchar@physics.utah.edu, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalamen@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, fermilab@fnal.gov, gary@physics.ucsb.edu, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, jpereira@ift.unesp.br, winicour@pitt.edu, teta@mat.uniroma1.it, galloway@math.miami.edu, deepthought@asu.edu, may@math.uchicago.edu, lee@math.washington.edu, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de, michal.p.heller@aei.mpg.de, gerhard.heinzel@aei.mpg.de, Georgi.Dvali@physik.uni-muenchen.de, S.Hartmann@lmu.de, rendall@uni-mainz.de, jahed.abedi@aei.mpg.de, christoph.affeldt@aei.mpg.de, steffen.aksteiner@aei.mpg.de, bruce.allen@aei.mpg.de

P.S. I am cordially inviting you to write a brief paper 'LIGO's New Clothes': see the facts at p. 15 in <http://www.god-does-not-play-dice.net/synopsis.pdf> (14.03.2020, 15 pages)

D.C.

On Fri, 28 Feb 2020 14:09:00 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote: [snip]

=====

Subject: **Re: Alan D. Rendall, arXiv:gr-qc/0505133v1, The geodesic hypothesis, Sec. 9.6**

Date: Mon, 3 Feb 2020 13:23:49 +0000

Message-ID: <CAM7EkxnCNrbUtDd=MnsvkO1SodXMZ9qRnaC+65A=JnKCOEL11w@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Alan <rendall@uni-mainz.de>

Cc: George F R Ellis <gfrellis@gmail.com>, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalamen@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, fermilab@fnal.gov, gary@physics.ucsb.edu, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, kuchar@physics.utah.edu, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, jpereira@ift.unesp.br, winicour@pitt.edu, teta@mat.uniroma1.it, galloway@math.miami.edu, deepthought@asu.edu, may@math.uchicago.edu, lee@math.washington.edu, emelas@econ.uoa.gr, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de, michal.p.heller@aei.mpg.de, gerhard.heinzel@aei.mpg.de, Georgi.Dvali@physik.uni-muenchen.de, S.Hartmann@lmu.de, Charles.Torre@usu.edu, torre@cc.usu.edu

P.S. Before writing your paper (please see my preceding email [below](#)), you may wish to consult

[C. G. Torre](#), Introduction to Classical Field Theory. Version 1.2, August 2019. <http://www.god-does-not-play-dice.net/Torre.pdf>

Check out Sec. 10.2, The Geodesic Hypothesis, pp. 213-215: "This geodesic will be unique if \mathbf{q} is in a **sufficiently small neighborhood** of \mathbf{p} . (...) One can say that gravity is geodesic deviation."

See also pp. 229-230 ("there is no suitable energy-momentum current

for gravity") and Eq. (10.99), and try to define rigorously the poetic statement about "sufficiently small neighborhood of p".

D.C.

On Mon, Feb 3, 2020 at 11:48 AM Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

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Subject: **Re: Alan D. Rendall, arXiv:gr-qc/0505133v1, The geodesic hypothesis, Sec. 9.6**

Date: Mon, 3 Feb 2020 11:48:18 +0000

Message-ID: <CAM7Ekxm9+9kvXyAaxnyArukszqHBk7-8OVr7O_6TLsYsy5GGLA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Alan <rendall@uni-mainz.de>

Cc: George F R Ellis <gfrellis@gmail.com>, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalaman@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, fermilab@fnal.gov, gary@physics.ucsb.edu, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, jpereira@ift.unesp.br, winicour@pitt.edu, teta@mat.uniroma1.it, galloway@math.miami.edu, deepthought@asu.edu, may@math.uchicago.edu, lee@math.washington.edu, emelas@econ.uoa.gr, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de, michal.p.heller@aei.mpg.de, gerhard.heinzl@aei.mpg.de, Georgi.Dvali@physik.uni-muenchen.de, S.Hartmann@lmu.de

Dear Dr. Rendall,

In your arXiv:gr-qc/0505133v1, Sec. [9.6](#), you wrote: "The geodesic hypothesis. In elementary textbooks on general relativity we read that the Einstein equations imply (Sic! - D.C.) that small bodies move on geodesics of the spacetime metric. It is very hard to make this into a mathematically precise statement which refers to actual solutions of the Einstein equations (and not just to some formal approximations)."

Since you did not reply to my email from [31 Dec 2019](#), I would like to offer you the following:

1. You will write a brief paper, refuting my theory of gravitational energy. The latter is, of course, falsifiable: please see p. 4 (last) in

D. Chakalov, Gravitational Energy: The Wegtransformierbar Elephant. viXra:2001.0601v5, 2020-02-02.
<https://vixra.org/abs/2001.0601>

2. You will submit your paper to arXiv.org, sec. gr-qc, and once I see it there, I will pay you 500 EUR (five hundred euros) for every page in your paper.

I trust you can make it under 5 pages (2500 EUR), given your exceptional efforts at clarifying the geodesic hypothesis, mentioned a few years ago at your old website at AEI Potsdam. But if your paper is longer -- no problem, money I have enough.

Looking forward to hearing from you at your earliest convenience,

Yours sincerely,

Dimi Chakalov
chakalov.net

On Tue, 31 Dec 2019 17:13:34 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

=====

Subject: **Alan D. Rendall, arXiv:gr-qc/0505133v1, The geodesic hypothesis, Sec. 9.6**
Date: Tue, 31 Dec 2019 17:13:34 +0000
Message-ID: <CAM7EkxkGp8V+FL+TsLihWxSXhhr9+JW_ajxECjH041yAQKFf8Q@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Alan <rendall@uni-mainz.de>
Cc: ESA Director of Science Günther Hasinger <guenther.hasinger@esa.int>, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalaman@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, fermilab@fnal.gov, gary@physics.ucsb.edu, gfrellis@gmail.com, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, kuchar@physics.utah.edu, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, rezzolla@th.physik.uni-frankfurt.de, jpereira@ift.unesp.br

Alan D. Rendall, [9.6](#): "The geodesic hypothesis. In elementary textbooks on general relativity we read that the Einstein equations imply (Sic! - D.C.) that small bodies move on geodesics of the spacetime metric. It is very hard to make this into a mathematically precise statement which refers to actual solutions of the Einstein equations (and not just to some formal approximations)."

Hello Dr. Rendall,

Your sloppy bewildered colleagues from LIGO "scientific" collaborations wasted over 450 million EUR to "prove" the geodesic hypothesis. Check out the facts at p. 6 (last) in <http://www.god-does-not-play-dice.net/matter-matter.pdf>

Will you still keep quiet? Is it fun to keep quiet?

Dimi Chakalov

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Subject: **Gary T. Horowitz, The positive energy theorem and its extensions (1984)**
Date: Wed, 15 Jan 2020 22:49:01 +0000
Message-ID: <CAM7Ekx=xhL+-S49vKOiA14Aj7XDfJLACsbV672KVQoVUBzPhPA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Gary Horowitz <gary@physics.ucsb.edu>
Cc: guenther.hasinger@esa.int, helmut.friedrich@aei.mpg.de, jahed.abedi@aei.mpg.de, christoph.affeldt@aei.mpg.de, steffen.aksteiner@aei.mpg.de, bruce.allen@aei.mpg.de, ana.alonso.serrano@aei.mpg.de, lars.andersson@aei.mpg.de, andrea.antonelli@aei.mpg.de, riccardo.barbieri@aei.mpg.de, alessandra.buonanno@aei.mpg.de, rendall@uni-mainz.de,

hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalamen@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, fermilab@fnal.gov, gary@physics.ucsb.edu, gfrellis@gmail.com, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, kuchar@physics.utah.edu, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, rezzolla@th.physik.uni-frankfurt.de, jpereira@ift.unesp.br

Gary:

Regarding your essay from 1984,
<http://www.god-does-not-play-dice.net/Horowitz.pdf>

check out
<http://www.god-does-not-play-dice.net/Weinberg.jpg>
http://www.god-does-not-play-dice.net/Helmut_1709.07709v1.jpg
http://www.god-does-not-play-dice.net/Penrose_1982.jpg
<http://www.god-does-not-play-dice.net/Plato.pdf>

How long will you keep quiet?

Is it fun to keep quiet?

D. Chakalov
chakalov.net

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Subject: **Vacuum energy**
Date: Wed, 19 Feb 2020 06:43:27 +0000
Message-ID: <CAM7Ekxm8dXzwi4xtRfiewh9M3COdAb71UAVQj-BVswEydneeDQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Raymond Dalio <inquiries@daliofoundation.org>

Dear Mr. Dalio:

You bet more than a billion dollars [last November](#) that global markets will fall by March this year. I greatly admire your KISS explanation of how the economy works, <https://www.youtube.com/watch?v=PHe0bXAluk0>

... but the future is unpredictable, being open to 'the unknown unknown'. Which is why I suggest you to invest in my proposal to harness the vacuum energy, https://en.wikipedia.org/wiki/Vacuum_energy

I fully understand that you do not accept unsolicited proposals, as "proposals are initiated internally and vetted by the professional staff and experts who provide their recommendations", so may I ask you to pass the link below to your experts:

<http://www.god-does-not-play-dice.net/wegtransformierbar.pdf>
(12 pages, 19.02.2020)

Please notice the drawings at p. 2 and the summary at p. 12.

Thank you for your time and efforts.

With all good wishes,

Dimi Chakalov
chakalov.net
Al. Stamboljiski Blvd 28
BG-1000 Sofia, EU

I sent my email to Ray Dalio on [Wed, 19 Feb 2020](#) — Dow Jones hit **29,348.03** and S&P 500 **3,386.15**. [Fact](#). On Fri, 3 April 2020, Dow dropped to **21,052.53** and S&P 500 **2,488.65**. I was expecting the crash and decided to offer Ray Dalio to invest in my project. Why? Because he is *very* smart: watch [how the economy works](#). He did not reply. So be it.

D. Chakalov
chakalov.net
6 April 2020, 21:10 GMT

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Subject: **The Bridge. Talk at GRAVITY 21, March 26-27, 2021, Munich, EU.**

Date: Sat, 2 May 2020 11:18:35 +0100

Message-ID: <CAM7EkxmKWN+s29a7nwofH52+s--pQAA+K7eS9Fn0jn=YnXV2nQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: gfrellis@gmail.com, charles.torre@usu.edu, kuchar@physics.utah.edu, hohanian@uvm.edu, rouse@maths.ox.ac.uk, helfera@missouri.edu, norbert.straumann@gmail.com, tod@maths.ox.ac.uk, wangs@missouri.edu, b.j.carr@qmul.ac.uk, c.isham@imperial.ac.uk, dmalamen@uci.edu, giulini@itp.uni-hannover.de, erik@strangebeautiful.com, schoen@math.stanford.edu, gary@physics.ucsb.edu, gian-michele.graf@itp.phys.ethz.ch, hansr@kth.se, H.S.Reall@damtp.cam.ac.uk, hvanelst@karlshochschule.de, baez@math.ucr.edu, joergf@maths.otago.ac.nz, laan@aei.mpg.de, niall@ucc.ie, piotr.chrusciel@univie.ac.at, geroch@uchicago.edu, rmwa@midway.uchicago.edu, seri@math.princeton.edu, unruh@physics.ubc.ca, xzhang@amss.ac.cn, goswami@ukzn.ac.za, ruffini@icra.it, jpereira@ift.unesp.br, winicour@pitt.edu, teta@mat.uniroma1.it, galloway@math.miami.edu, depththought@asu.edu, may@math.uchicago.edu, lee@math.washington.edu, hermann.nicolai@aei.mpg.de, helmut.friedrich@aei.mpg.de, michal.p.heller@aei.mpg.de, gerhard.heinzel@aei.mpg.de, Georgi.Dvali@physik.uni-muenchen.de, s.hartmann@lmu.de, rendall@uni-mainz.de, jahed.abedi@aei.mpg.de, christoph.affeldt@aei.mpg.de, steffen.aksteiner@aei.mpg.de, danielk@uark.edu, doriti@aei.mpg.de, ostriker@princeton.edu, sola@ecm.ub.edu, yuanha@temple.edu, zhaoyanwu2000@yahoo.com, cmchen@phy.ncu.edu.tw, nester@phy.ncu.edu.tw, yraptis@central.ntua.gr, ksavidou@upatras.gr, anastop@upatras.gr, vrovenski@univ.haifa.ac.il, yuyuetony@gmail.com, irod@princeton.edu

Read Sec. 1 at pp. 21-22 in

http://www.god-does-not-play-dice.net/GR_textbook.pdf

Abstract. I suggest a hypothetical 'bridge', denoted $P \rightleftharpoons P$, between the atemporal Platonic state (P) of the quantum-gravitational world (modeled as the "brain" of the universe) and the atemporal Platonic state (P) of the human brain. Once created, the 'bridge' might produce specific pattern in the human brain, which (i) may have qualia accessible by human volition and/or (ii) could be enhanced with biofeedback training.

D. Chakalov
chakalov.net

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Subject: **Re: We need a breakthrough - now.**

Date: Sun, 3 May 2020 16:20:08 +0100

Message-ID: <CAM7EkxnTW7bgzXtCHGjBvY3bQcj2UoZEUZ4SWosoYoiSRbnVfg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Institute of Theoretical Physics <zhuangc@itp.ac.cn>, Chinese Academy of Sciences <cas_en@cas.cn>, Adrian <acho@aaas.org>, Abraham Loeb <aloeb@cfa.harvard.edu>, Frédéric Daigne <daigne@iap.fr>, Juan Zorec <zorec@iap.fr>, Juan Zorec <cassan@iap.fr>, Maria Teresa Lago <IAU_GS_2018@iap.fr>, IAU Secretariat <iauinfos@iap.fr>, Hans Peter Nilles <nilles@th.physik.uni-bonn.de>, John Baez <baez@math.ucr.edu>, Michael Strauss <strauss@astro.princeton.edu>, Michael Banks <michael.banks@iop.org>, Paul Davies <deepthought@asu.edu>, Paul Steinhardt <steinh@princeton.edu>, Stefan Hollands <stefan.hollands@itp.uni-leipzig.de>, Valerie Connaughton <valerie@nasa.gov>, William G Unruh <unruh@physics.ubc.ca>, Xiao Zhang <xzhang@amss.ac.cn>, Yanbei Chen <yanbei@caltech.edu>, Yuan K Ha <yuanha@temple.edu>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, Victor Armand Malka <victor.malka@weizmann.ac.il>, Toshiaki Tajima <tajima@uci.edu>, Sandra Chapman <s.c.chapman@warwick.ac.uk>, Pietro Barabaschi <pietro.barabaschi@jt60sa.org>, Duarte Borba <duarte.borba@euro-fusion.org>, Anne White <whitea@psfc.mit.edu>, Richard Pitts <richard.pitts@iter.org>, Robert Bingham <robert.bingham@strath.ac.uk>, Mark Koepke <mark.koepke@mail.wvu.edu>, John Palastro <jpal@lle.rochester.edu>, Gianfranco Federici <gianfranco.federici@euro-fusion.org>, Rudolf Neu <rudolf.neu@tum.de>, Hartmut Zohm <hartmut.zohm@ipp.mpg.de>, Xiaodong Zhang <xdzhang@ipp.ac.cn>, Baonian Wan <bnwan@ipp.ac.cn>, Yuntao Song <songyt@ipp.ac.cn>, Xinchao Wu <xcwu@ipp.ac.cn>, Gunsu Yun <gunsu@postech.ac.kr>, Intergovernmental Panel on Climate Change <ipcc-sec@wmo.int>, Université Paris Saclay <tsu@ipcc-wg1.universite-paris-saclay.fr>, Centre for Environmental Policy <tsu@ipcc-wg3.ac.uk>, UN Climate Change <secretariat@unfccc.int>, International Energy Agency <info@iea.org>, Luis Alfonso de Alba <climateactions summitplans@un.org>, Climate Action Summit Team <andrea.guerrerogarcia@un.org>, US DOE Climate and Environmental Sciences Division <sc.ber@science.doe.gov>, US Environmental Protection Agency <OSAPE_Communications@epa.gov>, Michael Kuperberg <michael.kuperberg@science.doe.gov>, MIT Global Change <globalchange@mit.edu>, Sergey Paltsev <paltsev@mit.edu>, Karen Tapia-Ahumada <katapia@mit.edu>, John Reilly <jreilly@mit.edu>, Ted Nordhaus <ted@thebreakthrough.org>, Myles Allen <myles.allen@ouce.ox.ac.uk>, Kejun Jiang <kjiang@eri.org.cn>, Yale Center Beijing <yalecenterbeijing@yale.edu>, Qimin Chai <chaiqm@outlook.com>, Yang Xiu <yangxiu@ncsc.org.cn>, Timothy Lenton <t.m.lenton@exeter.ac.uk>, info@unep-wcmc.org, mt@euobserver.com, lk@euobserver.com, ar@euobserver.com, contact@euobserver.com, jkl@postech.ac.kr, arakawa@ecs.shimane-u.ac.jp, ian.chapman@ukaea.uk, nick.holloway@ukaea.uk, d.gann@imperial.ac.uk

Dear Colleagues,

Please notice my announcement at p. 23 (last) in

Can Geometry Produce Work?

http://www.god-does-not-play-dice.net/GR_textbook.pdf

(3.05.2020, 23 pages)

Looking forward to hearing from you,

Yours sincerely,

Dimi Chakalov

chakalov.net

On Thu, 12 Dec 2019 12:27:57 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:

[snip]

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Subject: **The climate catastrophe**

Date: Sat, 6 Jun 2020 12:07:56 +0100

Message-ID: <CAM7Ekxk1sn_09qz28QLumR++BWiQ6dhoKSpDB9rXtsF-OzdFMg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: larissa.bieler@swissinfo.ch, hubert.zumwald@swissinfo.ch, balz.rigendinger@swissinfo.ch, bernard.wuthrich@letemps.ch, stutzpeter@mac.com, vansingerchristian@bluewin.ch, info@atomausstieg.ch

https://en.wikipedia.org/wiki/Anti-nuclear_movement_in_Switzerland

https://en.wikipedia.org/wiki/Nuclear_power_phase-out#Switzerland

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Dear Colleagues,

My proposal for producing unlimited electricity with spacetime engineering is posted on p. 44 (last) in 'Can Geometry Produce Work?' at http://www.god-does-not-play-dice.net/GR_textbook.pdf

Please feel free to pass this email to your colleagues. Will be happy to elaborate.

Yours sincerely,

Dimi Chakalov
chakalov.net