# 7th Workshop on Nuclear Level Density & Gamma Strength Program

**Monday May 27**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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| 08:30 – 09:30 | Registration and coffee  
*(Location: Helga Engs hus, main hall)*           |
| 09:30 | Welcome and opening of workshop  
*(Location: Helga Engs hus, Auditorium 3)*  
Sunniva Siem (chair) and  
Morten Dæhlen (dean, Faculty of Mathematics and Natural Sciences)*       |
| 1st session | Chair: Sunniva Siem |
| 09:40 | Isospin effects and the nuclear electric dipole response  
Angela Bracco       |
| 10:10 | Theoretical description of the E1-M1 strength  
Stepháne Goriely |
| 10:40 | Investigating the M1 scissors resonance in well deformed  
Samarium isotopes  
Kgashane Malatji |
| 11:00 | Coffee |
| 2nd session | Chair: Sunniva Siem |
| 11:30 | New Measurements and Prospects of Normalization of Photon  
Strength Functions  
Mathis Wiedeking |
| 12:00 | Photoneutron cross section measurements with a direct neutron  
multiplicity sorting method  
Ioana Gheorghe |
| 12:20 | Properties of neutron-rich $^{71,72,73}\text{Ni}$  
Sean N. Liddick |
| 12:40 | Consolidating the concept of low-energy magnetic dipole decay  
radiation  
Jørgen E. Midtbø |
| 13:00 | Lunch |

Version as of May 28, 2019
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
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<tr>
<td>14:30</td>
<td>3rd session, Chair: Magne Guttormsen</td>
<td>Constraints on the dipole $\gamma$-ray strength functions from multi-step cascade spectra</td>
<td>M. Krticka</td>
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<td>14:50</td>
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<td>Recent development of DICEBOX code</td>
<td>Stanislav Valenta</td>
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<td>15:10</td>
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<td>Fine structure of the pygmy quadrupole resonance</td>
<td>Nadia Tsoneva</td>
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<td>15:30</td>
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<td>Study of excitation energy and angular momentum dependence of the level density parameter</td>
<td>Pratap Roy</td>
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<td>15:50</td>
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<td>Estimation of Uncertainty in Calculated Gamma Cascades For Model Comparison</td>
<td>Amanda Lewis</td>
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<td>16:10</td>
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<td>Information, poster session</td>
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<tr>
<td>17:00-19:30</td>
<td></td>
<td>Poster session, Origo (Physics Building)</td>
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Tuesday May 28

08:30 – 09:00  Coffee  
(Location: Helga Engs hus, main hall)

1st session  
Chair: Gry M. Tveten  
(Location: Helga Engs hus, Auditorium 2)

09:00  Gamma Strength Functions and Level Densities along the Stable Tin Isotope Chain  
Peter von Neumann-Cosel

09:30  Benchmarking mean-field and beyond-the-mean-field methods for calculating level densities  
Yoram Alhassid

10:00  Level densities of pf-shell nuclei by large-scale shell-model calculations  
Noritaka Shimizu

10:30  Using (d,pγ) reactions as surrogates for (n, γ)  
Gregory Potel

11:00  Coffee

2nd session  
Chair:  

11:30  The radiative width of the Hoyle state  
Tibor Kibedi

12:00  A thermodynamic approach to nuclear level densities in the framework of Skyrme energy density functionals  
Wouter Ryssens

12:20  Modifications to conventional Hauser-Feshbach calculations  
Steven M. Grimes

12:40  Level densities for nuclei from 70-80 mass region from different experiments  
Alexander V. Voinov

13:00  Lunch; Discussions on level density topics

3rd session  
Chair:  

15:00  Rotational enhancement of the nuclear level density in the static-path plus random-phase approximation  
Paul Fanto

15:20  Present status of the ELIGANT setups for photonuclear reaction studies above the neutron threshold  
Pär-Anders Söderström
15:40  Experimental constraints on level densities through cross-section correlations
       Gustavo Nobre

16:00  Coffee

4th session  Chair:
16:30  Study of photon strength functions via ($\gamma,\gamma''\gamma''')$ reactions using
       quasi-monochromatic photon beams
       Johann Isaak

16:50  Testing of the Brink-Axel Hypothesis in 208Pb using fast protons at
       the CCB facility in Krakow
       Barbara Wasilewska
Wednesday May 29

08:30 – 09:00  
Coffee  
(Location: Helga Engs hus, main hall)

1st session  
Chair: Andreas Görgen  
(Location: Helga Engs hus, Auditorium 2)

09:00  
Gamma-ray strength function for Ni, Ba, and Tl isotopes along the s-process path  
Hiroaki Utsunomiya

09:30  
Development of E1 and M1 strengths in $^{54}$Fe and $^{66}$Ni  
Ronald Schwengner

10:00  
Gamma decay of the isovector giant dipole resonance in $^{90}$Zr: the damping mechanism and the fine structure  
Atsushi Tamii

10:30  
What do we know about the Pygmy Dipole Resonance and what can we still learn?  
Luna Pellegri

11:00  
Coffee

2nd session  
Chair:  

11:30  
Nuclear shell model and the level density  
Sofia Karampagia

12:00  
E1 strength in $^{70}$Ni Nucleus  
Oliver Wieland

12:30  
Preliminary results for constraining i-process reaction rates  
Caley Harris

12:45  
Development of the Fast Loading User Facility for Fission Yields  
Eric F. Matthews

13:00  
Lunch; Discussions on γ-strength function topics

3rd session  
Chair:  

15:00  
The implementation of electric dipole transition strength in constraining the relativistic energy density functional  
Nils Paar

15:20  
Test of Practical Expressions for E1 Photon Strength Functions on Photoabsorption and Photodecay Data  
Kateryna Solodovnyk

15:40  
Dipole strength of $^{164}$Dy below the neutron separation threshold  
Oliver Papst
16:00  Coffee

4th session  Chair:
16:30  Statistical gamma decay of $^{168}$Er from resonance neutron capture
      Ingrid Knapova

16:50  Resolving discrepancies between (p,p') and ($\gamma$,xn) reactions
      Lindsay Donaldson
Thursday May 30

09:30 – 10:00  Coffee  
(Location: outside Store Fysiske Auditorium, Physics Building)

1st session  Chair:  
(Location: Store Fysiske Auditorium, Physics Building)
10:00  Recent Results with the Fission Event Generator FREYA  
Ramona Vogt

10:30  Investigating the fission process: a study of the prompt fission γ-rays from the fission of $^{241}$Pu*  
Dorthea Gjestvang

10:50  Nuclear Level Density and γ-Decay Strength for $^{93}$Sr  
Adriana Sweet

11:10  Photon strength function of $^{196}$Pt extracted from neutron radiative capture measured with DANCE detector  
Nina Simbirtseva

11:30  Neutron-capture cross sections for i-process nuclei, $^{102,103}$Mo  
Andrea Richard

14:00  Excursion, Akershus Castle, Group 1  

15:00  Excursion, Akershus Castle, Group 2 and 3  

16:30  Conference dinner, Oslo Militære Samfund
Friday May 31

08:30 – 09:00 Coffee
(Location: Helga Engs hus, main hall)

1st session Chair:
(Location: Helga Engs hus, Auditorium 2)
09:00 Nucleosynthesis around $^{60}$Fe via indirect neutron-capture reaction studies
Artemis Spyrou

09:30 Systematic study of the level density and $\gamma$-ray strength function of samarium isotopes
Anna Simon

10:00 Multimessenger area: Opportunities for future experiments at ISAC-II, TRIUMF
Dennis Mücher

10:20 Extension of the $\beta$-Oslo method: Preliminary results for constraining rp-process reaction rates
Stephanie Lyons

10:40 Solving the statistical mysteries of $^{133}$Xe with inverse-Oslo method
Hannah C. Berg

11:00 Coffee

2nd session Chair:
11:30 Radiative proton-capture reactions as a tool to study averaged partial $\gamma$-decay widths
Philipp Scholz

12:00 Investigating the influence of Nuclear deformation on the Pygmy Dipole Resonance
Harshna Jivan

12:20 Investigation of the $\gamma$-ray strength function of $^{87}$Rb
Julius Wilhelmy

12:40 Constraining the cross section of $^{82}$Se(n,$\gamma$)$^{83}$Se to validate the $\beta$-Oslo method
Katherine L. Childers

13:00 Lunch: Discussions on applications: nuclear astrophysics, fission, medical applications…

3rd session Chair:
15:00 The Bay Area Nuclear Data Group
Lee A. Bernstein
15:30 Concluding remarks, end of workshop