UMDNJ
SCHOOL OF
OSTEOPATHIC
MEDICINE
University of Medicine & Dentistry of New Jersey

Office of Research and Sponsored Programs

January 2, 2009

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2009 JAN -5 AM 10: 41

RECEIVED
REGION 1

Division of Nuclear Material Safety
United States Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

03021288

Re: License Number: 29-20876-01 – License Amendment Request
Change of Radiation Safety Officer

Dear Sir/Madam:

University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine (UMDNJ-SOM) is requesting the following change to the Item 11 A of the License Number 29-20876-01 effective immediately since Mr. Venkata Lanka is retiring from UMDNJ:

11. A. Licensed Material listed in Item 6 shall be used by, or under the supervision of Dr. Venkata S.V. Prasad Neti, Ph.D., Acting Radiation Safety Officer. His resume is attached for your reference.

(Note: Only first sentence in the Item 11. A. needed to be changed)

Dr. Prasad Neti has worked in the Radiation Research Laboratory on the UMDNJ-Newark Campus for six years. While earning his Ph.D. in nuclear physics, he acquired a great deal of expertise with radioactive materials and particle beams of radiation. Additional experience with particle beams was gained during a two year fellowship in the Netherlands. During the last six years he has worked extensively on the radiobiology of tissue-incorporated radionuclides that emit a variety of different radiations including alpha, beta, gamma, X-rays, conversion electrons and Auger electrons. His studies were carried out in vitro cell culture models and in vivo animal models. Thus, he is completely conversant with the regulations regarding the use and disposal of radioactive materials, film and ring badges, urinalyses, etc. He also has extensive experience operating and calibrating Cs-137 irradiators and is well-familiarized with the security measures that have been implemented for them. He has ably instructed our radiology residents in the physics underlying nuclear medicine imaging.

143173

NMSS/RGN1 MATERIALS-002

Thank you in advance for your expedited review of this amendment. Should you have any questions and/or need additional information, please contact me at 856-566-6066 or yoojh@umdnj.edu.

Sincerely,

Jeong-Sook H. Yoo, Ph.D., Director
Office of Research and Sponsored Programs
UMDNJ-School of Osteopathic Medicine

Enclosure

C: Carl E. Hock, Ph.D., Associate Dean for Research, UMDNJ-SOM
Thomas Cavalieri, DO, FACOI, FACP, AGSF, Dean, UMDNJ-SOM
Venkata S.V. Prasad Neti, Ph.D., Acting Radiation Safety Officer, UMDNJ-SOM
Brendan McCluskey, JD, MPH, Executive Director, EMOHS, UMDNJ

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CURRICULUM VITAE

Name	: **Venkata Satya Vara Prasad NETI**
Date of Birth	: [redacted]
Sex	: Male
Marital status	: [redacted]
Nationality	: [redacted]
Present Address	[redacted]
Office Address	: UMDNJ, New Jersey Medical School MSB F-451, 185 South Orange Ave. NEWARK, NJ – 07103, USA. Tel. No.: 973-972-6961. E-mail address : netipv@umdnj.edu

Educational Qualifications :

Exam Passed	Board / Univ.	Subjects	Year of passing	Class obtained	Marks obtained (%)
Undergraduate (BS.)	Osmania University, Hyderabad	Maths, Physics, Chemistry	1987	**FIRST**	71.3
Graduation (MS)	Andhra University, Visakhapatnam	Nucl. Phys., E.M. Theory, Quantum Mech., Theory of Relativity, SSP, MMP	1990	**FIRST**	63.2
Professional (Ph.D.)	Andhra University, Visakhapatnam	Nuclear Physics	Degree awarded on 5^{th} May, 1997.		

Citation of work :

Please see the (attached) details under the sub–headings

I. RESEARCH WORK EXPERIENCE

II. RESEARCH PUBLICATIONS **(Total : 83)**

A) Peer reviewed International Journals : **37**
B) International Symposia / Conferences / Workshops : **21**
C) National Symposia / Workshops / Meetings : **25**

Detailed list of Journal Impact factors and cited references of my research publications are tabulated and enumerated at the end.

Ph.D. Thesis title : *Study of transfer channel coupling and entrance channel effects for the near and sub-barrier fusion of* $^{46}Ti + ^{64}Ni$*;* $^{50}Ti + ^{60}Ni$ *and* $^{19}F + ^{93}Nb$ *systems.*

Memberships:

1) Society of Nuclear Medicine (3 years) (Member ID # 243996)
2) Radiation Research Society (3 years) (Member ID # 00013831)
3) New York Academy of Sciences (3 year)

Positions and Honors:

2007	13th International Congress of Radiation Research Travel Award, San Francisco, CA, USA.
2005	RRS-SIT Travel Award, RRS-ASTRO Conference, Denver, Colorado
2005	Support lecturer in Physics and Radiation Biology, Radiology Residence teaching program, UMDNJ, Newark, NJ, USA
2005-To date	Research Associate, UMDNJ, New Jersey Medical School, NJ
2002 – 2005	Post-doctoral Fellow, UMDNJ, New Jersey Medical School, NJ
1998 - 2000	Post-Doctoral Fellow, Katholieke Universiteit, K.U. Leuven, Belgium
1997 – 1998	Research Associate, Council of Scientific and Industrial Research, New Delhi, India
1997 - 1997	Provisional Research Associate, Council of Scientific and Industrial Research, New Delhi, India
1994 - 1997	Senior Research Fellow, Council of Scientific and Industrial Research, New Delhi, India
1990 - 1994	Project Asst., University Grants Commission (NSC), New Delhi, India

Professional Trainings received at UMDNJ:

1) Environmental & Occupational Health & Safety Services (EOHSS): 2002, 2005.
2) Radiation Safety Training: 2002, 2003, 2004, 2005, 2006, 2007, 2008
3) Health Insurance Portability and Accountability Act (HIPAA) : 2005-2008
4) Institutional Animal Care and Use Committee (IACUC) : 2002, 2005.

Published work in Books

1. Nuclear structure studies of neutron-rich Cu and Zn isotopes produced by means of proton-induced fission of ^{238}U.

   J.-C. Thomas, H. De Witte, M. Gorska, M. Huyse, K. Kruglov, Y. Kudryavtsev, D. Pauwels, **N. V. S. V. Prasad**, et al.

   3rd International Workshop on Nuclear Fission and Fission-product Spectroscopy, Cadarache, France, 11-14, May 2005, AIP Conference Proceedings – November 7, 2005 – Volume 798, pp 131-136. (ISBN 0-7354-0288-4) doi:10.1063/1.2137238.

2. Beta Decay of Neutron-Deficient Ru and Rh Isotopes.

   Górska M., Dean S., **Prasad N. V. S. V.**, Andreyev A. N., Bruyneel B., Franchoo S., Huyse M., Kruglov K., Raabe R., Van de Vel K., Van Duppen P., and Van Roosbroeck J.

   International Workshop PINGST 2000, Lund – Sweden, 2000 Eds. Rudolf, D. and Hellstrom, M. Bloms i Lund 108-112 *(ISSN: 0348-9329)*

3. Spin and Excitation Energy Dependence of Fission Survival: a New Probe for the Fusion Fission Dynamics.

   S. K Hui, A. K. Ganguly, C. R. Bhuinya, N. Madhavan, J. J. Das, P. Sugathan, S. Muralithar, L. T. Baby, V. Tripathi, A. K. Sinha, A.M. Vinodkumar, D.O. Kataria, **N.V.S.V. Prasad**, P.V. Madhusudhana Rao, Raghuvir Singh.

   International Workshop on "Fusion Dynamics at the Extremes", Dubna, Russia, 25-27 May, 2000, edited by Yu. Ts. Oganessian and V.I. Zagrebaev (world Scientific). *(ISBN 981-02-4617-X)*.

4. Spin and Excitation Energy Dependence of the Dynamics of Fusion–Fission Process in 19F + 175Lu Reaction.

   S.K. Hui, C.R. Bhuniya, A.K. Ganguly, N. Madhavan, J.J. Das, D.O. Kataria, P. Sugathan, S. Muralithar, L.T. Baby, V Tripathi, A.K. Sinha, **N.V.S.V. Prasad**, P.V. Madhusudhana Rao, R. Singh, A.M. Vinodkumar.

   International Conference on Fission and Properties of Neutron-rich Nuclei, Sanibel Island, Florida, U.S.A., November 10–15, 1997. *(ISBN 981-02-35372)*.

5. Study of Transfer Channel Coupling and Entrance Channel Effects for the Near and Sub-Barrier Fusion of $^{46}Ti + ^{64}Ni$; $^{50}Ti + ^{60}Ni$ and $^{19}F + ^{93}Nb$ systems.

   N.V.S. Vara Prasad

   Thesis submitted to Andhra University, Visakhapatnam, India, for the award of the degree of "Doctor of Philosophy (Ph.D.)".

Computer Handling skills:

Operating Systems:

- MicroVax II (VMS 5.1)
- Unix SYSTEM V (IRIX, SGI PS3200)
- Hewlett Packard HP-ux (HP9000)
- Linux
- MS Windows XP

Languages:

- Well acquainted knowledge in BASIC, FORTRAN programming.

Packages:

Fairly acquainted experience in

- Performed detailed data analysis of experimental results using modern data analysis systems involving MicroVax II and HP computers, CAMAC interface and associated electronics and softwares. Also acquired fair knowledge in handling different advanced detectors and sofrwares for $\gamma-$, $\beta-$ as well as particle identification (ΔE and α).
- Microsoft office XP
- Scientific graphical softwares like Microcal Origin, Sigmaplot & Turbo TEX formatter LATEX
- Fluorescence Activated Cell Sorting analysis like WINMDI, FLOWJO
- Digital Imaging softwares.

RESEARCH WORK EXPERIENCE

Current Research Work (2002-To date):

Background and Significance of my research work:

Prediction of radiation risks in diagnostic nuclear medicine and therapeutic outcome in therapeutic nuclear medicine largely relies on calculation of the absorbed dose. Absorbed dose specification is complex due to the wide variety of radiations emitted, heterogeneity in activity distribution, biokinetics, etc. Following the administration of a radiopharmaceutical, the radioactivity is taken up by the various organs within the body and the radioactivity is then eliminated through both biological clearance and physical decay. A general formalism was developed by the Medical Internal Radiation Dose (MIRD) Committee of the Society of Nuclear Medicine to calculate absorbed doses from tissue incorporated radioactivity. Conventional organ absorbed dose estimates assumed that the radioactivity was distributed uniformly throughout the organ and the mean absorbed dose to the organ was calculated. However, there have been dramatic improvements in dosimetry models that reflect the substructure of organs as well as tissue elements within them. However, even these improved approaches assume that all cells within the tissue element receive essentially the same absorbed dose. The tissue element may be comprised of a variety of cells having very different radiosensitivities, and sometimes, depending on the radiopharmaceutical, very different degrees of incorporation of radioactivity. Accordingly, the absorbed dose delivered to the various cells in the tissue element may differ markedly as well as their response. Therefore, it is apparent that a combination of voxel dosimetry and dosimetry at the cellular and multicellular levels will be required to accurately predict biological response to nonuniform distributions of radioactivity.

The extent to which nonuniform distributions of radioactivity within a small tissue element impact the absorbed dose distribution, and ultimately the biological effect, is strongly dependent on the number, type, and energy of the radiations emitted by the radionuclide. Many radionuclides used in nuclear medicine decay by electron capture and/or internal conversion (e.g. ^{67}Ga, ^{99m}Tc, ^{111}In, ^{123}I, ^{201}Tl) and consequently emit a large number of low-energy Auger electrons. The majority of these electrons deposit their energy over subcellular dimensions and therefore produce nonuniform dose distributions. Similarly, the short range of alpha particles in biological tissues (40-100 μm) also leads to nonuniform dose distributions from ^{222}Rn and other alpha particle emitters of potential use in nuclear medicine. Energetic beta emitters such as ^{90}Y have a greater degree of cross-irradiation because their mean range in tissue is at least several hundred μm. However, the nonuniform distribution of these radionuclides invariably leads to nonuniform dose distributions as well. While it is essential to consider the dose distributions that arise from nonuniform distributions of radioactivity, it is also necessary to know whether the dose to a given cell arises from radioactive decays within itself (self-dose) or decays in surrounding cells or other parts of the body (cross-dose). Cellular response to self-dose delivered by a radiopharmaceutical can be considerably different than its response to cross-dose from the same radiopharmaceutical. This is well known for Auger electron emitters where the RBE of the self-dose can be an order of magnitude greater than the cross-dose. We have recently observed this for beta emitters as well where the self-dose from ^{131}I was three times more lethal than the cross-dose.

During my research work here, we have used an experimental model to study the biological effects of nonuniform distributions of radioactivity at the multicellular level. This was accomplished by assembling multicellular clusters containing $4x10^6$ V79 Chinese hamster cells wherein 1%, 10%, 50%, or 100% of the cells are randomly radiolabeled. Thus, from a macroscopic perspective the activity distribution might be considered *uniform*, however, at the multicellular level, the distribution is clearly *nonuniform*. With this model, the variables affecting distribution of radioactivity can be tightly controlled. *Different classes of radionuclides of relevance to nuclear medicine and radiation protection were studied.* We found that the percentage of cells labeled had a profound impact on the biological response for all of the radionuclides we examined. When 100% of the cells were labeled, exponential response curves were obtained over 3 to 4 logs of kill. However, when 10% of the cells were labeled with either ^{131}I or ^{210}Po, survival curves demonstrated a distinct saturation at about 1% and 5% survival, respectively. This occurred despite the high degree of *cross-irradiation* afforded under these conditions by both ^{131}I and ^{210}Po. This is an extremely important finding in that it has significant consequences for therapeutic uses of these and similar radionuclides. We believe that this saturation is related to a combination of variations in uptake of radioactivity by labeled cells and the geometry or shape of the cluster.

The present work is designed to test and build major improvements into our models that will enable us to predict the saturation in response. It is well recognized that there are many variables that dictate the overall biological response of tissues that contain radioactivity. Among the variables are the radiosensitivity of the tissue, distribution of radioactivity at the macroscopic, cellular and subcellular levels, type, number, and relative biological effectiveness (RBE) of radiations emitted (e.g. alpha, beta, Auger electrons), kinetics of uptake and clearance of the radionuclide, dose rate, repair, presence of chemical radioprotectors or sensitizers, and bystander effects. Considerable progress has been made in correlating biological outcome with many of these variables, however, we only have a limited understanding of the correlation of biological effects with nonuniform dose distributions that result from nonuniform distribution of radioactivity at the cellular and subcellular levels. These are the current problems of considerable importance to diagnostic and therapeutic nuclear medicine. At present, we have been working toward correlating biological response of tissues containing incorporated radionuclides with cellular absorbed dose, and we have made considerable progress toward this end. We anticipate that our progress to date will have considerable impact on our capacity to predict the biological effects of nonuniform distributions of radioactivity. Indeed, this kind of research contributions to the field are well crucial to dose specification in nuclear medicine. Our work has also raised intriguing new questions regarding the prediction of response to nonuniform distributions of radioactivity. Building on our success with our original three dimensional (3D) multicellular cluster model which allows tight control over the cellular dosimetry variables, we will continue to use this model to resolve fundamental and significant questions related specifically to dosimetry.

Survival curves for tissues *in vitro and in vivo* containing nonuniform distributions of incorporated radioactivity often saturate with increasing mean absorbed dose. This is a serious problem in nuclear medicine, particularly in therapy where nonuniform distributions of radioactivity have a profound impact on therapeutic efficacy. This is expected when the range of the emitted radiations is less than the distances between labeled cells. However, this phenomenon was observed in our experimental multicellular cluster model when 10% of the cells were randomly labeled throughout the cluster with either ^{131}I or ^{210}Po. Under these conditions, a high degree of cross-irradiation of the neighboring unlabeled cells occurs. We attempted to model this response using multicellular-dosimetry-based methods that we developed and achieved a vast improvement over traditional models based on the mean absorbed dose to the tissue by predicting the response in over 99% of the cells. However, our models did not accurately predict response for ~1% of the cells. We hypothesize that the saturation in dose response to nonuniform distributions of radioactivity is due to two major factors: i) sharp irregularities in the geometry of multicellular clusters, and ii) wide distribution in uptake of radioactivity by the individual cells that constitute a multicellular cluster. These factors strongly influence the cross-dose received by a small fraction of the cells.

To test the above hypothesis, we are in the process of developing a new theoretical multicellular dosimetry model to more accurately reflect the detailed geometry of our current experimental multicellular clusters and our measured distribution of activity per cell. The revised theoretical model will be used to predict the responses observed in our existing experimental data for nonuniform distributions. Either 1%, 10%, 50% or 100% of the cells were labeled with the radiochemical. Finally, we will program the new geometries into the new theoretical model and test its capacity to predict the experimentally observed responses. Also of considerable importance in determining the biological effects of nonuniform distributions of radioactivity is how tightly cells are arranged in tissue. Tissue architecture can have a significant impact on the cross-dose, particularly for radionuclides that emit short-range radiations such as Auger electrons and alpha particles. Therefore, it is essential that our model accommodates different packing densities and that the model is *verified* with experimental data.

Summary of specific airms : The overall hypothesis was that the biological response of tissues containing incorporated radionuclides can be correlated with cellular absorbed dose and variables relating to the bystander effect. To test this hypothesis, the specific aims can be summarized as follows. 1) Experimentally quantify the impact of distribution of radioactivity on cell survival in a multicellular cluster. This was achieved by assembling multicellular clusters with two populations of cells: i) cells containing radioactivity, and ii) cells containing no radioactivity. After a three day irradiation period, the clusters were dismantled and the cell survival fraction was determined as a function of cluster activity (kBq/cluster). This process was repeated for different percentages of radiolabeled cells with radionuclides having different radiation properties i) ^{210}Po: emits 5.3 MeV alpha particles, ii) ^{131}I: emits medium-energy beta particles. 2) Experimentally quantify the impact of subcellular distribution of the radioactivity on cell survival in multicellular clusters. 3) Experimentally determine the kinetics of radioactivity in the cells and calculate the cellular absorbed dose using a theoretical model which represents the multicellular clusters assembled specified as above. Finally, experiments were to be carried out where labeled cells and unlabeled bystander cells were to be separated by fluorescent activated cell sorting (FACS) and separately assayed for survival. 4) Develop the elements of a theoretical model to correlate biological response in the experimental multicellular clusters with cellular self-dose and cross-dose and any variables related to bystander effects. These aims were designed to provide new data on the biological effects of nonuniform distributions of radioactivity using a novel approach to specifically control the nonuniformity at the cellular level. These data, along with the dosimetry and the biological response models, were expected to have a substantial impact on our understanding of radiation effects from incorporated radioactivity. It was therefore anticipated that these data may substantially enhance our capacity to predict biological response of tumor and normal tissue in nuclear medicine and from environmental exposure to radioactivity.

Summary of some of my Published Results in Peer-Reviewed International Journals:

I. Neti and Howell, *J. Nucl. Med.* **44,** 2019-2026 (2003): This work used our 3-D multicellular cluster model to examine the impact of nonuniformities at the multicellular level on the lethal effects of ^{131}I. When 100% of the cells were labeled, the surviving fraction of cells in the cluster was exponentially dependent on the cluster activity down to 0.1% survival. In contrast, when 10% of the cells were labeled, it was observed that the survival fraction begins to saturate at about 1% survival. Absorbed dose estimates reveal that the mean lethal cluster dose is 4.5, 5.7, and 6.4 Gy for 100%, 10%, and 1% labeling, respectively. These data indicate that when the distribution of ^{131}I is uniform at the macroscopic level, but nonuniform at the multicellular level, the mean absorbed dose to a tissue element may not be a suitable quantity for use in predicting biological effect. Rather, cellular and multicellular dosimetry approaches may be necessary to predict the biological effects of incorporated ^{131}I (specific Aims 1, 2, 3).

II. Neti and Howell, *J. Nucl. Med.* **45,** 1050-1058 (2004): This work used a *novel* approach to examine the lethal effects of microscopic nonuniformities of ^{131}I individually on the labeled and unlabeled cells for the first time. Our multicellular cluster model was used, however the V79 cells were dyed with CFDA-SE and labeled with ^{131}I-iododeoxyuridine (^{131}IdU). The dyed labeled cells were then mixed with equal numbers of unlabeled cells and 3-D tissue constructs ($4x10^6$ cells) were formed. This resulted in a uniform distribution of ^{131}I at the macroscopic level but nonuniform distribution at the multicellular level wherein 50% of the cells were labeled. The multicellular clusters were maintained at 10.5°C for 72 h to allow ^{131}I decays to accumulate. The clusters were then dismantled and the labeled (dyed) and unlabeled (undyed) cells were separately seeded for colony formation using a fluorescence activated cell sorter (FACS). The unlabeled cells, which received only a cross-dose, exhibited a D_{37} of 4.0 ± 0.3 Gy. In contrast, the labeled cells received both a self-dose and cross-dose. Isolating the effects of the self-dose resulted in a D_{37} of 1.2 ± 0.3 Gy, which was about 3.3 times more toxic per unit dose than the cross-dose. The reason for these differences appears to be primarily related to the higher relative biological effectiveness of the self-dose delivered by ^{131}IdU compared to the cross-dose. Theoretical modeling of the killing of labeled and unlabeled cells was achieved by considering the cellular self- and cross-doses. Therefore, cellular self- and cross-doses play an important role in determining the biological response of tissue to microscopic nonuniform distributions of ^{131}I. Prediction of the biological response requires that both self- and cross-doses be considered along with their relative lethality per unit dose (specific Aims 4, 5).

III. Neti et al., *Radiat. Res.* **161,** 732-738 (2004): To support ongoing studies within the Division of Radiation Research at the New Jersey Medical School, a new multi-port irradiator, designed to study the effects of low fluences of alpha particles on monolayer cultures was built. This irradiator is essential in elucidating radiation-induced bystander effects (adjudged by the journal as "Technical Advance")

IV. Howell and Neti, *Radiat. Res.* **163,** 216-221 (2005): This manuscript describes a theoretical approach to modeling the cell survival fraction in multicellular clusters containing 1%, 10% and 100% labeled cells that uses a semi-empirical approach that uses the mean lethal self- and cross-doses and the fraction of cells labeled *f*. There is an excellent agreement between the theoretical model and the experimental data when the surviving fraction is greater than 1%. Therefore, when the distribution of ^{131}I in tissue is nonuniform at the microscopic level, and the cellular response to self- and cross-doses differ, multicellular dosimetry can be used successfully to predict biological response whereas the mean absorbed dose fails in this regard.

V. Neti and Howell, *J. Nucl. Med.* **47**, 1049-1058 (2006): This manuscript has been selected as the cover page article by the editors which appeared very recently on June, 2006 issue. This paper provides experimental evidence of log normal cellular uptake of radioactivity. The generally nonuniform distribution of radiopharmaceuticals in tissues has implications for dosimetry and, ultimately, for the biologic response of tissues containing radioactivity. The autoradiographs of cell population exposed to ^{210}Po-citrate show a wide variation in cellular uptake of tracer. Theoretical calculations have indicated that a log normal distribution of radioactivity, as was found within this cell population, can have a substantial impact on modeling the biological response of cell populations.

Summary of Unpublished findings *(to be published):*

A) *Distribution of Radioactivity per Cell:* ^{131}IdU and bromodeoxyuridine (BrdU) are both thymidine analogs. Therefore, their cellular uptake during DNA synthesis is similar. Hence, allowing cells to incorporate BrdU for the same labeling times used in our protocols and then measuring the distribution of BrdU in the cell population is equivalent to measuring the distribution of ^{131}IdU, ^{125}IdU, or ^{3}HTdR. Accordingly, immunofluorescent staining of incorporated BrdU with specific anti-BrdU fluorescent antibodies, followed by flow cytometric analysis, provides a high-resolution technique to determine the distribution of BrdU in our cell population. We used the BD Pharmingen™ BrdU Flow kit (51-2354Ak (559619)). Briefly, V79 cells (4 X 10^6 cells/ml) were exposed to BrdU (10 μM) under the same conditions and for the same duration (14 h) as our radiochemicals and processed as per kit instructions. Two-color flow cytometry was performed (BD FACSCalibur™). It is apparent from our findings that the distribution of BrdU uptake is very broad. This distribution reflects the distribution of ^{131}IdU, ^{125}IdU, and ^{3}HTdR in the cells and therefore likely plays a key role in the saturation that was observed. Accordingly, this distribution will be integrated into our modeling of the biological response.

B) Collaborative study by Francis W Kemp, Prasad V.S.V. Neti, Roger W Howell, Peter Wenger, Donald B Louria, and John D Bogden (Submitted to Environmental Health Protection). The objectives of the current study were 1) To verify the summertime increase in blood lead in children at current levels of environmental lead exposure, 2) to estimate the prevalence of vitamin D deficiency during the winter and summer in African-American and Hispanic children enrolled in a Women, Infants, and Children (WIC) program, and 3) determine relationships between blood lead and serum 25-OH-D concentrations and the influence of season, age and race on these relationships. It was shown in a population that the higher summertime serum 25-OH-D concentrations for the 4-8 year old children are likely due to increased sunlight-induced vitamin D synthesis and may contribute to the seasonal increase in blood lead. Age and race are key factors that affect blood lead and vitamin D nutrition, as well as their interactions, in young urban children.

Post-Doctoral Fellowship (1998-2000): Joined as a post-doctoral fellow at the Dept. Natuurkunde, Katholieke University of Leuven, Belgium. During this period, applied for a project to study exotic nuclei at the cyclotron facility of Louvain-la-neuve utilising the combination of mass separator and the laser ion source facility and was sanctioned approval by the referees. A brief description of the project and our first results are discussed below briefly.

Many years of continuous study have been devoted to the structure of nuclei in the region of neutron deficient isotopes below ^{100}Sn. The main goal of these studies is to collect information and create systematics of states thus leading to more precise conclusions on the single particle structure and residual interaction in those very neutron deficient N = Z nuclei. Due to the closed core at N = Z = 50, large-scale shell model calculations are feasible, thus allowing for a detailed comparison between experimental data and theoretical predictions. The β-decay patterns of these neutron-deficient isotopes – allowed Gamow-Teller (GT) transitions from the $\pi g_{9/2}$ orbit to the $\nu g_{9/2}$ orbit – have proven to be a rich source of nuclear-structure data. The same number of neutrons and protons in nuclei in this region causes an enhancement of the proton-neutron interaction in this isospin symmetric nuclear matter. The vicinity of the proton drip-line may lead to unexpected features which cannot be observed close to the line of beta stability. Moreover, nuclear-structure properties of proton-rich isotopes in this area, in particular nuclear masses and β-decay half-lives, are important input parameters for the astrophysical rp-process. Due to their chemical properties, the mass separation of isotopes of refractory elements like Ru and Rh, poses a significant difficulty to separate reaction products using conventional ion sources. In-flight recoil separation enables the identification and first characterisation of neutron-deficient nuclei in this region. This problem can be solved by selecting isotopes of interest from the overwhelming number of long lived isobaric contaminants by means of a gas cell for stopping reaction products, followed by selective laser ionisation; a method developed at LISOL.

The very neutron-deficient isotopes $^{90\text{-}91}$Ru and $^{91\text{-}93}$Rh were produced in a ^{58}Ni(^{36,40}Ar, xnypzα) fusion-evaporation reaction at an incident energies of 235 MeV and 255 Mev, respectively at a Louvain-la-Neuve cyclotron facility. A target of 2.4 mg/cm^2 ^{58}Ni was used and arranged within the gas cell of the laser-ion source. Before entering the ion source, the beam passes through a set of degraders to adjust its energy for each reaction. The charged isotopes are extracted from the gas cell and guided to the entrance of the LISOL mass separator with a sextupole ion guide. The reaction products recoil out of the target into the cell which contains purified Ar gas at a pressure of 500 mbar. The recoils become neutralized in the gas and are transported by the gas flow to the exit hole of the cell. Near the exit hole, the isotopes are selectively ionized with two dye lasers set at a pulse-repetition rate of 200 Hz and tuned to resonant excitations of Rh or Ru isotopes. Reaction products were mass separated using a laser-ionization isotope-separation on-line method. The products are then mass separated and transported to the detection point. The setup at the detection point consisted of two high-purity Germanium detectors, an X-ray detector, and three ΔE plastic detectors arranged in a compact configuration. In order to measure the half-life of particular isotope, the cyclotron and mass separator were set in a "macrocycle" which was adjusted for each isotope separately, such that the beam-on period was roughly double and beam-off period three times longer, than the expected half-life. Signals from long-lived daughter products as well as other background contaminants at the detection point were suppressed by periodically moving the implantation tape.

The beta-decay properties of the light Ru and Rh isotopes were studied by detecting beta-delayed gamma-rays. The fusion-evaporation reaction allowed measurement of high-spin isomeric beta-decay, as in the case of ^{92}Rh, as well as ground-state decay, including rare ground-state decays of ^{91,93}Rh to excited states in the daughter nucleus. The half-lives of ^{92}Rh 5.6(3) s and of ^{93}Rh 14(1) s, differ significantly from the values in literature. The improved statistics and definite identification of ^{90}Ru allows building of a decay scheme more complete than previously achievable. The results are also compared with with shell model predictions.

A detailed comparison between the on- and off-resonance spectra together with the time behaviour of the γ–ray intensity revealed four new γ–ray transitions (438, 821, 889 and 974 keV), these were attributed to the decay of ^{91}Rh. The 974 keV transition is known from in-beam studies and represents a ground state transition from a $I^{\pi} = 13/2^{+}$ state. Similarly in the case of ^{93}Rh, four γ–rays were found at 1359, 1393, 1629 and 1974 keV energy; also as parallel branches. For both nuclei the spectra are expected to represent members of the multiplet of states that results from the coupling of $g_{9/2}$ neutron to an $I^{\pi} = 2^{+}$ state in the corresponding lighter even-even isotope. The decay study of ^{92}Rh showed a population of the $I^{\pi} = 8^{+}$ isomeric state known in ^{92}Ru, which indicated the spin of the ground state of the mother $I > 6$ to be higher than that assumed so far. A number of cross over transitions were also found. The decay of ^{90}Ru has been studied before and 37 γ–ray transitions were associated with this decay. From our data only the γ–ray at 154 keV was confirmed and firmly assigned to ^{90}Ru. The decay half-lives were deduced for all investigated nuclei. The analysis included growing-in and decay componenta, as well as potential daughter components when ground state feeding was taken into account (^{93}Rh). Theory reproduces the data satisfactorily, however, for light Ru isotopes a trend of over-estimating the half-life could be seen. First results from a decay study of neutron deficient Ru and Rh isotopes using the LISOL laser ion source were reported. The fact that the ion source can ionise selectively isotopes from refractory elements and that the cross section of fusion-evaporation reaction are high compared to fragmentation reactions, allowed us to study β-decay in detail without any ambiguity.

Ph.D. (1990-1997): Joined for Ph.D. program at Andhra University from October 1st, 1990. Ever since, actively participated in the Heavy Ion Reaction Analyzer (HIRA) research and developmental activities at the Nuclear Science Centre, New Delhi. Various research activities are briefly enumerated as follows.

A) Instrumentation

Has been involved from the very beginning alongwith the scientists in setting up the HIRA at NSC, New Delhi. The HIRA consists of a sliding seal vaccum chamber, solid angle defining aperture (SADA), electric quadrupoles at the entrance (Q_1,Q_2), Electric Dipoles (ED_1, ED_2), Multipole (M), Magnetic Dipole (MD), electric quadrupoles at the exit (Q_3,Q_4) and finally at the end focal plane detector system. Has actively participated in installing the associated vaccum pumps like Cryo pumps, Turbo pumps etc, vaccum gauges, gate valves at different sections and the alignment of the HIRA. Also involved actively in the conditioning of high voltage power supplies for electric dipoles. Was involved in testing of the high voltage electrostatic dipole supplies, high current magnet power supplies, valve controllers, vaccum gauges etc. Was also involved in testing, optimising and upgrading the electronics for the HIRA. Has participated in the design, planning, fabrication and testing of the focal plane detector system such as the Multi Wire Proportional Counter (MWPC) and the deep ionization detector. Participated actively in the preliminary operational test experiments and group experiments of the HIRA.

B) Computational experience

Well versed in running programs on systems like MicroVax – II (VMS 5.1 operating system), Tata ELXSI (IRIX based SGI PS3200), Hewlett Packard (HP–ux 9000) and LINUX. Has gained good experience in data acquisition based on CAMAC (Computer Automated Measurement And Control), data analysis and CAMAC based HIRA control program to control the equipments used for HIRA. Several elaborate calculations were done on different machines employing the computer codes such as coupled channels calculations using the code CCFUS and Monte Carlo calculations using the codes such as CASCADE, PACE etc.

C) Synopsis of the thesis

Fusion of two colliding nuclei is a complex nuclear rearrangement process involving evolution of a large number of degrees of freedom. The basic motivation revolves around the question of understanding the mechanism underlying the observed enhancement of sub–barrier fusion cross sections by several orders of magnitude compared to the predictions of the one dimensional barrier penetration model (1D BPM). Investigations of the one dimensional evolution of the fusion process in the barrier region indicate a rich interplay of nuclear structure and the reaction dynamics resulting in a revival of detailed experimental and theoretical studies of various aspects of the heavy ion reaction mechanism near the Coulomb barrier. Several recipes and models have been proposed incorporating the multi-dimensional effects, though a comprehensive theory has yet to emerge.

The theoretical approaches, attempted so far, consider the use of energy and spin dependent potential to account for energy dependent path of evolution in fusion process, inclusion of effects of the zero point motion, the static deformation, the neck formation and the coupling of important reaction channels to the entrance channel. The low lying surface excitations (2^+,3^-) have been identified as important channels which contribute significantly towards the observed sub-barrier enhancement. Similarly, few nucleons transfer channel forms a significant part of the sub-barrier reaction cross section. However, a complete theory in explaining the enhancements below the Coulomb barrier is yet to emerge. Majority of the reported calculations employ the simplified coupled channels calculations. An exhaustive test of the underlying channel coupling effects demands a measurement of other fusion observables like moments of the spin distribution. However, as fusion excitation functions alone are available in majority of the systems studied so far, only a limited test of the theoretical ideas has been possible. Hence, the heavy ion fusion in the energy region around the Coulomb barrier continues to be a topic of interest.

The experiments were performed using ^{46,50}Ti and ^{19}F beams from 16MV pelletron accelerator facility at the NSC. The fusion cross section measurements were carried out by directly detecting the evaporation residues (ERs) in the forward direction using the HIRA. The ERs, formed following the de-excitation of the compound nucleus (CN), were filtered from the primary beam, mass dispersed according to their M/q values and space focussed with zero energy dispersion at the focal plane by HIRA. The ERs were detected by a two dimensional position sensitive multi-wire proportional counter (MWPC) followed by a split anode ionization chamber.

The fusion excitation functions for the ^{46}Ti +^{64}Ni, ^{50}Ti + ^{60}Ni systems have been measured from ~ 10% below to 15% above the nominal Coulomb barrier. Mean spins have been deduced for the three systems from the fusion cross sections by two different methods, one using the statistical model and the second by a fit to the fusion cross sections. Good agreement is found between the values of spins obtained by these two independent methods. It is seen that the simplified coupled channels calculations, with couplings to the lowest surface inelastic excitations alone, do not explain both the observed fusion cross sections and mean spins in the low energy domain for all the three systems. Barrier parameters were extracted from the linear least squares fit of the above barrier data and have been compared with the systematics for the three systems.

A systematic comparision is made between the systems ^{46}Ti +^{64}Ni and ^{50}Ti + ^{60}Ni which possess nearly same mass asymmetry and lead to the same CN ^{110}Sn, but have quite different ground state transfer Q-values (Q_{gg}) for the two neutron pickup (+2n) channel. The ^{46}Ti + ^{64}Ni system shows a significant enhancement of the sub-barrier fusion cross section and mean spin compared to the ^{50}Ti + ^{60}Ni system, indicating the importance of the transfer channel.

Fusion excitation functions and mean spin have been studied for the near and sub-barrier fusion of the highly mass asymmetric system $^{19}F + ^{93}Nb$ and compared with those for the $^{48}Ti + ^{64}Ni$ system leading to same CN via nearly symmetric entrance channel. Since the $^{19}F + ^{93}Nb$ system has a large positive Q_{gg} for one proton pickup, the fusion data have been complemented by one nucleon transfer measurements at energies around the Coulomb barrier. Coupled channels calculations employing the transfer form factor derived from the experiment for the one nucleon pickup channel, showed better agreement with the experimental fusion cross sections at sub-barrier energies. A systematic study of different entrance channels forming the same compound nucleus indicate no significant effects that may be related to entrance channel mass asymmetry in the simultaneous analysis of the fusion excitation functions and mean spin in the sub-barrier energy region. The above experiments were done in collaboration with Andhra Univ., Calicut Univ. and Nuclear Science Centre. The results obtained from the above studies essentially form the subject matter of the Ph.D. thesis. The interesting results of these studies were published in number of international journals and various conferences.

D) Other research experiments

Has actively participated in the following collaborative experiments:

1. A programme to measure fusion and transfer for $^{48}Ti + ^{58,60,64}Ni$ systems has undertaken with the objective of studying the isotopic dependence of the fusion cross sections for the Ni isotopes in the barrier region by Calicut Univ., Andhra Univ. and NSC. There have been several studies of the isotopic dependence of the fusion observables (mainly the cross sections) in the barrier region. Strong isotopic dependence is seen in few cases, whereas in other cases, the dependence turns out to be rather mild. Systematic analysis of our experimental data fail to show any marked isotopic dependence in the sub–barrier energy region in comparision with the Ni isotopes using a large number of projectiles.

2. Microsecond isomers in the mass region $A = 90–95$ with $N \sim$ and $40 < Z < 50$ have been studied following the mass analysis of ^{31}P (115 MeV) + ^{66}Zn and $^{32}S + ^{66}Zn$ reaction products using HIRA. The HIRA is being used in conjunction with few HPGe detectors at its focal plane to measure the life-times of μ Sec isomers. The recoils were transported to a catcher foil placed behind the focal plane detector (MWPC) and delayed recoil γ–ray coincidences were performed to assign the masses for various isomers. Lifetime measurements were done in a low background condition and new lifetime values obtained for some of the isomers *(^{90}Mo, ^{93}Ru and ^{93}Tc)*. The results for the ^{93}Tc isomer are compared with the earlier work. These experiments were done in collaboration with NSC, Andhra Univ., Bombay Univ. and Argonne National Labs (C.N. Davids), USA.

3. $^{32,34}S + ^{109}Ag$ and $^{48}Ti + ^{93}Nb$ fusion reactions around the Coulomb barrier leading to the CN $^{141,143}Eu$ have been studied using the HIRA and 28 element BGO gamma multiplicity array. Direct detection of ERs by HIRA gave a clean and efficient

fusion tag signal for gamma multiplicity measurements along with information on the cross sections. Calibration source runs with ^{60}Co and ^{137}Cs were conducted to extract the efficiency and the cross-talk of the BGO arrays after making background correction. Extracted values of efficiency and cross-talk contribution were cross-checked by measuring the gamma multiplicity distribution of the fission fragments from ^{252}Cf source.

4. Measurement of one and two nucleons transfer have been carried out for the ^{32}S + $^{60,64}Ni$ systems in the energy range of 60 MeV to 92 MeV in collaboration with Calicut Univ., Andhra Univ. and NSC. HIRA was used in a special configuration involving kinematic coincidence mode which helped to overcome the problems associated with M/q ambiguity. The recoiling target like nuclei at 10^0 have been detected in coincidence with the corresponding low energy back scattered projectile particles. Impurity concentration of neighbouring isotopes were estimated using very low beam energies. The transfer probabilities and form factors will be extracted.

5. Excitation functions for one- and two-nucleon transfer involving both pickup and stripping have been measured for $^{28}Si + ^{93}Nb$ and $^{32}S + ^{93}Nb$ at energies around the Coulomb barrier. Angular distributions have also been measured for the same systems at some selected energies. The $^{28}Si + ^{93}Nb$ system has a +ve Q_{gg} value for 2n pickup channel. The transfer measurements of $^{28}Si + ^{93}Nb$ system has been complemented by the fusion excitation functions in the energy of 88 – 120 MeV. The transfer cross sections have been extracted. Similarly, the transfer cross sections for $^{28}Si + ^{58,64}Ni$ systems below the Coulomb barrier are also measured. These experiments were done in collaboration with Bangalore Univ., Andhra Univ., Calicut Univ. and NSC.

6. The fusion of $^{28}S + ^{48}Ti$ at sub-barrier energies was carried out with pulsed ^{32}S beam provided by the NSC 16 MV pelletron at beam energies between 74 and 88 MeV. The transfer excitation functions was also measured in the energy range of 63 to 80 MeV. The fusion angular distributions were also measured at E_{lab} = 78,80,85 and 90 MeV. The analysis of the data is in progress. This expt. was done in collaboration with NEHU, NSC, AMU, AU, CU and BHU.

7. Has participated in the Punjab Univ./NSC experiments of ^{28}Si (140 MeV) + ^{51}V reaction utilizing the HIRA to investigate the extent of deformation of the CN. The charged particle spectra were taken in coincidence with ER at the focal plane of HIRA and found that the experimental spectra differ from the theoretical predictions using the statistical models.

8. Participated in various experiments involving combination of Heavy Ion Reaction Analyzer (HIRA) and Gamma Detector Array (GDA) and 14-element multiplicity elements in collaboration with Nuclear Science Centre, Bombay University and Banarus Hindu University.
9. Has actively participated in the experiments at the Variable Energy Cyclotron Centre, Calcutta which were aimed to measure K–electron capture probabilities. Results from these experiments have been published in various journals.
10. Has been involved in the 16 MV Pelletron operation as a Group–II operator at Nuclear Science Centre, New Delhi since 1994.

Schools, Conferences or Symposia attended :

1. International Conference on Radiation Biology & Translational Research in Radiation Oncology, November 9th – 12th, 2008, Jaipur, India.
2. 13th International Congress of Radiation Research, July 8-12, 2007, San Francisco, CA, USA.
3. 6th Auger Symposium, An International Symposium on Physical, Molecular, Cellular and Medical Aspects of Auger Processes, July 5-7, 2007, Harvard Medical School, Boston, MA, USA.
4. The 2007 Annual Retreat on Cancer Research in New Jersey, May 31, 2007, Robsert Wood Johnson Medical School, New Jersey,
5. 53rd Annual Meeting of the Radiation Research Society in conjunction with ASTRO, Philadelphia, Pennsylvania, November 5-8, 2006.
6. 52nd Annual Meeting of the Radiation Research Society in conjunction with ASTRO, Denver, Colorado, October 16-19, 2005.
7. 51st Annual Meeting of the Radiation Research Society, St. Louis, Missouri, April 24-27, 2004.
8. 50th Society of Nuclear Medicine Annual Meeting, New Orleans, Louisiana, June 21–25, 2003.
9. The 2003 Annual Retreat on Cancer Research in New Jersey, June 11, 2003, Princeton, New Jersey,
10. Sixth Annual JBL Symposium on "Cellular Mechanisms in Genetic Stability and Aging" held at Harvard School of Public Health, Boston, MA, USA, Oct. 24-25th, 2003.
11. Fifth Annual JBL Symposium on "Cell Signalling in Radiobiology and Carcinogenesis" held at Harvard School of Public Health, Boston, MA, USA, Nov. 1-2nd , 2002.
12. **IIIrd SERC Winter School** conducted at Indian Institute of Technology, Kanpur, February 17 – February 28, 1992 and Variable Energy Cyclotron Center (VECC), Calcutta, March 1 – 10, 1992 organised by Department of Science and Technology, Govt. of India.
13. **DAE Symposium on Nuclear Physics (1992)** held at Bhabha Atomic Research Centre, Bombay, December 21–24, 1992, organised by Department of Atomic Energy, Govt. of India.
14. **DAE Symposium on Nuclear Physics (1993)** held at University of Calicut, Calicut, December 27–30, 1993, Dept. of Atomic Energy, Govt. of India.
15. **NSC – Workshop on 'Physics with Recoil Separators'** held at Andhra University, Visakhapatnam, January 21–22, 1994, organised by Andhra University and Nuclear Science Centre, New Delhi.

16. **DAE Symposium on Nuclear Physics (1994)** held at Utkal University, Bhubaneshwar, December 26–30, 1994, organised by Department of Atomic Energy, Govt. of India.

17. **International Workshop on 'Physics with Recoil Separators and Detector Arrays'** held at Nuclear Science Centre, New Delhi, January 30 – February 2, 1995.

18. **International Nuclear Physics Symposium** ***(INPS–95)***, held at Bhabha Atomic Research Centre, Bombay, India, December 18–22, 1995, Organised by Department of Atomic Energy, India.

19. **DAE Symposium on Nuclear Physics (1996)** held at G.B. Pant University, Pantnagar, December 20–24, 1996, organised by Department of Atomic Energy, Govt. of India.

20. **Workshops / Seminars participated at New Delhi**

    - Workshop on Target fabrication and stripper developments, Feb. 21 – 23, 1991.
    - Workshop on Detector development for HIRA, April 8 – 10, 1991.
    - Workshop on Vacuum technology and applications, July 7 – 8, 1991.
    - Workshop on High Spin Gamma Spectroscopy with NSC Gamma Detector Array, October 3 – 4, 1991.
    - Experiments with RMS, HIRA, May 3 – 4, 1992.
    - Workshop on Physics with Small Gamma Detector Arrays & Recoil Mass Separators, December 17 – 18, 1992.
    - Radioactivity measurements at focal plane of HIRA at NSC, March 26, 1993.
    - Pelletron operation at NSC, May 27 – 28, 1993.
    - HIRA Acquaintance Programme at NSC, September 13 – 16, 1994.
    - On Line experimental facilities for future, September 23, 1994.
    - A.P. Patro Memorial workshop on accelerator technology, April 22 – 24, 1996.
    - Various user workshops, AUC beam-time proposals, foundation day lectures, National Science day programmes, etc.

APPENDIX – II

RESEARCH PUBLICATIONS

A). Peer-reviewed International Journals:

1. **Prasad V.S.V. Neti** and Roger W Howell, (2008), "Log normal distribution of cellular uptake of radioactivity: Statistical analysis of alpha particle track autoradiography"; ***Journal of Nuclear Medicine***, 49 (6) 1009-1016. [⊞]

2. Ganguly S., Chaubey B., Tripathi S., Upadhyay A., **Prasad V.S.V. Neti**, Roger W Howell, Pandey V.N., (2008), "Pharmacokinetic Analysis of Polyamide Nucleic-Acid-Cell Penetrating Peptide Conjugates Targeted against HIV-1 Transactivation Response Element"; ***Oligonucleotides***, 18 (3) 277-286.

3. **Prasad V.S.V. Neti** and Roger W Howell, (2007), Biological response to nonuniform distributions of ^{210}Po in multicellular clusters, ***Radiation Research,*** 168 (3) 332-340. [⊟] [⊞].

4. Francis W Kemp, **Prasad V.S.V. Neti**, Roger W Howell, Peter Wenger, Donald B Louria and John D. Bogdan, (2007), Elevated blood lead concentrations and Vitamin D deficiency in winter and summer in young urban children, ***Environmental Health Perspectives***, 115 (4) 630-635. [⊟] [⊞]. doi: 10.1289/ehp.9389.

5. **Prasad V.S.V. Neti** and Roger W Howell, (2007), Reply: "Log normal distribution of cellular uptake of radioactivity: Implications for biologic responses to radiopharmaceuticals"; ***Journal of Nuclear Medicine***, 48 (2) 327a-328. [⊟] [⊞].

6. R.W. Howell, **P.V.S.V. Neti**, M. Pinto, B.I. Gerashchenko, V.R. Narra and E.I. Azzam, (2006), Challenges and progress in predicting biological responses to incorporated radioactivity; ***Radiation Protection Dosimetry***, 122 (1-4) 521-527. [⊟] [⊞] doi: 10.1093/rpd/ncl448.

7. **Prasad V.S.V. Neti** and Roger W Howell, (2006), Log normal distribution of cellular uptake of radioactivity: Implications for biologic responses to radiopharmaceuticals; ***Journal of Nuclear Medicine***, 47 (6) 1049-1058. [⊟] [⊞] *"Featured as Cover Page Article."*

8. J.C. Thomas, H. De Witte, M. Gorska, M. Huyse, K. Kruglov. Y. Kudryavtsev, D. Pauwels, **N.V.S.V. Prasad**, K. Van de Vel. P. Van Duppen, I. Van Roosbroeck, S. Franchoo, J. Cederkall, H.O.U. Fynbo, U. Georg, O. Jonsson, U. Koster, L. Weissman, W.F. Mueller, V.N. Fedosseev, V.I. Mishin, D. Fedorov, A. De Maesschalck, N.A. Sminova, (2006), β–decay properties of ^{72}Ni and ^{72}Cu, ***Physical Review C*** 74 (5) 054309-1 (16 pages). [⊟] [⊞]. doi: 10.1103/PhysRevC.74.054309.

9. Roger W Howell and **Prasad V.S.V. Neti**, (2005), Modeling multicellular response to nonuniform distributions of radioactivity: Differences in cellular response to self-dose and cross-dose; ***Radiation Research*** 163 (2) 216-221. [ ] [ ].

10. **Prasad V.S.V. Neti** and Roger W Howell, (2004), Isolating effects of microscopic nonuniform distributions of ^{131}I on labeled and unlabeled cells; ***Journal of Nuclear Medicine***, 45 (6) 1050-1058. [ ] [ ]. *"Featured as Current readings in Nuclear Medicine, Clinical Nuclear Medicine 29,9 (2004) 606."*

11. **Prasad V.S.V. Neti**, Sonia M. de Toledo, Venkatachalam Perumal, Edouard I Azzam and Roger W Howell, (2004), A multi-port low-fluence alpha-particle irradiator: Fabrication, testing and benchmark radiobiological studies; ***Radiation Research***, 161 (6) 732-738. [ ] [ ].

12. **Prasad V.S.V. Neti** and Roger W Howell, (2003), When may a non-uniform distribution of ^{131}I be considered uniform? An experimental basis for multicellular dosimetry; ***Journal of Nuclear Medicine***, 44 (12) 2019-2026. [ ] [ ]. *"Featured as Current readings in Nuclear Medicine, Clinical Nuclear Medicine 29,3 (2004) 228."*

13. Weissman L., **Prasad N. V. S. V.**, Bruyneel B., Huyse M., Kruglov K., Kudryavtsev Y. A., Mueller W. F., Van Duppen P., Van Roosbroeck J., and the EXOTRAP collaboration, (2002), Short-lived fission products as a diagnostics tool for studying atom and ion behaviour in a gas-based laser ion source; ***Nuclear Instruments and Methods in Physics Research*** **A** 483 (3) 593. [ ] [ ]. doi: 10.1016/S0168-9002(01)01930-1.

14. K Kruglov, A Andreyev, B Bruyneel, S S Dean, S Franchoo, M Huyse, Y Kudryavtsev, WF Mueller, **N.V.S.V. Prasad**, R Raabe, I Reusen, KH Schmidt, K Van de Vel, P Van Duppen, J Van Roosbroeck, L Weissman, and the ISOLDE Collaboration (2002) Production of neutron-rich copper isotopes in 30-MeV proton-induced fission on ^{238}U; ***Nuclear Physics*** **A** 701 (1-4), 145. [ ] [ ]. doi: 10.1016/S0375-9474(01)01563-9.

15. K Kruglov, A Andreyev, B Bruyneel, S Dean, S Franchoo, M Gorska, K Helariutta, M Huyse, Yu Kudryavtsev, WF Mueller, **N.V.S.V. Prasad**, R Raabe, KH Schmidt, P Van Duppen, J Van Roosbroeck, K Van de Vel, L Weissman, (2002) Yields of Neutron-Rich Isotopes around Z=28 produced in 30 MeV Proton-Induced Fission of ^{238}U. ***European Physical Journal*** **A** 14 (3), 365. [ ] [ ]. doi:10.1140/epja/i2002-10013-1.

16. Yu. Kudryavtsev, B Bruyneel, S Franchoo, M Huyse, J Gentens, K Kruglov, W F Mueller, **N.V.S.V. Prasad**, R Raabe, I Reusen, P Van den Bergh, P Van Duppen, J Van Roosbroeck, L Vermeeren, L Weissman, (2002) The Leuven Isotope Separator On-Line Laser Ion Source; ***Nuclear Physics*** **A** 701 (1-4), 465. [ ] [ ]. doi: 10.1016/S0375-9474(01)01628-1.

17. S.K. Hui, A.K. Sinha, M. Thoennessen, G Gervais, AK Ganguly, N Madhavan, S Murlithar, D O Kataria, C R Bhuniya, LT Baby, V Tripathi, PVM Rao, **N.V.S.V. Prasad**, AM Vinodkumar, Akhil Jhingan, P Sugathan, JJ Das and R Singh, (2001): Reply to comment on "Spin and excitation energy dependence of fission survival for the ^{19}F + ^{175}Lu system."; ***Physical Review* C** 64 (1), 019802. [⊟] [⊠]. doi: 10.1103/PhysRevC.64.019802.

18. SK Hui, CR Bhuniya, AK Ganguly,, N Madhavan, JJ Das, P Sugathan, DO Kataria, S Murlithar, LT Baby, V Tripathi, Akhil Jhingan, AK Sinha, PVM Rao, **N.V.S.V. Prasad**, AM Vinodkumar, R Singh, M. Thoennessen, and G Gervais, (2000): Spin and excitation energy dependence of fission survival for the ^{19}F + ^{175}Lu system; ***Physical Review* C** 62 (5), 054604. [⊟] [⊠]. doi: 10.1103/PhysRevC.62.054604.

19. WF Mueller, B Bruyneel, S Franchoo, M Huyse, J Kurpeta, K Kruglov, Y Kudryavtsev, **N.V.S.V. Prasad**, R Raabe, I Reusen, P Van Duppen, J Van Roosbroeck, L Vermeeren, L Weissman, Z Janas, M Karny, T Kszczot, A Plochocki, KL Kratz, B Pfeiffer, H Grawe, U Koster, P Thirolf and WB Walters, (2000): □decay of ^{66}Co, ^{68}Co and ^{70}Co; ***Physical Review* C** 61 (5), 054308. [⊟] [⊠]. doi: 10.1103/PhysRevC.61.054308.

20. K M Varier, A M Vinodkumar, **N.V.S.V. Prasad**, P V Madhusudhana rao, D L Sastry, L T Baby, M C Radhakrishna, N G Puttaswamy, A K Sinha, N Madhavan, D O Kataria, P Sugathan and J J Das, (1999): Transfer measurements for the Ti + Ni systems at near barrier energies; ***Pramana*** 53 (3), 529. [⊟] [⊠].

21. VDML Kalyani, NR Mishra, **N.V.S. Vara Prasad**, MVS Chandrasekhar Rao, G Satyanarayana, DL Sastry and SN Chintalapudi, (1999): Measurement on K-electron capture probability in the decay of ^{97}Ru; ***IL Nuovo Cimento*** 112 A, 789. [⊠].

22. NR Mishra, **N.V.S. Vara Prasad**, MVS Chandrasekhar Rao, G Satyanarayana, DL Sastry and SN Chintalapudi (1999): Measurement of K-electron capture probability in the decay of ^{171}Lu; ***Indian Journal of Physics*** 73A, 775.

23. NR Mishra, VDML Kalyani, PVM Rao, **NVS Vara Prasad**, MVS Chandrasekhar Rao, G Satyanarayana, DL Sastry, SN Chintalapudi, (1998): Experimental study of K-electron capture probability in the decay of ^{111}In; ***IL Nuovo Cimento*** 111 A, 227. [⊠]

24. AK Sinha, LT Baby, N Badiger, JJ Das, SK Hui, DO Kataria, RG Kulkarni, N Madhavan, PVM Rao, I Majumdar, MC Radhakrishna, **N.V.S.V. Prasad**, NG Puttaswamy, R Singh, DL Sastry, P Sugathan, V Tripathi, KM Varier, AM Vinodkumar, (1997): Sub-barrier few-nucleon transfer reaction and channel coupling effects in heavy ion fusion; ***Journal of Physics* G** 23 (10), 1331. [⊟] [⊠]. doi: 10.1088/0954-3899/23/10/022.

25. Lagy T Baby, Vandana Tripathi, DO Kataria, JJ Das, P Sugathan, N Madhavan, AK Sinha, MC Radhakrishna, NM Badiger, NG Puttaswamy, AM Vinodkumar, **N.V.S.V. Prasad**, (1997): Transfer and higher-order phonon coupling effects in the sub-barrier fusion of ^{28}Si and ^{93}Nb; ***Physical Review* C** 56 (4), 1936. [⊟] [⊠]. doi: 10.1103/PhysRevC.56.1936

26. VDML Kalyani, **N.V.S. Vara Prasad**, MVS Chandrasekhar Rao, NR Mishra, GSK Murthy, G Satyanarayana, DL Sastry and SN Chintalapudi, (1997): Studies on K-electron capture probability in the decay of ^{95}Tc and ^{139}Ce; ***Indian Journal of Physics*** 71 A, 493.

27. **N.V.S.V. Prasad**, AM Vinodkumar, AK Sinha, KM Varier, DL Sastry, N Madhavan, P Sugathan, DO Kataria, JJ Das, (1996): Study of transfer channel coupling and entrance channel effects for the near and sub-barrier fusion of ^{46}Ti + ^{64}Ni, ^{50}Ti + ^{60}Ni and ^{19}F + ^{93}Nb systems; ***Nuclear Physics* A** 603 (2), 176. [⊟] [⊠]. doi: 10.1016/0375-9474(96)00110-8.

28. AM Vinodkumar, KM Varier, **NVSV Prasad**, DL Sastry, AK Sinha, N Madhavan, P Sugathan, DO Kataria, JJ Das, (1996): Absence of isotopic dependence in the sub-barrier fusion of ^{48}Ti + ^{58,60,64}Ni systems; ***Physical Review* C** 53 (2), 803. [⊟] [⊠]. doi: 10.1103/PhysRevC.53.803

29. DO Kataria, JJ Das, N Madhavan, P Sugathan, AK Sinha, G Dayanand, MC Radhakrishna, AM Vinodkumar, KM Varier, Mahendrajit Singh, **N.V.S.V. Prasad**, (1996): A modular focal plane detector system for the heavy ion reaction analyzer at NSC, New Delhi; ***Nuclear Instruments and Methods in Physics Research* A** 372 (1-2), 311. [⊟] [⊠]. doi: 10.1016/0168-9002(95)01242-7.

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32. CV Raghavaiah, MVS Chandrasekhar Rao, G Sree Krishna Murthy, **N.V.S. Vara Prasad**, PV Ramana Rao and D L Sastry, (1996): Determination of Zinc in human head hair using energy-dispersive x-ray fluorescence spectrometry; ***X-Ray Spectrometry*** 25 (3), 123. [⊟] [⊠]. doi: 10.1002/(SICI)1097-4539(199605)25:3<123::AID-XRS147>3.0.CO;2-C.

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35. **N.V.S. Vara Prasad**, G Sree Krishna Murthy, MVS Chandrasekhar Rao, G Satyanarayana, DL Sastry and SN Chintalapudi, (1993): Measurement of K-electron capture probability in the decay of ^{87}Y, ***Journal of Physics* G** 19 (4), 611. [ ] [ ]. doi: 10.1088/0954-3899/19/4/016.

36. G Sree Krishna Murthy, **N.V.S. Vara Prasad**, MVS Chandrasekhar Rao, M Ravi Kumar, G Satyanarayana and DL Sastry, (1993): K-electron capture probabilities in ^{161}Ho; ***IL Nuovo Cimento*** 106 A, 1043.

37. MVS Chandrasekhar Rao, G Sree Krishna Murty, **N.V.S. Vara Prasad**, G Satyanarayana and D L Sastry, (1992): The Conversion coefficients of the 48.85 keV M3 transition in ^{80m}Br, ***IL Nuovo Cimento*** 105 A, 717.

B). International Symposia / Conferences / Workshops :

1. Radiation-induced bystander responses in mouse testes.

   Prasad V.S.V. Neti, Venkat R. Narra, Hosea F. Huang, Edouard I. Azzam, and Roger W. Howell.

   13th International Congress of Radiation Research, 8-12 July, 2007, held at San Francisco, CA, USA.

2. Intercellular Communication in Testicular Responses to DNA-incorporated ^{125}I.

   P.V.S.V. Neti, V.R. Narra, H.F. Huang, E.I. Azzam, and R.W. Howell

   6th Auger Symposium, An International symposium on Physical, Molecular, Cellular, and Medical Aspects of Auger Processes, 5-7 July, 2007, held at Harvard Medical School, Boston, USA.

3. Seasonal Blood lead and 25 hydroxy vitamin D concentrations in children.

   Francis W Kemp, **Prasad Neti**, Roger W Howell, Peter Wenger, Donald B Louria, John D Bogden.

   12th International Symposium on Trace Elements in Man and Animals, 19-23 June, 2005 held at University of Ulster, Coleraine, Northern Ireland.

4. Nuclear structure studies of neutron-rich Cu and Zn isotopes produced by means of proton-induced fission of ^{238}U.

   J.-C. Thomas, H. De Witte, M. Gorska, M. Huyse, K. Kruglov, Y. Kudryavtsev, D. Pauwels, **N. V. S. V. Prasad**, K. Van de Vel, P. Van Duppen, J. Van Roosbroeck, S. Franchoo, J. Cederkall, H.O.U. Fynbo, U. Georg, O. Jonsson, U. Koster, L Weissman, W.F. Mueller, V.N. Fedoseyev, V.I. Mishin, D. Fedorov, A. De Maesschalck, and N.A. Smirnova.

   3rd International Workshop on Nuclear Fission and Fission-product Spectroscopy, Cadarache, France, 11-14, May 2005, AIP Conference Proceedings – November 7, 2005 – Volume 798, pp 131-136. (ISBN 0-7354-0288-4) doi:10.1063/1.2137238.

5. Beta Decay of Neutron-Deficient Ru and Rh Isotopes.

   Górska M., Dean S., **Prasad N. V. S. V.**, Andreyev A. N., Bruyneel B., Franchoo S., Huyse M., Kruglov K., Raabe R., Van de Vel K., Van Duppen P., Van Roosbroeck J.

   International Workshop PINGST 2000, Lund – Sweden, 2000 Eds. Rudolf, D. and Hellstrom, M. Bloms i Lund 108-112 (ISSN: 0348-9329)

6. Spin and Excitation Energy Dependence of Fission Survival: a New Probe for the Fusion Fission Dynamics.

   S. K Hui, A. K. Ganguly, C. R. Bhuinya, N. Madhavan, J. J. Das, P. Sugathan, S. Muralithar, L. T. Baby, V. Tripathi, A. K. Sinha, A.M. Vinodkumar, D.O. Kataria, **N.V.S.V. Prasad**, P.V. Madhusudhana Rao, Raghuvir Singh.

   International Workshop on "Fusion Dynamics at the Extremes", Dubna, Russia, 25-27 May, 2000, edited by Yu. Ts. Oganessian and V.I. Zagrebaev (world Scientific). [E]
   ISBN 981-02-4617-X

7. Spin and Excitation Energy Dependence of the Dynamics of Fusion–Fission Process in $^{19}F + ^{175}Lu$ Reaction.

   S.K. Hui, C.R. Bhuniya, A.K. Ganguly, N. Madhavan, J.J. Das, D.O. Kataria, P. Sugathan, S. Muralithar, L.T. Baby, V Tripathi, A.K. Sinha, **N.V.S.V. Prasad**, P.V. Madhusudhana Rao, R. Singh, A.M. Vinodkumar.

   International Conference on Fission and Properties of Neutron-rich Nuclei, Sanibel Island, Florida, U.S.A., November 10–15, 1997. (ISBN 981-02-35372)

8. Sub-barrier multi-nucleon transfer reactions and channel coupling effects in heavy ion fusion.

   Lagy T Baby, N.M. Badiger, J.J. Das, S.K. Hui, D.O. Kataria, N. Madhavan, I. Mazumdar, **N.V.S.V. Prasad**, N.G. Puttaswamy, M.C. Radhakrishna, D.L. Sastry, P.P. Shakkeeb, R. Singh, A.K. Sinha, P. Sugathan, V. Tripathi, K.M. Varier, A.M. Vinodkumar.

   FUSION97 – International workshop on Heavy-Ion collisions at near-barrier energies, 17–21 March, 1997, held at South Durras, New South Wales, Australia.

9. Fusion of $^{46,50}Ti + ^{64,60}Ni$ in the vicinity of Coulomb barrier.

   N.V.S.V. Prasad, D.L. Sastry, A.M. Vinodkumar, K.M. Varier, J.J. Das, D.O. Kataria, P. Sugathan, N. Madhavan, A.K. Sinha.

   International workshop on *'Physics with recoil separators and detector arrays'*, New Delhi, January 30 - February 2, 1995, edited by R.K. Bhowmik and A.K. Sinha, Allied Publishers Ltd., 1995, P. 564.

10. The role of transfer and entrance channel in the fusion cross-section and mean angular momentum for $^{46}Ti + ^{64}Ni$; $^{50}Ti + ^{60}Ni$ and $^{19}F + ^{93}Nb$ in the barrier region.

    N.V.S.V. Prasad, D.L. Sastry, A.M. Vinodkumar, K.M. Varier, N. Madhavan, P. Sugathan, D.O. Kataria, J.J. Das, A.K. Sinha.

    International Nuclear Physics Conference *(INPC–95)*, Beijing, China, August 21 – 26, 1995, organized by China Institute of Atomic Energy.

11. Statistical model calculations in the mass region A ~ 110.

N.V.S.V. Prasad, A.M. Vinodkumar, A.K. Sinha, K.M. Varier, N. Madhavan, P. Sugathan, D.O. Kataria, J.J. Das.

International Nuclear Physics Symposium *(INPS–95)*, Bhabha Atomic Research Centre, Bombay, India, December 18–22, 1995, Organised by Department of Atomic Energy, India, **A–26.**

12. Transfer reaction studies around the Coulomb barrier for the systems ^{28}Si, ^{32}S + ^{93}Nb.

M.C. Radhakrishna, Lagy T Baby, N.M. Badiger, N.G. Puttaswamy, G. Dayanand, **N.V.S.V. Prasad**, A.M. Vinodkumar, I. Mazumdar, A. Mandal, J.J. Das, N. Madhavan, P. Sugathan, D.O. Kataria, A.K. Sinha.

International workshop on *'Physics with recoil separators and detector arrays'*, New Delhi, January 30 - February 2, 1995, edited by R.K. Bhowmik and A.K. Sinha, Allied Publishers Ltd., 1995, P. 79.

13. Fusion cross-section measurements at near and sub-barrier regions for the ^{48}Ti + ^{58,60,64}Ni systems.

A.M. Vinodkumar, K.M. Varier, **N.V.S.V. Prasad**, D.L. Sastry, J.J. Das, D.O. Kataria, P. Sugathan, N. Madhavan, A.K. Sinha.

International workshop on *'Physics with recoil separators and detector arrays'*, New Delhi, January 30 - February 2, 1995, edited by R.K. Bhowmik and A.K. Sinha, Allied Publishers Ltd., 1995, P. 566.

14. Spin distribution and excitation function measurements in ^{32,34}S + ^{109}Ag and ^{48}Ti + ^{93}Nb systems around barrier.

N. Madhavan, A.K. Sinha, J.J. Das, P. Sugathan, D.O. Kataria, R. Singh, R.P. Singh, R.K. Bhowmik, L.T. Baby, I. Mazumdar, B.K. Nayak, R.K. Choudhury, D.M. Nadkarni, L.M. Pant, **N.V.S.V. Prasad**.

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15. Study of microsecond isomers using HIRA.

P. Sugathan, J.J. Das, D.O. Kataria, N. Madhavan, I. Mazumdar, A.K. Sinha, **N.V.S.V. Prasad**, D.L. Sastry, S.S. Ghugre, S.B. Patel, C.N. Davids, M.K. Sharan.

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16. Spin distribution and excitation function measurements in $^{32,34}S + ^{109}Ag$ and $^{48}Ti + ^{93}Nb$ systems around barrier.

    N. Madhavan, A.K. Sinha, J.J. Das, P. Sugathan, D.O. Kataria, R. Singh, R.P. Singh, R.K. Bhowmik, I. Mazumdar, Lagy T Baby, B.K. Nayak, R.K. Choudhury, D.M. Nadkarni, L.M. Pant, **N.V.S.V. Prasad**, A.M. Vinodkumar.

    International Nuclear Physics Conference *(INPC–95)*, Beijing, China, August 21 – 26, 1995, organized by China Institute of Atomic Energy.

17. Spin distribution measurements in $^{32}S + ^{109}Ag$ and $^{48}Ti + ^{93}Nb$ systems around Coulomb barrier.

    N. Madhavan, A.K. Sinha, J.J. Das, P. Sugathan, D.O. Kataria, R. Singh, R.P. Singh, R.K. Bhowmik, I. Mazumdar, Lagy T. Baby, B.K. Nayak, R.K. Choudhury, D.M. Nadkarni, L.M. Pant, **N.V.S.V. Prasad**, A.M. Vinodkumar.

    International Nuclear Physics Symposium *(INPS–95)*, Bhabha Atomic Research Centre, Bombay, India, December 18–22, 1995, Organised by Department of Atomic Energy, India, **B–32.**

18. Sub–barrier transfer studies for the $^{32}S + ^{60,64}Ni$ systems.

    P.P. Shakkeeb, A.M. Vinodkumar, K.M. Varier, **N.V.S.V. Prasad**, R. Singh, A.K. Sinha, N. Madhavan, P. Sugathan, D.O. Kataria, Lagy. T. Baby.

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19. Fusion systematics in the barrier region using neutron flow model.

    A.M. Vinodkumar, A.K. Sinha, **N.V.S.V. Prasad**, K.M. Varier.

    International Nuclear Physics Symposium *(INPS–95)*, Bhabha Atomic Research Centre, Bombay, India, December 18–22, 1995, Organised by Department of Atomic Energy, India, **B–40.**

20. The measurement of fusion and transfer cross section in the system $^{28}Si + ^{93}Nb$ at near barrier energies.

    Lagy T Baby, M.C. Radhakrishna, N.M. Badiger, N.G. Puttaswamy, **N.V.S.V. Prasad**, A.M. Vinodkumar, I. Mazumdar, J.J. Das, N. Madhavan, P. Sugathan, D.O. Kataria, A.K. Sinha.

    International Nuclear Physics Symposium *(INPS–95)*, Bhabha Atomic Research Centre, Bombay, India, December 18–22, 1995, Organised by Department of Atomic Energy, India, **B–57.**

21. A deep ionization detector with enhanced capabilities for the HIRA focal plane.

D.O. Kataria, M.J. Singh, J.J. Das, N. Madhavan, P. Sugathan, S.K. Hui, P.P. Shakkeeb, A.M. Vinodkumar, **N.V.S.V. Prasad**, I. Majumdar, L.T. Baby, A.K. Sinha.

International Nuclear Physics Symposium *(INPS–95)*, Bhabha Atomic Research Centre, Bombay, India, December 18–22, 1995, Organised by Department of Atomic Energy, India, **I–54.**

C). National Conferences / Symposia / Meetings

1. Bystander responses in mouse testes by incorporated radionuclides.

   Prasad VSV Neti, Venkat R Narra, Hosea F Huang, Edouard I Azzam, and Roger W Howell.

   The 2007 Annual Retreat on Cancer Research in New Jersey, May 31, 2007, UMDNJ-Robert Wood Johnson Medical School, Piscataway, New Jersey, P30.

2. Multicellular dosimetry as a tool for prediction biological response to nonuniform distributions of radioactivity in three dimensional tissues.

   Prasad V. Neti and Roger W. Howell.

   53rd Annual meeting of the Radiation Research Society in conjunction with ASTRO, Philadelphia, Pennsylvania, Nov., 5-8, 2006 (Control # 06-SIT-467-RRS).

3. Multicellular dosimetry as an approach to predict the biological response to nonuniform distributions of Po-210.

   Prasad V. Neti and Roger W. Howell.

   52nd Annual meeting of the Radiation Research Society, Denver, Colorado, Oct., 16-19, 2005.

4. Multicellular dosimetry as an approach to predict the biological response to nonuniform distributions of ^{131}I.

   Prasad V. Neti and Roger W. Howell.

   51st Society of nuclear medicine annual meeting, Philadelphia, Pennsylvania, June 19-23, 2004 [165].

5. Effects of microscopic nonuniform distributions of ^{131}I on labeled and unlabeled cells.

   Prasad V Neti and Roger W Howell.

   51st Annual meeting of the Radiation Research Society, St. Louis, Missouri, April 24-27, 2004 (NET-1073-587555).

6. Biological responses to low dose/very low dose-rate γ–radiation in human cells grown in 3-dimensional architecture.

   S.M. de Toledo, P. Venkatachalam, L. Li, J.P. Gardener, **Prasad Neti**, A. Aviv, R.W. Howell, D.R. Spitz, E.I. Azzam.

   51st Annual meeting of the Radiation Research Society, St. Louis, Missouri, April 24-27, 2004 (AZZ-1074-288430).

7. When can a nonuniform distribution of ^{131}I be considered uniform?

P.V.S.V. Neti and R.W. Howell.

50th Society of nuclear medicine annual meeting, New Orleans, Louisiana, June 21–25, 2003 [331] published in Journal of Nuclear Medicine 44,5 (2003) 101P-102P (ISSN: 0161-5505).

8. When may a nonuniform distribution of I-131 be considered Uniform? An experimental basis for multicellular dosimetry.

PVSV Neti and RW Howell.

The 2003 Annual Retreat on Cancer Research in New Jersey, June 11, 2003, Princeton, New Jersey, P56.

9. Production of Neutron-rich Co and Ni Isotopes in a Gas Catcher Cell followed by Resonant Laser Ionization.

W.F. Mueller, B. Bruyneel, S. Franchoo, M. Huyse, K. Kruglov, Y. Kudryavtsev, **N.V.S.V. Prasad**, R. Raabe, I Reusen, P. Van Duppen, J. Van Roosbroeck, L. Vermeeren, L. Weissman, Z. Janas, M. Karny, T. Kszczot, A. Plochocki, K.-L. Kratz, B. Pfeiffer, U. Koster, P. Thirolf, W.B. Walters.

Symposium on "Science with Next Generation Radioactive Beam Facilities", conducted by the American Physical Society, October 20-23, 1999, Pacific Grove, CA (IB.05) .

10. Spin distribution and excitation function measurements in near and sub–barrier fusion of ^{28}Si on $^{144,150}Nd$ systems.

P.V. Madhusudhana Rao, **N.V.S.V. Prasad**, D.L. Sastry, A.K. Sinha, N. Madhavan, D.O. Kataria, P. Sugathan, J.J. Das, Lagy T Baby, Vandana Tripathi, S.K. Hui, I. Mazumdar, A.M. Vinodkumar, K.M. Varier, S. Muralithar, G. Satyanarayana.

DAE Symposium on Nuclear Physics, **40 B** (1997) .

11. Measurement of one and two nucleon transfer cross section in the system $^{28}Si + ^{64}Ni$ at sub-barrier energies.

Lagy T Baby, M.C. Radhakrishna, N.G. Puttaswamy, N.M. Badiger, A.M. Vinodkumar, **N.V.S.V. Prasad**, Vandana Tripathi, S.K. Hui, I. Mazumdar, N. Madhavan, P. Sugathan, J.J. Das, D.O. Kataria and A.K. Sinha.

DAE Symposium on Nuclear Physics, **39 B** (1996) 172.

12. Study of transfer channel coupling and entrance channel effects for the near and sub-barrier fusion of $^{46}Ti + ^{64}Ni$; $^{50}Ti + ^{60}Ni$ and $^{19}F + ^{93}Nb$ systems.

N.V.S. Vara Prasad.

DAE Symposium on Nuclear Physics, **39 B** (1996) T7.

13. ^{32}S + ^{48}Ti fusion at sub-barrier energies.

R. Singh, J.J. Das, D.O. Kataria, N. Madhavan, I. Mazumdar, A.K. Sinha, P. Sugathan, M. Mustafa, R. Prasad, B.P. Singh, **N.V.S.V. Prasad**, A.M. Vinodkumar, M.J. Singh.

DAE Symposium on Nuclear Physics, **37 B** (1994) 147.

14. Study of microsecond isomers using HIRA.

P. Sugathan, J.J. Das, C.N. Davids, S.S. Ghugre, D.O. Kataria, N. Madhavan, I. Mazumdar, S.B. Patel, **N.V.S.V. Prasad**, D.L. Sastry, M. Sharan and A.K. Sinha.

DAE Symposium on Nuclear Physics, **37 B** (1994) 69.

15. Transfer reaction studies near the Coulomb barrier for ^{32,34}S + ^{93}Nb.

M.C. Radhakrishna, N.M. Badiger, N.G. Puttaswamy, **N.V.S.V. Prasad**, I. Mazumdar, D.O. Kataria, J.J. Das, P. Sugathan, N. Madhavan, A. Mandal, A.K. Sinha.

DAE Symposium on Nuclear Physics, **36 B** (1993) 212.

16. Role of neutron flow in the enhancements of sub barrier fusion cross sections for ^{46,48,50}Ti + ^{58,60,64}Ni systems.

A.M. Vinodkumar, **N.V.S.V. Prasad**, K.M. Varier, D.L. Sastry, N. Madhavan, P. Sugathan, D.O. Kataria, J.J. Das and A.K. Sinha.

DAE Symposium on Nuclear Physics, **36 B** (1993) 210.

17. A comparative study of near barrier fusion of ^{46}Ti + ^{64}Ni & ^{50}Ti + ^{60}Ni systems.

N.V.S.V. Prasad, A.M. Vinodkumar, K.M. Varier, J. Anthony, P.P. Shakkeeb, D.L. Sastry, I. Mazumdar, N. Madhavan, P. Sugathan, D.O. Kataria, J.J. Das and A.K. Sinha.

DAE Symposium on Nuclear Physics, **36 B** (1993) 208.

18. The measurement of sub-barrier fusion cross-sections in ^{19}F + ^{93}Nb system.

N.V.S.V. Prasad, A.M. Vinodkumar, K.M. Varier, M.V.S.C. Rao, D.L. Sastry, M.J. Singh, I. Mazumdar, N. Madhavan, P. Sugathan, D.O. Kataria, J.J. Das and A.K. Sinha.

DAE Symposium on Nuclear Physics, **36 B** (1993) 206.

19. Fusion measurements at near and sub-barrier regions for the ^{48}Ti + ^{58,60,64}Ni systems.

A.M. Vinodkumar, **N.V.S.V. Prasad**, K.M. Varier, B.R.S. Babu, D.L. Sastry, M.C. Radhakrishna, M.J. Singh, A. Mandal, A. Tripathi, N. Madhavan, P. Sugathan, D.O. Kataria, J.J. Das and A.K. Sinha.

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20. K-electron capture probability measurements in the decay of ^{183}Re and ^{168}Tm.

    N.V.S.V. Prasad, G. Sreekrishna Murthy, M.V.S. Chandrasekhar Rao, S. Bhuloka Reddy, G. Satyanarayana, P.V. Ramana Rao, D.L. Sastry and S.N. Chintalapudi.

    DAE Symposium on Nuclear Physics, **36 B** (1993) 136.

21. Operational performance of the Recoil Mass Separator HIRA.

    A.K. Sinha, N. Madhavan, J.J. Das, P. Sugathan, D.O. Kataria, **N.V.S.V. Prasad**, A.M. Vinodkumar.

    Proceedings of 3rd National seminar on "Physics And Technology of Particle Accelerators and their Applications" **(PATPAA–93)**, edited by S.N. Chintalapudi, p. 228, held at IUC for DAE Facilities, Calcutta (Nov. 25–27, 1993).

22. Transfer reaction study near the Coulomb barrier for ^{32}S + ^{93}Nb.

    G. Dayanand, N.M. Badiger, M.C. Radhakrishna, N.G. Puttaswamy, **N.V.S.V. Prasad**, A.M. Vinodkumar, K.M. Varier, I. Mazumdar, J.J. Das, D.O. Kataria, P. Sugathan, N. Madhavan, A. Mandal and A.K. Sinha.

    National seminar on *'Charged Particle Spectroscopy and Reactions with Heavy Ions'*, June 16-18, 1993 held at Bangalore University.

23. A focal plane detector system for the HIRA at NSC.

    D.O. Kataria, A.K. Sinha, J.J. Das, N. Madhavan, P. Sugathan, G. Dayanand, M.C. Radhakrishna, A.M. Vinodkumar, K.M. Varier, Mahendrajit Singh and **N.V.S.V. Prasad**.

    DAE Symposium on Nuclear Physics, **35 B** (1992) 498.

24. Measurement of K-electron capture probabilities in ^{95}Tc and ^{197}Hg.

    N.V.S. Vara Prasad, G. Sree Krishna Murthy, M.V.S. Chandrasekhar Rao, M. Ravikumar, G. Satyanarayana, D.L. Sastry and S.N. Chintalapudi.

    DAE Symposium on Nuclear Physics, **35 B** (1992) 156.

25. Studies on K-electron capture probabilities in ^{87}Y, ^{96}Tc and ^{196}Au.

    G. Sree Krishna Murthy, M.V.S. Chandrasekhar Rao, **N.V.S. Vara Prasad**, G. Satyanarayana, D.L. Sastry and S.N. Chintalapudi.

    DAE Symposium on Nuclear Physics, **34 B** (1991) 73.

Cited Reference Index

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Journal Title	ISSN No.	Impact Factor	Pub. No.	No.	Total
Journal of Nuclear Medicine	0161-5505	4.684	1, 3 & 5	3	14.052
Radiation Research	0033-7587	3.099	2 & 4	2	6.198
Nuclear Instruments & Methods in Physics Research A	0168-9002	1.224	6 & 22	2	2.448
Nuclear Physics A	0375-9474	1.950	7, 9 & 20	3	5.850
European Physical Journal A	1434-6001	1.659	8	1	1.659
Physical Review C	0556-2813	3.610	10, 11, 12, 18, 21 & 23	6	21.66
Pramana- Journal of Physics	0304-4289	0.380	13	1	0.380
Nuovo Cimento A: IL (based on 2001 reports)	0369-3546	0.697	14, 16, 24, 26, 29 & 30	6	4.182
Indian Journal of Pure & Applied Physics	0019-5596	0.495	15 & 19	2	0.990
Journal of Physics G - Nuclear and Particle Physics	0954-3899	2.173	17, 27 & 28	3	6.519
X-ray Spectrometry	0049-8246	1.372	25	1	1.372
Total				**30**	**65.310**

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2	**1**	...NETI PVSV	Rad. Res.	2005	163	216	1) Neti PVSV et al., J Nucl. Med., 47 (2006) 1049.
3	**3**	NETI PVSV	J Nuc. Med.	2004	45	1050	1) Neti PVSV et al., J Nucl. Med., 47 (2006) 1049. 2) Altman MB et al., Phys. in Medicine and Biology, 50 (2005) 305 3) Howell RW et al., Radiat. Res., 163 (2005) 216.
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6	**1**	...Prasad NVSV	Nucl. Inst. Meth. A	2002	483	593	1) Kudryavtsev Y et al., Nucl. Inst. Meth. B 204, 5 (2003) 336.
7	**2**	...Prasad NVSV	Nucl. Phys. A	2002	701	145c	1) Singh B, Nucl. Data Sheets 107, 7 (2006) 1923. 2) Singh B, Nucl. Data Sheets 101, 2 (2004) 193.
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