

## 2020年度日本保健物理学会 学会賞(学生研究優秀賞) 受賞の報告

受賞者：仲宗根峻也（理物理学研究科 博士後期課程 海洋環境学専攻）

指導教員：古川雅英 教授

### 【概要】

理物理学研究科（博士後期課程 海洋環境学専攻）の仲宗根峻也氏が、2020年度日本保健物理学会 学会賞の学生研究優秀賞に選出され、2021年6月21日（月）にオンライン開催された日本保健物理学会・令和3年度企画シンポジウムで表彰された（図1）。

仲宗根氏は、学部3年次後半から博士後期課程の現在まで、沖縄島をフィールドに、環境水（特に湧水）中に存在するラドン（ $^{222}\text{Rn}$ ）やトリチウム（ $^3\text{H}$ ）などの天然放射性核種の時間変動や濃度分布に関する研究に取り組んできた。今回の選考では、今年1月に International Journal of Environmental Research and Public Health (IF:2.849, 図2)に掲載された論文が高く評価された。

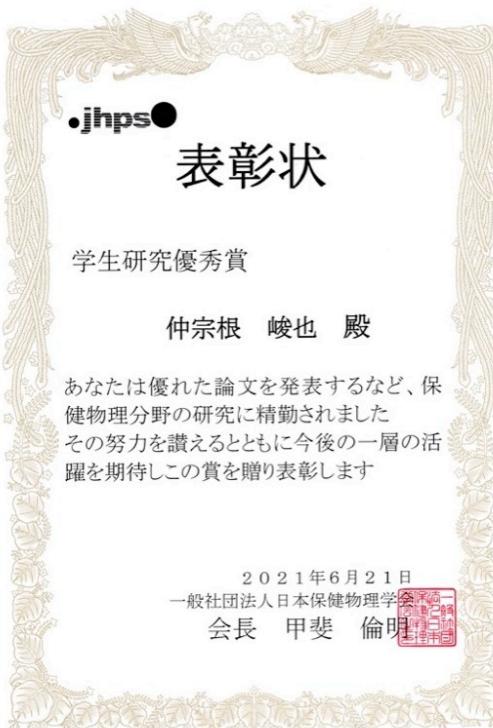


図 1. 日本保健物理学会から贈呈さ



**Article**  
**Temporal and Spatial Variation of Radon Concentrations in Environmental Water from Okinawa Island, Southwestern Part of Japan**

Shunya Nakasone <sup>1,2</sup>, Akinobu Ishimine <sup>2</sup>, Shubei Shirota <sup>3</sup>, Natsumi Masuda <sup>3</sup>, Kaori Nakamura <sup>1</sup>, Yoshitaka Shirota <sup>4</sup>, Sohei Oosaka <sup>5</sup>, Masahiro Tanaka <sup>6,7</sup>, Akemi Kato <sup>8</sup>, Masahiro Hosoda <sup>9</sup>, Naofumi Akata <sup>10</sup>, Yumi Yasuoka <sup>11</sup> and Masahide Fukukawa <sup>1</sup>

<sup>1</sup> Graduate School of Engineering and Science, University of the Ryukyus, Nishihara, Okinawa 905-0213, Japan; k19834@eve.u-ryukyu.ac.jp (K.N.); m\_furuichi@u-ryukyu.ac.jp (M.F.)

<sup>2</sup> Department of Radiobiology, Institute for Environmental Sciences, Rokkasho, Aomori 089-3212, Japan; ak.job@ies.or.jp

<sup>3</sup> Faculty of Science, University of the Ryukyus, Nishihara, Okinawa 905-0213, Japan; shirota@u-ryukyu.ac.jp

<sup>4</sup> Faculty of Fisheries, University of the Ryukyus, Nishihara, Okinawa 905-0213, Japan; y\_shirota@u-ryukyu.ac.jp

<sup>5</sup> Nanto Co., Ltd., Naha, Okinawa 900-0073, Japan; oosaka@gyokusendo.co.jp

<sup>6</sup> Department of Metal Plasma Research, National Institute for Fusion Science, National Institutes of Natural Sciences, Toki, Gifu 509-5292, Japan; tanaka.m@nifs.ac.jp

<sup>7</sup> School of Physical Sciences, Graduate University for Advanced Studies, SOKENDAI, Toki, Gifu 509-5292, Japan

<sup>8</sup> Department of Engineering and Technical Services, National Institute for Fusion Science, National Institutes of Natural Sciences, Toki, Gifu 509-5292, Japan; kato.m@nifs.ac.jp

<sup>9</sup> Department of Radiation Science, Hiroshima University Graduate School of Health Sciences, Hiroshima, Japan; hosoda@hiroshima-u.ac.jp

<sup>10</sup> Department of Radiopharmaceutical Chemistry, Institute of Radiation Emergency Medicine, Hiroshima University, Hiroshima, Japan; yasuoka@hiroshima-u.ac.jp

<sup>11</sup> Radiotracers Research Center, Kobe Pharmaceutical University, Kobe, Hyogo 658-8558, Japan; yasooka@kopharma-u.ac.jp

\* Correspondence: k19834@eve.u-ryukyu.ac.jp; Tel.: +81-3996-1029

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Abstract: In this study, to get a better understanding in characterizing groundwater and ensure its effective management, the radon concentrations in water samples were measured through Ryukyu limestone in southern Okinawa Island, Japan. Water samples were collected from a limestone cave (Gyokusendo cave, dropping water) and two springs (Ukinju and Kometsu, spring water), and the radon concentrations were measured by liquid scintillation counters. The radon concentrations in the samples from the Gyokusendo cave, and Ukinju and Kometsu springs were  $10 \pm 1.3 \text{ Bq L}^{-1}$ ,  $3.2 \pm 1.0 \text{ Bq L}^{-1}$ , and  $3.1 \pm 1.1 \text{ Bq L}^{-1}$ , respectively. The radon concentration showed a gradually increasing trend from summer to autumn and decreased during winter. The variation of radon concentration was approximately 2–3 months. The estimated radon concentrations in the dripping water sample were calculated with the measured radon concentrations from the dripping water obtained during the study period. Based on our results, groundwater in the Gyokusendo cave system was estimated to percolate through the Ryukyu limestone in 7–10 days, and the residence time of groundwater in the soil above Gyokusendo cave was estimated to be approximately 50–80 days. This work makes a valuable contribution to the understanding of groundwater processes in limestone aquifers, which is essential for ensuring groundwater sustainability.

**Keywords:** radon concentration; groundwater; residence time; limestone aquifer; Okinawa Island

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図 2. 評価の対象となった論文「沖縄島における環境水中ラドン濃度の時間的・空間的変動」