

# Runyu Hong

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## SKILLS

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**Programming:** Python (experienced), R (experienced), SQL (familiar), Matlab (familiar), SAS (basic), Java (basic)

**Data and ML:** Tensorflow/Keras (experienced), Pytorch (experienced), Shiny (experienced), pandas (experienced), Linux (experienced), scikit-learn (familiar), HPC/slurm (familiar), openCV (familiar), AWS (familiar), Database (familiar)

**Biomedical Informatics:** Omics Data Analysis (Experienced) Spatial Transcriptomics Analysis (Experienced), EHR (familiar)

## EDUCATION

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**Ph.D.**, New York University Grossman School of Medicine 2017.08-2022.06

*Systems and Computational Biomedicine Training Program*

*Dissertation: Linking Histopathology and Proteo-genomics with Deep Learning in Cancers*

**M.Phil.**, New York University Grossman School of Medicine 2017.08-2020.09

*Systems and Computational Biomedicine Training Program*

**B.S. with Honors**, University of Wisconsin Madison 2013.05-2017.05

*Biochemistry/Mathematics*

*Thesis: Predicting and Interpreting the Hofmeister Effects of Different Salts with Nucleic Bases and Aromatic Compounds Using Solubility Assay*

**Certificates**, Harvard Business School Online

*Business Analytics (2018.04-2018.06), Credential of Readiness (2022.01-2022.04)*

## EXPERIENCE

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**Senior Scientist, Regeneron Pharmaceuticals** 2023.02-present

- Led and supported the computational and statistical analysis of histological image-based omics data.
- Developed computational methods, predictive models, and analytical pipelines for biomarker discovery.
- Built quantitative image analysis and visualization tools and managed data acquisition and storage infrastructure.
- Communicated and collaborated with interdisciplinary and cross-functional teams.

**Senior Data Scientist, Boston Consulting Group** 2022.08-2023.02

- Engineered a recommendation system that boosted the quarterly revenue of a pharmaceutical company by 30%.
- Implemented a digital sales optimization strategy that cut the labor cost by 50% for a pharmaceutical company.
- Presented to client's senior management team and collaborated closely with client's IT and sales teams.

**Graduate Assistant, New York University Grossman School of Medicine (PI: Dr. D. Fenyö)** 2017.08-2022.07

- Developed and applied deep learning models in automating and improving image-based cancer prognosis.
- Analyzed proteo-genomics data using advanced bioinformatics tools to get insights with clinical outcomes.
- Discovered morphological features that link to molecular-level understandings in cancer histopathology.
- Multitasked with 5 ongoing computational projects in collaboration with researchers and clinicians around the world.

**Data Scientist (Intern), Novartis** 2021.06-2021.08

- Conducted HEOR research and built advanced machine learning models to characterize real world heterogeneity of KRAS-G12C mutant NSCLC patient population.
- Developed interactive apps to visualize potential prognostic features among NSCLC patient population.

**Undergraduate Researcher (Part-time), University of Wisconsin Madison (PI: Dr. M.T. Record)** 2014.01-2017.05

- Computationally predicted and experimentally validated nucleic acids and aromatic compounds interactions based on Hofmeister Series.
- Received 3 research scholarships and fellowships and the thesis was completed with honors.

**Research Trainee (Intern), European Molecular Biology Laboratory (PI: Dr. E. Lemke)** 2016.05-2016.08

- Designed and tested the feasibility of using hepatitis B virus capsids as artificial nuclear import carriers.

- Participated in a highly competitive and fully funded internship abroad program.

## PUBLICATIONS

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### *Published*

Joshua M. Wang\*, **Runyu Hong\***, Elizabeth G. Demicco, Jimin Tan, Rossana Lazcano, Andre L. Moreira, Yize Li, Anna Calinawan, Narges Razavian, Tobias Schraink, Michael A. Gillette, Gilbert S. Omenn, Eunkyung An, Henry Rodriguez, Aristotelis Tsigos, Kelly V. Ruggles, Li Ding, Ana I. Robles, D.R. Mani, Karin D. Rodland, Alexander J. Lazar\*, Wenke Liu\*, David Fenyö\*, and Clinical Proteomic Tumor Analysis Consortium. (2023) Deep Learning Integrates Histopathology and Proteogenomics at a Pan-cancer Level. ***Cell Reports Medicine***.

Yongchao Dou\*, Lizabeth Katsnelson\*, Marina A. Gritsenko\*, Yingwei Hu†, Boris Reva†, **Runyu Hong†**, Yi-Ting Wang†, Iga Kolodziejczak†, Rita Jui-Hsien Lu†, Chia-Feng Tsai†, Eunkyung An, Jasmin Bavara, Lijun Chen, Rosalie K. Chu, Andrzej Czeakański, Teresa Davoli, Deborah DeLair, Kelly Devereaux, Saravana M. Dhanasekaran, Peter Dottino, Thomas L. Fillmore, Catherine E. Hermann, Tara Hiltke, Galen Hostetter, Marcin Jędryka, Scott D. Jewell, Isabelle Johnson, Chandan Kumar-Sinha, Paweł Kurzawa, Jonathan T. Lei, Yuxing Liao, Tung-Shing M. Lih, Wenke Liu, John Martignetti, Ramya Masand, Rafał Matkowski, Wilson McKerrow, Mehdi Mesri, Matthew E. Monroe, Jamie Moon, Ronald J. Moore, Michael D. Nestor, Chelsea Newton, Tatiana Omelchenko, Gilbert Omenn, Samuel H. Payne, Vladislav A. Petyuk, Ana I. Robles, Henry Rodriguez, Kelly V. Ruggles, Dimitri Rykunov, Sara Savage, Athena A. Schepmoes, Tujin Shi, Zhiao Shi, Mason Taylor, Mathangi Thiagarajan, Joshua Wang, Karl K. Weitz, Bo Wen, C. M. Williams, Yige Wu, Matthew A. Wyczalkowski, Xinpei Yi, Xu Zhang, Rui Zhao, David Mutch, Arul M. Chinnaiyan, Richard D. Smith, Alexey I. Nesvizhskii, Pei Wang, Maciej Wiznerowicz, Li Ding, D. R. Mani, Hui Zhang, Matthew L. Anderson, Karin D. Rodland, Bing Zhang, Tao Liu, David Fenyö, Clinical Proteomic Tumor Analysis Consortium. (2023) Proteogenomic insights suggest druggable pathways in endometrial carcinoma. ***Cancer Cell***.

Yize Li, Yongchao Dou, Felipe Da Veiga Leprevost, Yifat Geffen, Anna P. Calinawan, Francois Aguet, Yo Akiyama, Shankara Anand, Chet Birger, Song Cao, Rekha Chaudhary, Padmini Chilappagari, Marcin Cieslik, Antonio Colaprico, Daniel Cui Zhou, Corbin Day, Marcin J. Domagalski, Myvizhi Esai Selvan, David Fenyö, Steven M. Foltz, Alicia Francis, Tania Gonzalez-Robles, Zeynep H. Gumus, David Heiman, Michael Holck, **Runyu Hong**, Yingwei Hu, Eric J. Jaehnig, Jiayi Ji, Wen Jiang, Lizabeth Katsnelson, Karen A. Ketchum, Robert J. Klein, Jonathan T. Lei, Wen-Wei Liang, Yuxing Liao, Caleb M. Lindgren, Weiping Ma, Lei Ma, Michael J. MacCoss, Fernanda Martins Rodrigues, Wilson McKerrow, Ngoc Nguyen, Robert Oldroyd, Alexander Pillozzi, Pietro Pugliese, Boris Reva, Paul Rudnick, Kelly V. Ruggles, Dmitry Rykunov, Sara R. Savage, Michael Schnaubelt, Tobias Schraink, Zhiao Shi, Deepak Singhal, Xiaoyu Song, Erik Storrs, Nadezhda V. Terekhanova, Ratna R. Thangudu, Mathangi Thiagarajan, Liang-Bo Wang, Joshua M. Wang, Ying Wang, Bo Wen, Yige Wu, Matthew A. Wyczalkowski, Yi Xin, Lijun Yao, Xinpei Yi, Hui Zhang, Qing Zhang, Maya Zuhl, Gad Getz, Li Ding, Alexey I. Nesvizhskii, Pei Wang, Ana I. Robles\*, Bing Zhang\*, Samuel H. Payne\*, and Clinical Proteomic Tumor Analysis Consortium. (2023) Proteogenomic data and resources for pan-cancer analysis. ***Cancer Cell***.

Yize Li, Tung-Shing M. Lih, Saravana Mohan Dhanasekaran, Rahul Mannan, Lijun Chen, Marcin Cieslik, Yige Wu, Rita Jui-Hsien Lu, David J. Clark, **Runyu Hong**, Siqi Chen, Chelsea J. Newton, Karsten Krug, Iga Kolodziejczak, Yuanwei Xu, Kyung-Cho Cho, Yingwei Hu, Yuping Zhang, Chandan Kumar-Sinha, Nataly Naser Al Deen, Wagma Caravan, Noshad Hosseini, Weiping Ma, Anna Calinawan, Matthew A. Wyczalkowski, Michael C. Wendl, Yuefan Wang, Shenghao Guo, Cissy Zhang, Anne Le, Aniket Dagar, Alex Hopkins, Hanbyul Cho, Felipe da Veiga Leprevost, Xiaojun Jing, Seema Chugh, Guo Ci Teo, Wenke Liu, Melissa Reimers, Russell Pachynski, Feng Chen, Arul M. Chinnaiyan, Brian Van Tine, Bing Zhang, Karin D. Rodland, Gad Getz, DR Mani, Pei Wang, Maciej Wiznerowicz, Galen Hostetter, Mathangi Thiagarajan, W. Marston Linehan, David Fenyö, Scott D. Jewell, Gilbert S. Omenn, Rohit Mehra, Ana I. Robles, Mehdi Mesri, Tara Hiltke, Eunkyung An, Henry Rodriguez, Daniel W. Chan, Christopher J. Ricketts, Alexey I. Nesvizhskii, Hui Zhang, Li Ding. (2023) Histopathologic and proteogenomic heterogeneity reveals features of clear cell renal cell carcinoma aggressiveness. ***Cancer Cell***.

Yize Li, Eduard Porta-Pardo, Collin Tokheim, Matthew H. Bailey, Tomer M. Yaron, et. al., Clinical Proteomic Tumor Analysis Consortium (Contributors include **Runyu Hong**). (2023) Pan-cancer proteogenomics connects oncogenic drivers to functional states. ***Cell***.

Yifat Geffen, Shankara Anand, Yo Akiyama, Tomer M. Yaron, Yizhe Song, et. al., Clinical Proteomic Tumor Analysis Consortium (Contributors include **Runyu Hong**). (2023) Pan-cancer analysis of post-translational modifications reveals shared patterns of protein regulation. ***Cell***.

Francesca Petralia, Weiping Ma, Tomer M. Yaron, Francesca Pia Caruso, Nicole Tignor, Joshua M. Wang, Daniel Charytonowicz et al., Clinical Proteomic Tumor Analysis Consortium (Contributors include **Runyu Hong**). (2024) Pan-cancer proteogenomics characterization of tumor immunity. ***Cell***.

Joshua Wang, **Runyu Hong**, Jimin Tan, Wenke Liu, David Fenyö. (2024) Uncovering clinically relevant omics signatures from

pan-cancer imaging and multi-omics data integration. *Cancer Research*.

Wen-Wei Liang, Rita Jui-Hsien Lu, Reyka G. Jayasinghe, Steven M. Foltz, et. al., Clinical Proteomic Tumor Analysis Consortium (Contributors include **Runyu Hong**). (2023) Integrative multi-omic cancer profiling reveals DNA methylation patterns associated with therapeutic vulnerability and cell-of-origin. *Cancer Cell*.

**Runyu Hong**, David Fenyő. (2022) When blockchain meets artificial intelligence: An application to cancer histopathology. *Cell Reports Medicine*.

**Runyu Hong**, David Fenyő. (2022) Deep Learning and Its Applications in Computational Pathology. *BioMedInformatics*.

**Runyu Hong**, Wenke Liu, David Fenyő. (2022) Predicting and Visualizing STK11 Mutation in Lung Adenocarcinoma Histopathology Slides Using Deep Learning. *BioMedInformatics*.

Herbert H. Loong, Tao Liu, Thirupathi Pattipaka, **Runyu Hong**, Timothy W. Smith, Stefanie Knoll, Vincent Pretre, Rafael Caparica, Fen Ye, Anna F. Farago. (2022) Heterogeneity and Prognostic Diagnosis of KRAS-Mutated Population and KRAS G12C Subtype among Patients with Advanced NSCLC: A Real-world Study Aided by Machine Learning Approaches. *Annals of Oncology*

**Runyu Hong**, Wenke Liu, Deborah DeLair, Narges Razavian, David Fenyő. (2021) Predicting endometrial cancer subtypes and molecular features from histopathology images using multi-resolution deep learning models. *Cell Reports Medicine*

Randie H. Kim, Sofia Nomikou, Nicolas Coudray, George Jour, Zarmeena Dawood, **Runyu Hong**, Eduardo Esteva, Theodore Sakellaropoulos, Douglas Donnelly, Una Moran, Aristides Hatzimemos, Jeffrey S. Weber, Narges Razavian, Ioannis Aifantis, David Fenyő, Matija Snuderl, Richard Shapiro, Russell S. Berman, Iman Osman, Aristotelis Tsirigos. (2021) Deep learning and pathomics analyses reveal cell nuclei as important features for mutation prediction of BRAF-mutated melanomas. *The Journal of Investigative Dermatology*

Lazaro Hiram Betancourt, Jeovanis Gil, Aniel Sanchez, Viktória Doma, Magdalena Kuras, Jimmy Rodriguez Murillo, Erika Velasquez, Uğur Çakır, Yonghyo Kim, Yutaka Sugihara, Indira Pla Parada, Beáta Szeitz, Roger Appelqvist, Elisabet Wieslander, Charlotte Welinder, Natália Pinto de Almeida, Nicole Woldmar, Matilda Marko-Varga, Jonatan Eriksson, Krzysztof Pawłowski, Bo Baldetorp, Christian Ingvar, Håkan Olsson, Lotta Lundgren, Henrik Lindberg, Henriett Oskolas, Boram Lee, Ethan Berge, Marie Sjögren, Carina Eriksson, Dasol Kim, Ho Jeong Kwon, Beatrice Knudsen, Melinda Rezeli, Johan Malm, **Runyu Hong**, Peter Horvath, A. Marcell Szász, József Tímár, Sarolta Kárpáti, Peter Horvatovich, Tasso Miliotis, Toshihide Nishimura, Harubumi Kato, Erik Steinfeld, Madalina Oppermann, Ken Miller, Francesco Florindi, Quimin Zhou, Gilberto B. Domont, Luciana Pizzatti, Fábio C. S. Nogueira, Leticia Szadai, István Balázs Németh, Henrik Ekedahl, David Fenyő, György Marko-Varga. (2021) The human melanoma proteome atlas— Complementing the Melanoma Transcriptome. *Clinical and Translational Medicine*.

Lazaro Hiram Betancourt, Jeovanis Gil, Yonghyo Kim, Viktória Doma, Uğur Çakır, Aniel Sanchez, Jimmy Rodriguez Murillo, Magdalena Kuras, Indira Pla Parada, Yutaka Sugihara, Roger Appelqvist, Elisabet Wieslander, Charlotte Welinder, Erika Velasquez, Natália Pinto de Almeida, Nicole Woldmar, Matilda Marko-Varga, Krzysztof Pawłowski, Jonatan Eriksson, Beáta Szeitz, Bo Baldetorp, Christian Ingvar, Håkan Olsson, Lotta Lundgren, Henrik Lindberg, Henriett Oskolas, Boram Lee, Ethan Berge, Marie Sjögren, Carina Eriksson, Dasol Kim, Ho Jeong Kwon, Beatrice Knudsen, Melinda Rezeli, **Runyu Hong**, Peter Horvatovich, Tasso Miliotis, Toshihide Nishimura, Harubumi Kato, Erik Steinfeld, Madalina Oppermann, Ken Miller, Francesco Florindi, Qimin Zhou, Gilberto B Domont, Luiciana Pizzatti, Fábio CS Nogueira, Peter Horvath, Leticia Szadai, József Tímár, Sarolta Kárpáti, A Marcell Szász, Johan Malm, David Fenyő, Henrik Ekedahl, István Balázs Németh, György Marko-Varga. (2021) The human melanoma proteome atlas—Defining the molecular pathology. *Clinical and Translational Medicine*.

Liang-Bo Wang\*, Alla Karpova\*, Marina A Gritsenko\*, Jennifer E Kyle\*, Song Cao\*, Yize Li\*, Dmitry Rykunov†, Antonio Colaprico†, Joseph H Rothstein†, **Runyu Hong**†, Vasileios Stathias†, MacIntosh Cornwell†, Francesca Petralia†, Yige Wu, Boris Reva, Karsten Krug, Pietro Pugliese, Emily Kawaler, Lindsey K Olsen, Wen-Wei Liang, Xiaoyu Song, Yongchao Dou, Michael C Wendl, Wagma Caravan, Wenke Liu, Daniel Cui Zhou, Jiayi Ji, Chia-Feng Tsai, Vladislav A Petyuk, Jamie Moon, Weiping Ma, Rosalie K Chu, Karl K Weitz, Ronald J Moore, Matthew E Monroe, Rui Zhao, Xiaolu Yang, Seungyeul Yoo, Azra Krek, Alexis Demopoulos, Houxiang Zhu, Matthew A Wyczalkowski, Joshua F McMichael, Brittany L Henderson, Caleb M Lindgren, Hannah Boekweg, Shuangjia Lu, Jessika Baral, Lijun Yao, Kelly G Stratton, Lisa M Bramer, Erika Zink, Sneha P Couvillion, Kent J Bloodsworth, Shankha Satpathy, Weiva Sieh, Simina M Boca, Stephan Schürer, Feng Chen, Maciej Wiznerowicz, Karen A Ketchum, Emily S Boja, Christopher R Kinsinger, Ana I Robles, Tara Hiltke, Mathangi Thiagarajan, Alexey I Nesvizhskii, Bing Zhang, DR Mani, Michele Ceccarelli, Xi S Chen, Sandra L Cottingham, Qing Kay Li, Albert H Kim, David Fenyő, Kelly V Ruggles, Henry Rodriguez, Mehdi Mesri, Samuel H Payne, Adam C Resnick, Pei Wang, Richard D Smith, Antonio Iavarone, Milan G Chheda, Jill S Barnholtz-Sloan, Karin D Rodland, Tao Liu, Li Ding, Clinical Proteomic Tumor Analysis Consortium. (2021) Proteogenomic and metabolomic characterization of human glioblastoma. *Cancer Cell*.

Michael A Gillette, Shankha Satpathy, Song Cao, Saravana M Dhanasekaran, Suhas V Vasaikar, Karsten Krug, Francesca

Petralia, Yize Li, Wen-Wei Liang, Boris Reva, Azra Krek, Jiayi Ji, Xiaoyu Song, Wenke Liu, **Runyu Hong**, Lijun Yao, Lili Blumenberg, Sara R Savage, Michael C Wendl, Bo Wen, Kai Li, Lauren C Tang, Melanie A MacMullan, Shayan C Avanesian, M Harry Kane, Chelsea J Newton, MacIntosh Cornwell, Ramani B Kothadia, Weiping Ma, Seungyeul Yoo, Rahul Mannan, Pankaj Vats, Chandan Kumar-Sinha, Emily A Kawaler, Tatiana Omelchenko, Antonio Colaprico, Yifat Geffen, Yosef E Maruvka, Felipe da Veiga Leprevost, Maciej Wiznerowicz, Zeynep H Gümüş, Rajwanth R Veluswamy, Galen Hostetter, David I Heiman, Matthew A Wyczalkowski, Tara Hiltke, Mehdi Mesri, Christopher R Kinsinger, Emily S Boja, Gilbert S Omenn, Arul M Chinnaiyan, Henry Rodriguez, Qing Kay Li, Scott D Jewell, Mathangi Thiagarajan, Gad Getz, Bing Zhang, David Fenyö, Kelly V Ruggles, Marcin P Cieslik, Ana I Robles, Karl R Clauser, Ramaswamy Govindan, Pei Wang, Alexey I Nesvizhskii, Li Ding, DR Mani, Steven A Carr, Clinical Proteomic Tumor Analysis Consortium. (2020) Proteogenomic Characterization Reveals Therapeutic Vulnerabilities in Lung Adenocarcinoma. *Cell*.

Yongchao Dou, Emily A Kawaler, Daniel Cui Zhou, Marina A Gritsenko et. al., Clinical Proteomic Tumor Analysis Consortium (Contributors include **Runyu Hong**). (2020) Proteogenomic characterization of endometrial carcinoma. *Cell*.

David J Clark, Saravana M Dhanasekaran, Francesca Petralia, Jianbo Pan, Xiaoyu Song, Yingwei Hu, Felipe da Veiga Leprevost, Boris Reva, Tung-Shing M Lih et. al., Clinical Proteomic Tumor Analysis Consortium (Contributors include **Runyu Hong**). (2019) Integrated proteogenomic characterization of clear cell renal cell carcinoma. *Cell*.

**Runyu Hong**, Lixue Cheng, Yao Yao, Ben Knowles, Yurun Zhang, Michael Kerins, Irina Shkel, M. Thomas Record. (2017) Predicting and Interpreting the Hofmeister Effects of Different Salts with Nucleic Bases and Aromatic Compounds Using Solubility Assay. *The FASEB Journal*.

### **Submitted and preprints**

Magdalena Kuras\*, Lazaro Hiram Betancourt\*, **Runyu Hong\***, Leticia Szadai, Jimmy Rodriguez, Peter Horvatovich, Indira Pla, Jonatan Eriksson, Beáta Szeitz, Bartłomiej Deszcz, Charlotte Welinder, Yutaka Sugihara, Henrik Ekedahl, Bo Baldetorp, Christian Ingvar, Lotta Lundgren, Henrik Lindberg, Henriett Oskolas, Zsolt Horvath, Melinda Rezeli, Jeovanis Gil, Roger Appelqvist, Lajos V Kemeny, Johan Malm, Aniel Sanchez, A. Marcell Szasz, Krzysztof Pawłowski, Elisabet Wieslander, David Fenyö, Istvan Nemeth, György Marko-Varga. (2023) Histopathology-assisted proteogenomics provides foundations for stratification of melanoma metastases. *Cell Reports Medicine*. In review. On bioRxiv.

Jeovanis Gil, Yonghyo Kim, Beáta Szeitz, Viktória Doma, Uğur Çakır, Natália Pinto de Almeida, Yanick Paco Hagemeijer, Victor Guryev, Jenny G Johansson, Yogita Sharma, Indira Pla Parada, Zsolt Horvath, Jéssica de Siqueira Guedes, Gustavo Monnerat, Gabriel Reis Alves Carneiro, Fábio CS Nogueira, Boram Lee, Henriett Oskolas, Enikő Kuroli, Judit Hársing, Yutaka Sugihara, Magdalena Kuras, Roger Appelqvist, Elisabet Wieslander, Gilberto B Domont, Bo Baldetorp, **Runyu Hong**, Gergely Huszty, Laura Vizkeleti, József Tímár, David Fenyö, Lazaro Hiram Betancourt, Johan Jakobsson, Johan Malm, Aniel Sanchez, A Marcell Szász, Peter Horvatovich, Melinda Rezeli, Sarolta Kárpáti, György Marko-Varga. (2021) Proteogenomics Reveals how Metastatic Melanoma Modulates the Immune System to Allow Immune Evasion. In review. On bioRxiv.

Jeovanis Gil, Yonghyo Kim, Viktória Doma, Uğur Çakır, Magdalena Kuras, Lazaro Hiram Betancourt, Indira Pla Parada, Aniel Sanchez, Yutaka Sugihara, Roger Appelqvist, Henriett Oskolás, Boram Lee, Jéssica de Siqueira Guedes, Gustavo Monnerat, Gabriel Reis Alves Carneiro, Fábio CS Nogueira, Gilberto B Domont, Johan Malm, Bo Baldetorp, Elisabet Wieslander, István Balázs Németh, A. Marcell Szász, Ho Jeong Kwon, **Runyu Hong**, Krzysztof Pawłowski, Melinda Rezeli, József Tímár, David Fenyö, Sarolta Kárpáti, György Marko-Varga. (2022) Proteogenomic Characterization Reveals Therapeutic Opportunities Related to Mitochondrial Function in Melanoma. *Cell Reports Medicine*. In review. On bioRxiv.

Aron Bartha, Boglárka Wetz, Lazaro Hiram Betancourt, Jeovanis Gil, Natália Almeida, Giampaolo Bianchini, Beáta Szeitz, Leticia Szadai, Indira Pla, Lajos V. Kemény, Ágnes Judit Jánosi, **Runyu Hong**, Ahmad Rajeh, Fábio Nogueira, Viktória Doma, Nicole Woldmar, Jéssica Guedes, Zsuzsanna Újfaludi, Yonghyo Kim, Tibor Szarvas, Zoltan Pahi, Tibor Pankotai, A. Marcell Szasz, Aniel Sanchez, Bo Baldetorp, József Tímár, István Balázs Németh, Sarolta Kárpáti, Roger Appelqvist, Gilberto Domont, Krzysztof Pawłowski, Elisabet Wieslander, Johan Malm, David Fenyö, Peter Horvatovich, György Marko-Varga. (2024) Melanoma Proteomics Unveiled: Integrating Diverse Datasets for Biomarker Discovery and Clinical Insights via MEL-PLOT. *Molecular & Cellular Proteomics*. In review.

## **HONORS AND AWARDS**

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<b>Special MacCracken Award</b>	2021
<b>1st Place Winner, NYU Langone Health Datathon</b>	2019
<b>Graduated with Highest Distinction</b>	2017
<b>Undergraduate Academic Achievement Award</b>	2017
<b>University Book Store Academic Excellence Award</b>	2017
<b>Albert J. &amp; Adelaide E. Riker Academic Merit Award</b>	2017
<b>University of Wisconsin Department of Chemistry Scholarship</b>	2016

Daughters of Demeter Outstanding Junior Scholarship  
Henry Steenbock Academic Merit Award  
Dean's List (6 times)

2015  
2014  
2013-2016

## SELECTED PRESENTATIONS

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### *Oral Presentation*

**CPTAC Annual Scientific Symposium** National Cancer Institute, USA, 2020  
Panoptes: A Multi-resolution Deep Learning Tool to Predict and Visualize Histopathologic Features

**CPTAC Imaging SIG Webinars (invited)** The Cancer Imaging Archive by NCI, USA, 2020  
Proteogenomic analysis of Glioblastoma

**CPTAC Imaging SIG Webinars (invited)** The Cancer Imaging Archive by NCI, USA, 2019  
Imaging-Omic correlation studies utilizing CPTAC data

### *Poster Presentation*

**AACR Annual Meeting 2024** San Diego, USA, 2024  
Uncovering clinically relevant omics signatures from pan-cancer imaging and multi-omics data integration

**CPTAC Annual Scientific Symposium** National Cancer Institute, USA, 2019  
Predicting and Visualizing Mutations in Cancer Histopathology Images Using Deep Learning

**EMBL Conference: From Images to Knowledge with ImageJ and Friends.** Heidelberg, Germany, 2018  
Using Deep Learning Methods to Identify Neutrophil Infiltrations in Histology Images

**Deep Learning to Accelerate Drug Development: A NYC Symposium** New York, USA, 2018  
Using Deep Learning Methods to Identify Neutrophil Infiltrations in Histology Images

**Experimental Biology (EB) Meeting** Chicago, USA, 2017  
Predicting and Interpreting the Hofmeister Effects of Different Salts with Nucleic Bases and Aromatic Compounds  
Using Solubility Assay

**UW-Madison Undergraduate Symposium** Madison, USA, 2017  
Predicting and Interpreting the Hofmeister Effects of Different Salts with Nucleic Bases and Aromatic Compounds  
Using Solubility Assay

## REVIEW AND EDIT RECORD

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BioMedInformatics	Guest Editor (1 time)
BioMedInformatics	Reviewer (10 times)
Journal of Imaging	Reviewer (9 times)
Mathematical Biosciences and Engineering	Reviewer (7 times)
Journal of Translational Medicine	Reviewer (6 times)
Cell Reports Medicine	Reviewer (4 times)
Cancers	Reviewer (3 times)
Physics in Medicine and Biology	Reviewer (2 times)
Informatics	Reviewer (2 times)
Molecular & Cellular Proteomics	Reviewer (2 times)
PLOS Computational Biology	Reviewer (2 times)
BioMed	Reviewer (2 times)
Data	Reviewer (2 times)
Mathematics	Reviewer (2 times)
Information	Reviewer (1 time)
Electronics	Reviewer (1 time)
Applied Sciences	Reviewer (1 time)

## FUNDING

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Vilcek Travel Grant	2021
Sackler Travel Grant	2018-2020
Dean's Student Travel Grant	2018
Hilldale Undergraduate Research Fellowship	2016-2017
Allen Memorial Daughters of Demeter Scholarship	2016

## TEACHING

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**Course Instructor and Teaching Assistant, New York University.** 2020.09-2021.12  
*Course:* Machine Learning (BMSC-GA 4439/BMIN-GA 1004)  
*Responsibilities:* Prepared and taught 2 lectures for a class of 50 graduate students. Held weekly office hours. Prepared and graded quizzes, assignments, and course projects.

**Teaching Assistant, New York University** 2021.01-2021.05  
*Course:* Deep Learning in Medicine (BMSC-GA 4493/BMIN-GA 3007)  
*Responsibilities:* Prepared and taught 3 practical lectures for a class of 30 graduate students. Held weekly office hours. Prepared and graded assignments.

**Teaching Assistant, NYU Langone Health** 2020.04-2020.06  
*Course:* Imaging Analysis  
*Responsibilities:* Helped setting up a series of online bioinformatics courses at NYU Langone Health during the pandemic. Assisted the instruction of the course with about 200 students.

**Tutor, University of Wisconsin Madison** 2014.09-2017.05  
*Subject:* Chemistry  
*Responsibilities:* Helped on average 30 undergraduate students per month with their course work.

## STUDENTS MENTORED

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- Mr. Henry Webb, Co-op student, Regeneron Pharmaceuticals 2023
- Mr. Joshua Shofaro, Mentored student, Regeneron Pharmaceuticals 2023
- Mr. Michael Chen, Fenyö Lab master thesis student, New York University 2020
- Ms. Tinatin Nikvashvili, Lionnet Lab master student intern, New York University 2020
- Ms. Bea Szeitz, Fenyö Lab PhD student intern, New York University 2020
- Mr. Joshua Wang, Fenyö Lab MD/PhD student, New York University 2019
- Dr. Yang Liu, Fenyö Lab volunteer researcher, New York University 2018

## PROFESSIONAL ASSOCIATIONS

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- The New York Academy of Sciences
- Association for the Advancement of Artificial Intelligence

## LEADERSHIP EXPERIENCE

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**Lab Safety Officer, Fenyö lab** 2020-2022  
*Responsibilities:* In charge of the safety of Fenyö lab during the COVID-19 pandemic.

**Student Host and Interviewer, Vilcek Institute** 2020-2021  
*Responsibilities:* Hosted and interviewed graduate program applicants

**Diversity & Inclusion Chair, Vilcek Student Council** 2019-2020  
*Responsibilities:* Organized social activities for graduate students.

**President, CSSA of NYU Grossman School of Medicine** 2018-2019  
*Responsibilities:* Held the celebrations and events during Chinese festivals.

**Shared Governance Committee Member, Associated Students of Madison** 2015-2016  
*Responsibilities:* Represented non-Wisconsin-resident students to advocate for tuition freeze

## Selected Media Coverage

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National Cancer Institute (NCI) News and Announcements Sep 24, 2021  
 Machine Learning Predicts Molecular Features of Endometrial Cancer with Exceptionally High Accuracy

[https://proteomics.cancer.gov/news\\_and\\_announcements/machine-learning-predicts-molecular-features-endometrial-cancer-exceptionally?cid=eb\\_govdel](https://proteomics.cancer.gov/news_and_announcements/machine-learning-predicts-molecular-features-endometrial-cancer-exceptionally?cid=eb_govdel)

BioArtMED

Sep 29, 2021

Cell Reports Medicine | Multi-resolution deep learning model predicts molecular subtypes and molecular characteristics of endometrial cancer

[https://mp.weixin.qq.com/s/Wvq1NX\\_49Gii8N-13Gip2g](https://mp.weixin.qq.com/s/Wvq1NX_49Gii8N-13Gip2g)

Netease News

Sep 30, 2021

Multi-resolution deep learning model predicts molecular subtypes and molecular characteristics of endometrial cancer

<https://www.163.com/dy/article/GL5GQOJ60532HZIO.html>

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Q&A: Runyu Hong and David Fenyö

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