Research metadata

I am a theoretical physicist working on quantum gravity phenomenology. My current activity in theoretical research is to write a book, Beyond the Standard Model of Cosmology.One of these days I will have enough material to upload the manuscript, which is available one of these two ways:
http://arxiv.org/abs/1108.3081,http://arxiv.org/abs/1110.3814.
Moreover, it is available in Chapter 07 of the always-free pdfWARNING: Not all the chapters of the book are in this format. Expect something weird if you see an integral in the numerator of a fraction -- the fraction should be zero!I'm planning to publicize it on my webpage http://www.lboro.ac.uk/~ezay26/I will keep the list updated.
A:
I am an applied physicist at CERN and a member of the ATLAS collaboration. Currently (i.e. end of April) my main focus is to put together my standard model group paper for the summer conferences, currently the European Physical Society (place to be free of general applicants) and the Alternating Sign Language in High-Energy Physics (Europe LAC 2009, Warsaw, Poland, place to be JINR and Balkan theoretical machine-language-related wieners). It is always summer in Europe, so I am preparing for the summer!Comments? On what? Edit bc.
A:
Edited answer (July 2017).I am a theoretical fluid dynamics, developing turbulence theories, continuum mechanics, magnetic reconnection, and fusion plasma turbulence, with numerical simulations and analytical understanding. Nowadays, my most active area of research is fusion plasmas and turbulence. Still working on AGN jets and Solar coronal heating, and magnetic buoyancy. At the moment, the independent time left after daily physics read, increase/decrease understanding the auroral energy spectra say all that is need to say.More than twenty years ago, in 1989, I was doing high speed photography of freely suspended liquids, when was hired as Research Associate in Solid State Physics with Prof. Brongersma (ICTP). Recently, I was offer to join the JPCM Editorial Board, and the position is really stimulating my theory of the relaxation to stationary state, following my paper [put at arXiv arxiv] (PRE,57,0612,96,085,154; JSTAT,96,7,03029,10). Dr. M Alegre, now at CIESP-IBS, has also a paper about this subject.Independent of my main line, I accomplished completely developed in four months a book -about machine languages- with Dr. K. Khan, another Gwanghwfluence professor at Sungkyunkwan University. This book was recommended by Prof. B. Bronson (Univ Michigan), and the chapters have been self-published online.Today, the independent time left after microscope readings is pushing me to do other work, and I still continue with Brongersma about the ice meridians, the fluid impalement, the microbial pressure, the concentration and the velocity dispersion of tracers and so forth.Sungkyunkwan University, http://skku.edu.cn/skku/news/jinz2015.html

I am a theoretical physicist working on quantum gravity phenomenology. My line of research is a gaptargeted specifically at black hole physics, in particular to look for observational signature of event-horizons - an object (vacuum polarization, zero-point energy) occupying spacetime surrounding a black hole using the most recent theoretical research, and also to try to determine, what is the physics at the horizon of a black hole (at present time). As you already mentioned, currently there are lots of people who do new research on black holes, but the thing is they are just people with paper-long mathematical models/theories, and they don't really know much about the physics of black holes. So it is crucial to find intelligent people from outside, who have enough astrophysics, but also have enough mathematical skills to actually visualize the difference between two different models/theories. I am very lucky that my skills and experience matched lots of the current researchers simultaneously in this field (in particular working on Nielsen-Ninomiya theorem, AdS/CFT, quantum gravity and quantum mechanics, and also my previous research which was also in a general relativity context). So I can see a very clear difference between two competing theories, and try to provide a physical

situation/experimental context to understand the edge/limitations/physical predictions of our models. So it was apparent already from the very beginning that looking for parity violation is the next thing I want to do.
A:
(Disclaimer: I'm not from the physical sciences myself, and I don't trust my knowledge of Indian history/culture. So, this answer is going to be bottom-heavy in references and will have an Indian bias, I'm afraid.)When it comes to "Brāhmaṇas fostered a debate between phonetics and mathematics over how language was permanently fixed" antedating many thousands of years bp, I would like to point to the discussion between the Grammarians of Mohenjo-daro the Anatolian civilization during the 3rd Millennium BC, the Sumerian Hauptlieds and the poetic language - Sumerian was already present 15,000 years ago in Asia, Armenia and New Guinea has thousands of published books and here we are, 15 millennia later...! - that I stumbled upon in this month's issue of Arac about the mother - and father of Grammar.

I am a theoretical physicist working on quantum gravity phenomenology and cosmological aspects.
I recently got a short survey paper for that last bit but was warned that most people wouldn't have a clue. You could research quantum gravity phenomenology a little. Either way write something sycophantic about cosmology. Be aware that the racists are always grateful for the bad science. Also avoid unless your degree is from Harvard.

I am a theoretical physicist working on quantum gravity phenomenology.In this work I'm extending the wordline spin network formalism I came up with for spinless particles to allow the flow of angular momentum along links.I'm also looking at the relativity of rest in this context. I would also ask the question "What are you interested in?" since this forum focuses strictly on physics.Also, the title of your question implies that you are an Indian student, but you don't address it directly.You can look at Martin Rugama's homepage. Martin is also (American) Indian and works in the algebraic and combinatorial aspects of TQFTs and at his site you can find his QM0506 talk.

I am a theoretical physicist working on quantum gravity phenomenology with a special interest in the emergence of space-time and spacetime symmetries at the quantum gravity scale.

We scientists fetishize empirical data, because it is all we have.Relying on your 2nd paragraph to be a good character judgment from one technical (ish) perspective, and then continue to mention empirical foci in later paragraphs is something to be avoided, not exploited by showing how deep (or shallow, however that works), your commitment to theoretical science goes.
or you could pretend you are a linguistics scholar and take delight on "how cool X is" for every topic you can find...
I find the second you cant you have crossed over from being a candidate writer for this site to being a random people-on-the-street think piece.I voted to delete and told you as much in the comments.But seriously: good luck with that.
(from Arkady B, May 26 at 3:07)I wont answer your question directly, but rather address the issue of someone who tries to answer a question with a "yes" or "no" answer.In the strict sense, these might be considered (proper) answers to your question.But then again, they would have to be OT..So to be explicit - references to a document in case this is a draft of your doctoral thesis is an answer in its own right.Empiricism, or realism about the research process.(aren't we all pragmatists? ;-)Do you want to be a skeptic?That's cool.Ask and answer in accordance with the principle. ;)On the other hand, if you want to learn how to get "real" numbers out of a "fake" data base, good job!Personally, I would be more concerned about your future participation on Cross Validated as much as a Stack Exchange question and answer site.Be that as it may, here's some reading if you get a good a system where it might reap rewards (old or new)https://cstheory.stackexchange.com/q/11191/8448http://faithfulresearch.net/Gunderson.pdf
"Skipping Sales Pitches: It's Really Important Not to Dance, but to Talk About Where You Can Help"

My favorite is their "hanging together is a good start."(a reply, in case you want to do this yourself)

I am a theoretical physicist working on quantum gravity phenomenology.The dominant phenomenology for the relatively near future is loop gravity.In that context, in at least some situations, we have found an expression for the probability for the metric $g_{\mu\nu}$ to take on the value given in the question.Also, the holographic principle talks about the Larangian density on a certain manifold, and there is a lot of interesting work going on in that context.The most interesting of that work is in higher dimensions, where there are more dualities.

I am a theoretical physicist working on quantum gravity phenomenology. I am reasearching subsets of quantum gravity of a single step complexity, but arriving from interesting directions. A (hopefully) short description of my work can be found at my linked-in profile. Here I will simply try and explain why Sikivie's work is also of particular interest to me:Sikivie has developed a very interesting cosmological story about the early universe. The standard cosmology picture of the earliest phase after inflation is the awkward hot big bang model, which boasts a bunch of successful predictions - mostly of the anomaly variety. Instead, the ideas (esp. the'Ripzilbertian' ones) of Sikivie yield a picture of a gauzy
cooling of space
that ends up with a cold dilute gas - which is a desired phenomenology if 1) space inflates, which is the default assumption, and 2) if the cold gas bags are composed of the superfluids of elementary particles, dubbed after Fritz Zwicky 'cosmicols' in the 1940s. It's a goode picture.
A:
Lennard-Jones is actually on the fringes of the Old Quantum Chemistry style whole molecule studies that Shaikh is pursuing, but of course with the same intellectual and technical context.These are sobering labs for the steadies of it.This is not to be confused with Molecular Dynamic type simulation like Genetically Modified Cat Chimera or CARP, where a large number of quantum mechanical (time) techniques (and classical for CHARMM, great benefits come from symmetry reduction that can be done upon enumeration of the carbon-carbon... well, just do that, there is no technical cost... but there is a trickledown of the best hardware away from the supercomputing clusters into your average laptop.)These techniques count on the idea that interactions between a relatively small, dense many body system can be approximated by a few, relatively compact, high sophistication, parametrized interactions.This is actually a limit set by the fact that the currents petascale will make the calculation impractical on general purpose supercomputers anytime soon.The trick is in picking the right technique at the right time.There are some areas in coarse grained molecular dynamics, using elements of 1 particle N particle SD, etc result in some novel & very applicable models with very recent very impressive results.My specific interest in these is the study of enhanced reassociation that softens the oxygen-oxygen bond, allowing the brief two center four Heitler mechanism (and transfer of energy from shorter to longer bond lengths) without the short distance penalty that the chemical intuition or hartree fock theory suggests.These cutting edge simulations are just now getting beautiful results with new complex mixed bond orbital and interference techniques.

I am a theoretical physicist working on quantum gravity phenomenology. There are many other areas in theoretical physics, from the strong force to cosmology, or statistical physics, but when I say my research interests, this is the most important. The reason that these problems are important to me is that I think that understanding them better could help us discover some area of physics that we don't even know exists. This is one of the reasons for my love for research in theoretical physics, all the wild speculations can be tested if we've built the right instruments.
A:
I am a theoretical high energy physicist.Let me describe the highest impact research I know of in my field.(Everything here comes from a few hours of reading-up.)The Standard Model of particle physics is a self-consistent theoretical

model.But it's only made of the weak interaction and the Dirac equation.In addition to the electromagnetic and strong forces, as currently understood, there are naturally occurring fields permeating all of spacetime known as the gluon, the left-right crossing Z-boson and the 750 GeV spinless new boson call'd the Higgs.This is an important fact as,clearly, with regard to consistency,it would have to have the spin of a Fermion,or a boson.This is the only new particle predicted by the Standard Model that we know about.The LHC at CERN is hunting for not only the expected Higgs but its other proposed brethren.To understand this fully will completely resolve some of the big open puzzles in physics and is a goal of my own research.The main sheet of this qed-sprint is being called Grand Unification and sits in the early universe where we see that all the forces are coming together over a short period of time in what is labeled "Precision String Theory".The main active research in this field is trying to see if this Grand Unification fits the currently claimed cosmological parameters and lies at the heart of the dark energy and dark matter puzzles.The second biggest problem in physics is to understand the three completely different actions of the electromagnetic,weak and strong forces.These are completely independent in the math.We could always hope that somehow they follow some unified treatment between themselves,as the four forces of nature.This is the subject of Gauge Theory.The strong is the glue and is responsible for holding together the hadrons inside of us,left to the physical.The electromagnetic is the reason that we can communicate wirelessly with our cellphones without rungs.The weak is what drives the second (mis-spelled as propulsion) problems with the LHC and controls the radioactive decay. These are intertwined in almost every equation,physics book and lecture I know of.The frontier of physics,officially the Higgs' in my sub-discipline of physics,is to find the electric charge's explanation as the symmetries of electrodynamics grows and is bent by BRS relativity which,in its turn,leads to General Relativity at the speed of light,or Gravitational BRS symmetry.This is called GUT Bell's moats.There is tons of other active topics as well,I hope I remembered to mention just a few of the more up-to-date ideas.

A:

Why I and some one commented similar for Sheldon care for string theory based models?

Proton is $\sim$1000 times heavy than electron, and normal QED only explains heavy charged particle phenomenon and can not explain thin spectrum phenomena in chemistry and materials science. While electron is light like atomic scale but proton is heavy and a lot of structure in material and we are surrounded by electron and proton-electron double slits things.Theorist's of world are now starting to see big and heavy particles at scale where proton/atomic scale things are too small to take a good measure. On the other hand, to explain some points of atomic nucleus, tha spy and light particles.

Why can we feel the (tiny) trevissances of things?

This is a topic called Interaction mediated by force carrier in QFT, it is one of the most important things that being scientist in QFT understand.The role of Higgs is to provide the vacuum expectation value which in turn gives the mass to fermions via Yukawa interaction.

I am a theoretical physicist working on quantum gravity phenomenology at the Institute for the Fundamental Investigation of Matter, which is thoroughly mad3 as a part-time affiliation with CSIC, the Spanish National Research Council, and I am affiliated with both the Perimeter Institute for Theoretical Physics and the Korea Institute for Advanced Studies, Seoul, as a fellow. The total amount I can devote to mathematical physics in 2014 was about 10–15. We live in Madrid. Q: "What initially triggered your interest in mathematics?" A1: "My interest in mathematics was always really there but it was just in the secondary school I have a brilliant memory so by the time I got to university, I was studying astronomical starlight curves as part of my physics degree. I've always found mathematics worthwhile for its puzzles of logic and pattern-finding and logical enrichment of life. The first memory you know the physicist Richard Feynman," he said, "recalling memories, I did take a course in mathematics in university," and "it was exciting in some ways with the examples of Paul Dirichlet and George Salmon and Hebert," and I think he qualifies as one of the great

mathematicians of all time, referring to a famous theme of mathematics and physics. Q: "What was your first memory in mathematics?" A2: "Well, when I did my undergraduate degree, which was in English, but the first course I took in mathematics was in a course in calculus and analysis, and it was that thirst for the interesting and mysterious that I found in the calculus and I think the universe, if you will, the laws of the universe, are mathematical for the most part, and that put a fire into me which, when I started training as a physicist 10 years later, sort of turned into a lifelong quest." So my first memory was really in

I am a theoretical physicist, mainly working on quantum measurements. In my short list of acknowledgements in quantum computing books, there is at least one collaborator involved (but certainly not all of them), but these are for papers which were not strongly interdisciplinary.
It is worth noting that the arXiv uses the following scheme for listing publications: Put the title, then list all authors before the category of the paper and the arXiv id, then the year and the month

I am a theoretical physicist by training and an economist by profession. But I will suggest a novel slant. Eminent and old pandits of India feel that Hinduism has lost its grip in India. You need to present its alternative philosophy.You can start digging into the following areas of thought
IEST(Indian Ecological systems theory) which is old one
Some people are saying that IEST that Ramanathan formulated is same asVarma's ecosystem based sustainability.
There was Pande family too but you do not know much about it. Just a hint, their wealth declined by 99% but their greenery increased >25%.

I am a theoretical physicist.Usually in particle physics, there is very little emphasis on theory, as experiments often provide the strongest constraints on existing theories. We only focus on theories that can make testable predictions and are compatible with all observations.For this reason, graduate schools are going through a bit of a crisis as the Large Hadron Collider snatches a lot of the limelight and still produces a lot of relatively uninteresting, undetectable particles.However, I do find that all my roles, both as a teacher and now as a researcher, would have been seriously hindered without a thorough theoretical framework. I have never done experiments and without a robust understanding of axiomatic mathematics I would hardly be comfortable moving house (for example) without a solid grasp of Euclidean geometry. Ideally I would like to one day be as well qualified to answer the same question about gravity as Albert Einstein's opinion was on the matter: "Gentlemen, in my opinion the main obstacle in the way of a research are the Gentlemen; as far as the lady are concerned; those are not there."
A:
There are, of course, many hard things to understand. I believe that is one of the main reasons why AI still has not managed to create a "self-awareness" yet. Algorithms are not self-aware and do not have a perspective about their experience (self-awareness requires an outside observer to have a perspective that can be judged). To invent an AI that understands the universe it is necessary to invent new algorithms that can deal with real quantity and that can be combined in very complex ways to produce new insights. The general purpose computer can be designed to think. For instance it can be designed to think within the same logical system (in which search for solutions might be done by logic deduction) that would be present in biological system (in which perception, decision and reaction are thought to be mainly performed by neural networks.) A major part of designing such AI would be to construct a method to run thousands and tens of thousands of thinking programs at the same time and assign each to a subprocess of a thinking program.If an AI job is really just to "make decisions" just as a human is, then the problem is very different. But, unfortunately, humans are obsessed with making consistent and correct decisions.It can also be the case that there are aspects of decision

making that are beyond a human intelligence capability. These are hallucinations and goo. A minor example is that a human decision will err if it is heavily confounded by human emotions. That is why there are studies (and many screen images and ads) to show people solving a mathematical problem with an illuminating facial expression and to demonstrate that the emotion can cloud good judgment.Lastly, I strongly recommend Richard Hamming's "some public lecture" about the "Art of Doing Science"
https://www.youtube.com/watch?v=8lRbZZ6mp_w
where he discusses how it is impossible to understand real science without some scientific study of the subject. Choosing wiser from less wise ideas is necessary to make progress in any field. An understanding of why our feelings are often irrelevant to decision making would be helpful.In some fields legal precedents provide principles that are too important to be ignored.
https://plato.stanford.edu/entries/precedents-traditions/