



Vinit Singh &lt;vinit Singh911@gmail.com&gt;

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**Supervision for short-term research**

10 messages

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**Vinit Singh** <vinit Singh911@gmail.com>  
To: hanjh@skku.edu

Mon, Feb 26, 2018 at 1:55 AM

Dear Dr. Han,

I am an undergraduate student of Department of Physics, Indian Institute of Technology, Kharagpur, enrolled in its Integrated MSc. course in Physics with a minor in Computer Science.

I have gone through your research works and found it very relevant to my research interest, in fact, they are almost an exact match. I am particularly interested in your works Computational Condensed Matter Physics. Last winter I worked under Prof. Sudhansu Mandal of my department on the stability of Skyrmions in Chiral Magnets with Rashba and Dresselhaus Spin-Orbit Coupling using computational physics approaches. I made use of Parallel Computing in multi-core supercomputers to write an efficient algorithm for optimizing the Continuum Energy Functional. During the project, I developed a strong interest in the field of Computational Physics and became motivated to delve deeper into it.

Currently, I am learning Quantum Computational Physics Algorithms (including Variational Monte Carlo, Diffused Monte Carlo, Stochastic Series Expansion, and Density Matrix Renormalization Group) and applications of Machine Learning Methods and High-Performance Computing in these algorithms to enhance their performance. My research interest is greatly linked to the involvement of computers to study physical systems. I am highly skilled in coding with a proficiency in Python (including Numpy, Scipy, and Simpy), Matlab (Advance Graphical Tools, Symbolic Toolbox, and Optimization Toolbox), Octave, C, C++.

Apart from it, I have a good background in Mathematics with a strong aptitude in Numerical Analysis (including IVP and BVP for ODE and PDE, Vector Calculus, Multidimensional Optimization, Spectral Methods, FFT, and Numerical Linear Algebra) and Statistics and Stochastics that prove beneficial in my research field.

I am deeply interested to work under your guidance this summer for two months in May-June 2018. I believe I will be able to contribute to your research and in the process, learn a lot from your expertise. I am quite a hard worker, and I promise to give my best effort so that useful results may arise from any task you may choose to assign me.

Sincerely,  
**Vinit Kumar Singh**  
Department of Physics,  
IIT Kharagpur

I am attaching my CV, GitHub Handler and Hackerrank Handler for your perusal.

<https://www.dropbox.com/s/zw70dm77yf2wqdv/CV.pdf?dl=0>

<https://github.com/vinitX>

<https://www.hackerrank.com/vinit911>

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**Jung Hoon Han** <hanjemme@gmail.com>  
Reply-To: hanjemme@gmail.com  
To: Vinit Singh <vinit Singh911@gmail.com>

Mon, Feb 26, 2018 at 4:18 AM

Dear Mr. Singh,

Thanks for inquiring into the summer work with me. You seem to have an impressive background in numerical analysis and computer programming. I am glad you are also interested in skyrmion physics as well. I do not have an actively on-going skyrmion project at the moment, mainly due to the lack of student to carry out the computation. If it works out, you and I can try

to work out some interesting problems. Remember, though, that I myself am not a good programmer and although I can probably provide some physical input to you, will not be able to teach programming. (You could teach me!) At the moment I do not have any graduate students, and there are some undergraduates who are thinking about joining my research effort. Anyway, this is all for your information in case you indeed decide to take up a summer research with me. What kind of financial support do you need? Do you need a visa to stay in Korea for two months? Let me know about the logistics of your visit, and I will look into my financial status to see how far I can cover for your trip. One more thing: it is quite tough to survive in Korea in case you are a vegetarian. Very few restaurants provide vegetarian diets.

sincerely yours, JH

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Jung Hoon Han  
Department of Physics  
Sungkyunkwan University  
Suwon, Korea

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**Vinit Singh** <vinitsingh911@gmail.com>

Mon, Feb 26, 2018 at 10:30 PM

To: hanjemme@gmail.com

Dear Dr. Han,

I thank you a ton for showing your interest in this matter. I would love to collaborate with you this summer. I appreciate your trust in my programming skills and I believe to live up to your expectations.

Regarding the financial support, It would be very generous of you if could at least provide local accommodation in or near your university. If required I can manage the cost of my itinerary and personal expenses on my own.

I will be needing a visa for staying in Korea. I have googled the procedure of application for the visa. Though I have gone through the procedure, still I have doubts. If you know someone who has good knowledge about it then please consult him/her.

According to my findings, It requires an invitation letter from you and a Business registration certificate of Korean org. or Employment certificate/ passport.

It says:

The invitation letter should contain the following information

Invitee's details, such as full name and DOB and Passport number

Inviter's details, such as in case of companies, name, phone, number of people and Email ID

In-charge, and in case of individuals, inviter's full name, ID no (Foreigner Registration No), and phone number and Email ID

Inviting-company/individual's registered seal/signature at the end of the letter

The latest copy of Certificate of Business Registration can be downloaded by the Korean Inviter from:

URL: [www.nts.go.kr](http://www.nts.go.kr)

The exact dates for the project can be from 1st May to 15th July.

Please keep updating me with the information regarding the team that you are creating for this particular project.

Regarding food, luckily I am non-vegetarian with an exception that I can't consume beef.

Sincerely,

**Vinit Kumar Singh**  
Department of Physics,  
IIT Kharagpur

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**Jung Hoon Han** <hanjemme@gmail.com>

Tue, Feb 27, 2018 at 3:09 PM

Reply-To: hanjemme@gmail.com

To: Vinit Singh <vinitsingh911@gmail.com>

Good! Let me look into the logistics of the visit and get back to you, probably within a week.

yours, JH

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Jung Hoon Han  
Department of Physics  
Sungkyunkwan University  
Suwon, Korea

**Jung Hoon Han** <hanjemme@gmail.com>  
Reply-To: hanjemme@gmail.com  
To: Vinit Singh <vinitsingh911@gmail.com>

Sat, Mar 3, 2018 at 4:27 AM

Dear Mr. Singh,

I would need your DOB and passport number to process the invitation letter. Thanks.

yours, JH

[Quoted text hidden]

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**Jung Hoon Han**  
Department of Physics  
Sungkyunkwan University  
Suwon, Korea

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**Vinit Singh** <vinitsingh911@gmail.com>  
To: Jung Hoon Han <hanjemme@gmail.com>

Sat, Mar 3, 2018 at 6:56 AM

Dear Dr. Han,

My passport No. - R7571840  
and DOB - 14/11/1999

Sincerely,  
**Vinit Kumar Singh**  
Department of Physics,  
IIT Kharagpur

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**Jung Hoon Han** <hanjemme@gmail.com>  
Reply-To: hanjemme@gmail.com  
To: Vinit Singh <vinitsingh911@gmail.com>

Mon, Mar 5, 2018 at 7:57 AM

Hi, this is the draft of the invitation letter. Can you make sure all the information is correct? Thanks. -JH

[Quoted text hidden]

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**Jung Hoon Han**  
Department of Physics  
Sungkyunkwan University  
Suwon, Korea

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 **Vinit Kumar Singh invitation.docx**  
107K

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**Vinit Singh** <vinitsingh911@gmail.com>  
To: Jung Hoon Han <hanjemme@gmail.com>

Mon, Mar 5, 2018 at 6:28 PM

Dear Dr. Han,

I have gone through the invitation later and all the information is correct.  
I will also be needing your Employment certificate/passport copy to apply for the visa.

Thank you.

Sincerely,  
Vinit.

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**Jung Hoon Han** <hanjemme@gmail.com>  
Reply-To: hanjemme@gmail.com  
To: Vinit Singh <vinitsingh911@gmail.com>

Tue, Mar 6, 2018 at 8:14 AM

Dear Vinit,

Here is the photocopy of the invitation. You probably need the original, which I am sending over by airmail today.

Do you really need my certificate and passport? Not only am I uncomfortable handing over such private information to someone, but never did I have to do that in inviting someone over to Korea. What I am sending over instead is the school registration certificate, under the name of our university president.

yours, JH

[Quoted text hidden]

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Jung Hoon Han  
Department of Physics  
Sungkyunkwan University  
Suwon, Korea

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**2 attachments**



**S28BW-418030515300.pdf**  
492K



**사업자등록증(성균관대)(정규상).pdf**  
494K

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**Vinit Singh** <vinitsingh911@gmail.com>  
To: Jung Hoon Han <hanjemme@gmail.com>

Tue, Mar 6, 2018 at 1:24 PM

Dear Dr. Han,

Thank you for showing the farsight of sending the invitation letter via airmail. I will be needing the original copy of it. Regarding the passport, you don't have to send it. I think the school registration certificate will be work fine.

I am preparing other documents. I will keep updating you about the progress in my visa application process.

Sincerely,  
Vinit.

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