

## Resume



نام: نعمت  
نام خانوادگی: سخندان بشیر  
رشته: ویروس شناسی گیاهی  
گرایش: کنترل ویروس با مهندسی ژنتیک  
مرتبه علمی: دانشیار پایه ۲۲  
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Name: Nemat  
Surname: Sokhandan Bashir  
Major: Plant Virology  
Specialization: Virus control via genetic engineering  
Rank: Associate professor  
Date of employment at The University of Tabriz: February 2001

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### Education

PhD, The University of Sydney, Australia, 1999.  
Supervisor: Professor John W. Bowyer; associate supervisor: Professor Michael R. Gillings  
Thesis: Genetic variation in, and pathogen-derived resistance to Passion-fruit woodiness virus and Cucumber mosaic virus

Masters of Agriculture, The University of Sydney, Australia, 1994.

Supervisor: Professor John W. Bowyer

Thesis: Seed transmission of Lettuce mosaic virus under ambient and elevated carbon dioxide

Bachelor of Science, University of Tabriz, Iran, 1990.

## **Work Experience**

### **Jan 2007-continues**

Associate Professor, University of Tabriz, Iran

Lecturing, performing research projects, supervising graduate students.

### **11 July 2014- 11 Aug 2014**

Visiting Scientist, University of Adelaide

Plant Research Centre, School of Agriculture, Food and Wine, Waite Campus

Research area: Optimization of an RT-PCR protocol for isolation of coat protein gene from Prunus necrotic ring spot virus (PNRSV) infecting almonds in South Australia.

### **1 July 2013 -10 August 2013**

Visiting Scientist, University of Queensland

Queensland Alliance for Agriculture and Food Science, University of Queensland, Australia

Research area: Assessment of quality of polyclonal antibodies prepared against coat protein of Lettuce necrotic yellow virus (LNYV) expressed in *Escherichia coli*.

### **September 2009- March 2010**

Visiting Professor, Oklahoma State University, USA

Role: Genetic characterization of *Ambrossia asymptomatic virus 1* (AAV-1)

### **July 2006-August 2008**

Head of Department, Plant Protection, University of Tabriz, Iran

Role: management and coordination of under- and postgraduate courses and exams, purchases of consumables and equipment for the department, administration of routine faculty members' requests such as leave request, participation in the faculty board meeting and sometimes in the university board meetings.

### **March 2001- December 2006**

Assistant Professor, University of Tabriz, Iran

Role: teaching, performing research projects, supervising students, holding workshops on gene isolation and cloning, and bioinformatics (primer design, sequence retrieval and phylogenetic analysis).

### **April 2005- October 2005**

MIF Research Fellow, Research Institute for Bioresources (RIB), Okayama University, Japan

Contributed to the project on "Genetic screen for host factors involved in *Cryphonectria parasitica* virus 1 replication and symptom expression".

Taught a "Genomic" course for postgraduate students in RIB.

### **September 2000- April 2001**

Assistant Professor, National Research Centre for Genetic Engineering & Biotechnology (NRCGEB), Tehran, Iran

Role: preparation of research grant, holding workshop on gene isolation.

### **May1999- July 2000**

Postdoctoral scholar, Plant Pathology Department, University of Kentucky, USA

Role: Generated transgenic tobacco plants expressing *Peanut stunt virus* (PSV) or *Cucumber mosaic virus* (CMV) satellite and analysed the transgenic lines for heterologous packaging.

Mapped occurrence of ribbon-like inclusions in PSV-infected plants to the viral coat protein gene.

### **1991-1992**

Plant Pathology Officer, Agricultural Research centre of Azarbaijan-e-Sharqi Province, Iran,

Role: inspecting local farms and orchards for plant diseases and giving appropriate advice for farmers, diagnosis of diseased plant material in the lab and providing an appropriate control advice to farmers, contribution to research projects on wheat smuts and apple black spot diseases.

### **Academic Awards**

Sabbatical Award, University of Tabriz, 2009.

Matsumae International Foundation Fellowship, 2005, Japan.

Postdoctoral scholarship, 1999, University of Kentucky, Lexington, KY, USA.

PhD top- up scholarship 1997, University of Sydney, Australia.

### **Professional Teaching Experiences**

#### Undergraduate

Plant Disease Management

Plant Viral Diseases

Cellular and Molecular Biology

Microbiology

#### Postgraduate

Plant Virology

Plant Viral Diseases

Research Methods in Plant Pathology

Genetic Engineering

Bioinformatics

Molecular Genetics

Genetics of Pathogenesis in plant pathogens

### **Research Grants secured:**

1. **2006-2010:** Expression of *Grapevine fanleaf virus* coat protein gene in *E. coli* for antibody preparation. **\$10,000**, University of Tabriz
2. **2005:** Genetic screen for host factors involved in *Cryphonectria parasitica* virus 1 replication and

- symptom expression. **\$15,000**, Matsumae International Foundation
3. **2003-2006**: Detection and molecular characterisation of *Grapevine fanleaf virus* isolates from North West Iran. **\$27,000**, University of Tabriz

### Membership in Professional Societies

1. American Society for Virology (ASV)
2. American Phytopathological Society (APS)
3. International Council for the Study of Virus and Virus-like Diseases of Grapevine (ICVG)

### Selected Peer-Reviewed Publications

1. Toluei, S., Sokhandan-Bashir, N., Davari, M. and Sedghi, M. 2017. The effect of salicylic and jasmonic acids on tomato physiology and tolerance to Cucumber mosaic virus (CMV). *European Journal of Plant Pathology*, <https://doi.org/10.1007/s10658-017-1356-9>.
2. Sokhandan-Bashir, N., Kashiha, M., Koolivand, D. and Eini, O. 2017. Detection and phylogenetic analysis of *prunus necrotic ringspot virus* isolates from stone fruits in Iran. *Journal of Plant Pathology* **99** (3): 717-723.
3. Hajizadeh, M. and Bashir, N.S. 2017. Population genetic of Potato virus X based on the coat protein sequence. *VirusDisease*, 28 (1): 93-101, DOI 10.1007/s13337-017-0362-z.
4. Koolivand, D., Bashir, N. S. and Rostami, A. 2017. Preparation of polyclonal antibody against recombinant coat protein of Cucumber mosaic virus isolate B13. *Journal of Crop Protection*, 6 (1): 25-34
5. Koolivand, D., Bashir, N.S., Behjatnia, S.A.A., Jafari-Joozani, S. R. 2016. Production of Polyclonal Antibody against Grapevine fanleaf virus Movement Protein Expressed in *Escherichia coli*. *Plant Pathology Journal*, 32(5): 452-459.
6. Bashir, N.S., Pooresmaile, M., Hajizadeh, M. 2015. Heterologous expression of *Potato virus Y* coat protein isolate pot187. *Iranian Journal of Biotechnology*, 13(4): 48-52.
7. Hajizadeh, M., Torchetti, E.M., Bashir, N.S., Navarro, B., Doulati-Baneh, H., Martelli, G.P. and Di Serio, F. 2015. Grapevine viroids and *Grapevine fanleaf virus*. *Journal of Plant Pathology*, 97 (2), 15-20
8. Bashir, N.S., Koolivand, D. and Behjatnia, S. A. A. 2015. Preparation of Polyclonal antibodies to *Grapevine fanleaf virus* coat protein expressed in *Escherichia coli*. *Biotechnology*, 14 (4): 173-180, DOI: 10.3923/biotech.201

9. Rostami, A., Bashir, N.S., Pirniakan, P. and Masoudi, N. 2014. Expression of *Cucumber mosaic virus* coat protein and its assembly into virus-like particles. ***Biotechnology and Health Science***, 1(3): e24729
10. Dutta, M., Bashir, N. S., Palmer, M.W., Melcher, U. 2014. Genomic characterization of Ambrosia asymptomatic virus 1 and evidence of other Tymovirales members in the Oklahoma tallgrass prairie revealed by sequence analysis. ***Archives of Virology***, 159(7):1755-64, DOI 10.1007/s00705-014-1985-7
11. Koolivand, D., Bashir, N.S., Behjatnia, S.A.A., Jafari-Joozani, S. R. 2014. Detection of *Grapevine fanleaf virus* by immunocapture reverse transcription-polymerase chain reaction (IC-RT-PCR) with recombinant antibody. ***Archives of Phytopathology and Plant Protection***, 47(17): 2070-2077, DOI: 10.1080/03235408.2013.868697
12. Bashir, N.S., Ghasemzadeh, A., Masoudi, N, Khakvar, R., Farajzadeh, D. 2013. Degenerate Primers Facilitate the Detection and Identification of Potyviruses. ***Iranian Journal of Biotechnology***, 11:115-122.
13. Koolivand, D., Bashir, N.S. and Mozafar, J. 2013. Serological and molecular detection of newly isolated *cucumber mosaic virus* variants. ***International Journal of Agriculture: Research and Review***, 2: 933-941.
14. Nourinejad-Zarghani, S., Shams-Bakhsh, M., Zand, N., Bashir, N.S. and Wetzel, T. 2013. Molecular characterization of whole genomic RNA2 from isolates of *Grapevine Fanleaf Virus*. ***Journal of Phytopathology***, 161:419-425.
15. Nourinejad-Zarghani, S., Shams-Bakhsh, M., Zand, N., Bashir, N.S. and Pazhouhandeh, M. 2012. Identification and detection of *Grapevine fanleaf virus* using green-grafting and RT-PCR. ***Iranian Journal of Plant Pathology***, 48 (3): 127 -129.
16. Nourinejad-Zarghani, S., Shams-Bakhsh, M., Zand, N., Bashir, N.S. and Pazhouhandeh, M. 2012. Genetic analysis of population of Potato leafroll virus based on ORF0. ***Virus Genes***, 45:567–574, DOI 10.1007/s11262-012-0804-z.
17. Ghasemzadeh, A., Bashir, N.S. and Masoudi, N. 2012. Sequencing part of *Watermelon mosaic virus* genome and phylogenetical comparison of 5 isolates with other isolates from world. ***Journal of Agriculture and Food Technology***, 2(6):93-101.
18. Bashir, N.S., Gillings, M.R. and Bowyer, J. W. 2012. A dual coat protein construct establishes resistance to Passionfruit woodiness and Cucumber mosaic viruses. ***Journal of Agricultural Science and Technology (JAST)*** 114:1105-1120.
19. Bashir, N.S., Melcher, U. 2012. Population genetic analysis of *Grapevine fanleaf virus*. ***Archives of Virology***, 157:1919–1929.
20. Tohidfar, M., Hossaini, R., Bashir, N.S. and Meisam, T. 2012. Enhanced Resistance to *Verticillium dahliae* in Transgenic Cotton Expressing an Endochitinase Gene from *Phaseolus vulgaris*. ***Czech Journal of Genetics and Plant Breeding***, 48: 33–41.

21. Farajzadeh, D., Yakhchali, B. Aliasghar zad, N., Bashir, N.S. and Farajzadeh, M. 2012. Plant growth promoting characterization of indigenous Azotobacteria. *Current Microbiology*, 64: 397-403, DOI 10.1007/s00284-012-0083-x.
22. Hajizadeh, M., Navarro, B., Bashir, N.S., Torchetti, E. M, Di Serio, F. 2012. Development and validation of a multiplex RT-PCR method for the simultaneous detection of five grapevine viroids. *Journal of Virological Methods*, 179:62-69.
23. Dalir Abdolahinia, E., Bashir, N.S., Hagnazari, A., Nazemiyeh, H. and Hejazi, MS. 2011. A comparative phenotypic and ITS based genotypic study in Thyme species (*Thymus L.* Lamiaceae). *VEGETOS*, 24: 102-113.
24. Bashir, N.S., Pashae, A., and Doulati, H. 2011. Characterization of the full length coat protein gene of *Grapevine fanleaf virus* isolates, genetic variation and phylogenetic analysis. *Iranian Journal of Biotechnology*, 9(3): 213-221.
25. Falah, M., Mozafari, J, Bashir, N.S. and Hashemi, M. 2009. Elimination of a DNA virus associated with yellow leaf curl disease in tomato using an electrotherapy technique. *Acta Horticulturae*, 808.
26. Bashir, N.S., Delpasand-Khabbazi, A. and Torabi, E. 2009. Isolation of the gene coding for movement protein from *Grapevine fanleaf virus*. *Iranian Journal of Biotechnology*, 7(4): 258-261.
27. Farajzadeh, D., Aliasghar zad, N., Bashir, N.S. and Yakhchali, B. 2010. Cloning and characterization of a plasmid encoded ACC deaminase from an indigenous *Pseudomonas fluorescens* FY32. *Current Microbiology*, 61: 37-43.
28. Bashir, N. S. 2007. Recent developments in design and application of plant virus gene vectors. *Recent Patents on DNA & Gene Sequences*, 1(3): 214-226.
29. Bashir, N.S., Nourinejhad Zarghani, S. and Hejazi, M.S. 2007. Genetic diversity of Grapevine fanleaf virus isolates. *Virus Research*, 128:144-148.
30. Bashir, N.S., Rasaei- Kalhor, M. and Nourinejhad Zarghani, S. 2006. Detection, differentiation and phylogenetic analysis of cucumber mosaic virus isolates from cucurbits. *Virus Genes*, 32: 277-288.
31. Bashir, N.S. and Rasaei Kalhor, M. 2004. Serological subgrouping of *Cucumber mosaic virus* isolates from Basmenj and Shabestar districts and detection by RT-PCR. *Danesheh Keshavarzi (Agricultural Science)* 15: 103-114.
32. Bashir, N. S., Sanger, M., Järlfors, U. and Ghabrial, S.A 2004. Expression of the *Peanut stunt virus* coat protein gene is essential and sufficient for production of host-dependent ribbon-like inclusions in infected plants. *Phytopathology* 94:722-729.

33. Bashir, N.S., Gillings, M. R. and Bowyer, J. W. 2001. Synergistic interaction between cucumber mosaic cucumovirus and passion fruit woodiness potyvirus in passion fruit. *Acta Horticulturae*, 656.
34. Bashir, N.S., Gillings, M. R. and Bowyer, J. W. 1997. Polymerase chain reaction detection and assessment of genetic variation in New South Wales isolates of passionfruit woodiness potyvirus. *Australasian Plant Pathology*, 26: 155-166.

#### **Other Peer-Reviewed publication**

35. Bashir, N.S., Nourinejhad-Zarghani, S. and Hajizadeh, M. 2015. Status of infection with grapevine fanleaf virus in vineyards and molecular characteristics of the isolates. *Research & Reviews in BioSciences*, 10(7): 267-277.
36. Nematollahi, S., Bashir, N.S., Rakhshandehroo, F. and Zamanizadeh, H. R. 2012. Phylogenetic analysis of new isolates of *Cucumber mosaic virus* on the basis of different genomic regions. *Plant Pathology Journal*, 28(4) : 381-389, <http://dx.doi.org/10.5423/PPJ.OA.06.2012.0077>
37. Bashir, N.S., Hooshmand, A. and Delpasand-Khabazi, A. 2012. Molecular characterization of phylogenetically distinct isolates of *Grapevine fanleaf virus* based on 2A<sup>HP</sup> gene. *Indian Journal of Virology*, 23(1):50–56, DOI 10.1007/s13337-012-0057-4.
38. Bashir, N.S., Nematollahi, S. and Torabi, E. 2008. *Cucumber mosaic virus* subgroup IA frequently occurs. *Acta Virologica*, 52: 237-242.
39. Bashir, N. S. and Hajizadeh, M. 2007. Survey for *Grapevine fanleaf virus* in vineyards and genetic diversity of isolates in the coat protein. *Australasian Plant Pathology* 36: 1-7.
40. Bashir, N.S., Nikkhah, S. and Hajizadeh, M. 2007. Distinct phylogenetic positions of Grapevine fanleaf virus isolates based on the movement protein gene. *Journal of General Plant Pathology*, 73: 209-215.

#### **Invited Presentations at Conferences**

Bashir, N. S. Gene Silencing a Phenomenon in Organism Development and a Cutting Edge Technique. IAAST, Kuala Lumpur, Malaysia, December 21-22, 2016.

Hajizadeh, M., Bashir, N. S., Hosseini, S. Dissemination and molecular characterization of Grapevine fanleaf virus in vineyards of west and north-west Iran. The Second International Conference on Agriculture and Natural Resources, Razi University, Iran, December 25-26, 2013.

Hajizadeh, M., Bashir, N. S., Navarro, B. and Di Serio, F. *Grapevine Yellow Speckle-1* Type 4: A New Proposed Type of *Grapevine Yellow Speckle-1*. Proceedings of the **17th Congress of ICVG**, Davis, California, USA October 7–14, 2012 (p. 108).

Hajizadeh, M., Bashir, N.S., Navarro, B., Mohammadi, S. A., Doulati -Baneh, H., Di Serio, F. Martelli, G. P. Spread of grapevine viroids and Grapevine fanleaf virus in Iran. IUMS2011, 11-16 September, Sapporo, Japan.

Bashir, N.S., Ghasemzadeh, A., Khakvar, R. Detectability of potyviruses by two pairs of degenerate primers. IUMS2011, 11-16 September, Sapporo, Japan.

Shams-Bakhsh, M., Nourinejad -Zarghani, S., Zand, N., Bashir, N.S., Pazhouhandeh, M. Phylogeny and genetic diversity of potato leafroll virus using ORF0 sequence in Iran. IUMS2011, 11-16 September, Sapporo, Japan.

Bashir, N.S. and Melcher, U. Exploration of further sequence data for unknown regions of Ambrossia asymptomatic virus 1. APS Annual Meeting, Charlotte, North Carolina, August 7-11, 2010.

Mousavi, L., Mozafari, J., Rakhshandehroo, F., Ghadamyari, S. and Bashir, N.S. Distribution and prevalence of strains of Potato virus y (PVY) in North Western Iran as determined by RT-PCR. **APS Annual Meeting**, Charlotte, North Carolina, August 7-11, 2010.

Bashir, N.S., Hajizadeh, M., Hartson, S. and Melcher, U. Optimizing expression of Grapevine fanleaf virus coat protein in Escherichia coli. 29<sup>th</sup> Annual Meeting of American Society for Virology, Montana State University, Bozeman, July 17-21, 2010.

Bashir, N.S., Delpasand- Khabbazi, A. Isolation of movement protein gene by the use of degenerate primers from Iran isolates of *Grapevine fanleaf virus* and assessment of the genetic diversity. 16<sup>th</sup> Meeting of the International Council for the Study of Virus and Virus-like Diseases of the Grapevine (ICVG XVI), Dijon, France, Aug. 31- Sep. 4, 2009.

Bashir, N.S., Delpasand-Khabbazi, A., Melcher, U. Computational analysis of recombination in isolates of *Grapevine fanleaf virus* (GFLV). The 7<sup>th</sup> Annual Conference of the Mid South Computational Biology and Bioinformatics Society, Jonesboro, Arkansas, Feb. 19-20, 2010.

Bashir, N. S. and Pirniakan, P. Expression of Cucumber mosaic virus capsid protein gene in Escherichia coli. 98<sup>th</sup> Annual Technical Meeting of Oklahoma Academy of Science, East Central University, Nov. 5, 2009.

Bashir, N. S. 2008. What have we learned from studying Grapevine fanleaf virus from its hypothesized origin? 68<sup>th</sup> Annual Meeting of the Northwest Division of APS, 8-10 October 2008, Newport, Rhode Island.

Bashir, N. S. and Pashaei, A. 2008. Amplification, cloning and sequencing of whole coat protein cDNA from Grapevine fanleaf virus isolates from vineyards in North-West Iran. **XIV International Congress of Virology**, 10-15 August 2008, Istanbul, Turkey.

Bashir, N. S., Delpasand, A. 2008. Amplification of movement protein gene from Iran isolates of Grapevine fanleaf virus by the use of specifically designed primers. 27<sup>th</sup> Annual Meeting of American Society for Virology, 12-16 July, 2008, Ithaca, New York.



Bashir, N. S., Hajizadeh, M., Nikkhah, S. and Zarghani, S. N. 2007. Toward identification of grapevine-infecting viruses in vineyards of Iran- Grapevine fanleaf virus. The 10<sup>th</sup> International Plant Virus Epidemiology (10<sup>th</sup> IPVE) Symposium, 15-19 April, 2007, Hyderabad, India.

Sokhandan Bashir, N and Nikkhah, S. 2006. Genetic variation in movement protein of grapevine fanleaf virus. 15<sup>th</sup> ICVG (International Council for Study of Grapevine Virus and Virus-like Diseases), Stellenbosch, South Africa, April 3-7.

Bashir, N. S., Hajizadeh, M., Nikkhah, S. and Nourinejad, S. 2005. Detection and phylogenetic analysis of grapevine fanleaf virus isolates from the North West region of Iran. 24<sup>rd</sup> Annual Meeting of American Society for Virology, June 18-22, Pennsylvanis State University, USA.

Bashir, N. S. Detection and differentiation of *Cucumber mosaic virus* isolates from the North West region of Iran. 23<sup>rd</sup> Annual Meeting of American Sociey for Virology. July 10-14, McGill University, Montreal, Canada.

Bashir, N.S., Bowyer, J. W. and Gillings, M. R. Synergistic interaction between cucumber mosaic cucumovirus and passionfruit woodiness potyvirus. 19<sup>th</sup> International Symposium on Virus and Virus-like Diseases of Temperate Fruit crops and 10 th International symposium on small fruit virus disease. Valencia, Spain, July 21-25, 2003.

Bashir, N.S., Bowyer, J. W. and Gillings, M. R. Genetic variation in and pathogen-derived resistance against passionfruit woodiness and cucumber mosaic viruses. The First International Conference of Tropical and Subtropical Plant Disease (ICTPS2002). The Imperial Mae Ping Hotel, Chiang Mai, Thailand, Nov. 5-8, 2002.

Bashir, N.S., Jarlfros, U., Sanger, M. and Ghabrial, S.A. Expression of the coat protein is essential and sufficient for production of ribbon-like inclusions in plants infected with peanut stunt virus. 20th Annual Meeting of American Society for Virology, Madison-Wisconsin, July 21-25, 2001.

Bashir, N.S., Bowyer, J. W. and Gillings, M. R. Towards Pathogen-derived Resistance against Passionfruit Woodiness Disease. Annual Meeting of The Society for Experimental Biology, University of Kent, Canterbury, UK, April 1997.