**Petition letter for classification as an alien of extraordinary ability**

Dear immigration officer,

My name is Clement Riedel. I am twenty nine year old and have a French nationality. I am a postdoctoral fellow in nano-bio-physics at the University of California in Berkeley, United States of America (USA). My field of expertise is the use of nano-metric resolution techniques to study dielectric, dynamics and energetic properties of soft and biological material. The following is respectfully submitted in support of my petition for classification as an alien of extraordinary ability under section 203(b)(1)(A) of the Immigration and Nationality Act (First Preference, EB-1A). This petition letter is followed by: an annex “Description of the journals in which I have presented my research or review”; an exhaustive list of all the exhibits supporting my application; the exhibits themselves.

In this petition I will expose evidence, statements and facts that prove that:

A/ I meet 5 regulatory United States Citizenship and Immigration Services (USCIS) criteria establishing that I have extraordinary ability in my field:

1/ I have personally received an internationally recognized award for excellence in my field: The Human Frontier Science Program (HFSP) Fellowship, a 145 000 USD grant awarded on a highly selective process.

2/ I am part of the Biophysical Society and Sigma Xi, associations that require outstanding achievements of their members.

3/ I have judged other scientists work by reviewing articles in renowned and eminent professional journals (Applied Physics Letters, Nanoscale) in my field of specialization.

4/ I have demonstrated an outstanding authorship of 12 original scholarly articles (10 as first author) in prestigious, international, peer-reviewed journals; 2 book chapters; and gave 10 oral presentations in highly selective conferences or illustrious universities. My research has been cited in peer-reviewed journals more than 100 times (and more than 80 without self-citations) according to the Web of Knowledge (Thomson Reuters).

5/ I have made original scientific contributions of major significance, qualified as “outstanding; paradigm shift; fundamental breakthrough that will lead to other incremental discoveries” by distinguished experts in the field.

B/ I have sustained national and international acclaim: All results exhibiting excellence in my research field have been obtained evenly over the last five years until the submission of this application. Above meeting the regulatory USCIS criteria, I will demonstrate that I am currently one of that small percentage who has risen to the very top of my field.

C/ I intend to continue to work in my area of extraordinary ability in the USA. I will keep performing research in nano-bio-physics at UCB, funded by the Howard Hughes Medical Institute (HHMI), a prestigious USA non-profit medical and biological research organization. This fundamental research has wide ranging implications and will substantially benefit the USA.

In order to prove this three points I will provide exhibits such as reference letters that I am going to introduce now. A panel of 7 experts in my field of endeavor have accepted to support this petition (Exhibits 1-7). All of them are internationally acclaimed and respected: they have permanent research positions as group leader in prestigious universities, are president or director of renowned institutes. They are evenly distributed between USA and foreign citizens showing that my work has reached and sustained national and international acclaim. The panel is also evenly composed of members of my inner circle (such as supervisors and colleagues) that can attest of my essential role in the scientific contribution and independent experts that objectively argue that my work is of major significance and has widely spread to the entire scientific community and beyond. All these competent and well recognized experts state that I am today part of the very best in my field.

Before starting the demonstration, I will raise a last important argument. I obtained my diploma of Doctor at the age of 25, about 7 years before the median graduation age of 32 (in USA, in science and engineering fields, as reported by Hoffer and Welch for the National Science Foundation in NSF 06-312, “Time to Degree of U.S. Research Doctorate Recipients”). All my education (License in Physics at the age of 20 and Master in high energy astrophysics at 22) is summarized in my CV: Exhibit 8. Today, at the age of 29, I am still at the beginning of my career (at this age most researchers are in the middle of their PhD with few or no important scientific results). I am eager to have a successful career in my field of expertise that will benefit me and the USA. I want to work in the USA because I think it is the best place in the world to perform research in soft and biological material properties at the nanoscale.

**A/ USCIS regulatory criteria & B/ Sustained international acclaim, top of the field.**

**1/ Received internationally recognized award**

I have personally received an internationally recognized award for excellence in my field: The Human Frontier Science Program (HFSP) Fellowship, a 145 000 USD grant awarded on a highly selective process (see the award’s attestation: Exhibit 9). The fellowship has been awarded to me personally, in 2011, not to my supervisor nor the host university. One of the four main criteria to obtain the fellowship is the candidate previous accomplishment. The HFSP is a notorious organization that supports innovative basic research focused on the complex mechanisms of living organisms. According to their annual report for the fiscal year 2012/2013 (<http://www.hfsp.org/about-us/annual-reports>) the organization “paid 53.079 million USD to its awardees during fiscal year 2012”. As described in Ex. 9, the “program is highly selective supporting only the 10-20% of the applicants”. “An international review panel evaluates applications for HFSP fellowships” (<http://www.hfsp.org/review-procedure>). The HFSP fellowships are “recognized internationally as prestigious award” (Ex. 9).

To summarize I am part of the very best of my field who have obtained a famous, highly selective and financially important international award for the excellent research I have performed.

**2/ Part of associations that require outstanding achievements**

I am part of the Biophysical Society and Sigma Xi, associations that require outstanding achievements of their members.

I am a full member of Sigma Xi, an international honor society for scientific and engineering research (see Ex. 10). According to the information from the Sigma Xi website (http://www.sigmaxi.org/about/overview/index.shtml), “membership in Sigma Xi is by invitation. Those who have shown potential as researchers are invited to join as associate members. Full membership is conferred upon those who have demonstrated noteworthy achievements in research. Each year the Society initiates nearly 5,000 new members. Over the course of the Society's distinguished history, more than 200 members have won the Nobel Prize and many more have earned election to the National Academies of Sciences and Engineering.”

I am also a member of the Biophysical Society. As stated in the attestation (Ex. 11) the “purpose of the Biophysical Society is to encourage the development and dissemination of knowledge in biophysics. […] To become a member of this professional Society requires outstanding achievements in biophysical research evidenced by significant research publications in well-established journals and contributions to Biophysical Society meetings”

**3/ Review the work of other scientist**

I have reviewed in international journals: Nanoscale and Applied Physics Letters (APL), see attestations of review (Exhibits 12 and 13). APL and Nanoscale are prestigious journals. According to the Journal Citation Reports of Thomson Web of Science, they are both in the 1% best journals in the world in terms of number of articles published. APL ranked number 1 in terms of total cites in Applied Physics (according to the same source). More details about the journals are presented in the Annex “Description of the journals in which I have presented my research or review.”

For both journals, reviewing is on invitation only. To be asked to conduct peer review for such prestigious journals is one of the highest marks of respect bestowed upon a researcher in his field. These journals have very high standard to select the most prominent editors and reviewers to ensure the high quality of the publications. As stated by Nghi Q. Lam, Editor in Chief of APL “selection criteria include [reviewers] international reputation, subject area expertise, quality of previous contributions, and maturity to fairly judge the work of colleagues.” (Ex. 13)

To conclude: I am a top expert in my field who have certainly met the criteria of judging other’s works in prestigious international journals.

**4/ Outstanding authorship**

I have demonstrated authorship of 12 original scholarly articles (10 as first author) in prestigious, international, peer-reviewed journals; 2 book chapters and 10 oral presentations in selective conferences or illustrious universities. My original research has been cited more than 100 times (and more than 80 without self-citations, according to ISI Web of Knowledge). My complete authorship is listed and summarized in my CV (Exhibit 8). In this section I will: detail my authorship; describe the excellence of the journals, conferences and universities in which I have presented my work; define the tools and concepts that show that my research is outstanding and has spread in the USA and internationally. This section is divided into: original publication; non original publication (virtual journals and book chapters); oral presentations.

Note: A detailed list of the journals, books (including my personal contribution, a description of the journal and statistics from the Journal Citation Reports of Web of Science) is presented in the Annex “Description of the journals in which I have presented my research or review.”

**a) Original publications in peer reviewed journals**

A scientific original publication is composed of contents (such as text, figure, experimental design, data analysis, concept, theory, simulation, equation…) that have not been previously published or displayed in a journal or in an electronic format.

A peer reviewed journal is a journal in which the scientific publication is evaluated first by the editor and then by a panel of independent experts in the field (having similar or superior competences to the authors). The peer reviewed process is highly selective in all the journals in which I have published or review. This selectivity is related to the high quality and standards of the journals that I am going to demonstrate now.

**- Quality of the journals in which I published my research**

Several indicators can be used to determine the quality of a journal. I will here describe the importance of the impact factor, total number of citations and total number of articles published in a year. These indicators are calculated by different institute. I chose to present the ones computed by Thomson Reuters, that I consider as the most rigorous. They are available online at the **Web of Science in the Journal Citation Reports** (JCR), Science Edition. All data are presented for the JCR year 2012 (most recent year available).

- The impact factor (IF) is calculated by dividing the number of citations in a calendar year to the source items published in that journal during the previous two years. Therefore, in average, it is the number of citation you can expect for one article during the two years following its publication. The impact factor is a good indicator of the potential research spreading in the scientific community. **I have only published in journals having high impact factors** (see Annex for individual description).

- The total number of citations (in the year 2012) of the journal and its ranking in its category are other important numerical parameters. My research has been published in journals ranking at the very best of their field in terms of total citation: **Five of my articles have been published in journals ranking #1 and two in journals ranking #2 (worldwide for the total number of citations, in their categories).**

- The total number of articles published in the journal should also be taken into account. 8 of my articles have been published in journals ranking #3, #4, #19, #85 and #91 over the 8471 total journals referenced by the Web of Science. **These 8 articles have therefore been published in the ~1% best journals in the world in terms of number of articles published (other the 8471 journals referenced in the JCR).**

Note: All the statistics introduced above (IF, number of citations, number of articles) are reported for each individual journal in the Annex “Description of the journals in which I have presented my research or review.”

**- Quality of my research**

In addition to the quality of the journal, three of the main quantitative tools to measure research importance are: number of publications; number of citations with and without self-citation (in original and peer-reviewed journals.) Several institutions (namely Google Scholar, Scopus or Web of Knowledge) present such statistics. I chose to present the one of Web of Knowledge that is the more rigorous and quantify only publications in international peer reviewed journals while Google Scholar for instance take into account thesis, book chapters… A good comparison is that Google Scholar references that I have 22 publications cited for a total of 140 times while Web of Knowledge references 12 publications cited 103 times.

**Statistics from Web of Knowledge:**

Number of publications: 12

Sum of the Times Cited: 103

Sum of Times Cited without self-citations: 80

Citing Articles: 57

Citing Articles without self-citations: 48

The detailed list of the 12 original publications and their individual statistics (from Web of Knowledge) are displayed in Ex. 14. The first page of each article that I have published is presented in Ex. 15. It should be considered that research in nano-bio-physics of soft and biological material is extremely challenging and it is still at its early stage. It’s an emerging and promising area and is a truly interdisciplinary field of science, which combines biology, physics with sophisticated data analysis. It requires a much longer time to collect high-quality data for publication than other research areas. Only very few most talented researchers are able to work in this area. Therefore, 12 publications and a citation record of more than 100 in this field is considered extraordinary (with an even stronger weight considering that I am below 30 years old).

I have to underline that I am the lead (first) author of 10 (out of the 12) articles that I have published. This fact shows that I have been the main contributor of the research and that I have performed most of (or all) the experiments, data analysis and writing of the manuscript.

I have mainly published my research in the USA (American Institute of Physics, American Chemical Society, American Physical Society…) and in Europe (Institute of Physics, Elsevier, Royal Society of Chemistry…), selective geographical zones where most experts in my research area are working.

My work has been cited (in prestigious international peer reviewed journals) by leading groups in my field in: USA (Brown, Hess, Magonov); Spain (Gramse, Sacha, Kumali); Wales (Lilliu); Belgium (Napolitano); Italy (Nguyen); Germany (Gloman); Japan (Ishii, Umeda); Argentina (Miccio); China (Peng, Sun); Greece (Spyropoulos). In parenthesis are the lead authors’ name of the main groups citing my work. All citations about my research are positive. My work has therefore been recognized and spread in USA and internationally. Please refer to the “Selection of citing articles without self-citations” (Exhibit 16) for more details.

The fact that my research has been cited by various independent researchers in their own works, which were published in top journals across the world, has demonstrated widespread interest in, and reliance on my work, and has provided strong evidence that other researchers have been significantly influenced by my research work. These citations show that numerous other researchers have acknowledged my influence and found his contributions to be significant.

**b) Non original publications: virtual journals and book chapters**

I have published two book chapters and three virtual journals articles (see Ex. 8 for the detailed list). Virtual journals and book chapter often (and always in my case) display non original scientific content in the sense that the research has already been published elsewhere. Most of the time (and always in my case), as the research has already been published, there is no peer review process. These publications are often less selective than the original ones.

However, being based on an invitation from the editor, my virtual journals and book chapters publication show that I am “a specialist in [my] field of research” selected upon my “publishing history and the quality of [my] research” (see email of invitation Ex. 17).

Moreover, when the book is published by a renowned publisher such as InTech (for which I have published as first author) the open access (online access at no cost for the reader) and high number of unique visitors (490000 monthly according to their website) maximizes the opportunity for research to spread (inside and outside of the scientific community) and for authors to be recognized. The same criteria of free of charge distribution for subscribers and high number of unique monthly visitors (120000) apply for my article (as first author) published in Microscopy and analysis.

Note: Further description of the journals is given in the annex.

**c) Oral presentations**

I gave oral presentations (invited by prestigious universities or in conferences upon a highly selective process) in: USA (Massachusetts Institute of Technology, UC Berkeley, Northeastern University); Japan (XII International Scanning Probe Microscopy); France (11em Forum des microscopies à sonde locales, De Gennes Discussion); Spain (XI International Scanning Probe Microscopy); Chile (University of Chile).

Being invited to present research in prestigious universities or institute such as the Massachusetts Institute of Technology (MIT), UC Berkeley or Northeastern University is a sign of recognition of accomplishments by some of the best experts in my field. Moreover, it is an important parameter for research spreading and networking. The talk that I gave at the MIT (Ex. 18) was precede by an interview with Prof. Gradecak during which she detailed me the open positions in her group. The talk at Northeastern University was later followed by a 2 months visit in Assistant Prof. Israelof laboratory that has been concluded by a publication in Applied Physics Letters. Finally it is after my talk and visit at UC Berkeley that I reached the personal conclusion that the Bustamante Lab was the best laboratory to perform nano-bio-physics and that I was therefore going to aim for a position (that I later obtained) in this laboratory.

Obtaining an oral presentation in leading conferences such as the International Scanning Probe Microscopy (ISPMC) is restricted to the very best in the field. I personally presented two oral presentations (as first author) and one more talk has been given by a co-worker based on my research in this conference. As stated by Prof. Park (Chairman of the ISPM conference) in Ex. 19: “ISPM is the most important conference in the area of scanning probe microscopy, and traces back to the first conference in 1999.” “The organizing committee of the conferences selects typically top 10% scientific articles for the oral presentations”. Similar criteria of excellence applies for my other oral contributions (as first author) at the “Forum des microscopies à sonde locales” (Local probe microscopy forum) where I was “chosen after a very selective process for [my] outstanding results in the field” (Ex 19) or the De Gennes discussion, Material Research Science…

**Conclusion on the outstanding authorship**

My 12 original publications (10 as first author) in prestigious international peer-reviewed journals cited more than 100 times; the book chapters and virtual journals that I have published (based on editorial invitation); the talks that I gave in illustrious universities and selective conferences can unambiguously be described as an outstanding authorship that only few scientists can meet in my field of endeavor.

**5/ Original scientific contribution of major significance**

I made original scientific contributions of major significance, qualified as “outstanding; paradigm shift; fundamental breakthrough that will lead to other incremental discoveries” by eminent experts in the field. My major original and outstanding contributions are summarized below, classified by project:

**a) Characterizing polymer properties at macroscopic scale using broadband dielectric spectroscopy and rheology**

*\* Rouse-model based description of the dielectric relaxation of non entangled linear cis-1,4 polyisoprene. Macromolecules* ***42****(21): 8492-8499*

*\* High and low molecular weight crossovers in the longest relaxation time dependence of linear cis-1,4 polyisoprene by dielectric relaxations. Rheologica Acta* ***49****(5): 507-512*

I have shown that polymers with a low molecular weight are described by the Rouse theory. I developed a new original experiment where both mechanical and dielectric can be measured on the same sample. Prof. Colmenero (my Phd advisor, who wrote more than 350 articles in the field of endeavor) describes this research in this term “Clement developed impressive experimental skills by mastering Broadband Dielectric Spectroscopy and Rheology, two techniques that permit to measure dielectric and mechanical properties, respectively. He invented a novel experiment where he measured both properties at the same time. He then analyzed the results of this coupled experiments to show that both behaviors could be described using a unique theory (Rouse theory). He then pursued his research by showing that effects of entanglements are observed for long macromolecular chains.” (Ex. 1) He then add “Being part of several networks, I can attest that these results have largely spread to the community and is highly significant. Independent researchers directly reported to me their interest for the research performed by Clement, asking for raw data and details on both experiments and analysis.” A deep understanding of the macroscopic properties (and existing techniques to measure these properties) is an essential and necessary step before developing novel techniques to study these properties at the nanoscale. This research has been published in two prestigious journals: Macromolecules and Rheologica Acta.

**b) Measuring dielectric properties of polymers at the nanoscopic scale using Atomic Force Microsopy**

*\* Determination of the nanoscale dielectric constant by means of a double pass method using electrostatic force microscopy. Journal of Applied Physics* ***106****(2): 024315*

My first achievement related with nanoscale properties has been to quantify the value of the static dielectric permittivity using an Atomic Force Microscope in one spatial point. This research has been published in the Journal of Applied Physics (journal ranking #2 in Applied Physics) that has an impact factor of 2.2 has and been cited 12 times during the two years following its publication (and 21 in total, see Exhibit 14). This fact shows that my research has spread above the regular standard of the journal, reaching an important percent of a very small community of scientists working in this field. This research has been qualified by Prof. Colemenero as “a rare fundamental breakthrough that had and will lead to other incremental discoveries.” (Ex. 1). Prof. Magonov, president NT-MDT Development Inc. (an independent expert that I have never met and who wrote more than 180 articles in peer reviewed journals) state: “This achievement is extremely important for modern material characterization because the dimensions of functional and technological structures are continuously shrinking to the nanometer scale.” (Ex. 2)

*\* Nanodielectric mapping of a model polystyrene-poly(vinyl acetate) blend by electrostatic force microscopy. Physical Review E* ***81****(1): 010801*

I then modify this method to quantitatively map of dielectric properties with a 40 nm spatial resolution using the AFM. This method is therefore suitable for the study of nano-defined domains. Prof. Magonov think that this “characterization capability is invaluable for the advanced compositional analysis of multi-component materials, which are dominant majority of technological applications.” (Ex. 2) These results were published in Physical Review E and has been cited 22 times so far.

\* *Imaging dielectric relaxation of nano-structured polymers by frequency modulation electrostatic force microscopy. Applied Physics Letters* ***96****, 213110*

During my mission in Northeastern University, I developed a method to image the temperature-frequency dependence of the dielectric losses. This phenomenon is related to dipolar relaxation in the material. This represent an important step in the study of nanoscale properties. As a consequence it has strongly impacted scientist working in the field, and data from this paper (published in Applied Physics Letters) has been requested by eminent researchers (see Ex. 20) to serve their research.

*\* Numerical study of the lateral resolution in electrostatic force microscopy for dielectric samples. Nanotechnology* ***22*** *(28), 285705*

I performed a simulation to study the interaction between the AFM tip and dielectric material. Understanding this interaction is of the utmost importance for the characterization of the lateral resolution in AFM. The lateral resolution describes how spread is going to be an image of a punctual point (ideally you would like it to be punctual but due to the size of your probe the image of a point can be a circle of few nanometers). We described how the lateral resolution was affected by experimental parameters such as the tip radius or tip sample distance. This research has been described as a “groundbreaking finding” that provide “new insights into the mechanism of EFM images formation and the potentiality of this emerging nanoscale technique” by Dr. Gomila, an independent expert that I only met once (see Ex. 3). This result had a very strong impact and material entitled “New Nanotechnology Findings from C. Riedel and Co-Authors Described” has been published about this particular research by HighBeam Research (www.highbeam.com) (see Ex. 21). According to their website, HighBeam Research “is a premium information service built for students, instructors, researchers, professionals, and others looking to gain deep knowledge on subjects of interest.” HighBeam Research is a major media publication: They have a very high number of unique visitors: 400000 monthly (around the date of submission of this application, according to www.compete.com).

*\* Contrast inversion in electrostatic force microscopy imaging of trapped charges: Tip-sample distance and dielectric constant dependence. Nanotechnology* ***22*** *(34), 345702*

AFM is a great technique because it permits to actually see what you are studying. Most of the other nanoscale characterization techniques can give you a lot of information, such as the time of a phenomenon, the size of a system but no direct image of what is actually happening. However a lot of artefacts happens in AFM. I have describe how a contrast inversion could occur while imaging trapped charges. Misinterpreted this inversion could lead other researcher to wrong conclusion about fundamental physical phenomenon. This research “was identified by the referee as an article of particular interest so [the editors of Nanotechnology] would like to make sure it is widely read”. (see Ex. 22). Therefore the editors have personally contacted a list of 10 of the most eminent researchers in the field to let them know about my major, original finding.

**c) Characterizing the effect of the heat released during a single chemical reaction on the enzyme catalyzing the reaction using Fluorescence Correlation Spectorcopy**

Enzymes are essential for the great majority of processes occurring in living organism. These macromolecules increase the speed of chemical reaction. During a chemical reaction heat is released. If this heat has been well studied at macroscopic scale, only few studies have been performed at the nanoscale. One of the reason to explain the lack of research is the extreme complexity of the problem. I have shown that the diffusion of the enzyme is proportional to the reaction rate of the chemical reaction. According to Prod. Cornish Bowden (an independent who worked for 45 years in the field of endeavor and wrote more than 200 publications) to perform this currting age research I “had to master several techniques, including protein purification, modification and use of different affinity tags, solubilization assays, protein precipitation, dialysis, size-exclusion chromatography, fluorescence assays, and interpretation of single-molecule data. He has developed an assay at the single-molecule level that permits enhanced diffusion of a protein during catalysis to be measured by fluorescence correlation spectroscopy.” (Ex. 4) In the world of one of my collaborator Steve Presse, “this remarkable accomplishment speaks volumes of Dr. Riedel's scientific flair for important problems and scientific tenacity. Dr. Riedel is first in the world to accomplish this tour de force and his work is sure to attract inter-national attention”. (Ex. 5). According to Prof. Bustamante these “results suggest a crucial rethinking of the current paradigm of enzyme catalysis: with the energy released easily one order of magnitude larger than the free energy stabilizing the protein catalyst, it is not unthinkable that many enzymes may partly unfold after each catalytic event and that their turnover measured in bulk may include a ‘dead time’ while the enzyme regains its active structure”. (Ex. 6) This research is being finalized and will be submitted to the journal *Nature*.

**Conclusion on original scientific contribution of major significance**

I made several original scientific contributions of major significance in my field of endeavor. This work has provoked widespread commentaries, it has been cited –and data has been requested- by other scientists, it has been published in media reaching a very high number of readers; editors judged it f such interest to personally spread it to the scientific community. Independent experts specifically describe my research (in detail) in their reference letters and objectively argue about its importance.

**C/ Continue to work in my field of extraordinary ability in the USA**

I intend to continue to work in my area of extraordinary ability in the USA. I will keep performing research in nano-bio-physics at UCB, funded by the Howard Hughes Medical Institute (HHMI), a prestigious USA non-profit medical and biological research organization (see Ex. 23).

With 72 Nobel Laureates affiliated with the university, UCB is one of the leading research university in the world. According to the National Research Council, 35 of 36 its graduate programs rank in the top 10 in their respective fields. UC Berkeley is the only university in the nation to achieve top 5 rankings for all of its PhD programs in those disciplines covered by the US News and World Report survey.

At UCB, I will work in the Bustamante Lab. As stated by Prof. Cornish Bowden (an independent expert that I only met once; who worked for 45 years in the field of endeavor and wrote more than 200 publications) Prof. Bustamante “is one of the foremost researchers working in the USA at present, and his work in single molecule biophysics, a currently very active field, is very highly regarded throughout the world” (Ex. 4). Moreover Prof. Bustamante is “in a position to restrict his group to students and post-doctoral fellows of the highest ability.” (Ex. 4). Prof. Marqusee, Director of the California Institute for Quantitative Biosciences (QB3) and Education Director of Synberc, (a synthetic biology consortium including Stanford, Harvard, and MIT) think that my “combination of skills and ability in fluorescence correlation spectroscopy, data analysis, enzymology, single molecule chemistry are extremely hard to match.” (Ex. 7). As a consequence of my extraordinary abilities, Prof. Bustamante “decided to fund [me] over all the other excellent applicants because [he] think [I am] one of the best-qualified people to perform research in [my] field.”

According to Prof. Cornish Bowden my research is “of the utmost importance and has a wide range of application, notably in biology and medicine: enzymes have many essential functions, such as signal transduction, active transport and virus integration.” As the other experts of the panel supporting my petition, he does “believe that [my] high-quality research will benefit the USA.”

**Conclusion**

The foregoing discussions proved that I have fulfilled at least five USCIS criteria proving that I have Extraordinary Ability in my field. Overall, my impressive achievements (confirmed by independents experts and numerous attestations) demonstrate that I have achieved sustained national and international acclaim and am one of the small percentage who has risen to the very top of his field of endeavor. I am a person of unique qualifications and extraordinary ability, as well as an outstanding scientific researcher who has greatly benefited the nano-bio-physical research community and the United States in maintaining a competitive edge in this field of research. Today I have an extraordinary experience in view of my international accomplishments in research. I have played a key role in the cutting-edge nano-bio-physics research field; therefore I am the alien that should be kept in U.S.

Based upon these reasons and evidence hereby submitted, I clearly qualifies for classification as an alien of extraordinary ability in sciences under the Immigration and Nationality Act. My work will prospectively benefit the United States to a substantial degree. Therefore, I respectfully request your favorable adjudication of this instant petition.

Thank you very much for your consideration. If you have any further questions in this matter, please feel free to contact me.

**Annex: Description of the journals in which I have presented my research or review**

This annex describes the main journals, conferences and universities in which I have presented my research. This annex is being referred to in section 3 “Review of the work of other scientist” and section 4 “Outstanding authorship”. All statistics are from the Journal Citations Reports, Science Edition, Year 2012, available online at the Web of Science (by Thomson Reuters). The format for the description of a journal is the following:

**Name of the journal** (Abbreviation) Personal contribution, Impact Factor (IF), Total cites of the journal (ranking in their category), Number of articles published by the journal (ranking over the 8471 journals reference by ISI Web of Knowledge), Country of origin. Description.

**a) Original journals and their publishers:**

**Journal of Applied Physics** (JAP) 2 articles, 1 as 1st author, IF: 2.2, Total cites: 136103 (#2 in Applied Physics), Articles: 4356 (#4), USA: “JAP is an influential international journal publishing significant new experimental and theoretical results of applied physics research. Topics covered in JAP are diverse, reflecting the most current applied physics research, and include areas of particular emerging interest.  Content is published online daily and collected into weekly online and printed issues (48 issues per year).”

<http://scitation.aip.org/content/aip/journal/jap>

**Applied Physics Letters** (APL) 2 articles as 1st author & Reviewer, IF: 3.8, Total cites: 212433 (#1 in Applied Physics), Articles: 4976 (#3), USA. APL is an international journals that “features concise, up-to-date reports on significant new findings in applied physics. Emphasizing rapid dissemination of key data and new physical insights, APL offers prompt publication of new experimental and theoretical papers bearing on applications of physics phenomena to all branches of science, engineering, and modern technology. Content is published online daily, collected into weekly online and printed issues (52 issues per year).”

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**Macromolecules** 1 article as 1st author, IF: 5.5, Total cites: 97921 (#1 in Polymer Science), Articles: 1069 (#85), USA: “Macromolecules publishes original research on all fundamental aspects of macromolecular science including synthesis, polymerization mechanisms and kinetics, chemical modification, solution/melt/solid-state characteristics, and surface properties of organic, inorganic, and naturally occurring polymers. The papers showcase innovative concepts, experimental methods/observations, and theoretical approaches. That research is presented in comprehensive reports, brief communications to the editor, and technical notes.”

<http://pubs.acs.org/page/mamobx/about.html>

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**Nanotechnology** 2 articles as 1st author, IF: 3.8, Total cites: 34133 (#8 in Applied Physics), Articles: 1021 (#91), UK: “The journal aims to publish papers at the forefront of nanoscale science and technology and especially those of an interdisciplinary nature. Here, nanotechnology is taken to include the ability to individually address, control, and modify structures, materials and devices with nanometer precision, and the synthesis of such structures into systems of micro- and macroscopic dimensions such as MEMS based devices. It encompasses the understanding of the fundamental physics, chemistry, biology and technology of nanometer-scale objects and how such objects can be used in the areas of computation, sensors, nanostructured materials and nano-biotechnology. To be publishable in this journal, papers must meet the highest scientific quality standards, contain significant and original new science, and should make substantial advances within a particular area of nanoscale science and technology. Towards ensuring high editorial standards, every article submission is preliminarily assessed by the editors of the journal before being sent to independent referees. Articles can be rejected without refereeing after this initial assessment by the editors.” Nanotechnology is published by the Institute of Physics (IOP).

<http://iopscience.iop.org/0957-4484/page/Scope>

**Physical Review E** (PRE) 1 Article as 1st author, IF: 2.3, Total cites: 74169 (#1 Physics, fluids & plasma), Articles: 2451 (#19), USA: “PRE, broad and interdisciplinary in scope, focuses on collective phenomena of many-body systems, with statistical physics and nonlinear dynamics as the central themes of the journal. Physical Review E publishes recent developments in biological and soft matter physics including granular materials, colloids, complex fluids, liquid crystals, and polymers. The journal covers fluid dynamics and plasma physics and includes sections on computational and interdisciplinary physics, for example, complex networks.” PRE is published by the American Physical Society (APS).

<https://journals.aps.org/pre/about>

**Ultramicroscopy** 2 articles, 1 as 1st author, IF: 2.5, Total cites: 6126 (#1 in Microscopy), Netherlands: “Ultramicroscopy is an established journal that provides a forum for the publication of original research papers, invited reviews and rapid communications. The scope of Ultramicroscopy is to describe advances in instrumentation, methods and theory related to all modes of microscopical imaging, diffraction and spectroscopy in the life and physical sciences.” Ultramicroscopy is published by Elsevier.

<http://www.journals.elsevier.com/ultramicroscopy>

**Nanoscale** Reviewer, IF: 6.2, Total cites: 7835 (#19 in Nanoscience and nanotechnology), UK & China: Nanoscale is “a high impact peer reviewed journal publishing experimental and theoretical work across the breadth of nanoscience and nanotechnology. It is a collaborative venture between Royal Society of Chemistry Publishing and a leading nanoscience research center, the National Center for Nanoscience and Technology (NCNST) in Beijing, China. Since its launch in late 2009, Nanoscale has quickly established itself as a platform for high-quality community-spanning research which bridges the various disciplines involved with nanoscience and nanotechnology, publishing important research from leading international research groups.”

<http://www.rsc.org/publishing/journals/nr/About.asp>

**b) Non original publications (virtual journals) and book chapters**

**InTech** 1 book chapter as 1st author: “Intech is a pioneer and world's largest multidisciplinary open access publisher of books covering the fields of Science, Technology and Medicine. Since 2004, InTech has collaborated with more than 86447 authors and published 2366 books and 6 journals with the aim of providing free online access to high-quality research and helping leading academics to make their work visible and accessible to diverse new audiences around the world. Intech reaches 490000 unique readers per month.”

<http://www.intechopen.com/about-intech.html>

**Virtual Journal of Nanoscale Science and Technology** 2 articles as 1st author: “Featured here is an important subscription-based resource for obtaining science articles online. Wide-ranging institutional access as well as free services make this resources useful without an individual subscription. In addition, in January 2000, the American Institute of Physics (AIP) and the American Physical Society (APS) launched a new virtual journal. Representing the first entry in a series of journals the Virtual Journal of Nanoscale Science and Technologywill gather "into one spot all the papers on a given topic that appear in a wide range of premier physics-related journals." The articles have been pre-selected by expert editors, so that specialists may turn to this convenient resource to stay on top of cutting-edge research. Access to articles will require a regular subscription to the specific journals, though non-subscribers do have the option of purchasing individual articles for immediate online delivery. Browsing the tables of contents and abstracts is free.”

<https://scout.wisc.edu/archives/r5979/virtual_journal_of_nanoscale_science_and_technology>

**Microscopy and Analysis** 1 article as 1st author: “Microscopy and Analysis is the leading international journal for microscopists, with over 46,000 subscribers and 120,000 readers worldwide. The journal is distributed free of charge only to users who purchase, specify or approve microscopical, analytical and/or imaging equipment at their place of work, ensuring that your advertisement is only seen by those who have influence over purchasing. Microscopy and Analysis is published six times per year. There are three editions covering: Europe (EMEA), The Americas and the Asia/Pacific region. There are also several supplements published periodically, which include publications devoted to special events, trade shows and specific areas of microscopy. Print issues are also published as e-book.”

<http://www.microscopy-analysis.com/about-us>

**List of exhibits**

Exhibits 1-7 are the reference letters (RL) followed by the Curriculum Vitae (CV) of the experts supporting this petition.

1/ RL1: Juan Colmenero (Spain), Former supervisor, Professor (University of the Basque Country)

2/ RL2: Sergei Magonov (USA), President of NT-MDT Development Co. Tempe, Arizona

3/ RL3: Gabriel Gomila (Spain), Assistant Professor (Univeristy of Cataluña)

4/ RL4: Athel Cornish-Bowden (British), Emeritus Research Director (CNRS France)

5/ RL5: Steve Presse (Canada), Current colleague, Assistant Professor (University of Indiana)

6/ RL6: Carlos Bustamante (USA), Current supervisor, Professor (University of California Berkeley)

7/ RL7: Susan Marqusee (USA), Director of the QB3 Institute, (University of California Berkeley)

8/ Alien CV

9/ Human Frontier Science Program award attestation

10/ Sigma Xi member attestation

11/ Biophysical Society member attestation

12/ Reviewer for Nanoscale attestation

13/ Reviewer for Applied Physics Letter attestation

14/ List of my original peer-reviewed articles and individual citations report from ISI Web of knowledge

15/ First page of my international peer-reviewed articles that I have published

16/ Selection of citing articles without self-citation

17/ Email invitation of Intech to publish a book chapter

18/ Email invitation to give an oral presentation at the MIT

19/ Attestation of my oral presentations in scientific conferences

20/ Email of researcher inquiring about data to use in their own research

21/ Material published about my research on HighBeam Research

22/ Email from Nanotechnology stating that they want to spread my research because of its particular interest

23/ Attestation of funding from HHMI