

Resume: Ivo, Ivica Orlić

Contact Details

Name Ivica Orlić
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Date of Birth 1954
Marital status married, two boys
Nationality dual, Croatian and Australian

Career Summary and Capability Statement

Academic Particulars

1979	B.Sc., Physics and mathematics	University of Rijeka
1983	M.Sc. - molecular physics	University of Zagreb, Croatia
1989	Ph.D. – nuclear physics	University of Zagreb, Croatia & VU Amsterdam

Previous and Current Appointments

1978-1979	Teaching Assistant	Medical Faculty, University of Rijeka, Croatia
1980-1985	Research Assistant	Rudjer Boskovic Institute (IRB), Zagreb, Croatia
1985-1989	PhD student	IRB and Vrije University (VU), Amsterdam, The Netherlands
1989-1991	Research Associate	Rudjer Boskovic Institute, Zagreb, Croatia
1991-1995	Research Fellow	National University of Singapore, NUS
1995-2000	Senior Lecturer-A/P and deputy Director of RCNM	National University of Singapore & Research Center for Nuclear Microscopy (RCNM)
2000-2003	Senior Res. Scientist	Australian Nuclear Science & Technology Organisation (ANSTO)
2003-2006	Private enterprise	Circumnavigating the world with the sailing yacht - http://fiu-sailing-adventure.com
2007-present	Full Professor	University of Rijeka - http://www.phy.uniri.hr
2007-present	Chief Exec Director (CEO)	Science and Technology Park of the University of Rijeka (STeP Ri) - http://www.uniri.hr/step-ri

- Graduated Physics and obtained Master and PhD in Nuclear Physics at the University of Zagreb, Croatia – see table above. Subject of Ph.D. Thesis: 'Measurement of ionisation cross sections for proton impact'. This involves both experimental and theoretical aspects of ion beam interaction with matter as well as X ray emission and fluorescence.
- As IAEA expert, attended a number of QA/QC training courses
- At ANSTO, as part of senior management team attended a number of management courses and workshops as well as radiation safety training

Experimental nuclear physicist with extensive international experience. His main expertise lies in the fields of X-ray fluorescence spectroscopy (XRF), Particle Induced X-ray Emission (PIXE), Nuclear & Synchrotron Microscopy. As accelerator physicist involved in various applications of ion beam analysis techniques. Main applications included environmental, materials sciences and biomedical applications.

Since 1988 appointed as an expert of the International Atomic Energy Agency (IAEA, one of the UN agencies) for XRF and PIXE fields. As such, he was appointed as a lecturer on many

IAEA workshops and took part in many, one to two months expert missions to developing countries.

Beside the experimental side of his work, he was involved in development of software and data base required for improved XRF and PIXE quantitative analysis and simulation. That involved thorough understanding of theoretical aspects of interaction of ion beams with the materials, radiation damage, propagation and absorption of ions and photons in various materials.

Core skills and competencies are as follows:

- well acquainted with experimental aspects of accelerator technology including electronics, vacuum, computers, radiation
- expert analytical skills for XRF, PIXE and nuclear microscopy
- acquainted with handling radiation sources and awareness of radiation protection
- highly computer literate – Word/PowerPoint/Excel and numerous specialist Nuclear Analytical software as well as scientific program development using Fortran and C++
- Good presentation skills

He has positive attitude and is a firm believer in power of human mind and capabilities or, as Wilfred Peterson nicely said: “Keep your heart young and your expectations high and never allow your dreams to die... and come to realise that you are surrounded by infinite possibilities for growth and achievement.”

Career History

2008-present Science and Technology Park of the University of Rijeka, STeP Ri

Role: **Chief Executive Officer, CEO** - <http://www.uniri.hr/step-ri>

Duties:

- Organising and driving this big Project of establishing and running the first Croatian Science and Technology Park of the University of Rijeka, STeP Ri. As it is first establishment of its kind in Croatia, challenges are huge! More on our website <http://www.uniri.hr/step-ri>.

2007-present University of Rijeka, Rijeka, Croatia - <http://www.uniri.hr>

Role: **Full professor at the Department of Physics** - <http://www.phy.uniri.hr>

Teaching duties:

- Teaching Fizika IV, year II, as well as Experimental Methods in Physics, Year III
- Key driver of the project Establishment of the Science and Technology Park of the University of Rijeka

2000-2003 ANSTO, Physics/Environment

Role: **Senior Research Scientist in Ion Beam Application (IBA) Group**

Overview of role and responsibilities:

- Support to other team members – I worked with all members of the IBA affinity group and made scientific contributions in broad range of PIXE and RBS, Nuclear & synchrotron microprobe, aerosol analysis, Time of Flight, software and hardware development.
- Understand commercial imperatives – worked on a number of commercial projects and contributed significantly to the group revenue.

- Working on ANSTO tactical and strategic projects and interact nationally through AINSE, Universities, ARPANSA, Industry and internationally through the IAEA, Universities and Industry.
- Maintaining good research record – 3-5 publications per year in International Journals/Conference Proceedings – see the attached list.

1991-2000 National University of Singapore (NUS)

Role: **Research Fellow and Senior Lecturer (Associated Professor*)**

Overview of role and responsibilities:

Started as Research fellow and after few years promoted to senior researched and Senior lecturer. Starting from 1990 Singapore government in hand with the NUS management team decided to become No 1 university in Asia! With such ambitious goal in mind ..

* In 2000 nominated for promotion to Associated Professor but moved to ANSTO, Australia.

Main research areas:

- Nuclear Microscopy and its applications in **environmental, biological and materials** sciences - in collaboration with the Ministry of the Environment, Singapore, significant contributions made in analysis of aerosol samples, sea water and marine sediments.
- Development of software for quantitative analysis by PIXE and RBS techniques.
- Compilation of the database required for accurate quantitative PIXE analysis and simulation - in particular compilation of photon cross sections and L-shell ionization cross sections for light ion impact. Development of semiempirical algorithms for calculation of L-shell cross sections and for calculation of mass absorption coefficient for all elements and in a wide range of photon energies
- Development of a software package for simulation of Ion Beam Interaction with matter - in particular for PIXE and RBS techniques. Software package is named VIBA-Lab and was commercialised.
- Development of software and techniques for the Computer-Micro-Tomography by utilising Nuclear Microscopy imaging.

While at NUS my work resulted in more than 60 publications. I was actively involved in collaboration with the IAEA and have undertaken more than 15 IAEA expert missions (see the Attachment). As a principal investigator and/or as a collaborator I have had a number of grants in total value of approximately 4 million dollars (attachment).

Jobs prior to 1991

1979-1985	Research Associate	Institut Rudjer Boskovic (IRB), Zagreb, Croatia
1985-1989	Research Assistant	Free University, on leave from IRB, Amsterdam
1989-1991	Research Associate	Institut Rudjer Boskovic, Zagreb, Croatia

Professional Development

- Membership of Professional Associations/Board of Directors

1. Member of the PIXE International Advisory/Organizing Committee,
2. Member of the IPS, The Institute of Physics, Singapore, 1991-2000,
3. Member of the Microscopy Society, Singapore, Since 1996,
4. IRPS, International Radiation Physics Society, Since 1992,
5. NYAS, The New York Academy of Science, From 1993-99.

- Service as a reviewer for manuscripts submitted to international journals

1. Institute of Physics Publishing, Journal of Physics,
2. Nuclear Instruments and Methods,
3. Environmental Monitoring and Assessment,
4. American Institute of Physics Publications,
5. International Journal of PIXE,
6. X-Ray Spectroscopy

- Invited talks at international conferences

1. 16th Intern. Conf. On X-ray and Inner-shell Processes, Debercen, April, 1994
2. 13th Int. Conference on the Application of Accelerators in Research and Industry, Denton, USA, 1994
3. 4th Int. Conf. on Nuclear Microprobe Technology and Appl., Shanghai, 1994
4. 14th Int. Conference on the Application of Accelerators in Research and Industry, Denton, USA, 1996
5. Chairman of the Workshop on Simulation and Data Analysis, 6th International Conference on NM Technology and Applications, South Africa, Oct. 1998

- IAEA expert missions:

- 1985** Ghana - Accra, one month,
- 1990** Jordan - Amman, one month,
- 1990** Chile - Santiago, two months,
- 1990** IAEA's Laboratories in Seibersdorf, installation and development of XRF and Total reflection XRF systems - two months.
- 1991** Nigeria - Zaria, - one month,
- 1996** Mongolia, Sri Lanka and Myanmar - one week in each country, Dec. 1996. Main tasks: Check the status of environmental pollution monitoring in XRF laboratories and ensure that proper QA/QC methods are applied.

- Lecturer/consultant on UNDP/RCA/IAEA Workshops/ Meetings

1. Advisory Group Meeting in Nuclear Spectroscopy Software, Vienna, 18-22 May 1992,
2. Interregional Workshop on Application of XRF and PIXE in Environmental Sciences, Vienna, 21 June - 2 July 1993,
3. Interregional Training Course on Nuclear Analytical Techniques Applied to Environmental Pollution Studies and Monitoring, Vienna, Austria, 11-15 Oct. 1993,
4. Workshop on Application of Nucl. Anal. Techniques and Data Evaluation, Denton, 4-6 Nov. 1994,
5. Regional Workshop on Nuclear Analytical Techniques in Environmental Research and Monitoring, National University of Singapore, 3-7 July 1995,
6. Regional Training Workshop on Application of ISO Guide 25 and Other International QA/QC Standards in Laboratories Employing Nuclear and Complementary Techniques for Environmental Analysis, Taejon, Republic of Korea, 24 June to 5 July 1996.

Supervisor/co-supervisor of M.Sc. / Ph.D. students

- 1.C.H. Saw, **A Study of Proton Induced L-shell Cross Sections**, Master thesis, National University of Singapore, September 1993
- 2.K.K. Loh, **Development of Software for Data Analysis in Ion Beam Analysis**, Master Thesis, National University of Singapore, September 1993
- 3.S. Fazinic, **L-shell Cross Section Determination for Light Ion Impact**, co-supervisor for Ph.D. Thesis, University of Zagreb, Croatia, Dec. 1994
- 4.Bao Wenlan, **Application of Nuclear Analytical Techniques in Air Pollution Studies**, MSc Thesis, NUS, Period: 1994 – 1997
- 5.Chiam Sher Yi, **Application of Nuclear Analytical Techniques in Materials research**, Accelerated MSc Degree, Period: 1998 – 1999
- 6.Naveen Bhatia, **Heavy metal pathways and archives in biological tissue, Ph. D. 2002/3 ANSTO**

Contributions to text-books or monographs

- **Chapter in a book:** Analytical Chemistry of Aerosols, the chapter has 55 pages and entitled: **The Analysis of Individual Aerosol Particles using the Nuclear Microscope**, The book is edited by KR Spurny and published in 1999 by the CRC Publisher, USA.
- **Nuclear Physics III** – advanced course book for Nuclear Physics, Honours Year (Year IV) in Physics Department, National University of Singapore. Over 200 pages, 1995.
- **Quantum Physics II** – advanced course book for Quantum Physics II, Year III in Physics Department, National University of Singapore, 165 pages, 1997.
- **The Exciting World of Quantum Physics** – popular presentation of quantum physics phenomena (35 pages) for the booklet **Popular Physics**, National University of Singapore, 1998.

Course Leadership and organisation

- The key founder and the leader of the Akademsko Astronomsko Društvo (AAD), Rijeka. The AAD was founded in 1974 when we had over 300 members. The Society is still very active, has expanded their activities and built observatory in Rijeka.
- Leader of the 11th Singapore Physics Olympiad that was organised in Singapore, November 1998 and the
- Leader of the Singapore team for the 30th International Physics Olympiad that was held in Padua, Italy in June 1999 (winning 4 medals, 2 gold, silver and bronze).

Personal Accomplishments

- Sporting or leisure highlights - sailing is my favourite sport, hiking, diving, skiing
- Mastering a foreign language - English, Croatian, and basic understanding of Italian and German

- **Research publications – see attachment**

Research Grants at NUS awarded as:

a) Myself as a Principal Investigator

1. Development of an Automated PIXE and RBS Facility For Advanced Materials Characterisation and Environmental Pollution Measurements, Grant value: S\$ 140,000.00, from July 1998 to July 2000;
2. Study Of Ambient Dust Particles - Joint project between the Ministry of the Environment (ENV) and NUS, Grant value: S\$ 193,700, from March 1995 to Sept. 1998.
3. Development of an Interactive Software Package for Simulation and Quantitative Analysis in Nuclear Microscopy, Project approved but terminated when I left NUS in 2000.

b) A Collaborator

4. Development of 100 nm Nuclear Microscope Beam Line, Grant value: S\$ 89,000: March 1995 - 1999.
5. Integrated Circuit Analysis and Advanced Materials Characterisation, Grant value: S\$ 176,000: Started January 1996: Completed in 1999.
6. Techniques Development, Grant S\$ 80,000: August 1998 - 2000.

c) Research projects commissioned or funded by Agencies other than NUS

7. Strategic Research in Nuclear Microscopy, Grant: S\$ 696,000, 1997 to 2000, funded by the National Science and Technology Board, Singapore.
8. Multi-disciplinary Applications of Nuclear Microscopy, Grant value: S\$ 2.900,000: Started March 1998, funded by the Ministry of Education, Singapore (to purchase a new accelerator).
9. Air Pollution Studies in Singapore By PIXE And XRF – funded by the IAEA/ UNDP.

Published in the International Journals

1980-84

1. A. Ljubicic, I. Orlic, V. Valkovic, B. Bek, S. Holjevic, N. Orlic, M. Budnar and M. Kregar, **Trace Elements in Water and Biological Samples Determined by X-ray Spectroscopy**, Prog. Wat Tech. 12 (1980) 513-522.
2. I. Orlic, S. Marcenko and V. Valkovic, **Studies of Trace Elements in Chlorella Vulgaris by X-ray Fluorescence Spectroscopy**, Periodicum Biologorum 83 (1981) 245-250.
3. V. Valkovic, J. Makjanic, I. Orlic, P. Marijanovic, D. Rendic, M. Budnar, L. Cindro and U. Miklavzic, **Trace Elements in Coal by X-ray Emission Spectroscopy**, Analytical Techniques in Environmental Chemistry 2 (1982) 339-344.
4. J. Makjanic, I. Orlic, M. Jaksic, P. Marijanovic, D. Raos, D. Rendic and V. Valkovic, **Elemental Analysis of Coal Using X-ray spectroscopy**, Fuel 62 (1983) 1247-1249.
5. I. Orlic, J. Makjanic and V. Valkovic, **Comparison of Particle and Photon Excited X-ray Characteristic Spectra Applied to Elemental Analysis of Hair Samples**, Nucl. Instr. Meth., B3 (1984) 250-252.
6. V. Valkovic, I. Orlic, J. Makjanic, D. Rendic, U. Miklavzic, and M. Budnar, **Comparison of Different Modes of Excitation in X-ray Emission Spectroscopy in the Detection of Trace Elements in Coal and Coal Ash**, Nucl. Instr. Meth. B4 (1984) 127-131.
7. M. Jaksic, D. Rendic, P. Marijanovic, I. Orlic, and V. Valkovic, **Determination of Rare Earth Elements by Radioisotope Induced X-ray Emission Spectroscopy**, J. Radioanal. Nucl. Chem 82 (1984) 363-368.

1985-91

8. J. Makjanic, I. Orlic and V. Valkovic, **Elemental Analysis of Alloys by XRF**, Journal of the Radioanalytical and Nuclear Chemistry, 91 (1985) 205-213.
9. I. Orlic, J. Makjanic and V. Valkovic, **Evaluation of Inter-element Coefficients by the Fundamental Parameter Method in Alloy Analysis by XRF**, X-Ray Spectrometry 14 (1985) 50-52.
10. M. Nagj, M. Jaksic, I. Orlic and V. Valkovic, **Sample Preparation Techniques in Trace Element Analysis of Water**, Nucl. Instr. Meth., A236 (1985) 563-567.
11. M. Nagj, J. Makjanic, I. Orlic, S. Tomic and V. Valkovic, **Determination of Uranium in Sea Water by X-ray Fluorescence Spectroscopy**, J. Radioanal. Nucl. Chem 97 (1986) 373-380.
12. M. Jaksic, I. Orlic and V. Valkovic, **X-ray Fluorescence Spectroscopy with Composite Secondary Target Excitation**, J. Radioanal. Nucl. Chem. Letters 104 (1986) 37-41.
13. I. Orlic, J. Makjanic and V. Valkovic, **Optimization of XRFS for the Analysis of Toxic Elements and Heavy Metals in Coffee Products**, J. Radioanal. Nucl. Chem. 102 (1986) 203-210.
14. I. Orlic, S. Tomic, J. Makjanic, M. Jaksic and V. Valkovic, **A Modified Approach to the Quantitative XRF Analysis of Thick Targets**, X-ray Spectrometry 16 (1987) 125-130.
15. I. Orlic, J. Makjanic, D. Raos and V. Valkovic, **A General Way of Solving Matrix Effect Problems in Elemental Analysis by EDXRFS**, X-Ray Spectrometry 17 (1988) 139-143.
16. I. Orlic, W.J.M. Lenglet and R.D. Vis, **Accurate Measurement of the Relative Si(Li) Detector Efficiency for X-Ray Energies Below 5 keV**, Nucl. Instr. Meth. A276 (1989) 202-209.
17. I. Orlic, M. Budnar, V. Cindro, Z. Smit and V. Valkovic, **Low-Z Inner-Shell Ionization Cross Sections for 0.5-1.5 MeV H and He Ions**, Nucl. Instr. Meth. B40/41(1989)108-112.
18. I. Orlic, F. van Langevelde and R.D. Vis, **The Influence of the Sample Roughness on the Quantification of Micro-PIXE Results**, Nucl. Instr. Meth. B49 (1990) 74-77.
19. I. Orlic, J. Makjanic, G.H.J. Tros and R.D. Vis, **TPIXAN-Package of Computer Programs for Quantitative Thick Target PIXE Analysis**, Nucl. Instr. Meth. B49 (1990) 166-172.

1992-onward (NUS)

20. K.K. Loh, C.H. Sow, I. Orlic and S.M. Tang, **Computer simulation of PIXE and micro-PIXE Spectra for Homogeneous Thick Target Analysis**, Nuclear Instruments and Methods, B77 (1993) 132-136

21. I. Orlic, K.K. Loh, C.H. Sow, S.M. Tang, P. Thong, **Parametrization of the Total Photon Mass Attenuation Coefficients in the Photon Energy Range 0.1 - 1000 keV for elements with Z =1 to 92**, Nuclear Instruments and Methods, **B74** (1993) 352-361
22. C.H. Sow, I. Orlic, K.K. Loh and S.M. Tang, **New Parameters for the Calculation of L-Subshell Ionization Cross Sections**, Nuclear Instruments and Methods, **B75** (1993) 58-62
23. K.K. Loh, C.H. Sow, K.H. Tan, H.S. Tan, S.M. Tang, I. Orlic and T. Osipowicz, **Measurement of Phosphorus Content in Silica Layers**, Nuclear Instruments and Methods, **B75** (1993) 364-366
24. S.M. Tang, T.H. Ong, M.G. Tan, K.K. Loh, C.H. Sow, B. Yuan and I. Orlic, **Stoichiometric analysis of Y-Ba-Cu-O Superconductors using Deuterons**, Nuclear Instruments and Methods, **B75** (1993) 383-387
25. I. Orlic, C.H. Sow and S.M. Tang, **Experimental L-Shell X-Ray Production and Ionization Cross Sections for Proton impact**, Atomic Data Nuclear Data Tables 56 (1994) 159-210

26. I. Orlic, C.H. Sow T. Osipowicz and S.M. Tang, **L X-Ray Production Cross Sections of Medium Z Elements for 0.4 to 2.0 MeV Protons**, Nuclear Instruments and Methods, **B85** (1994) 133-137
27. I. Orlic, F. Watt, K. K. Loh, and S. M. Tang, **Nuclear Microscopy of Single Aerosol Particles**, Nuclear Instruments and Methods, **B85** (1994) 840-844
28. F. Watt, I. Orlic, K. K. Loh, C. H. Sow, P. Thong, S. C. Liew, T. Osipowicz, T. F. Choo, and S. M. Tang, **The National University of Singapore Nuclear microscopy Facility**, Nuclear Instruments and Methods, **B85** (1994) 708-715
29. T. Osipowicz, S.C. Liew, K.K. Loh, I. Orlic, and S.M. Tang, **Reconstruction of Ar Depth Profiles from PIXE measurements**, Nucl. Instr. Meth., **B85** (1994) 499-502
30. I. Orlic, **Present Status of the Experimental L-shell Ionization Cross Sections for Light Ion Impact**, Nuclear Instruments and Methods, **B87** (1994)285-292
31. Z. Smit and I. Orlic, **First Order Theories for Adiabatic L-shell Ionization by Protons**, Physical Review A, **50** (1994) 1301-1308
32. S. Fazinic, I. Bogdanovic, M. Jaksic, I. Orlic and V. Valkovic, **L-shell X-ray Production Cross Sections of In, Sn, Te, Cs, La, Pr, Nd and Sm for Protons of Energy 2-6 MeV**, J. Physics, **B27** (1994) 4229-4241
33. I. Orlic, **The Nuclear Microscope: A Review of Applications in the Environmental Sciences**, Nucl. Instr. Meth., **B 104** (1995) 602-611
34. I. Orlic, T. Osipowicz, F. Watt and S.M. Tang, **The Microanalysis of Individual Atmospheric Aerosol Particles Using the Nuclear Microscope**, Nucl. Instr. Meth., **B 104** (1995) 630-637
35. S.C. Liew, I. Orlic, and S.M. Tang, **PIXE tomographic reconstruction of elemental distributions using an iterative maximum-likelihood method**, Nucl. Instr. Meth., **B 104** (1995) 222-227
36. R. Sandrik, E. Majkova, S. Luby, K. Nakamura, A. Ishi, I. Orlic, S.M. Tang and F. Watt, **The Study of the Structural Stability of Multilayer Systems by RBS and PIXE Microbeam Methods**, Nucl. Instr. Meth., **B 104** (1995) 519-523
37. T. Osipowicz, T.S. Tay, I. Orlic, S. M. Tang and F. Watt, **Nuclear Microscopy of Rubies, Analysis of Trace Elements and Inclusions**, Nucl. Instr. Meth., **B 104** (1995) 590-594
38. P.S.P. Thong, N.C. Law, I. Orlic, D.J. Lane and F. Watt, **A Quantitative study of the Blood Cells of the Tropical Ascidian Phallusia Philippinensis Using the Nuclear Microscope**, Nucl. Instr. Meth., **B 104** (1995) 365-369
39. S. Fazinic, I. Bogdanovic, M. Jaksic, I. Orlic and V. Valkovic, **L-shell X-ray Production Cross Sections of Tb, Dy, Ho, Er, Tm, Yb, and Lu for Protons of Energy 2-6 MeV**, Nucl. Instr. Meth., **B94** (1994) 363-368
40. F. Watt, I. Orlic, T. Osipowicz, K.K. Lee, T.F. Choo and S.M. Tang, **The Effect of External Magnetic Fields and Slit Scattering on the Beam Spot Profile Produced by the Coupled Quadrupole Triplet Configuration**, Nucl. Instr. Meth., **B 104** (1995) 101-106
41. I. Orlic, C.H. Sow and S.M. Tang, **Semiempirical Formulas for Calculation of L-Subshell Ionization Cross Sections**, International Journal of PIXE, 4, (1994) 217-230
42. W.L. Bao, I. Orlic, and SM Tang, **Elemental Analysis of Aerosol in Singapore Atmosphere by Nuclear Analytical Techniques**, International Journal of PIXE, 5, (1995) 235-247
43. R. Sandrik, M. Jergel, V. Strbik, K. Nakamura, A. Ishii, I. Orlic, SM. Tang, F. Watt, **Analysis of Stoichiometry of Hi-Tc Superconducting Films by RBS and PIXE Methods**, Nucl. Instr. Meth., **B118**, (1996) 602-607
44. S. Fazinic, T. Tadic, I. Bogdanovic, M. Jaksic, I. Orlic, V. Valkovic, **K Shell Ionization of V, Cr, Mn, Fe, Co, Ni, and Cu by 5-12 MeV Carbon Ions**, Nucl. Instr. Meth., **B114**, (1996) 232-236

45. I. Bogdanovic, S. Fazinic, M. Jaksic, I. Orlic, V. Valkovic, **L Subshell Ionization of Eu, Gd, and W by 1.6-5.2 MeV Protons**, Nucl. Instr. Meth., **B109**, (1996) 47-51
46. I. Orlic, Bao Wenlan, F. Watt and S.M. Tang, **Air Pollution in Singapore; its Multielemental Aspect as Measured by Nuclear Analytical Techniques**, Environmental Monitoring and Assessment, **44** (1997) 455-470
47. I. Orlic, K.K. Loh, S.C. Liew, Y.K. Ng, J.L. Sanchez, S.M. Tang, **TPIXAN - The 4th Generation**, Nucl. Instr. Meth., **B130** (1997) 133-137
48. Xiankang Wu, I. Orlic, S.M. Tang, Y. Wang, X. Wang, and J. Zhu, **Analysis of Dinosaur Samples by nuclear microscopy**, Nucl. Instr. Meth., **B130** (1997) 308-314
49. Y.K. Ng, I. Orlic, S.C. Liew, K.K. Loh, S.M. Tang, J.L. Sanchez, T. Osipowicz, S.M. Tang And F. Watt, **A PIXE micro-tomography experiment using MLEM algorithm**, Nucl. Instr. Meth., **B130** (1997) 109-112
50. T. Osipowicz, J. L. Sanchez, I. Orlic, F.Watt, S. Kolachina, V.K.S. Ong, D.S.H. Chan and J.C.H. Phang, **Recent results in ion beam induced charge microscopy: Unconnected junction contrast and an assessment of single contact IBIC**, Nucl. Instr. Meth., **B130** (1997) 503-506
51. S. M. Tang, I. Orlic, K.N. Yu, J. L. Sanchez, P. S. P. Thong, F. Watt, and H.W. Khoo, **Nuclear Microscopic Study of Scales of Tropical Fishes**, Nucl. Instr. Meth., **B130** (1997) 396-401
52. I. Orlic, T. Osipowicz, and S.H. Sow, **L x-ray production cross sections of medium Z elements by 4He impact**, Nucl. Instr. Meth., **B136-138** (1998) 184-188
53. S.M. Tang, I. Orlic and X.K. Wu, **Analysis of Singapore Marine Sediments by PIXE**, Nucl. Instr. Meth., **B136-138** (1998) 1013-1017
54. F. Watt, T. Osipowicz, T.F. Choo, I. Orlic, S.M. Tang, **Nuclear microprobe analysis and imaging; current state of the art performance** Nucl. Instr. Meth., **B136-138** (1998)
55. T. Osipowicz, J. L. Sanchez, I. Orlic, F.Watt, S. Kolachina, D.S.H. Chan and J.C.H. Phang, **Fluorescence dependence of IBIC collection efficiency of CMOS transistors**, Nucl. Instr. Meth., **B136-138** (1998) 1345-1348
56. I. Orlic, Shijun Zhou, J.L. Sanchez, C.L. Lee, F. Watt, S.M Tang, **Quantitative Analysis of Cascade Impactor Samples - Revisited**, Nucl. Instr. Meth, **B 150** (1999) 465-469
57. I. Orlic and S. M. Tang, **Elemental Depth Profiles in Marine Sediments of Singapore Coastal Waters**, Nucl. Instr. Meth, **B 150** (1999) 291-297
58. I. Orlic, Xie Wen, T. H. Ng, S. M. Tang, F. Watt, **Two Years of Aerosol Pollution Monitoring in Singapore: a Review**, Nucl. Instr. Meth, **B 150** (1999) 457-464
59. I. Orlic, I. Bogdanovic, Shijun Zhou and J.L. Sanchez, **Parametrization of the Total Photon Mass Attenuation Coefficients in the Energy Range 100 eV to 100 MeV**, Nucl. Instr. Meth, **B 150** (1999) 40-45
60. I. Orlic, S. J. Zhou, J.L. Sanchez, F. Watt, S.M Tang, **Virtual PIXE and RBS Laboratory**, Nucl. Instr. Meth, **B 150** (1999) 83-89
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63. S. Fazinic, M. Jakšić, J.L. Campbell, P. Van Espen, M. Blaauw, I. Orlic, **The 2000 IAEA test spectra for PIXE spectrometry**, Nucl. Instr. and Meth., B183 (2001) pp439-448.
64. R. Siegele, I. Orlic, D.D. Cohen, S.J. Markich and R.A. Jeffree, **Manganese Profiles in Freshwater Mussel Shells**, Nucl. Instr. Meth. B181 (2001) 593
65. R. Siegele, I. Orlic and D.D. Cohen, **Elastic recoil detection analysis on the ANSTO heavy ion microprobe**, Nucl. Instr. and Meth. **B190**, 301-305 (2002).
66. I. Orlic, R. Siegele, David D. Cohen, E. Stelcer, A Sarbutt, S.J. Markich, R.A. Jeffree, D. Dev. Menon, D.C. McPhail, **Heavy metal pathways and archives in biological tissue**, Nucl. Instr. and Meth. **B190**, pp. 439-444 (2002).
67. I. Orlic, R. Siegele, D.D. Cohen, K. Hammerton, R.A. Jeffree, **Nuclear Microprobe Analysis of Lead Profiles in Crocodile Bones**, Nucl. Instr. Meth B210 (2003) 330-335
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